

## TECHNICAL NOTE

Date: 22nd July 2021

File Ref: P21-2319

Subject: EL Dowley – Deadline 5 Submission

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### 1.0 DEADLINE 5 SUBMISSION

1.1 Create Consulting Engineers Ltd (Create) have been appointed by our Client (LJ & EL Dowley) located close to the village of Theberton to provide a written submission for “Deadline 5” in line with the Planning Inspectorate timescale.

1.2 The Theberton House Estate lies towards the West of the existing Sizewell Power Station and as part of the access arrangements to serve the proposed scheme, a new five-arm roundabout is proposed on the B1122 Abbey Road to the East of Leiston Abbey. The schematic layouts of the junction have been highlighted in the Create DL2 submission.

1.3 As part of DL2, Create submitted a note which highlighted fundamental concerns impacting upon our Client’s land interest and residential property, these comments are not reproduced here but sought to highlight;

- Inconvenience/amenity;
- Traffic capacity/safety;
- Noise;
- Lighting;
- Dust; and
- Visual impact.

1.4 As part of DL3 Create submitted a note to strengthen our Client’s position on;

- Noise
- Lighting
- Road Safety

- 1.5 The purpose of this note is to specifically address points raised at the ISH2 / 3 on Transport, ISH5 on visual impact and the expectation following confirmation from the Applicant on details to be submitted at DL5.
- 1.6 As we are not expecting to receive specific information until DL5 from the Applicant and therefore we reserve the right to respond to subsequent matters at part of our DL6 submission.
- 1.7 Specific points which we are expecting at DL5 from the Applicant as set out at the ISHs are set out below. These are considered to be fundamental and subject to further discussion;
- Justification by the Applicant on the legacy benefit of the Sizewell Link Road and the reason for this not to be removed post construction as requested by Suffolk County Council.
  - Greater detail on the Sizewell Link Road route selection and a complete environmental link assessment as requested by Mr. Humphreys and agreed to be supplied at DL5 by the Applicant.
  - Clarity from the Applicant as to why the Sizewell Link Road cannot be constructed until the Main Site Plant and specific clarity over the points raised by Mrs. Williamson on behalf of the Applicant which would be supplied at DL5;
    - Use of the Sizewell Link Road as a short-term haul road
    - The movement of material from the SLR / Two Villages Bypass and the Main Plant Works within the SLR boundary
    - 70,000 vehicle movements which will use the SLR as a haul road before construction of the final SLR.

## 2.0 PROPOSED ROUNDABOUT - POINTS OF CONCERN

- 2.1 Para 2.1 from the Create Technical Note submitted at DL2 highlighted several concerns, these points are not reproduced here, but remain relevant.

### Visual Impact / Lighting

- 2.2 There was **insufficient time for this specific point to be discussed at the ISH5** and therefore we gratefully request the following to fully understand the impact on our Clients property at Theberton House.
- 2.3 A receptor specific assessment is required for our Client's property to determine the mitigation which is absolutely required.
- 2.4 This should include a light spill assessment and cordon of influence. It is not possible to determine the mitigation and land take required to provide the protection necessary without this.

### Noise

- 2.5 At ISH2, Mr Humphreys highlighted that there was to be a separate ISH on Noise. This has not been added to the agenda to date, but we support such a hearing given the significant concerns which we have set out over the method of assessment.
- 2.6 The ES details a preliminary assessment of construction noise, undertaken in accordance with Method 1 of BS5228-1:2009+A1:2014. The aforementioned standard details two acceptable methodologies for assessment of construction noise. Method 1: the "ABC Method", and Method 2: the "2-5 dB(A) Change" method. Selecting an appropriate method is discretionary and whilst both are acceptable in broad terms, a distinction should be made based on the situational context at this rural location.
- 2.7 The threshold noise levels have also been stated incorrectly. Table 3.12 of LA111 (DMRB) suggests that the SOAEL is determined by Section E3.2 and Table E.1 of BS 5228-1. This would result in noise thresholds being set at 65 dB  $L_{Aeq,T}$  for day times. It appears however that the thresholds have been set using Table E.2 of BS 5228-1 which is used for eligibility for noise insulation, or for determining the noise insulation trigger level.
- 2.8 The Assessment provided by the Applicant is considered preliminary only. Assessments of the anticipated works were not based on any contractor method statements, plant schedules or construction phase staging. The construction noise calculations (and in turn, the resultant effects), therefore, have been based on 'professional judgement' and assumptions on behalf of the acoustic consultants. Whereas this would be considered appropriate to assess a site's viability for development, it would not be considered representative of the actual resultant noise levels during phased works and thus on our Client's home and land interests.

