

# **Deadline 10 – Summary of Position**

Date: 12 October 2021

File Ref: PZ/CS/P21-2329/03TN

Subject: Fordley Hall – Deadline 10 Submission

#### 1.0 DEADLINE 10 - SUBMISSION

- 1.1 Create Consulting Engineers Ltd (CCE) have been appointed by the Grant family to provide a written response at Deadline 10 in line with the Planning Inspectorate timescale.
- 1.2 The purpose of this submission is twofold, firstly to summarise the position reached with the Applicant. At the request of PINS, a Statement of Common Ground has been prepared and agreed with the Applicant regarding noise. This is attached to this submission as Appendix A.
- 1.3 There remain some differences between the Applicant and Create Consulting on the method of noise monitoring, assessment provided within the DCO documentation and planned mitigation, albeit the principle that mitigation is required has been accepted by the Applicant.
- 1.4 The DCO process available does no longer allow sufficient time to adequately interrogate any submission and our Client firmly believes this is unacceptable behaviour from the Applicant.
- 1.5 Create therefore strongly appeal to PINS to re-engage on the specific areas highlighted in the Statement of Common Ground to allow the noise effect to be adequately understood at this important location.
- 1.6 For the Applicant to suggest this matter can be considered post the DCO Inquiry offers no opportunity for our Client to debate (or agree to the mitigation) with the approval reverting to East Suffolk Council as the Environmental Health controlling authority.

1.7 Create also look to update PINS on Fordley Road and the opportunity to maintain access both north and southbound for local traffic with the removal of the junction with the SLR. The Applicant has failed to engage on this throughout the DCO inquiry.

#### 2.0 FORDLEY HALL - NOISE

- 2.1 At DL8, the Applicant provided a final NMMP, Create summarise our position below, in bold;
  - The Noise Monitoring and Management Plan will define more detailed mitigation measures which will answer the concerns raised by CCE once the works processes have been finalised.

The generic NMMP has been reviewed and CCEs comments have been contained within the SoCG where it does not address the concerns raised previously.

The Noise monitoring and Management plan will require the contractor and SZC Co.
to undertake further noise calculations in advance of the works. All construction
methods and mitigation will be submitted to ESC for their approval before any works
will be allowed to begin.

This is not acceptable given the DCO inquiry process and Create firmly believe more certainty should be provided by the Applicant.

CCE claim that the SOAEL for construction noise should be based on the ABC method
as detailed within BS 5228 and DMRB LA111. SZC Co. have based their SOAELs for
construction noise based on schemes of similar stature, such as Tilbury 2, HS2 and
West midlands Interchange.

Create believe that this approach does not consider adequately the truly rural context of the surrounding area in this instance.

 CCE has undertaken baseline noise monitoring at the properties which resulted in far lower measurements than those taken by SZC Co. The CCE measurements were taken at the properties themselves.

Create confirm this is a correct statement and is the most appropriate method for truly assessing the sound level at these properties.

SZC Co. states that these do not make a material difference.

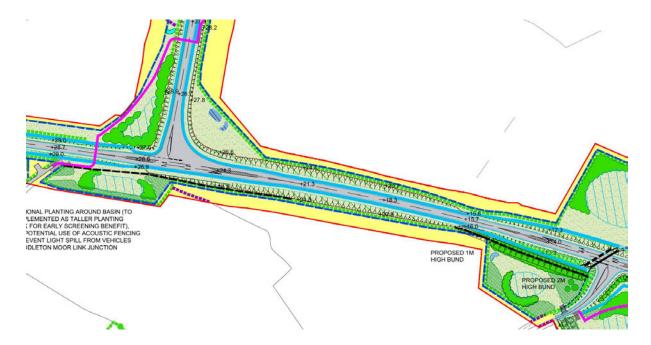
CCE believe that they are important as;

- a) it provides context to the area and
- b) the LOAEL should be set at the existing ambient sound level.

 SZC Co. have not considered the negative impact on the external amenity spaces of the residents as it is not required under DMRB LA111.

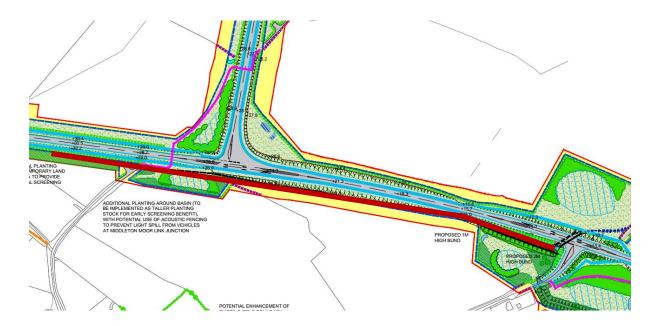
Given the rural location and the outdoor lifestyle/open space available, Create, believe consideration should be given to these existing private and relaxing amenity places.

- 2.2 As stated at DL7, the typical road traffic noise (generally referred to as the  $L_{A10}$  level) was calculated to have a logarithmic average of 44 dB  $L_{A10,18h}$  and 37 dB  $L_{night}$ , from the measurements by CCE at Fordley Hall.
- 2.3 Create accept it is unreasonable to require the Applicant to mitigate noise levels down to present ambient sound levels, but a level of mitigation is required to provide an acceptable amenity level.
- 2.4 Create have undertaken some preliminary calculations, using 3D noise propagation software, CadnaA, to assess the positive impact that a 3 m high barrier/earth bund/combination, would have on Fordley Hall. CadnaA uses the most relevant methodology (works to ISO 9613-2 using CRTN methodology).
- 2.5 This information has been made available to the Applicant.
- 2.6 The Applicant has suggested an acoustic fence is provided as shown on the extract attached below. This is taken from the Applicants Drawing 7678\_FH\_SK001.



