



The Planning Act 2008

East Anglia One North (EA1N) and East Anglia Two (EA2) Offshore Wind Farms

Planning Inspectorate Reference: EA1N – EN010077, EA2 – EN010078

Deadline 11 – 7 June 2021

**Comments of Suffolk County Council as Lead Local Flood Authority**

1. Post hearing submissions including written submissions of oral case

Issue Specific Hearing 16 (26 May 2021) – Proposed substations site

Examining Authority's Question	Suffolk County Council's Response	References
<b>Agenda Item 2 – Design Matters</b>		
<p>Discussion around the latest version of the Substation Design Principles Statement [REP8-082] and representations received relating to this. Discussion to include consideration of the proposed substations (including the proposed National Grid substation) and surrounding infrastructure, including sealing end compounds.</p>	<p>SCC noted that due to its outstanding concerns on drainage matters (Agenda Item 3 below), it was difficult to engage with the detail shown on the draft layout plans for the different permutations for the substation(s) site.</p> <p>SCC also maintained its position (REP5-056, para 6.3) that an additional Design Principle on adaptability should be included in the Substations Design Principles Statement.</p>	
<b>Agenda Item 3 – Flood Risk and Drainage</b>		
<ul style="list-style-type: none"> <li>• Flood Risk and drainage during construction</li> <li>• Operational flood risk and drainage:               <ul style="list-style-type: none"> <li>a) Results and implications of infiltration testing</li> <li>b) Indicative design</li> <li>c) Outline Operational Drainage Management Plan submitted at D8 [REP8-064] including but not limited to:                   <ul style="list-style-type: none"> <li>- Infiltration/hybrid storage volumes</li> <li>- Discharge to Friston watercourse</li> <li>- Adoption and maintenance</li> </ul> </li> <li>d) Relationship with the Outline Landscape and Ecological Management Strategy [REP10-005] and</li> </ul> </li> </ul>	<p><b><u>Flood risk and drainage during construction</u></b></p> <p>SCC's position remains unchanged from that presented in REP8-176, in response to Agenda item 3 of that submission. SCC expect the Applicant to demonstrate that the mitigation options set out in OCoCP (REP8-017) are deliverable within the Order Limits, to provide the mitigation required, as set out in Chapter 20 of the Environmental Statement (APP-068). This is applicable for both the cable corridor and the sub-station sites and should be based on the realistic</p>	

nearby heritage assets, including any considerations of good design resulting from changes discussed during items a) to c).

Depending on implications for design, matters covered in Agenda Item 2 that are influenced by the content of this item may need to be discussed.

The Applicants, SCC, ESC and SASES and any other relevant participants will be invited to comment.

The Applicants will be provided with a right of reply.

worst-case scenarios set out in Table 20.2 of APP-068.

The Applicants addition to Plate 11.1 of the OCoCP (REP8-017) is welcomed, but it is not supported by any further information, such as calculations etc. As such, on its own, Plate 11.1 is insufficient to demonstrate that sufficient mitigation is deliverable during the construction phase for both the cable corridor and the sub-station sites.

As per the Applicants submission at ISH 11 & Deadline 8, *“the assessment of flood risk during the construction phase is carried out in accordance with the same policy and best practice guidance, as for the operational phase”* (REP8-096, para 27). On this basis, and given the OODMP has been developed using the realistic worst-case scenario set out in APP-068 Table 20.2 for operation, the same should be done for construction.

SCC do not agree with the Applicants proposal to design construction surface water drainage to accommodate a 1:5 rainfall event. This would represent an increase in surface water flood risk to Friston during the construction phase. As such, SCC cannot support this approach. SCC maintain that construction phase drainage should be designed to accommodate 1:100 rainfall event, to ensure that surface water flood risk is not increased during either the construction or operational phase.

The Sizewell C DCO submission states *“The surface water drainage network will be designed to retain excess storm water which results from a 1 in 100-year return period rainfall event within the site, for both construction and operation phases”* (SZC DCO, APP-181, pg 2).

Notwithstanding the Applicant’s suggestion at ISH16 that the circumstances of Sizewell C are different due to the involvement of nuclear regulation at that site, SCC observed that the 1 in 100-year period was being applied to all elements of that proposal, including the offsite park and ride car parks, and was not a consequence of the site itself being subject to nuclear regulation.

**Operational flood risk and drainage**

**A & B.) (This section can also be viewed as SCCs response to AS-121)**

Infiltration tests completed by the Applicant only undertook one run per trial pit. BRE Digest 365 (Section 3.2.3) & CIRIA SuDS Manual (Section 25.3) are both clear that three runs must be undertaken per trial pit.

It would be anticipated that the third of three test runs would yield the lowest infiltration result (illustrated in Figure 25.5 of CIRIA SuDS Manual). Therefore, using the first result, or even an average of all first runs, could overestimate the infiltration rate, and subsequently underestimate the land take

required for an infiltration only approach.

*“It is important that the test is carried out in accordance with the report and that the test pit is filled three times. Repeating the test in this way can reduce the measured infiltration rate by at least half and order of magnitude each time the test is repeated, and is likely to reflect realistic conditions”* (CIRIA, SuDS Manual, pg.549).

SCC LLFA are very strict on compliance with this standard and do not accept the results of any infiltration testing, on any development, that do not fully comply with this testing methodology.

Therefore, we cannot accept the results of this testing. Any resulting preliminary design that is based on these results will not be accepted by SCC.

TP102A, Test 2, considered to be anomalous, potentially caused by very dry antecedent conditions.

No trial pit records were submitted with the results of infiltration testing, as would be expected, and as recommended in CIRIA SuDS Manual (pg 550). Therefore, it is not possible to compare the infiltration rates against soil descriptions, as recommended in CIRIA SuDS Manual (pg 550).

Note: TP015A, observed by Matt Williams, looked to be a sandy material and would have been

expected to return a higher infiltration rate than that returned by testing. This could indicate the presence of a siltier material which could inhibit long term infiltration. Unable to confirm due to omission of soil logs.