- 2.9 To date, there has been no dedicated construction noise assessments conducted for the receptor sites. For example, the 'Enabling Works' Table (Appendix 4A1, Volume 6.5), has assessed the construction noise for this phase against the sound levels produced by a single excavator alone. It is not clear where the information for calculating the resultant impact at the Fordley Road *et al* residences originated; however, this assumptive approach would not be considered robust or exhaustive to assess any resultant impact in practice.
- 2.10 The Mitigation Route Map (8.12) details various measures of mitigation for specific works phases in broad terms, stipulating adherence to BPM 'Best Practicable Means' and the CoCP 'Code of Construction Practice'. These mitigative strategies have been based on the assumed construction activities (as discussed above) and have not been directly quantified at the receptor locations to judge their effectiveness.
- 2.11 The reported ambient levels in section 4.4.5 of the ES states the 'Typical Measured Level – Day' at SLR 9 (Representative of Theberton House) was 43-44 dB  $L_{Aeq,T}$ . Using the ABC method, a negligible impact would be a resultant sound level  $\leq 65$  dB(A)  $L_{Aeq,T}$ , which could be up to  $\approx 21$  dB greater than the measured ambient level. Table 4.15 estimates the work phase noise at the receptor locations to be:
- Preparatory Works: 31-55 dB  $L_{Aeq,T}$
  - Main Construction Phase: 58-63 dB  $L_{Aeq,T}$
- 2.12 The upper limit of the preparatory works has been calculated to be above the measured residual ambient by 11 dB, which has been deemed to be of a negligible impact. The upper limit of the main construction phase has been predicted to be 19 dB above the residual ambient, for which a moderate adverse significance has been determined (as detailed in the Applicants Table 4.16). Both exceedances would be considered excessive.
- 2.13 Create consider an appropriate assessment method is to use the 2-5 dB(A) change method. Noise levels generated by site activities are deemed to be potentially significant if the total noise (pre-construction ambient plus site noise) exceeds the pre-construction ambient noise by 5 dB or more, subject to lower cut-off values of 65 dB, 55 dB and 45 dB  $L_{Aeq,T}$  from site noise alone, for the daytime, evening and night-time periods, respectively; and a duration of one month or more, unless works of a shorter duration are likely to result in a significant effect.
- 2.14 Section 4.3.26 states: "*For noise sensitive receptors where the magnitude of change in the short term is minor, moderate or major at noise sensitive buildings, local circumstances must also be considered to determine the final significance, as required by LA111.*" As the new road would be used by most/all of the construction traffic for the next 10+yrs, this would be indicative of a significant effect, in addition to the operational phase going forward beyond this point and should be assessed and mitigated.
- 2.15 Further dialogue with the Applicant's Agent has confirmed that 30 minute noise measurements took place during 2019. Whilst we accept there is no set measurement duration, typically the minimum measurement duration would be one hour measurement

between the hours of 10:00h and 17:00h for daytime hours and the minimum duration for the night time would be 15 minutes. Relying on only a small handful of short measurements automatically increases the uncertainty and reduces the reliability of the noise measurements. Given the importance of these levels when producing an ES, the longer the measurement the better and more reliable the results. In essence, the shorter measurement only captures the noise levels at that particular time.

- 2.16 The author also noted that there was a train for one minute of those 30 minutes, occasional aircraft (which in a rural location can be heard for a long time) and the rustle of vegetation. By virtue, the  $L_{Aeq,T}$  is a logarithmic average of the sound levels over the period of time (T) and as these are energy calculations are weighted towards the higher sound levels, as opposed to the arithmetical averaging method. The fact that there was vegetation rustling, would suggest that the breeze was slightly more than “moderate” which again can artificially increase these sound levels, thus we believe the noise monitoring benchmarking is inadequate.
- 2.17 To accurately gauge the ambient sound level for a day, industry guidance recommends to establish the typical sound level, which would be the most commonly occurring hour long measurement between the hours of 07:00h to 23:00h. That is simply not possible when you are working with one or two 30 minute readings.
- 2.18 As a result our Client is seeking to conduct new noise surveys which will reflect accurate baseline ambient and background sound levels and assess the construction noise to that prepared and used by the Applicant. We will present these findings at Deadline 6, in the hope a further discussion can take place on the actual noise effects of the DCO proposal.
- 2.19 Whilst we expect the Applicant to suggest the Construction Code of Practice will capture this, we do not feel this is appropriate, at this stage, given the noise impact is expected to be far greater than currently predicted to be by the Applicant.

### **3.0 CONCLUSIONS**

- 3.1 The purpose of this note is to consider the direct effects of the proposed 5-arm roundabout proposed by the Applicant on our Client’s home at Theberton House.
- 3.2 Our Client and Create have raised significant, legitimate concerns with respect to the SLR and it is requested that the Applicant responds accordingly which in turn could potentially lead to the introduction of mitigation measures and/or redesigned components of the overall scheme currently being put forward.

**Note By:** Paul Zanna - Technical Director