2.7 The 3m acoustic fence is proposed from the Littlemoor Road closure stopping approximately 60m east of the SLR / B1122 junction. A 1m to 2m bund is then proposed from the cutting / embankment interface to Fordley Road, as shown in the black dashed line.

- 2.8 Through discussions with the Applicant, Create have highlighted that the planned noise mitigation measures are not sufficient, both in terms of design or length, to provide a reasonable level of mitigation at Fordley Hall.
- 2.9 Create have highlighted to the Applicant that the current proposals fail to take into consideration the SLR alignment and current topography of the surrounding area and an alternative proposal has been suggested to the Applicant. This is indicated in the extract below as a solid red line and should be a 3m barrier.



- 2.10 The option suggested offers a level of noise attenuation which is considered reasonable against the ambient background noise levels.
- 2.11 Create suggest there is sufficient space within the DCO boundary for a bund to be provided rather than an acoustic fence, which can be landscaped to provide further protection from the potential light spill from the SLR.
- 2.12 This is not contained within the Statement of Common Ground and at this time Create await agreement from the Applicant to this change.

#### 3.0 FORDLEY ROAD – UNDERPASS RESPONSE AND ACTIONS

- 3.1 Our Client and Create continue to raise significant, legitimate concerns with respect to the SLR and specifically the removal of the SLR / Fordley Road junction.
- 3.2 Retaining Fordley Road for north and southbound local traffic will ensure there is a safe, unrestricted access to residents and farmers, whilst precluding the opportunity for rat-running to the A12.

- 3.3 Safety should be paramount in the Applicants design decisions. This simply does not appear to be the case. The current proposal for Fordley Road residents will need to navigate a 'dog leg' entry/exit with the SLR to get to Middleton which is both dangerous and lengthy. This matter which was highlighted by the Applicants own Road Safety review within the Consolidated Transport Assessment submission but dismissed as a detailed design matter.
- 3.4 The Applicant has failed to engage on the Fordley Road matter and therefore Create feel it is important to reinforce this matter further. Appendix B revisits the comments made by the Applicant, which are poorly informed, along with responses from Create to demonstrate with certainty a solution can be achieved.
- 3.5 In summary, none of the comments made by the Applicant would preclude Fordley Road from being retained for north and southbound local traffic.
- 3.6 Appendix C provides 2 potential options prepared by Create. Both demonstrate the reinstatement of Fordley Road is achievable with minimal change to the DCO.
- 3.7 Retaining the Fordley Road link would provide a genuine 'status-quo' solution, acceptable to both local community and agri-businesses whilst removing the risk of 'rat-running' almost guaranteed by the Applicant's current design proposal.
- 3.8 This link will provide a vital route for residents along Fordley Road and must be considered in this context as well as neighbouring Parishes which would otherwise be severed.
- 3.9 The DCO process available no longer allows sufficient time to adequately interrogate any submission. Our Client and Create, firmly believe this is unacceptable behaviour from the Applicant.
- 3.10 Create strongly appeal to PINS to re-engage with the Applicant to retain Fordley Road for north and southbound local traffic during the DCO determination period.

#### 4.0 CONCLUSIONS AND APPROACH GOING FORWARD

- 4.1 Our Client and Create continue to raise significant, legitimate concerns with respect to the noise.
- 4.2 A Statement of Common Ground is provided at Appendix A. Differences remain.
- 4.3 Create request PINS re-engage on the specific areas highlighted in the Statement of Common Ground to allow the noise effect to be adequately understood during the determination period.

4.4 Create request PINS re-engage with the Applicant to retain Fordley Road for north and southbound local traffic. This matters was not discussed during the DCO Inquiry process, and the Applicant has failed to engage on this matter.

**Note By:** Jody Blackwood – Technical Director

Paul Zanna - Technical Director

Stuart Clarke - Engineer

# APPENDIX A STATEMENT OF COMMON GROUND



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# Statement of Common Ground – Create Consulting on behalf of Mr and Mrs Grant

### **DOCUMENT CONTROL**

This document is stored and approved in the AECOM Online SharePoint system.

Author:	Name:	Date:
Reviewer(s):	Name:	Date:
Owner:	Name:	Date:

# Revision history / Record of comments

Revision	Amendment	Ву	Date
Revision *		*	Click or tap to enter a date.
Revision *	*	*	Click or tap to enter a date.
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### 1 INTRODUCTION

#### 1.1 Status of the SOCG

- 1.1.1 This Statement of Common Ground ('SoCG') has been prepared in respect of the application for a development consent order ('DCO') to the Planning Inspectorate ('PINS') under the Planning Act 2008 ('the Application') for the proposed Sizewell C Project.
- 1.1.2 This SoCG has been prepared by NNB Generation Company (SZC) Limited ('SZC Co.') as the Applicant and Create Consulting Engineers (hereafter referred to as 'CCE') acting on behalf of Mr and Mrs Grant and agreed on 12<sup>th</sup> October 2021.
- 1.1.3 This SoCG has evolved through a programme of engagement and series of versions as detailed in Chapter 2.