SCC note that the results of further infiltration testing will be submitted prior to Deadline 12. This further testing must be completed in full compliance with BRE 365. If the results of this further testing do not support the assumptions made by the Applicant (i.e. worst case infiltration rates of 57mm/hr & 63mm/hr), which we understand will be used for design purposes in the OODMP to be submitted at Deadline 11, then further design changes will need to be made.

As per previous SCC representations, the Factor of Safety that should be used for design is 10. The Factor of Safety is based on the drainage systems consequence of failure. CIRIA SuDS Manual, Table 25.2 contains the Factor of Safety table. SCC maintain that in this instance, the consequence of failure, would at the very least be major inconvenience to the community of Friston, including the flooding of roads. The Factor of Safety is not a measure of confidence in testing results, it is a safeguard against a future reduction in infiltration rates, for example, through natural processes. Table 25.2 deals with the consequence of failure, not the risk of failure, as was stated by the Applicant in ISH16.

During ISH16, the Applicant made multiple references to the Friston Surface Water Management Plan (SWMP) and stated that it demonstrated that no properties in Friston were at baseline flood risk for the 1:200 (0.5%AEP) rainfall event. My SCC's understanding is that this statement is based on Table 7.1 of the Friston SWMP. As per paragraph 7.1.1 of the Friston SWMP (REP1-185), these figures were derived using the latest methodology developed by the Environment Agency for this form of analysis. The methodology for a property to be included in the count for respective return periods is stated in paragraph 7.1.1 (REP1-185). As part of this study SCC did not widely obtain property threshold levels to inform this assessment. This was not within the scope of the project. On this basis, and with the knowledge that multiple properties in Friston were affected by internal surface water flooding during October 2019, the statement that no properties are at flood risk during a 1:200 year event (0.5%AEP) is based on an inaccurate interpretation of the Friston SWMP which, in Chapter 7, utilises national methodologies as part of an economic assessment, as opposed to a definitive assessment of flood risk, which would require more detailed, property level information. Just because this level of information is not included in the report, does not mean the risk is not there, which based on evidential internal flooding, it clearly is.

The indicative design (side slope gradients, maximum water depths, total basin depths etc.) is generally acceptable, with exception to the depths used for the hybrid design option, as detailed in 'c' below.

C.)

**Infiltration/hybrid storage volumes in D8**

Infiltration only storage required = 37,081m<sup>3</sup>

Infiltration only storage provided = 37,388m<sup>3</sup>

Hybrid storage required = 36,173m<sup>3</sup>

Hybrid storage provided = 36,913m<sup>3</sup>

As shown in Appendix 6 of the Deadline 8 OODMP (REP8-064):

Total basin depth = 2.0m.

This exceeds the CIRIA SuDS Manual guidance of a maximum total depth of 1.5m for basins.

It is unclear why 2.0m depth is required if water levels are not exceeding 1m?

Water depths have the potential to exceed 1m, when 1:100+40% is combined with 1:10+40% after 24 hours, however, no assessment of this has been undertaken.

Maximum water levels should be shown on future sections. This should be either after 1:100+40%, or after a further 1:10+40% storm is added after 24 hours, whichever results in the greater water level.



**Discharge to Friston Watercourse**

The Applicant has indicated they are in discussions with the Environment Agency RE ongoing clearance of the Friston Main River whilst the proposed infrastructure is present. This would alleviate SCC LLFA's concern regarding the potential for siltation of any outfall from an attenuation basin(s) which serves the proposed infrastructure. However, there must be a mechanism to ensure that if the Project substations are removed but the National Grid substation remains, this maintenance responsibility is transferred to National Grid. Inspection of the Friston Main River to determine the frequency of which the Friston Main River should be cleared of silt should be included in a OODMP maintenance plan.

SCC Highways may still have additional comments to make regarding the cover of any piped connection to the Friston watercourse, for which we understand the Applicant will submit further details at Deadline 11.

Any future discharge to the Friston Main River will be subject to detailed modelling. As per previous discussion/agreement with the Applicant, the discharge rate will be agreed at detailed design. SCC maintain that the Applicant should undertake flow measurements in the Friston Main River and install a rain gauge in the catchment to help validate any future detailed modelling and to

accurately determine greenfield runoff rates into the Friston Main River.

**Adoption and maintenance**

No notable changes from previous submissions where this aspect was no longer of concern.

As above, maintenance and inspection of Friston Main River will need to be included in maintenance plan.

D.)

**Relationship with OLEMS**

Without certainty on infiltration rates (compliant with industry standard testing methodologies) and agreement on suitable Factors of Safety, it is still not possible to determine the land take requirements for infiltration SuDS, and therefore the relationship this may have with the OLEMS.

## Issue Specific Hearing 17 (28 May 2021) – dDCO & Other Matters

Examining Authority's Question	Suffolk County Council's Response	References
<b>Agenda Item 2 – Progress Position Statement by the Applicant: Changes to the dDCOs in Progress since ISHs15</b>		
<p>The ExAs will ask the Applicants to present progress since ISHs15 (including the non-material changes accepted for examination on 29 April 2021 and responses to D8, D9 and D10 submissions).</p> <p>The ExAs will invite submissions from Interested Parties (IPs) and Other Persons (OPs) who wish to raise matters in relation to this item, running in the order of provisions in the dDCOs, except as provided for in separate agenda items below.</p> <p>The Applicants will be provided with a right of reply.</p>	<p>Whilst SCC made comments in relation to Requirement 41 under Agenda Item 2, those comments are better summarised under Agenda Item 4 below.</p>	
<b>Agenda Item 4 – Securing 'Good Design' Solutions at the Friston Substations Site</b>		
<p>The ExAs will review measures to secure 'good design' through the discharge of requirements and the balancing of operational, flood management, landscape, visual and historic environment mitigation measures at the Friston Substations Site. The discussion will be limited to means of security: substantive discussion of these issues has taken place at ISHs2, 4, 11 and will take place at ISH16.</p>	<p>SCC maintains that it should be the discharging authority for requirement 41 to ensure that sufficient mitigation is delivered, without undue compromise, to prevent an increase in offsite flood risk and to ensure that due regard is given to the SUDS hierarchy when considering drainage solutions. SCC acknowledges that requirement 41 and the issues of flood risk and drainage cannot be seen in isolation and there needs to be integration with other environmental topics, including landscape, biodiversity, and cultural heritage. SCC</p>	

The ExAs will invite submissions from IPs and OPs who wish to raise matters in relation to this item.

