



Northfleet Harbourside

Response to Bureau Veritas Peer Review of the Environmental Statement



Northfleet Harbourside –Response to Bureau Veritas and Gravesham Environmental Health Comments

This note contains responses (where relevant) to the Bureau Veritas Peer Review comments, received in relation to Air Quality, Noise and Vibration and Daylight, Sunlight and Overshadowing, as well as Gravesham Environmental Health Comments. This response is split out into the following tables:

- Table 1: Bureau Veritas Peer Review – Air Quality;
- Table 2: Bureau Veritas Peer Review – Noise and Vibration;
- Table 3: Bureau Veritas Peer Review – Daylight, Sunlight, Overshadowing, Solar Glare and Light Pollution;
- Table 4: Gravesham Environmental Health Comments; and
- Table 5: LEAP Comments.

This note provides further clarification in response to the peer review undertaken by Bureau Veritas but does not change or affect the conclusions of the EIA, which remain valid.

Table 1: Bureau Veritas Peer Review – Air Quality

Section	Comment	Response
3.2 Are there any deficiencies, errors or areas of improvement?	Further clarity is required in regards to the derivation of the background concentrations used within the assessment. It is understood that the Defra background maps were used however details surrounding the data processing of these concentrations is unclear.	Paragraph 8.2 of ES Volume 1, Chapter 8: Air Quality states that “<i>Background concentrations have been defined using the national pollution maps published by Defra. These cover the whole country on a 1x1 km grid. The background annual mean NO₂ maps for 2019 have been calibrated against concurrent measurements from national monitoring sites.</i>” This paragraph provides a reference to an AQC report¹, noted in the footnote below, which explains in detail the methodology used for calibrating Defra background concentrations against national monitoring sites. As acknowledged in the peer review, any remaining uncertainty with regards to the derivation of background concentrations will not alter the conclusions of the assessment; thus, effects on air quality will be not significant.

¹ AQC (2020) *Calibrating Defra’s 2018-based Background NO_x and NO₂ Maps against 2019 Measurements*, Available: <https://www.aqconsultants.co.uk/CMSPages/GetFile.aspx?guid=163e7362-578e-4a4c-8feb-0006f1531ff1>.



Section	Comment	Response
	There are a couple of background monitoring sites within a reasonable distance to the proposed development site that could be compared against the estimated background mapped concentrations. Confirmation as to the justification behind not using these sites is recommended.	As discussed above, comparison of the Defra predicted background concentrations to the full network of automatic national background monitoring sites has been carried out and the concentrations adjusted accordingly. This approach is considered to be robust. The specific local background monitoring site mentioned in the peer review, GR19, is a diffusion tube triplicate site, which is considered to be less accurate than the automatic monitoring used in the aforementioned AQC analysis. Furthermore, any discrepancy between the background concentrations used in the assessment and those measured at the GR19 monitor would simultaneously have a positive and negative impact on the concentrations predicted at sensitive receptors; any higher background concentrations would be offset by a lower model verification factor, or vice versa. As concluded in the peer review, it would therefore be highly unlikely that any remaining uncertainty over the background concentrations used in the assessment would alter the conclusions of the assessment; thus, effects on air quality will be not significant.
	The provision of the unadjusted and adjusted modelled road NOx results for each verification site used in the verification process will provide further confirmation surrounding the accuracy of the model.	ES Volume 3, Appendix: Air Quality – Annex 6 provides plots of the unadjusted and adjusted modelled road NOx results at the verification sites, which show their relative performance, and also provides a statistical analysis of the model performance in Table A6.3.
3.3 Potential Changes in the Results or Conclusions	Depending on the outcome of the background concentration review, there may be a slight shift in the overall concentrations and impact reported. However, due to the low concentrations currently being predicted, it is unlikely to significantly change the outcomes of the assessment.	Noted.