### 1.2 Purpose of this document

- 1.2.1 The purpose of this SoCG is to set out the position of the parties on a range of noise and vibration issues arising from the application for development consent for the construction and operation of the Sizewell C nuclear power station and together with the proposed associated development (hereafter referred to as 'the Sizewell C Project').
- 1.2.2 This SoCG has been prepared in accordance with the 'Guidance for the examination of applications for development consent' published in March 2015 by the Department of Communities and Local Government (hereafter referred to as 'DCLG guidance').
- 1.2.3 Paragraph 58 of the DCLG Guidance states:

"A statement of common ground is a written statement prepared jointly by the applicant and another party or parties, setting out any matters on which they agree. As well as identifying matters which are not in real dispute, it is also useful if a statement identifies those areas where agreement has not been reached. The statement should include references to show where those matters are dealt with in the written representations or other documentary evidence"

1.2.4 The aim of this SoCG is therefore to inform the Examining Authority and provide a clear position of the state and extent of discussions and



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agreement between SZC Co. and CCE on matters relating to the Sizewell C Project.

- 1.2.5 This SoCG does not seek to replicate information which is available elsewhere within the DCO application documents. All documents are available on the Planning Inspectorate website.
- 1.3 Parties to this Statement of Common Ground
- 1.3.1 SZC Co. has submitted an application for development consent to build and operate a new nuclear power station, Sizewell C, along with the associated development required to enable construction and operation.
- 1.3.2 CCE is responsible for providing technical support to Mr and Mrs Grant. This SoCG is seeking to address noise and vibration matters only, other matters not related to noise and vibration remain disagreed and are not reported here.
- 1.3.3 Collectively SZC Co. and the CCE are referred to as 'the parties'.
- 1.3.4 Matters of interest to CCE, acting on behalf of Mr and Mrs Grant and which are detailed in Chapter 2 of this SoCG are as follows:
  - Sizewell link road
- 1.4 Structure of this Statement of Common Ground
- 1.4.1 Chapter 2 provides a schedule which details the matters of agreement and disagreement between the parties.
- 1.4.2 Appendix A provides a summary of engagement undertaken to establish this SoCG.
- 2 POSITION OF THE PARTIES
- 2.1.1 Table 2.1 provides details on the areas of agreement and disagreement between the parties on the topic of noise and vibration.
- 2.1.2 Only noise and vibration matters are reported here. Other areas of dispute are not. The eligibility of the landowner to make a claim for compensation is not prejudiced by any agreement or otherwise set out in Table 2.1.



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## Table 2.1 Position of the Parties - SZC Co. and Create Consulting (on behalf of Mr and Mrs Grant) on 12th October 2021

Ref	Matter	SZC Co. Position	Create Consulting Position	Further Action	Agreed / Not Agreed / In Progress
NV1	Baseline noise monitoring	SZC Co. consider that the baseline monitoring, which is supplemented in the submitted assessment with modelled baseline levels, covered locations and periods that are sufficient to appropriately quantify the baseline climate.  In the context of Fordley Hall, the baseline levels define LOAEL for construction noise, and the modelled baseline road traffic noise levels inform the assessment of road traffic noise impacts.  Mitigation is applied to the construction works through the Code of Construction Practice (Doc Ref 10.2) irrespective of whether the LOAEL is exceeded or not.	The noise monitoring conducted by CCE <u>at the resident's dwelling</u> were at significantly lower sound levels than those from the SZC Co. baseline report.  When referring to the methodology defined in the DMRB LA111, this is the level at which the LOAEL should be set at and therefore not agreed.  Assessing using the sound levels measured by CCE will have a knock-on effect on the degree of mitigation required.	No further actions at this time.	Not agreed.



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NV2	A further	SZC Co. consider that the adopted	Although it is welcomed that an	No further actions	Not agreed.
	assessment of	approach, whereby the expected	updated noise and vibration	at this time.	
	construction	construction outcomes are updated	assessment will be conducted.		
	noise and	based on the actual proposed working			
	vibration will be	methods and equipment is the most	CCE are concerned that the full		
	undertaken with	robust way of specifying appropriate	impact of noise and vibration on		
	input from the	controls. The Code of Construction	the residents will not be properly		
	contractor to	Practice (Doc Ref 10.2) requires the	assessed and mitigated against		
	inform both the <b>Noise</b>	use of Best Practicable Means (as defined in Section 72 of the Control of	and should have been completed		
	Mitigation	Pollution Act 1974) at all times.	as part of the DCO Inquiry		
	Scheme (Annex	,	process.		
	W of the Deed of	The Noise Monitoring and Management Plan requires SZC Co. to agree specific			
	Obligation (Doc	mitigation measures with East Suffolk	The property is grade 2 listed,		
	Ref 10.4) and	Council where the works are predicted	and as such normal mitigation		
	the Sizewell link	to exceed specified levels that, for	will not be applicable in this		
	road Noise	noise, are below the level at which the	instance.		
	Monitoring and	works are considered to cause a			
	Management	significant adverse effect in an EIA			
	Plan that will	context.			
	form part of the	Where the specific mitigation is not			
	Code of	agreed, the works cannot proceed.			
	Construction	This approach does not detract from the			
	Practice (Doc	robustness and reliability of the			
	Ref 10.2).	submitted assessments, which SZC Co.			