The Applicants will be provided with a right of reply.

recognises that the discharging authority will need to make an informed judgment on the adequacy of the proposals put forward in the final Operational Drainage Management Plan, balancing a range of potentially competing objectives across those topics. SCC notes that the need to consider one environmental discipline in the context of other aspects of the environment is not unique to DCOs or to the circumstances of the Friston substation(s). SCC observes that, as both minerals planning authority and as waste planning authority, it is responsible for making planning decisions as local planning authority on significant large scale projects with major environmental effects, which have some similarities with infrastructure projects falling within the DCO regime. SCC is also the relevant local planning authority for its own developments, which can be similarly large scale (such as a new bypass or other major highways improvement or a new secondary school). SCC maintains its own in-house expertise across the main environmental topics and is well used to balancing the different issues.

SCC notes that the Applicant has suggested that for reasons of consistency ESC should be the discharging authority, with reference being made to the fact that under requirement 22 ESC will be the discharging authority for the CoCP, which will include a surface water and drainage management plan, and that ESC will also be the enforcing authority if there is any breach of DCO

requirements. However, a search for consistency in the DCO does not show that it should be a guiding principle on this matter. SCC notes that the DCO has different discharging authorities for different requirements, several of which are likely to interact with each other. SCC is the discharging authority under requirements 16, 19, 20, 28, 32, 33, (and potentially 36). SCC's approval or consent is also required under Articles 10, 11, 12, 13, 15, and 17. ESC will be the enforcing authority in relation to all of these matters.

Rather than seeking a spurious consistency, SCC maintains (for the reasons already set out in REP8-176, addressing Item 4)) that the identity of the discharging authority should be determined by reference to which entity has the most technical expertise in the primary area that is the subject of the requirement. For requirement 41, which has as its primary focus operational drainage matters, that entity is clearly SCC.

SCC fully acknowledges that there will be a need to consult with ESC (and with the EA) if it is the discharging authority under requirement 41, which is no different to what is already proposed under requirements 16, 19, 20, 28, 32, and 33.

SCC notes that the ExA asked whether its concerns would be met if it was made an express consultee under elements of requirement 12 that interact with drainage matters. Whilst this would be

	<p>a welcome addition, it would not meet the SCC concern about which body, ultimately, should be the discharging authority on operational drainage matters.</p>	
<p><b>Agenda Item 5 – Other Matters Raised in the ExAs’ Commentaries on the dDCOs</b></p>		
<p>The ExAs will review other matters identified in its Commentaries on the dDCOs as published on 20 May 2021.</p> <p>The ExAs will invite submissions from IPs and OPs who wish to raise matters in relation to this item.</p> <p>The Applicants will be provided with a right of reply.</p>	<p><b>Arts 16 – Discharge of water</b></p> <p>SCC consider this item resolved following the Applicants response at Deadline 7 [REP7-060], which confirms that the DCO does not remove the need for Land Drainage Consent to be obtained.</p> <p>Consent is required under the Land Drainage Act 1991 for any works that may affect the flow in a watercourse. This applies to both temporary and permanent works.</p> <p>At this stage, the number and location(s) of works to ordinary watercourses is unknown. Some of the works will be simple piping of watercourses on a temporary basis to facilitate construction access. In these instances, as was the case for EA1, we would expect to grant a single consent, that covers multiple locations, with an agreed methodology. However, this approach would not apply to locations of specific concern (i.e. where there is identified flood risk), or where the works extend beyond temporary piping of a watercourse. For example, the National Grid substation will require the realignment of an existing ordinary watercourse which is associated with the existing surface water flood risk north of Friston. Any work to this watercourse, would be subject to a separate land drainage consent and would likely require more</p>	

detailed assessment as part of the consenting process.

The principles contained within the Outline Watercourse Crossing Method Statement are acceptable to SCC, as per our representation made at Deadline 4 [REP4-064]. However, the document [REP8-084] is not drafted with reference to Ordinary Watercourses. Furthermore, given the locations of works to Ordinary Watercourses during the construction phase have not yet been identified, it is not possible to determine whether there are any locations which would require more detailed assessment due to existing flood risk.

On this basis, there are no other mechanisms available for the determination of Land Drainage Consent. However, it should not require the determination of individual applications, for each watercourse crossing.

Land Drainage Consent is not normally determined as part of the planning process and is determined independently.

SCC also note the Applicants previous clarification on this topic, provided at Deadline 6 [REP6-054, 3.3.3] and support this approach.

**Agenda Item 9 – Certified Documents: Audit and Final Positions**

The ExAs will review the list of certified documents and arrangements for any final amendments will be discussed.

The ExAs will invite submissions from IPs and OPs who wish to raise matters in relation to this item.

The Applicants will be provided with a right of reply.

*Note: Further revisions of the Outline Operational Drainage Management Plan (OODMP) & Outline Code of Construction Practice (OCoCP) are expected by SCC.*