Table 2: Bureau Veritas Peer Review – Noise and Vibration

Section	Comment	Response
3.1.1 Assessment Methodology – Defining the Baseline	It would have been beneficial to include a monitoring location close to the waterside of the River Thames, because in Phase 2, there will be future NSRs (Plot 11 and Plot 12) facing the River Thames.	The Applicant agreed the noise and vibration monitoring locations with GBC through the EIA Scoping Opinion, issued on the 16 th September 2022. GBC considered the monitoring locations to be appropriate.
3.1.2 Assessment Methodology – Impact Assessment Methodology	regarding the site suitability, consideration should be also given to the activities along the river and the Port of Tilbury.	Noise from the Port of Tilbury has been assessed in ES Volume 1, Chapter 9: Noise and Vibration. We have considered noise from Port of Tilbury in our assessments of potential impacts on the proposed introduced receptors. The assessments, detailed within the Site Suitability assessment of the ES (ES Volume 1, Chapter 9: Noise and Vibration) considers the following: - Existing baseline conditions measured at the site close to the bank of the river and with views of Tilbury Docks (over a 7-day continuous period); - Dredger noise at Tilbury Docks; and - Wind turbine noise from Tilbury Docks. All other planning applications at Tilbury Docks were reviewed with respect to noise emissions to ensure all other potential uses could be evaluated. No other applications were considered relevant, and therefore not assessed further. The appraisal of noise from Tilbury Docks there takes account of typical activities (baseline measurements) and activities that are infrequency (dredger) or potentially not present during the survey (wind turbine). All assessments of industrial noise were referenced with respect to BS 4142 and appropriate recommendations have been made to Gravesham Borough Council, with respect to planning conditions for later Reserved Matters Applications to demonstrate compliance. The assessments completed within the ES Chapter show that with appropriate mitigation in place, noise from Tilbury Docks can be adequately attenuated within the residential properties.
	The stadium is proposed to be multi-use, therefore, the noise breakout from the stadium would include amplified music from events etc. The constraints for the operation time, duration and frequency of the events should be suggested based on existing baseline data and predicted noise levels with 3D modelling of proposed development, especially for the existing and future receptors in the elevated buildings.	At the time of writing, it is unclear what additional activities would take place at the stadium. The stadium would be subject to a Reserved Matters Application where details on the design and proposed use are confirmed. In this application, other uses that are proposed would be clarified and evaluated appropriately. It is likely that if the stadium were to be used for other uses (e.g., music concerts) that the number of events in combination with sound level restrictions would be adopted so that significant effects are minimised. It is noted that assessments of noise produced by pedestrians along the routes to and from the stadium is included within the ES chapter, along with noise emissions from the stadium during a football match; the principal use – no significant effects were established as part of this assessment.
3.1.3 Assessment Methodology –	In the Section Completed Development – Building Services and Commercial Noise, it is	Given the outline nature of the planning application, the building services and plant noise is unknown at this time. The building services and plant noise will be assessed at the Reserved



Section	Comment	Response
Methodology for Defining Effects	suggested that magnitude of impact can be based on the assessment criteria in BS4142 assessment, i.e., rating noise levels against the background sound level, if there is no specific policy in the Local Plan, rather than defined by Increase in Noise Level in Table 9.5. The assessment should consider both the existing and proposed receptors.	Matters Stage, when further details on the proposed building plant are known. This assessment will consider both existing and proposed receptors. Mitigation measures will be developed as part of the detailed design in order to control noise from building plant and services as appropriate.
3.1.4 Potential Effects	As mentioned above, besides football matches, potential noise effects of other events in the stadium should be also assessed in this section.	As previously noted, at the time of writing, it is unclear what additional activities would take place at the stadium. It was noted that the stadium would be subject to a Reserved Matters Application where details on the design and proposed use are confirmed and assessed as appropriate.
3.1.5 Mitigation, Monitoring and Residual Effects	Bureau Veritas agree with the mitigation measures in general and no comments.	Noted.
3.1.6 Site Suitability	In the BS4142 assessment, it is suggested to clarify the height of the receptors in the noise prediction results, given the multi-story buildings in the plots.	Predictions were completed every 3m in height across the proposed residential facades. In all instances the highest predicted specific sound level for each plot were reported.
	For the outdoor amenity, most of the plots fall in medium to high risk, therefore, it is suggested to create high-quality tranquil community outdoor spaces in the quiet sides of buildings or introduce desired soundscape to off-set the negative effects of high noise levels.	Noted.
	Again, the potential noise impacts of the stadium events and noise from the River Thames and beyond should be also assessed here.	Noted. Potential noise impacts from stadium events will be considered at the Reserved Matters Application stage.
3.2 Appendix: Noise and Vibration	In Annex 4, Construction Plant Assumptions, the assumption of the construction plants have been tabled, however, there has been no construction traffic data and existing local road traffic data. It is suggested to include the data	ES Volume 3, Appendix: Noise and Vibration – Annex 4 provides the construction plant assumptions for the Proposed Development. The construction vehicle forecast is presented in ES Volume 1, Chapter 5: Demolition and Construction, Figure 5.14.