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		consider represent reasonable worst- case outcomes and therefore an appropriate basis for the Examining Authority to determine the application. The approach has been agreed with East Suffolk Council, who has committed to work with SZC Co. to apply appropriate controls throughout the works.			
NV3	Construction noise thresholds	The construction noise thresholds that SZC Co. say equate to a significant adverse effect in an EIA context are defined by the 'ABC' method in Annex E.3.2 of BS5228-1: 2009+A1: 2014.  The Noise Monitoring and Management Plan requires SZC Co. to agree specific mitigation measures with East Suffolk Council where the works are predicted to exceed specified levels that, for noise, are below the level at which the works are considered to cause a	CCE understand that the noise triggers will be set at 60dB LAeq,12h for the day time, 50 dB LAeq,4h for the evening, Saturday afternoon and Sundays and 40 dB LAeq,8h for the night time period. It has been understood that the trigger level is the point at which the requirement for specific mitigation is required and not the noise level where the works must stop.  Bank holiday working should be avoided or at least worked to	SZC Co. will amend thresholds in the draft NPR NMMP to capture bank holidays.	Agreed

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		significant adverse effect in an EIA context.  Where the specific mitigation is not agreed, the works cannot proceed.  This approach is agreed with East Suffolk Council.	Sunday levels. No mention within the document.		
NV4	Proposed SOAEL levels	The adopted levels for SOAEL for construction noise are taken directly from Annex E.4 of BS5228-1: 2009+A1: 2014 and are consistent with numerous major projects across the country.  The adopted levels for SOAEL for road traffic noise have been taken directly from DMRB LA111.	It has been proposed that the SOAEL levels have been set at approximately 10 dB above the ABC threshold levels. Table E.1 of BS 5228 states that "a potential significant effect is indicated if the LAeq,T noise level arising from the site exceeds the threshold level for the category appropriate to the ambient noise level".	No further actions at this time.	Not agreed.
			The SOAEL levels proposed should be reduced to the levels stated within BS 5228. The SOAEL levels proposed by SZC Co. relate to the eligibility for		

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			noise insulation (provision of secondary glazing) or temporary rehousing. These SOAEL levels are those used "to determine the eligibility for noise insulation and temporary rehousing" according to BS 5228.		
NV5	Noise in external amenity spaces	For construction noise, gardens are included within the definition of noise-sensitive receptors in BS5228-1: 2009+A1: 2014. Gardens are therefore already included when setting criteria, and those criteria are applied at the dwelling, cognisant of the fact that the dwelling may have gardens around it. SZC Co. considers that the assessment considers gardens in exactly the way envisaged in BS5228-1: 2009+A1: 2014.  The Code of Construction Practice (Doc Ref 10.2) provides the mechanism to apply appropriate mitigation for construction works, which will protect	SZC Co. have not considered the negative impact on the dwelling's usable external amenity spaces as it is not required under BS 5228 or DMRB LA111.  The document by the World Health Organisation "Guidelines for Community Noise" clearly states that to avoid annoyance, external sound levels should ideally be at 50 dB LAeq,16h, with an upper limit of 55 dB LAeq,16h. For a project of this duration, the sound levels proposed will be above those recommended by the WHO for sustained durations.	No further actions at this time.	Not agreed.

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		both external and internal environments alike.  For road traffic noise, the approach set in DMRB LA111 is applied, and that method does not require consideration of road traffic noise in gardens.  Notwithstanding this, in most instances the predicted noise levels with the new roads in place are expected to below the 55dB upper guideline value in BS8233: 2014, which is the only British Standard that provides a guideline value for gardens, albeit in the context of new residential development proposed close to existing noise sources, rather than assessing a change in the existing noise climate.	Further specific mitigation attempts should be made, certainly more than simply relying on the BMP and CoCP.		
NV6	Modelling of noise from proposed link road.	Noise modelling software was used to calculate noise levels to assess the impact of road traffic noise from the Sizewell link road, using appropriate traffic data and calculation methods, based on the Calculation of Road Traffic Noise.	Although CCE believe more clarity could be provided on how the model was calibrated, our own measurements are broadly similar to the predicted levels, and we agree that this is a	No further actions at this time.	Agreed.

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			suitable way of assessing future noise levels.		
NV7	Short term impact on receptor.	A major adverse impact is predicted during both the daytime and night-time periods during both the typical and peak operating periods in 2028. These are considered to be significant adverse effects, in an EIA context.	Based on the assessment method CCE agree that there is a major short-term impact on to the receptor.	Discussions are ongoing on the proposed acoustic screening	In progress
		The mechanism for securing further reductions in road traffic noise as part of the detailed landscape design of the Sizewell link road are delivered through the Associated Development Design Principles (Doc Ref 10.1); all matters relating to landscaping and the acoustic benefit of landscaping, and the use of quiet road surfaces must be approved by either Suffolk County Council or East Suffolk Council under Requirements 22 or 22A, depending on whether the works fall within the highway boundary or outside it.			