2. Comments on ExA’s commentary on and/or schedule of changes to the dDCO

dDCO Commentaries	Matter, Issue or Question	1	2	SCC response
Arts 16	<p><b><u>Discharge of water</u></b> Suffolk County Council (SCC) as lead local flood authority was not content with these provisions as drafted. It sought the inclusion of a provision equivalent to Art 16(7) providing that land drainage consent under the Land Drainage Act 1991 for works to ordinary watercourses is not overridden. The Applicants have not adopted this proposed amendment.</p> <p>Art 16 in its current form uses well-established drafting (see for example the made Hornsea 2 DCO Art 15). It is an underlying principle of DCO drafting that as close to a unified consenting mechanism as possible should be provided. If consent under the Land Drainage Act 1991 is to be excepted from the general granting of consent under these provisions, then the consent provided by Art 16(1) to ‘use any watercourse ...</p>			<p>a.) SCC consider this item resolved following the Applicants response at Deadline 7 [REP7-060], which confirms that the DCO does not remove the need for Land Drainage Consent to be obtained.</p> <p>b.) Consent is required under the Land Drainage Act 1991 for any works that may affect the flow in a watercourse. This applies to both temporary and permanent works. At this stage, the number and location(s) of works to ordinary watercourses is unknown. Some of the works will be simple piping of watercourses on a temporary basis to facilitate construction access. In these instances, as was the case for EA1, we would expect to grant a single consent, that covers multiple locations, with an agreed methodology. However, this approach would not apply to locations of specific concern (i.e. where there is identified flood risk), or where the works extend beyond temporary piping of a watercourse. For example, the National Grid substation will require the realignment of an existing ordinary watercourse which is associated with the existing surface water flood risk north of Friston. Any work to this watercourse, would be subject to a separate land drainage consent and would likely require more detailed assessment as part of the consenting process.</p> <p>The principles contained within the Outline Watercourse Crossing Method Statement are acceptable to SCC, as per our</p>

	<p>for the drainage of water in connection with ... the authorised project' is potentially circumscribed by the need for multiple individual consents and potentially becomes of quite limited application.</p> <p>a) SCC is asked to describe the specific concerns about works to ordinary watercourses that underlie its request to retain this consenting power?</p> <p>b) Are there any mechanisms other than the determination of individual applications under the Land Drainage Act 1991 for each instance of such works that could be used to ensure that the works are delivered appropriately?</p> <p>c) A general question about the appropriateness and timescale for a deemed consent provision has been raised above and should be addressed in relation to this provision.</p>		<p>representation made at Deadline 4 [REP4-064]. However, the document [REP8-084] is not drafted with reference to Ordinary Watercourses. Furthermore, given the locations of works to Ordinary Watercourses during the construction phase have not yet been identified, it is not possible to determine whether there are any locations which would require more detailed assessment due to existing flood risk.</p> <p>On this basis, there are no other mechanisms available for the determination of Land Drainage Consent. However, it should not require the determination of individual applications, for each watercourse crossing.</p> <p>Land Drainage Consent is not normally determined as part of the planning process and is determined independently.</p> <p>SCC also note the Applicants previous clarification on this topic, provided at Deadline 6 [REP6-054, 3.3.3] and support this approach.</p>
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### 3. Responses to ExAs Further Written Questions (ExQ3)

ExQ3	Question	1	2	SCC response
3.7.3	<p><b>Need for Land Drainage Act 1991 Consents</b> What, if any, specific issues would require determination of individual consents under the Land Drainage Act 1991? Can those matters be addressed with an appropriate form of consent provided under the dDCOs (dDCOs Commentaries on Arts 16 refers)?</p>			Please refer to Section 2 of this submission, in response to dDco commentary question on Arts 16 which answers this question.

**4. Comments on any additional information/submissions received at D10**

**Applicants' Comments on Suffolk County Council's Deadline 9 Submissions**

**Section 2.2 – SCC Deadline 9 Floods Comments**

<b>ID</b>	<b>SPR Statement</b>	<b>SCC Comment</b>
<p><b>3, 4, 5, 6, 7, 8, 37</b></p>	<p>Section 11 of the Outline Code of Construction Practice submitted at Deadline 8 (REP8-017) presents details on sediment and surface water management during construction, including an explanation of the onshore cable route configuration to accommodate surface water management provisions. The construction sequence and methods will be established as part of the detailed design process, which inform the final Surface Water and Drainage Management Plan and a Flood Management Plan which must be approved by the relevant planning authority under Requirement 22 of the draft DCO (document reference 3.1).</p> <p>The Applicants consider that it has demonstrated its ability to deliver sufficient mitigation for the construction phase within the Order Limits to mitigate the identified potential impacts. The precise detail of mitigation to be adopted will inevitably be a matter that can only be confirmed as part of the detailed design.</p> <p>The Applicants do not consider that any additional information is necessary given the information presented to Examinations to date, the design flexibility required for nationally significant infrastructure projects (as recognised in EN-1), and the measures secured in the draft DCO (document reference 3.1) to protect against flood risk.</p>	<p>SCC maintain their position as previously submitted at Deadline 8 (REP8-176, Section 1, Response to Agenda Item 3).</p> <p>This topic was also covered at ISH 16 where SCC made their position clear and again as part of SCC's written submission or oral case for ISH 16, in section 1 of this response.</p> <p>It must be demonstrated that sufficient mitigation can be delivered within the Order Limits. This is not detailed design and can simply be an indicative demonstration for the worst-case construction scenario, as set out in Table 20.2 of APP-068. Without such demonstration, SCC cannot say with any confidence that the mitigation options listed within the ES are deliverable to an extent that would provide sufficient mitigation, as set out as being required by the ES.</p>
<p><b>9</b></p>	<p>The Applicants have committed to maximising the use of</p>	<p>See Section 1, ISH 16, Agenda Item 3 of this</p>