Section	Comment	Response
	to support the construction traffic noise assessment in the ES.	
	It is also suggested to include the traffic data of Do-nothing and Do-something in the years of completion of the development to support the operation road traffic noise assessment.	Traffic flows have been provided in ES Volume 3, Appendix: Traffic and Transport – Annex 1, within the Transport Assessment. Traffic flows can be found within Annex G of the TA.
	Regarding the site suitability, the noise source data of the industrial and commercial sites and the contours of their noise modelling should be also included in the appendix for a better judgement of the Council.	The industrial and commercial sites have been included in the Noise and Vibration Assessment within Paragraphs 9.195 – 9.200 and Tables 9.34 – 9.35. The results from the noise modelling are presented within Tables 9.32 and 9.34.
4. Conclusions and Recommendations	It is therefore recommended that, should the application be consented, a suitable condition, or conditions, be included that further detail is provided at the Reserved Matters application(s) stage. This should include demonstration that, through design, noise from the following sources will not have an adverse impact on existing and future sensitive receptors: • River traffic; • Port of Tilbury operations; Mechanical and electrical (M&E) plant operation associated with new commercial (retail/hotel) units (demonstration of compliance with proposed noise limits (ES Table 9.28)); • Live/amplified music events at the new stadium; and • Crowds departing the new stadium at the end of evening events.	Noted.
	Where external amenity is also proposed, such as private gardens, private balconies, or Public Open Space (POS), it should also be demonstrated that noise levels at these facilities are appropriate in accordance with National Policy and guidance.	Noted.



Section	Comment	Response
	With regard to possible live/amplified music events at the new stadium, clearly defined parameter should be given in terms of the number of events per year, as well as noise limits at receptors. This should be explicit in a Noise Management Plan which includes, amongst other details, a noise monitoring plan to demonstrate that limits are being adhered to.	Noted.

Table 3: Bureau Veritas Peer Review – Daylight, Sunlight, Overshadowing, Solar Glare and Light Pollution

Section	Comment	Response
3.1 Legislative, Policy and Guidance Context	The relevant sections of the NPPF/PPG are not referenced within the assessment with regards to glare.	A Solar Glare Technical Assessment has not been undertaken due to the outline nature of the Proposed Development. ES Volume 1, Chapter 10: Daylight, Sunlight, Overshadowing, Solar Glare and Light Pollution provides a qualitative assessment of solar glare from relevant viewpoints surrounding the site. A full Solar Glare Technical Assessment will be undertaken at the Reserved Matters Application stage.
	The Institute of Lighting Professionals (ILP) has produced a guidance note 'Guidance on Undertaking Environmental Lighting Impact Assessments' which has not been referenced for the purpose of assessing the effect of light spill from the Proposed Development. This should be used when completing a technical assessment of Light Intrusion.	The Institute of Lighting Professionals (ILP) Guidance has been referenced within ES Volume 1, Chapter 10: Daylight, Sunlight, Overshadowing, Solar Glare and Light Pollution under <i>Methodology</i> (paragraphs 10.36 – 10.38), the <i>Light Intrusion</i> assessment (paragraphs 10.198 – 10.203), and within the <i>Completed Development Mitigation</i> section (paragraph 10.213). Given the outline nature of the Proposed Development, a full Light Impact Assessment will be undertaken at the Reserved Matters Application stage.
	The relevant sections of the NPPF/PPG are not referenced within the assessment with regards to Light intrusion.	As noted above, given the outline nature of the Proposed Development, a full Light Impact Assessment will be undertaken at the Reserved Matters Application stage. The Light Impact Assessment will reference all relevant policy and guidance.
3.2 Baseline Conditions	No further information is provided on the software used for analysis or the supplier of the 3D models. It would be helpful to provide this information so as to confirm that the predictions made within the report are based on a validated daylight model.	The 3D model of the Proposed Development was provided to GIA by UNS, the project architects on the 18 th August 2022. This was then placed within the surrounding context by GIA and the coordinates were confirmed by UNS Architects on the 19 th August 2022.