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NV8	Long term impact on receptor.	A moderate adverse impact and a major adverse impact are predicted for the daytime and night-time periods respectively during typical operating period for 2034. These are considered to be significant adverse effects, in an EIA context.  The mechanism for securing further reductions in road traffic noise as part of the detailed landscape design of the Sizewell link road are delivered through the Associated Development Design Principles (Doc Ref 10.1); all matters relating to landscaping and the acoustic benefit of landscaping, and the use of quiet road surfaces must be approved by either Suffolk County Council or East Suffolk Council under Requirements 22 or 22A, depending on whether the works fall within the highway boundary or outside it.	Based on CCE assessment and measurements a moderate adverse impact is predicted in the long-term.  Mitigation is required to reduce the impact of the SLR.	Discussions are ongoing on the proposed acoustic screening	In progress
NV9	Approval of final NMMP	The approval mechanism agreed with East Suffolk Council does not require approval or oversight from any third parties, which is appropriate as East	CCE understand that the final version of the NMMP will be submitted to ESC for approval.	No further actions at this time	Not agreed

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		Suffolk Council is the statutory authority on matters relating to construction noise and vibration.	CCE would seek to comment on the final version of the NMMP.		
NV10	Application of this NMMP to the SLR	A dedicated <b>Noise Monitoring and Management Plan</b> will be produced for each Associated Development site, to be approved by East Suffolk Council.	Only the receptors for the P&R have been considered within this NMMP.	No further actions at this time	Not agreed
		A draft of a Noise Monitoring and Management Plan for one of the Associated Development sites, the northern park and ride site, has been issued (Appendix A of Part C of the CoCP (Doc Ref 10.2 [REP8-085, electronic page 194] to demonstrate how the principles of the approach will be applied to the Associated Development sites. Further Noise Monitoring and Management Plan will not be issued during the examination as the principles have been agreed with East Suffolk Council, and the further plans require details on working methods that are not available at this time.	CCE consider a separate NMMP should have been supplied during the DCO process to fully explore the impact and mitigation solutions for our Clients interests.		



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NV11	Vibration threshold set too high	The vibration threshold set out in the draft Noise Monitoring and Management Plan for the northern park and ride site (Appendix A of Part C of the CoCP (Doc Ref 10.2 [REP8-085, electronic page 194] is drawn from the level at which a significant adverse effect is considered to occur, in an EIA context.  The derivation of this value is set out in paragraphs 5.17 to 5.31 in Volume 1, Appendix 6G, Annex 6G.1 of the ES [APP-171, electronic page 207].  The thresholds have been agreed with East Suffolk Council.	The NMMP has the vibration threshold set at 1.0 mm/s PPV. At this level, BS 5228-2 confirms that "it is likely that vibration of this level in residential environments will cause complaint but can be tolerated if prior warning and explanation has been given to residents". A more suitable threshold for vibration would be between 0.5 and 0.7mm/s PPV with a maximum trigger limit of 1 mm/s PPV.  BS 5228 surmises that night time periods are more sensitive to vibration, although does not state lower threshold levels for night time working.  Vibration thresholds should be reduced to accommodate the residential receptors.	No further actions at this time	Not agreed
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			Vibratory works should be avoided where possible during night time hours.		
NV12	Proposed mitigation	The principle of a noise barrier along the southern side of the Sizewell link road to provide a reduction in noise for Fordley Hall is not disputed, although the detail remains under discussion.	CCE have provided the Applicant with the basis of a possible solution to provide an acceptable noise mitigation level.	Progressing	In progress
		The mechanism for securing any agreed acoustic barrier is through the <b>Associated Development Design Principles</b> (Doc Ref 10.1).	The form of barrier and full extent of the works remains under discussion and at present not agreed.		
		All matters relating to landscaping and the acoustic benefit of landscaping, must be approved by either Suffolk County Council or East Suffolk Council under Requirements 22 or 22A, depending on whether the works fall within the highway boundary or outside it.			



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## APPENDIX A: ENGAGEMENT ON THE SOCG

A.1.1. The preparation of this SoCG has been informed by a programme of discussions between SZC Co. and CCE, acting on behalf of Mr and Mrs Grant. The relevant meetings are summarised in Table 2.2.

Table 2.2 SOCG meetings held between SZC Co. and CCE acting on behalf of Mr and Mrs Grant

Date	Attendees	Purpose of Meeting
22 September 2021	Paul Zanna, CCE Jody Blacklock, CCE Mike Brownstone, Resound Acoustics on behalf of SZC Co. Richard Bull, SZC Co.	Discuss extent of technical agreement or disagreement on matters relating to noise
8 October 2021	Paul Zanna, CCE Jody Blacklock, CCE Mike Brownstone, Resound Acoustics on behalf of SZC Co. Richard Bull, SZC Co.	Discuss extent of technical agreement or disagreement on matters relating to noise



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# **SIGNATURES**

The above Statement of Common Ground is agreed between SZC Co. and the CCG on the day specified below.

Signed:

Print Name: Paul Zanna

Job Title: **Technical Director** 

Date: 12.10.21

Duly authorised for and on behalf of Create Consulting (on behalf of Mr and Mrs Grant)

Signed:

Carly Vince Print Name:

Job Title: Chief Planning Officer

Date: 12-10-21

Duly authorised for and on behalf of SZC Co.