	<p>infiltration where practicable within the surface water drainage design for the Projects. 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.</p> <p>The Applicants commenced onshore site investigation works within the onshore development area in April 2021. Part of these works are infiltration testing at the indicative location of the onshore substation and National Grid Substation SuDS ponds. The Applicants will continue to discuss this matter with the Councils in light of the infiltration testing.</p>	<p>response where SCC's position on the Applicants Rule 17 submission of preliminary infiltration testing (AS-121) is detailed.</p>
<p><b>10, 11, 18, 20, 30, 35 &amp; 37</b></p>	<p>The statement by SCC is misleading. The Applicants have consistently given consideration to other competing land uses at and around the onshore substation and National Grid substation locations and indeed refer to these competing land uses within the text that SCC has highlighted (i.e. landscaping, biodiversity and access).</p> <p>Figure 3 of Annex 2 of the Outline Ecological and Landscape Management Strategy (OLEMS) (REP8-019) shows the indicative attenuation basins alongside the proposed general mitigation planting and biodiversity arrangements. This outline plan represents a balanced and deliverable solution to the landscaping, biodiversity and surface water drainage requirement of the substation site which complies with the drainage hierarchy and importantly would be compliant with ESC's Suffolk Coastal Local Plan Policy SCLP9.6: Sustainable Drainage Systems. It is noted that SCC has a wider remit than that of the Lead Local Flood Authority (LLFA) and has</p>	<p>As per SCC's representation at Deadline 8 (REP8-176, Section 1, Response to Agenda Item 4C), there has not been any clear assessment of the potential overlap/clash in delivering mitigation options. If this assessment has been provided elsewhere in the submission, please signpost this. SCC's submission could have been better phrased as the issue we are trying to highlight, as has consistently been the case, is the potential overlap/clash of mitigation options once competing land uses are considered.</p> <p>SCC as LLFA will continue to push for the optimal SuDS mitigation, as recommended in national guidance, specifically the NPPG. We acknowledge the competing land uses and the impact this has on the potential to deliver optimal mitigation (i.e. infiltration only), however this</p>

	<p>contributed effectively in the development of the Project's outline landscaping and biodiversity mitigation plans.</p> <p>The LLFA appears to be focusing on an infiltration only scheme at any cost and eluding to the need for additional land to deliver this. The LLFA is not giving any consideration of third party land use considerations and the need to justify the need for such land through the Compulsory Acquisition process, which must consider the need for such land and the availability of alternatives (such as an attenuation solution). In doing so, the LLFA is reducing the drainage hierarchy to a single 'infiltration' solution and ignoring the fact that should an infiltration only solution not be practicable, that there is a perfectly acceptable and reasonable alternative of attenuation (with infiltration) which is adopted for new projects throughout the UK.</p> <p>The Applicants have confirmed that the primary solution is infiltration only, with attenuation as a secondary option (potentially with infiltration incorporated – a hybrid solution). Figure 3 shows that as a worst case, the attenuation basins and the proposed mitigation are deliverable within the Order Limits whilst ensuring that the rate of surface water discharge to the Friston Watercourse does not increase above the pre-development level. The Applicants have not produced such a figure showing indicative infiltration basins as they are not practicable within the Order limits alongside the proposed mitigation planting, hence the Applicants have stated within the Outline Operational Drainage Management Plan (OODMP) (REP8-064) that an infiltration only scheme using the conservative infiltration rate of 10mm/hr is not feasible.</p>	<p>needs to be considered as part of the overall planning balance by the decision maker <del>and is not a compromise for SCC LLFA to make.</del></p> <p>SCC LLFA have not ignored the fact there is an attenuation option. Indeed, we have proactively engaged in the development of this option. However, the surface water disposal hierarchy is clear that infiltration should be prioritised. We must ensure that there is sufficient space within the order limits to deliver an infiltration only solution, in the worst-case scenario, as per Rochdale Envelope.</p> <p>SCC have made their position well known regarding the prioritisation of infiltration and the interaction this may have with other mitigation options. SCC await the full results of infiltration testing which we hope will enable the Applicant to refine the proposed surface water drainage strategy for the Projects, whilst complying with national and local policy, guidance, and best practice.</p> <p>Until infiltration only is ruled out, it will remain the optimal solution, as per the surface water disposal hierarchy. Anything below this, would be considered by SCC as sub-optimal, if infiltration is feasible. SCC acknowledge that an attenuation solution is deliverable within the Order Limits, however, have raised concerns regarding the engineering feasibility of connecting any</p>
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	<p>Once infiltration testing has been undertaken (typically post consent as part of the detailed design, but being undertaken by the Applicants in April 2021), the infiltration only SuDS pond presented within Appendix 4 of the OODMP (REP8- 064) will be updated to reflect the recorded infiltration rate and the Applicants will further consider the practicality of an infiltration only solution (although, noting the design flexibility provisions within EN-1, the design of the onshore substation, National Grid substation and surface water management system remains in outline at this stage).</p> <p>The Applicants disagree that a sub-optimal surface water drainage solution has or would be proposed and have committed to implementing infiltration as far as reasonably practicable within the OODMP (REP8-064). SCC's statement is misleading as it does not reflect the viability and deliverability of an attenuation solution should full infiltration not be achievable, nor the fact that an attenuation solution will not increase the downstream flood risk.</p>	<p>attenuation system to the Friston Main River. This is not misleading and is an accurate and justified representation of SCC's outstanding concerns.</p>
<p><b>12</b></p>	<p>As explained in Section 4 of the Flood Risk and Drainage Clarification Note (REP8-038), <i>"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"</i>.</p> <p>Section 11 of the OCoCP (REP8-017) clearly shows an indicative cross section of the onshore cable route, as previously requested by SCC. However, the Applicants consider it inappropriate to provide any additional design information at this stage as it will be subject to review and</p>	<p>This topic was covered as part of ISH 16, agenda item 3c. Please also see SCC's response to ID 3, 4, 5, 6, 7, 8 &amp; 37 of the Applicants' Comments on Suffolk County Council's Deadline 9 Submissions (REP10-008), Section 2.2, Floods, as part of Section 4 of this submission.</p>