Section	Comment	Response
	There is no detailed assessment of future receptors within the assessment and whether the development has been designed in alignment with good design practices to maximise internal lighting within proposed residential rooms. It is accepted that, without having a detailed design this is not yet possible.	This is not considered to be a matter for the Environmental Statement. A Daylight and Sunlight Design Guide Report, submitted separately as part of the Application, has been prepared to demonstrate the daylight and sunlight potential of future development within the site itself, as well as overshadowing of internal communal amenity areas. As these internal receptors are not yet existing and therefore cannot experience a 'change' or 'impact' in daylight and sunlight conditions, they are assessed separately. A Standalone Report will be prepared at the detailed design stage of the Proposed Development and submitted with the relevant Reserved Matters Applications.
	The ILP document PLG 04 Guidance on Undertaking Environmental Lighting Impact Assessment recommends that baseline lighting is considered to help inform an assessment.	The ILP document PLG 04 Guidance will be followed at Detailed Design Stage, when more information is available on the Proposed Development's Lighting Strategy. Due to the outline nature of the Proposed Development the ES Chapter has focussed on identifying the residential receptors which are sensitive to light spillage. A full assessment will be undertaken once more design information is available.
	It is recommended that a baseline assessment be included within any future detailed assessment of lighting.	A baseline assessment is not standard practice as Light Pollution Assessments are undertaken in the Proposed Scenario only. As noted above, a Lighting Assessment will be carried out at the Detailed Design Stage and follow the relevant best practice guidance and methodology.
3.3 Assessment Methodology	It is advised that the guidance values be used as the primary basis to inform decisions, and any occasions where these guidance values of 27% are not met, are considered within the planning balance.	Noted.
	Given there are these notable losses above, there is the potential for actionable losses in Right to Light as a result of the development at surrounding properties. While this is a separate matter to the planning application process and planning system it does hold some weight in considering the validity of the scheme with regards to the impact to existing residents.	Rights to Light is a separate matter to planning and the preparation of the Environmental Statement and should not be considered in the evaluation of daylight and sunlight impacts to neighbours reported in the planning application.
	Several modelled receptors have reported concentrations far in excess of this e.g. Taunton Road 12-13 F00 R1 which reports 75% VSC. These values should be checked by the applicant as they may be reported in error and	The values have been reviewed by GIA - please refer to Appendix A. For daylight in the baseline condition, 445 of the 692 (64.3%) windows would meet the BRE Guidelines criteria for VSC and 298 of the 364 rooms (81.9%) would meet the BRE Guidelines criteria for NSL. The conclusions presented in ES Volume 1, Chapter 10: Daylight, Sunlight, Overshadowing, Solar Glare and Light Pollution remain valid and unchanged.



Section	Comment	Response
	do not allow for an informed decision to be made.	
	Contrastingly, many receptors at Snowden Hill have a VSC and NSL of 0% with an APSH also of 0% in both existing and proposed scenarios. These values should be checked and, if correct, an explanation given to this area.	Please refer Appendix A of this document for the VSC and NSL of Snowden Hill.
4 Conclusions and Recommendations	Daylight, Sunlight and Overshadowing As surrounding properties fail to meet the required daylight and sunlight criteria, it is considered that this would have to be addressed through future Reserved Matter planning applications demonstrating conclusively that there would be no significant loss of daylight through detailed massing of proposed buildings.	Noted.
	In addition to the above, there are several VSC results of either 0 or greater than the value stated possible within the report. It is recommended that clarity be sought from the applicant as to these results as it may be that there are additional effects at Snowden Terrace which are not captured in the report.	Please refer to Appendix A. It should be noted that any VSC values >40% occur in skylights and are therefore correct.
	Solar Glare The submitted information does not include an assessment of solar glare as the details of the future design are not yet available, it is considered that the proposed condition below would be sufficient for an assessment of glare.	Noted.
	Light Intrusion The submitted information does not include an assessment of light pollution/light intrusion as	Noted.



Section	Comment	Response
	the details of the future design inclusive of lighting are not yet available. Wording to the effect of the following condition is recommended: <i>No above ground works shall take place until a lighting scheme and assessment, including floodlighting, security lighting and the illumination of the buildings at night, has been submitted to and approved in writing by the Local Planning Authority.</i> <i>The scheme shall include:</i> <i>i. functions of proposed lighting and the uses it supports e.g. for recreation facilities</i> <i>ii. a lux plan showing proposed light sources</i> <i>iii. details of time limits on lighting and hours of operation</i> <i>iv. details of how the lighting scheme will mitigate any potential biodiversity impacts arising from the installation or operation of the proposed lighting should sensitive species be identified around the development site</i> <i>v. details on colour temperature of the lighting and the associated public realm surfaces including reflectivity and glare</i> <i>vi an assessment of solar glare</i> <i>The development shall not be occupied/used until it has been carried out in accordance with the approved details. The development shall thereafter be retained as such.</i> <i>Reason: To ensure there is an appropriate level of residential amenity and appropriate features to protect the amenity of neighbours</i>	