# APPENDIX B FORDLEY ROAD APPLICANT QUERIES

#### Applicant queries are in Bold

Create Consulting Engineers' Option A suggestion to provide the SLR crossing over Fordley Road (retained at its current level) with a minimum clearance of 5.3m to the underside of the SLR shows the Project longsection alignment lifted some 3.5m. The SLR is already on a 3.5m high embankment thereby the alignment suggested is over 7m in height at Fordley Road. An increase in embankment height of this magnitude at this location is considered a severe impact on the landscape and an unacceptable detrimental impact on the adjacent Vale Cottage properties.

- 1.1 Create have reviewed and revised Option A, this is provided in Appendix C.
- 1.2 The height above Fordley Road is reduced to demonstrate a reduced impact on the adjacent property. The vertical height required is close to the elevated topography to the east, which could be graded into the existing landscape. Option A also omits the need to cut into the immediate existing increasing landscaping to the east. Vegetation could be erected to help screen the SLR from Oakview House (Vale Cottage) property and they will benefit from Fordley Road remaining open as would all residents of Fordley Road and Middleton Moor.

The Create Consulting Engineers' Option A plan layout shows an underpass at SLR chainage 2900 and the long section shows it at chainage 2850. This is assumed to be an error and the underpass on the long section should also be at chainage 2900 which would change the vertical alignment suggested as a result. The long section underpass position would therefore need to move eastwards to match the plan position.

- 1.3 Create have revised Option A.
- 1.4 This reduces the previous amount of fill that may be required. Note that your location of CU001A appears to be overlaid over the existing watercourse on the long section which differs to the layout plan for the watercourse diversion.

The Create Consulting Engineers' suggested vertical road profile is shown to dip either side of the underpass location which would reduce driver visibility and introduce a safety concern with vehicles being partly hidden in the dip. The Suffolk County Council highway design standards vertical curvature and site stopping distances for the dipped sections is below the requirements of a 60 mph speed limit and would therefore not likely be an acceptable safe design to the highway authority. The Create Consulting Engineers' Option A is therefore also rejected on highway design safety considerations.

1.5 In the updated Option A the vertical road profile mitigates any dipped sections to generate a vertical curvature that would be acceptable to Suffolk County Council and have an acceptable visibility, this is considered acceptable and viable.

It is expected that the Environment Agency would want to understand the implications for the culverted section of the Middleton Drain watercourse, including ensuring the underpass has sufficient width to enable a mammal passage on one or both banks and whether this needs to be formally provided in a space between the channel and Fordley Road. The underpass structure would need to retain the watercourse in place adjacent to Fordley Road and therefore the width of the underpass would need to increase. As the watercourse is shown as retained in place there is likely to be less of an impact from a flood risk perspective.

1.6 Maintaining 10-12m for the structure width would accommodate maintaining Fordley Road, the watercourse and a vegetation strip if necessary and this is not considered a reason for dismissing this option.

However, there is a flood risk in the floodplain in this area and there is a chance that the road embankment would act as a barrier across the floodplain. Whilst this is not likely to result in significant flooding it is the responsibility of the Environment Agency who would require modelling to confirm there would be no detrimental impact of retaining the existing watercourse.

1.7 The SLR should account for any increased flood risk resulting from its construction anyway.

Maintaining the watercourse rather than diverting would no doubt be the Environment Agency's preferred option in line with the EA Guidance.

Therefore the out of bank flooding that was addressed by the diverted channel in the Project might still be required as a flood relief culvert as a precaution. The culvert would be some 8m longer due to the increased height of the road profile and wider embankments. It is expected that Suffolk County Council might request that the road and channel in the underpass be slightly reconfigured so that it would not flood out of bank underneath the SLR, in which case works would then be required to the watercourse in this Option A. A resulting shorter effective length of watercourse would remove the loss of watercourse offset mitigation length elsewhere provided by the Project design and therefore would not provide a benefit when compared to the Project design. The extent of underpass, embankment and culvert would not reduce the land area required compared to the provision of a T-junction and turning head in the Project submission and thereby would provide no benefit to reduce land area

- 1.8 This statement is totally false. The removal of impermeable surfaces by not needing the T-Junction would be more sustainable and reduce further impact on flood risk.
- 1.9 The EDF proposals show that attenuation basins and swales are in place to control the surface water runoff from the SLR which is therefore less likely to contribute to any flood risk to Fordley Road. The updated plans show that the watercourse can be included below the structure and remain undisturbed with a structure of width 10-12m.

For Option A, a wider underpass to span the watercourse and Fordley Road would therefore be required and as a result increase the size and thickness of structure thereby requiring the road alignment to be raised further and increase the embankment widths. A profile to eliminate the dipped sections, alter the underpass position and level, and provide sufficient longitudinal gradient for surface drainage would require the alignment to be lifted for a longer length to that suggested by the Create Consulting Engineers' Option A. This revised option would increase the Project's SLR alignment levels by approximately 4m to create an over-bridge with sufficient clearance to Fordley Road (5.3m). The SLR would already be on an embankment of up to 3.5m, so this arrangement would require a substantial increase in land area required for embankments at Fordley Road.

The engineering required to achieve this would result in a 480m long higher embankment to the east of Fordley Road up to 10m wider to the north and 6m wider to the south. To the west, the embankment would be higher for a length of 400m up to 10m wider to the north and 7m wider to the south before the vertical alignment could tie in to the current design height.