	change once the necessary surveys along the onshore cable route are completed and additional information on construction techniques from the appointed Contractors is received.	
<b>13, 18, 30 &amp; 36</b>	<p>The Applicants would like to clarify that the design of the SuDS and the option progressed will prioritise the use of infiltration subject to ground conditions (informed by infiltration testing) and the site specific hydraulic model. Appropriate consideration will be given to landscaping requirements, use of the land, mitigation and ecology. This approach is fully compliant with NPS EN-1, paragraph 5.7.9 whereby the requirement is that "...priority has been given to the use of sustainable drainage systems (SuDS)..." as there is a clear commitment to the prioritisation of the use of SuDS within the Projects.</p> <p>It is inappropriate for SCC to draw parallels with the clear statement on prioritising SuDS within EN-1 (which the Applicants are compliant with) with what appears to be its own priority of seeking an infiltration only solution without consideration of landscaping, biodiversity, access and indeed land use considerations.</p>	<p>Of course, SCC LLFA prioritises compliance with the surface water hierarchy, which prioritises an infiltration only approach, unless demonstrated that this is not practicable.</p> <p><del>SCC LLFA are not the overseeing organisation with decision-making responsibility regarding other mitigation aspects, such as those listed by the Applicant.</del></p> <p>As has been SCC's consistent position, we will continue to pursue the optimal mitigation, which unless demonstrated otherwise, is infiltration only.</p> <p>SCC has not as yet been presented with information to show that an infiltration only solution (informed by the results of CIRIA SuDS manual-compliant infiltration tests) is precluded by reason of landscaping, biodiversity, access, or other land use considerations.</p>
<b>14, 18, 22 &amp; 30</b>	Please see ID13. The Applicants are surprised that SCC states "It is therefore not possible for SCC to conclude that any of the SuDS mitigation options are deliverable within the Order Limits". Should an infiltration only solution not be achievable, the Applicants have clearly demonstrated that an attenuation only solution is achievable whilst delivering effective landscaping and biodiversity mitigation measures, see the OLEMS (document reference 8.7). The incorporation of infiltration measures will only seek to reinforce this integration	<p>Until an acceptable engineering solution to connecting an attenuation structure to the Friston Main River has been presented to and accepted by relevant stakeholders, this option cannot be considered achievable.</p> <p>The point in yellow is covered in SCC's response to ID 13, above. However, it is not the reason for uncertainty, which is explained above regarding</p>



	<p>demonstrated within the masterplanning of the substation area. The uncertainty arises from SCCs instance that an infiltration only solution should be developed without consideration of landscaping, biodiversity, access and indeed land use considerations. As stated, landscaping requirements, use of the land, mitigation and ecology could 'clash' with an infiltration only scheme due to the potential (but as yet unknown) size of the infiltration basins.</p>	<p>connection to the Friston Main River.</p> <p>Whilst the Applicant has acknowledge there could be a mitigation clash, the extent of this clash, utilising a Rochdale Envelope approach, where worst-case scenarios are considered for each mitigation option, remains unknown.</p>
<b>15</b>	<p>As the Applicants have previously stated, the proposed location for the relocation of the existing natural depressions (as shown in Appendix 4, 6 and 8 of the OODMP (REP8-064)) is indicative and so for demonstration purposes only. The final location will be concluded during detailed design once a hydraulic model for the site has been undertaken. The Applicants have committed to either the relocation of existing features such that they can continue to function as part of the wider natural drainage system or alternatively, where depressions are required to be removed then sufficient storage for these are incorporated into the proposed drainage scheme.</p>	<p>SCC maintain the position submitted at Deadline 9 (REP9-044) in response to REP8-064 paragraph 130 and as reiterated at ISH 16.</p>
<b>16, 17, 18, 19, 20, 22 &amp; 26</b>	<p>The Applicants have reviewed SCC's Deadline 3 submission – Comments on Floods (REP3-101) which states "SCC require a half drain time of 24 hours for 1:100+CC. If this is not achievable then it should be demonstrated that any attenuation structures can accommodate an additional 1:10 storm event after 24 hours."</p> <p>The Applicants acknowledge that the indicative infiltration basins can accommodate an additional 1:10 storm event after 24 hours and that this is a design check pass. This will be updated in the OODMP at a future Deadline. However, the Applicants still consider the extent of this infiltration only solution to be not practicable for the reasons set in ID10. As</p>	<p>SCC await the results of infiltration testing which we hope will enable the Applicant to refine the proposed surface water drainage strategy for the Projects, whilst complying with national and local policy, guidance and best practice.</p> <p>SCC acknowledge the role of the planning balance, which falls with the ExA &amp; Secretary of State.</p>

	<p>infiltration testing results become available and detailed design progresses, the Applicants are confident that the required size of the infiltration only SuDS pond will reduce, however the planning balance must be maintained between an effective SuDS design (which may be full infiltration or full attenuation or a hybrid of both) and the landscape, biodiversity and access requirements of the development, and wider land use considerations.</p>	
19	<p>The Applicants have demonstrated that an infiltration only scheme, based on the conservative assumptions, is not practicable considering the competing land uses (and it is noted that an attenuation only scheme or a hybrid attenuation/infiltration scheme remains compliant with EN-1, the drainage hierarchy and ESC planning policy, and does not increase flood risk downstream). Through establishment of infiltration rates and the detail design of the Projects and surface water management system, the Applicants will continue to prioritise an infiltration only solution where practicable.</p> <p>Please also see ID17 which confirms that the half drain is a design check pass..</p>	<p>Whilst SCC acknowledge that the Applicant has argued infiltration only, using worst case assumptions, is not practicable, SCC do not agree that the Applicant has <b>demonstrated</b> that an infiltration only scheme is not practicable. Indeed, SCC have continually requested that the Applicant submits details showing the extent of potential clash/overlap of competing mitigation options.</p> <p>SCC maintain, as per our submission at Deadline 8 (REP8-176, Section 1, response to Agenda Item 2) that infiltration should be prioritised as per surface water disposal hierarchy contained within the NPPG.</p>
20	<p>SCC is misrepresenting the Applicants position. For the reasons described above, namely in ID10, an infiltration only solution, based on various conservative assumptions, is not practicable.</p> <p>The Applicants consider an attenuation only scheme to be practicable and has demonstrated, through the OLEMS (document reference 8.7), that the outline masterplan of the substation area can satisfy the landscaping, biodiversity,</p>	<p>Whilst SCC acknowledge that the Applicant has argued infiltration only, using worst case assumptions, is not practicable, SCC do not agree that the Applicant has <b>demonstrated</b> that an infiltration only scheme is not practicable. Indeed, SCC have continually requested that the Applicant submits details showing the extent of potential clash/overlap of competing mitigation options.</p>