Table 4: Gravesham Environmental Health Comments

Section	Comment	Response
Air Quality	The application areas falls within the Northfleet Air Quality Management Area (AQMA) declared for exceedances of PM10). In addition there are other AQMA's in the vicinity that could be impact by the proposed development. We have a responsibility as part of our remit of dealing with Local Air Quality Management and as part of our Air Quality Action Plans to ensure that any further detrimental impact on air quality within/around the AQMA's is minimised. With the removal of some industry from the development site area, there could possibly be an improvement in air quality from the PM10 perspective, but an increase in NO2 levels due to additional traffic.	As demonstrated by the assessment and summarised in Table 8.17 of ES Volume 1, Chapter 8: Air Quality, there is one moderate adverse impact at an existing receptor (R5), one minor adverse impact at an existing receptor (R3), and negligible impacts at all other receptors in relation to NO₂ concentrations when the Proposed Development is fully operational. However, NO₂ concentrations at both R3 and R5 in 2026 in the 'With Development' scenario are predicted to be well below the objective (23.3 µg/m³ and 29.3 µg/m³, respectively). Therefore, the assessment concludes the Proposed Development <i>"is not predicted to result in any significant effects on the existing receptors considered within this assessment in relation to concentrations of NO₂, PM₁₀ and PM_{2.5}"</i>. The assessment also made a number of worst-case assumptions, including the assumption that all proposed and cumulative development traffic is using the road network in 2026, whereas full completion is not expected until at least 2031. This will have resulted in over-predicted impacts at existing receptors in 2026, noting that air quality and emissions are expected to gradually improve over time to the modernisation of vehicles and the transition to electric vehicles.
	The air quality chapter indicates that the cumulative impact of permitted development in the locality have been assessed which is positive. I'm not sure however if all permitted and in 'pipeline' development falling in the EDC, GBC and also Dartford Borough Council areas have been included and this will need to be checked at some point.	As stated in Paragraph 8.31 of ES Volume 1, Chapter 8: Air Quality, the air quality assessment <i>"includes contributions from all Tier 1 cumulative schemes (ES Volume 1, Chapter 2: EIA Methodology), which would affect flows on the roads included in this assessment"</i> . This is in-line with the data received from the transport consultants.
	A Damage Cost Assessment will need to be undertaken and mitigation measures proposed to the value of the air quality damage calculated (for both PM10 and NO2). Once approved, these measures can be secured by s.106 agreement. Where measures are requested in relation to other areas such as transport (eg by KCC) and landscaping, these measures should ideally not be costed or included in the DCA monies for mitigating air quality. measures for air quality.	As an outline application has been submitted, the final Damage Cost Calculation and Mitigation Statement should be conditioned to any planning consent and completed at a later date. Given the outline nature of the planning application, preparing a Damage Cost Calculation and Mitigation Statement, would not be based on accurate trip generation etc. and may not provide an accurate damage cost. It is therefore recommended this is carried out once more design information is available.
	In terms of phasing, it's been proposed that Phase 1 be constructed with the	This has been considered in Paragraph 8.72 of ES Volume 1, Chapter 8: Air Quality:



Section	Comment	Response
	businesses/industry still in situ. Consideration needs to be made of the impact of dust and air quality on these new residential units once they are inhabited.	<i>"A number of light industrial processes exist within the site boundary, and will be removed as the Proposed Development is built out. Based on the Indicative Construction Timetable (presented in ES Volume 1, Chapter 5: Demolition and Construction), the entire area within Phase 1 will be demolished prior to construction commencing (and thus prior to any occupation). Aggregate Industries Asphalt is located within Phase 2; demolition of buildings within Phase 2 will commence in Q1 of Year 6, and therefore industrial activities in this area will cease prior to this date. The majority of Phase 1, including the closest Plots to Phase 2, will not be completed (and thus occupied) until Year 5. Only a small number of Plots, furthest from Phase 2 will be completed prior to Year 5; this includes residential properties in Plots 18 and 19, at least 200m from the boundary of Phase 2. These Plots will be shielded from any ongoing activities in Phase 2 by hoarding erected around the ongoing construction areas, as well as by new buildings being constructed in later Plots. Phase 2 is also downwind of Phase 1 for the majority of the time. Taking account of the distance between occupied residential Plots, the prevailing wind direction, and the short period of overlap of occupation and the potential ongoing industrial activities within Phase 2, it is judged unlikely that these temporary activities will result in any significant effects."</i>
	It's noted that KCC have raised concerns regarding errors, inconsistencies and areas where more details are required within the submitted transport assessment. This will have a bearing on the Air Quality Assessment as robust traffic data and assumptions form a key input for air quality modelling. If the input data is incorrect, the outcome of the modelling in terms of air quality impact will not be accurate.	Noted. When the Project Transport Consultants issue an updated Transport Assessment, noting any inconsistencies and/or errors, we will review and provide an updated response.
	In terms of the cumulative assessment, the air quality report highlights that there is incomplete/insufficient traffic data for some developments that have been included in the cumulative impact assessment. In this respect therefore, only qualitative assessments have been undertaken as opposed to quantitative assessments. This could lead to an underestimation in the traffic impact on air quality in the area and on the AQMAs.AQ.	As noted in ES Volume 1, Chapter 7: Traffic and Transport paragraph 7.210, a number of Tier 1 cumulative schemes were already built out and were operational. Therefore, in-combination with the TEMPro growth factor used, the qualitative cumulative assessment is acceptable and in-line with industry methodology.
	During demolition and construction, air quality impacts are likely to be an issue but with appropriate mitigation, these can be addressed. For example, up to 128 HGV movements per day are anticipated during construction periods	Noted. Mitigation has been recommended within ES Volume 3, Appendix: Air Quality – Annex 7: <i>"Agree dust deposition, dust flux, or real-time PM10 continuous monitoring locations with the Local Authority. Where possible commence baseline monitoring at least three months before work"</i>



Section	Comment	Response
	and fugitive dust is likely to be an issue. Monitoring before demolition and construction starts is recommended in order to ascertain a robust baseline from which to monitor impacts. Ongoing monitoring during the demolition and construction phases can then assist in any changes to mitigation as required.	<i>commences on site or, if it is a large site, before work on a phase commences. Further guidance is provided by IAQM on monitoring during demolition, earthworks and construction".</i>
	The development also proposes a tunnelling part of the A226 tunnel. Air quality (and noise) associated with the ventilation of the tunnel needs to be considered. Any ventilation exhaust equipment and ducting must be carefully designed and situated so that there is no impact to any nearby sensitive receptors.	The air quality impacts of placing the A226 in a tunnel under the development was modelled as part of the Air Quality Assessment using ADMS-Roads' tunnel module in the 2026 'With Scheme' scenario. Pollutant concentrations were modelled at receptors which represent breathing height at the nearest building facades to the tunnel entrance/exits (namely, P1, P7, and P8). All modelled concentrations at these receptors were well below the annual mean nitrogen dioxide limit value. At the time of the assessment, no ventilation exhaust equipment or ducting was detailed. However, it is likely that assuming all emissions are exhausted at the ends of the tunnel represents a 'worst case' scenario, rather than being distributed along the tunnel's length.
Noise and Vibration	Noise from the proposed new/larger stadium is a concern. It could impact the existing residential at Black Eagle Drive/Taunton Rd to south west and Wallis Park/ Railway Ave to south east as well as the new residential being introduced as part of the proposal. It should be noted that Wallis Park is at an elevated height in relation to the area so is at an increased risk.	ES Volume 1, Chapter 9: Noise and Vibration assesses the impact of the football stadium on existing residential receptors. Paragraphs 9.158 – 9.159 and Table 9.30 assess the noise associated with the football stadium, noting the effect will be minor adverse (not significant). The Noise and Vibration Assessment assessed the uplifted stadium capacity (8,000), which is outlined in ES Volume 1, Chapter 9: Noise and Vibration paragraph 9.61 (stadium) and 9.66 (pedestrian routes).
	It is appreciated that but the new stadium being proposed can hold events/concerts of between 14,000 and 20,000 people. No information has been submitted on these events – the type, frequency, timing, duration etc. Noise for these will need consideration, particularly if involving amplified music/voice and a Noise Management Plan is recommended.	Noted. At the time of writing, it is unclear what additional activities would take place at the stadium. It was noted that the stadium in general would be subject to a Reserved Matters Application where details on the design and proposed use are confirmed and assessed as relevant.
	The hotel, retail, food outlets etc will all require extract equipment, various plant and equipment (A/C's, condensers etc). Odour Assessments	Noted. Odour Assessments and Noise Impact Assessments will be submitted, as appropriate, with future Reserved Matters Applications.