- 1.10 There would only need to be 70m increased filling directly to the east of the structure in the revised plans. A further filling of 200m long but on average 0.75m depth would be required between CH3025 to CH3225. The revised Option A however reduces the fill required between CH3225 and CH3575 (approx. 250m) by on average 0.5m depth.
- 1.11 As a result, the saving of reduction of fill required presented by Option A, negates the cut material by tying into the existing landscape levels
- 1.12 Analysing the areas beneath the Option A proposed levels, a 22% increase in fill material is required east of Fordley Road.
- 1.13 To the west a filling of on average 2.3m deep between CH2900 and CH2650 (circa 250m) which would likely involve increasing widths of embankments (if at 1in3 gradient) approximately by 7m either side of the SLR. It is likely that this increased footprint could be achieved within the development boundary.
- 1.14 Analysing the area beneath the Option A proposed levels, the fill volume would likely be doubled to the west of Fordley Road to achieve clearance over the structure and maintain good visibility through vertical curvature.
- 1.15 Create have suggested a secondary alignment between CH3300 to CH4100 (shown by dashed lined) which could be explored to generate the additional fill material required to the west of Fordley Road to balance the cut and fill in the vicinity of the structure. This would promote reduced HGV moments for fill materials providing increased sustainability.

The resulting structure and required embankments would be substantial and not in-keeping with the landscape. Although this revised Option A may be deliverable within the Order limits, there would be an increased risk of a further minimal amount of agricultural land being required at the pinch points to the west to provide the access maintenance tracks to the attenuation basins. An increase in embankment height of this magnitude at this location is considered a severe impact on the landscape and an unacceptable detrimental impact on the adjacent Vale Cottage properties.

1.16 The proposed Option A alignment reduces cutting into existing topography of the surrounding landscape within 1km of Oakview House (Vale Cottage). The lowered section versus EDF's alignment between CH 3225 and CH3575 would allow the SLR to be less elevated for distant views over the current landscape and therefore provide some balance to the increase elevation to the west.

The increased size of structure and extent of embankment heights leading to the severity of the visual landscape impact on adjacent properties is therefore not considered an appropriate or suitable proportionate solution to cater for the 80 vehicles per day compared to the Project solution.

- 1.17 Fordley Road provides an essential link for local traffic and the local agricultural community, and it should therefore not be solely viewed as catering for 80 vehicles per day. The social impact on the local community would be severe and Option A provides a sustainable approach socially within the community.
- 1.18 Create continue to maintain that Option A is a viable solution for adoption.

The Create Consulting Engineers' Option B suggestion of lowering Fordley Road beneath the SLR with a proposed pumping station was considered but would create a significant localised depression in the landscape which would result in an increased risk of flooding of the road, noting that the Middleton Drain watercourse running alongside Fordley Road is the responsibility of the Environment Agency.

1.19 Option B has been revised (similarly to Option A) with the structure repositioned on the long section and provided in Appendix B.

The clearance from Fordley Road to the underside of the SLR bridge is shown at Option B at a minimum of 5.3m which would cause a significant depression. Fordley Road would also need to be lowered some 3m over a reasonable distance to meet road design standards. To create the required depression for Option B, the lowered Fordley Road would require a cutting embankment in excess of 200m in length and some 7.5m high to the east at a width of up to 22m, and a cutting embankment 3.5m deep to the west at a width of up to 11m.

1.20 The revised Option B plans demonstrate that a combination of road lowering and increasing the height of the SLR could be achieved. Fordley Road could be reduced by 1m which would mean only a 1.6m height increase to the SLR. This in turn reduces materials required to build up adjacent SLR embankments east and west of Fordley Road.

The watercourse would require diverting. The extent of embankment cutting to lower Fordley Road and divert the watercourse would not reduce the land area required compared to the provision of a T-junction and turning head in the Project submission and thereby provides no benefit to reduce land area. The impact of lowering Fordley Road and the surrounding landscape to this extent would increase the required agricultural land area to

the north of the SLR Crossing for the reprofiling of Fordley Road and to provide a sufficient grade for the PROW diversion and maintenance access to the attenuation basins to the east.

1.21 Since the lowering is only by 1m, the previous Option B suggested 200m length can be halved. The watercourse would need to be diverted similarly to the detail for the current EDF proposals and a drainage network would need to be installed for the 100m section of Fordley Road to be lowered. With the removal of the T-Junction, the cost balance between the road lowering and associated drainage would likely financially balance that of the T junction construction being removed.

To the south of the Project boundary, the additional land, although minimal to reprofile Fordley Road and create the associated cutting embankments, would severely impact the Vale Cottage residential properties. The extent of embankment cutting, road lowering, and to the severity of the impact on adjacent properties is therefore not considered an appropriate or suitable proportionate solution compared to the Project solution.

1.22 The increase profile is likely to be circa 1.6m and therefore not detrimental when the SLR is already cutting across the landscape. The increase of 1.6m balances the need for Fordley Road to remain fully accessible. Vegetation could be incorporated to screen the SLR.

The surface water mapping, as reported in the FRA [REP2-027] and [REP5-045], shows there is clearly a surface water flood risk / flow route along Fordley Road. Within the FRA it is noted that Fordley Road itself appears to act at least partially as the fluvial flow route in the existing baseline scenario. Fordley Road partially acts as a flow route during extreme storm events — it is hard to apportion the difference between surface water and fluvial flows. However, regardless of this, modifications would be needed to ensure water predominantly flows along the diverted channel and would not follow the path of least resistance under the underpass where it would pond. Even if fluvial flows remain in bank there would still be rainfall / surface water that would flow into this location and become trapped. It is expected that the Environment Agency is unlikely to support the diversion of the watercourse suggested in Option B.