	<p>access and wider land use constraints.</p> <p>The detailed design will seek to adopt a full infiltration system (reflecting the final detailed design of the substations and results of infiltration testing) where practicable, considering the necessary planning balance necessary as set out in ESC planning policy.</p>	
<b>21</b>	<p>The Applicants would note that the hybrid solution was not developed in order to reduce the footprints of the basins, rather to show that the infiltration element of the scheme can still be maximised. The hybrid solution is based upon the original storage volumes proposed for the attenuation pond with the addition of infiltration applied..</p> <p>SCC is incorrect in its statement on depths and the 'Note to ExA' is incorrect and misleading - the maximum depth of the hybrid solution basins is the same as for the other solutions, 1m or 1.3m including freeboard, as detailed in Appendix 5 of the OODMP (REP8-064).</p>	<p>The 'base level' and 'basin top level' for both the NG &amp; EA1N/EA2 substations result in a total depth of 2.0m. If this is 'incorrect and misleading', as per the Applicants statement, is the plan wrong? During ISH16, the Applicant appeared to acknowledge the hybrid basins exceeded 1.5m total depth.</p> <p>If the plan is correct, then the total depth of the basin is greater than that recommended in the CIRIA SuDS Manual.</p> <p>What is the plan area of the basins if designed in compliance with CIRIA SuDS Manual criteria?</p>
<b>23 &amp; 33</b>	<p>SCC state that the flood risk has increased to the village of Friston prior to the development of the Projects due to silt load within the Friston Watercourse. The development of the Projects' substations will change land use within part of the catchment which will prevent a significant portion of sediment from entering the Friston Watercourse compared to the pre-development silt loading. The current situation must therefore be managed by SCC or the Environment Agency in any event.</p> <p>Where infiltration only is adopted for the Projects, there will be no positive discharge to the Friston Watercourse. Where an</p>	<p>Maintenance of the Friston Main River is the responsibility of the Environment Agency.</p> <p>SCC acknowledge and welcomes the Applicants intentions to maintain the Friston Main River, to ensure that siltation does not prevent the effective outfall of any surface water connection to the Main River, from the Projects, remains operational. SCC request that maintenance proposals, including inspection, is included in the maintenance proposals contained within the</p>

<p>attenuation only, or a hybrid solution is adopted, the SuDS pond itself and the upstream/downstream pipework system will prevent a significant portion of sediment from entering the Friston Watercourse compared to the pre-development silt loading. This is due to the SuDS pond acting as a settlement pond, removing sediment prior to it entering the discharge pipe and subsequently the Friston Watercourse. Any siltation within the SuDS pond will then be regularly removed by the Applicants as part of its continuous SuDS maintenance activities. As the Friston Watercourse is a Main River at this location, the Applicants will undertake consultation with the Environment Agency to confirm connection, permitting and maintenance requirements during detailed design.</p> <p>The Applicants would also like to reiterate that Appendix 2 of the OODMP (REP8-064) is indicative. A C-C cross section was not provided within Appendix 2 as it is identical to the B-B cross section.</p> <p>The Applicants have utilised a detailed topographic survey provided by SCC in the indicative design, which is calibrated to ensure accuracy in the understanding of topographical levels at the time of the survey. Whilst it is noted that SCC has identified a number of indicative levels for the current status of the watercourse, it is also noted that these are approximate measurements and as such there is considerable uncertainty in these values.</p> <p>The Applicants will review the topographical information at this location and undertake targeted topographic survey post consent to confirm levels relevant to the watercourse and to inform the detailed design.</p>	<p>OODMP. SCC appreciate the exact details of this will not be agreed until ODMP.</p> <p>SCC understand that revised details for a connection to Friston Main River will be submitted by the Applicant at Deadline 11. Therefore, we will reserve further comment on this matter at this time, pending further submission of details by the Applicant.</p>
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The area referred to as the cattle grid area is to be infilled and surfaced, as shown in Appendix 2 of the OODMP (REP8-064).

SCC are incorrect stating that there will be increased maintenance liability for Suffolk Highways as a result of the proposed developments as the site operator is responsible for all maintenance activities, as stated in Paragraph 138 of the OODMP (REP8-064):

“Inspection and maintenance of the onshore substations and National Grid infrastructure drainage systems (to the point of connection to the Friston Watercourse) will be the responsibility of the site operator during the operational phase of the Projects (until the site is decommissioned).” If any of the pipes associated with the SuDS basins were to become blocked the water would flow along the same pathway that it would currently before entering the watercourse.

In response to SCC’s comments:

- 1) A Section C-C has not been provided as it is the same as Section B-B2)
  
- 2) The drawing sections detailed in Appendix 2 of the OODMP (REP 8- 064) depict a concept design to illustrate outfall levels are achievable. There are a number of options that can be developed within this ‘concept window’ to achieve a satisfactory technical solution (e.g. monolithic structure, geomembrane, highway surface re-profile). In accordance with Requirement 41 of the draft DCO (document reference 3.1) the final technical design details will be included in the final ODMP to be submitted to, and approved by, the

	<p>relevant planning authority, in consultation with SCC and the Environment Agency.</p> <p>3) Please see response to 2). The Applicants will update the OODMP (REP 8-064) at Deadline 11 to confirm that any additional costs associated with the highway maintenance on Church Road, above the surface water discharge culvert, will be incorporated in the maintenance responsibilities within the final Operational Drainage Management Plan.</p> <p>4) This is a matter for the Applicants and utility owners, not SCC.</p>	
<p><b>24, 28, 29, 31 &amp; 34</b></p>	<p>Section 11.1 of the Outline Code of Construction Practice (OCoCP) (document reference 8.1) sets out general control measures available to the Projects that can be delivered within the Order limits. These are demonstrated in Plate 11.1 of the OCoCP (document reference 8.1). However, as stated in the Flood Risk and Drainage Clarification Note (REP8-038), the precise design and integration of such measures (including full integration with landowners, existing drainage systems as per clause 6 of the Option Agreement (REP9-086)) cannot be established at this stage, hence they are included in the OCoCP (document reference 8.1), the final detail of which must be submitted and approved by the relevant planning authority prior to commencement (such detail benefiting from the detailed design of the works and the construction methodology). This is standard and accepted practice for nationally significant infrastructure projects as without the parameters and conclusions reached during detailed design it is not possible to define the exact control measures which are required or suitable.</p>	<p>This topic was covered as part of ISH 16, agenda item 3c. Please also see SCC's response to ID 3, 4, 5, 6, 7, 8 &amp; 37 of the Applicants' Comments on Suffolk County Council's Deadline 9 Submissions (REP10-008), Section 2.2, Floods, as part of Section 4 of this submission.</p>

	<p>The control measures that will be implemented will be refined post consent and presented in the final Surface Water Management Plan (SWMP) to be approved by the relevant planning authority.</p>	
<b>25</b>	<p>The Applicants acknowledge that landscaping and surface water management measures need to be carefully considered together, and that the final SuDS design, which will be detailed in the final ODMP, will take into consideration the effects of the final landscaping proposals (and vice versa). When the Applicants used the term 'integration' it is meant that both landscaping and surface water management measures will work to complement one another and both be feasible within the Order limits, the Applicants do not mean literal integration.</p> <p>The Applicants appreciate that there will naturally be leaf or branch fall which could interfere with the SuDS design, hence why the Applicants have committed to ongoing maintenance of the SuDS features within the OODMP (REP8-064). The final landscaping proposals and SuDS design will be defined post consent once ground investigation works and detail design of the Projects have been undertaken. This will ensure that the final site design will be optimal and sustainable and appropriate maintenance is committed to.</p>	<p>No further comment by SCC.</p>
<b>27</b>	<p>The Applicants contest SCC's statement that the assessment of flood risk during the construction phase has not been carried out in accordance with the relevant policy and best practice guidance. The Applicants assessment can be found in Chapter 20 of the ES, Water Resources and Flood Risk (APP-068) and further details on flood risk during the construction phase can be found in Section 11 of the OCoCP (document reference 8.1).</p>	<p>This assessment is reliant on the use and delivery of mitigation options which have not been demonstrated as deliverable within the Order Limits.</p> <p>This topic was covered as part of ISH 16, agenda item 3c. Please also see SCC's response to ID 3, 4, 5, 6, 7, 8 &amp; 37 of the Applicants' Comments on</p>

		Suffolk County Council's Deadline 9 Submissions (REP10-008), Section 2.2, Floods, as part of Section 4 of this submission.
<b>32</b>	<p>The Applicants note that SCC does not expect a climate change allowance to be included for construction drainage. The Applicants request further clarification from SCC regarding its revised assessment of the return period for the event affecting Friston in 2019 given that the return period adopted by the Applicants was provided by SCC via email (09.10.2020).</p> <p>The Applicants maintain that the design storm return period to be used is likely to be a 1 in 5 year event as this adequately reflects the design life of the construction period which will last approximately two years. This is compliant with the guidance set out in the CIRIA SuDS Manual (2015).</p>	<p>This is not a revised assessment. This clarification was provided to the Applicant at the time and is contained within the minutes of the Expert Topic Group (ETG) from 19/11/2019.</p> <p>The email dated 09/10/2020 supports the information contained within the minutes of the above ETG.</p> <p>SCC request the Applicant provides justification to support the statement that construction drainage for a 1 in 5 year event is compliant with the CIRIA SuDS Manual.</p> <p>SCC would also highlight that a sequential construction would last longer than two years.</p> <p>This topic was covered as part of ISH 16, agenda item 3c. Please also see SCC's response to ID 3, 4, 5, 6, 7, 8 &amp; 37 of the Applicants' Comments on Suffolk County Council's Deadline 9 Submissions (REP10-008), Section 2.2, Floods, as part of Section 4 of this submission.</p>
<b>36</b>	<p>Within the OODMP (REP8-064) the Applicants have committed to implementing infiltration as far as reasonably practicable. However, as stated at ID13, the Applicants are also required to give consideration to landscaping requirements, use of the</p>	<p>See SCC response to ID 13, above.</p>



	land, mitigation and biodiversity. This approach complies with NPS EN-1, paragraph 5.7.9 as it prioritises the use of SuDS in the Project, and ESC planning policy.	
<b>37</b>	<p>SCC continue to consider surface water mitigation in isolation. Whilst the role of the LLFA is to consider other matters, SCC also has a wider remit which includes interests in landscape and biodiversity matters. Landscaping and surface water management do not 'clash' as presented by SCC, rather they are developed as an integrated solution which meets the requirements of EN-1, ESC planning policy and the drainage hierarchy.</p> <p>In addition, please see ID3 and ID10.</p>	<p>SCC's statement is made on the basis that optimum mitigation should be delivered, as per national policy and guidance. The land take requirements for both an infiltration only approach and the land take requirements for both landscape and biodiversity, have the potential to overlap/clash, in the worst-case scenario. The extent of this overlap/clash remains unknown as the Applicant has not yet provided this assessment.</p>
<b>38</b>	<p>The Applicants acknowledge that these two statements contradict each other. The first quote, in response to Action Point 3 of ISH 11 (EV-123a), is incorrect and should be disregarded. The second quote is correct.</p> <p>Section 11 of the OCoCP (document reference 8.1) details various surface water drainage control measures which could be implemented during the construction phase, however as stated:</p> <p><i>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.</i></p> <p>During detailed design an evaluation of the proposed development area will be undertaken. Such evaluation will</p>	<p>This topic was covered as part of ISH 16, agenda item 3c. Please also see SCC's response to ID 3, 4, 5, 6, 7, 8 &amp; 37 of the Applicants' Comments on Suffolk County Council's Deadline 9 Submissions (REP10-008), Section 2.2, Floods, as part of Section 4 of this submission.</p>

	include liaison with the relevant landowners and therefore ensure integration with existing landowner drainage systems. The findings of this will inform the final design and will be detailed in the Surface Water and Drainage Management Plan and the Flood Management Plan, both of which will be produced post consent as part of the final CoCP.	
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**5. Responses to any further information requested by the ExAs for this deadline**

5.1 If applicable.