1.23 This remains an issue for the SLR anyway with the introduction of the watercourse diversion.

Create's Option B utilises the SLR watercourse diversion detail as well as providing surface water control within the proposed road lowering.

Option B indicates flood water would need to be pumped back out of the underpass. However, the sketch shows this being taken to the upstream side of the SLR and discharges upstream to flow through the culverted section of the diverted channel downstream. In addition, it is expected that Suffolk County Council Lead Local Flood Authority may ask that this is restricted and discharged at a greenfield rate, leading to the need to attenuate and store the water temporarily. Therefore, to create a depression and pump the fluvial flows suggested by the Create Consulting Engineers in Option B is considered to be unacceptable and would likely be strongly opposed by the Environment Agency. In addition, as the

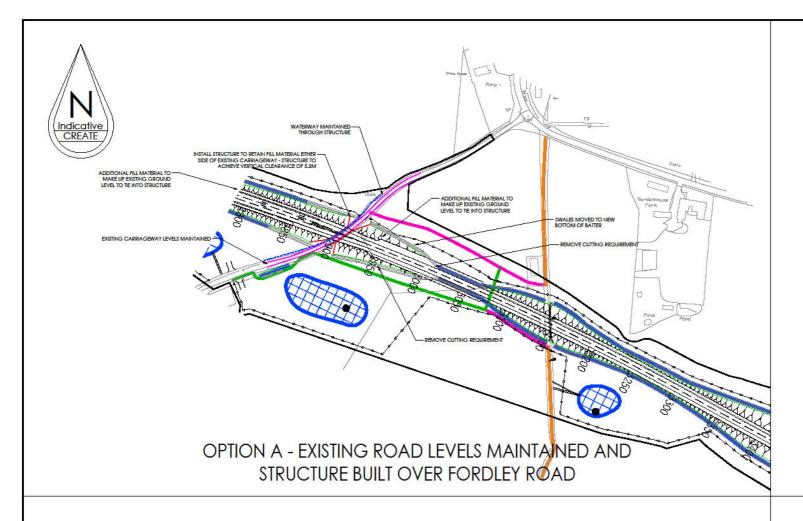
pumping drainage approach is less sustainable it would be unlikely to receive support from Suffolk County Council as Lead Local Flood Authority.

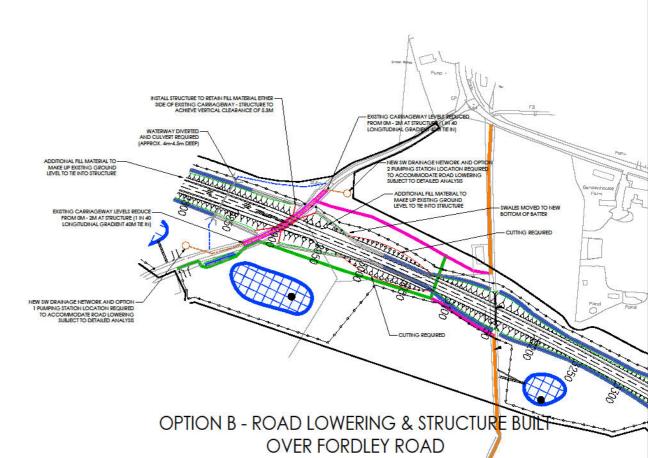
1.24 The drainage proposal demonstrates an option to remove surface runoff from within the structure and road lowering, it would likely need to be pumped but is not insurmountable.

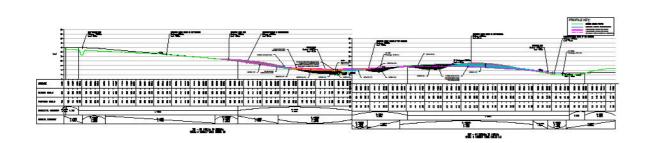
In consideration of the impact to the adjacent properties, risk of flooding, sustainability considerations, extent of embankment cuttings, and unlikely support from the authorities it is therefore not considered an appropriate solution or suitable proportionate solution to cater for the 80 vehicles per day.

1.25 Option B reduces additional materials and gives a secondary option to generate more fill material after CH3300 and up to CH4100 to balance the cut and fill. The option demonstrates that surface water runoff could be managed subject to further analysis and utilities the current watercourse measures suggested by EDF

# APPENDIX C FORDLEY ROAD OPTIONS



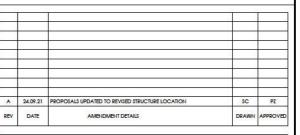




OPTION A - INDICATIVE LONG SECTION

# OPTION B - INDICATIVE LONG SECTION





#### NOTES

- OVERLAY OF EDF DRAWING LAYOUT OBTAINED FROM SIZEWELL C PROJECT 2.10 SIZEWELL LINK ROAD PLANS PART 1 OF 3 PLANS FOR APPROVAL.
- 2. CONCEPTS OUTLINED ON THIS PLAN ARE INDICATIVE ONLY AND SUBJECT TO FURTHER INVESTIGATION.
- . THIS PLAN IS FOR INFORMATION ONLY.
- ALL DIMENSIONS SHOWN ARE APPROXIMATE IN METERS.



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