Section	Comment	Response
	and Noise Impact Assessment's (including cumulative noise impact) will be required. All noise must be 10dB(A) below background noise level at the nearest residential premises, be it existing or proposed.	
	The impact on residential from the existing/remaining industrial/commercial activities both in Northfleet eg aggregate facilities such as Brett Aggregates, Aggregate Industries UK and Seacon Terminal and also Britannia Metals to the North (currently KCC application under consideration for an e-waste facility) also needs assessment. It is not appropriate for these businesses to have their operations controlled or modified in order to minimise future impact on new receptors being introduced into the area. Any mitigation needs to be achieved by the development but way of design, orientation for example.	The existing industrial and commercial activities have been included within the baseline conditions of the Noise and Vibration Assessment, as noted in ES Volume 1, Chapter 9: Noise and Vibration paragraph 9.3 – 9.8. The location of the baseline noise monitoring and the referenced publicly available noise data has been used to inform the appraisal of the current noise climate, which includes contributions from the nearby commercial businesses that could remain (not businesses located within the redline). A BS 4142 assessment has been completed to determine the likely impact on the Proposed Development from the existing commercial businesses, which indicates that mitigation measures need to be incorporated within the building designs to minimise significant effects. This approach aligns with the agent of change principle in the NPPF. It is appropriate that at Reserved Matters Stage for each plot, further assessments (in line with BS 4142 or other subsequent standards) are completed so that the precise nature of the mitigation measures can be described.
	Noise from activities along the river and also across the river at the Port of Tilbury does not appear to have been considered.	Noise from the Port of Tilbury has been assessed in ES Volume 1, Chapter 9: Noise and Vibration. We have considered noise from Port of Tilbury in our assessments of potential impacts on the proposed introduced receptors. The assessments, detailed within the Site Suitability assessment of the ES (ES Volume 1, Chapter 9: Noise and Vibration) considers the following: - Existing baseline conditions measured at the site close to the bank of the river and with views of Tilbury Docks (over a 7-day continuous period); - Dredger noise at Tilbury Docks; and - Wind turbine noise from Tilbury Docks. All other planning applications at Tilbury Docks were reviewed with respect to noise emissions to ensure all other potential uses could be evaluated. No other applications were considered relevant, and therefore not assessed further. The appraisal of noise from Tilbury Docks there takes account of typical activities (baseline measurements) and activities that are infrequency (dredger) or potentially not present during the survey (wind turbine). All assessments of industrial noise were referenced with respect to BS 4142 and appropriate recommendations have been made to Gravesham Borough Council, with respect to



Section	Comment	Response
		planning conditions for later Reserved Matters Applications to demonstrate compliance. The assessments completed within the ES Chapter show that with due consideration that noise from Tilbury Docks can be adequately attenuated within the residential properties.
	As highlighted for air quality, it's been proposed that Phase 1 be constructed with the businesses/industry still in situ. Consideration needs to be made of the impact of noise from ongoing construction etc on these new residential units once they are inhabited.	As set out in ES Volume 1, Chapter 9: Noise and Vibration, the existing receptors within Phase 2 are considered to have a 'low' sensitivity. Existing receptors in proximity to the site have been assessed and are considered to be representative of other potential receptors in proximity to the construction site. The residual effects on the industrial facilities on Lower Road and Tower Wharf (both 'low' sensitivity receptors) are assessed as not significant in relation to the demolition and construction phase (negligible for construction noise and negligible / minor adverse in relation to construction traffic). In terms of new residential receptors, Phase 1 of the Proposed Development has been assessed in ES Volume 1, Chapter 9: Noise and Vibration Table 9.23 and Table 9.24. The residual effects on Phase 1 range from moderate adverse (significant) at Plots 5, 8, 15 and 16 to minor adverse (Plot 7) and negligible (Plots 3, 4, 6, 17, 18 and 19) (not significant) in relation to construction noise. Construction vibration at introduced receptors range from minor adverse (Plots 5, 8, 15 and 16) to negligible (Plots 1, 2, 3, 4, 6, 7, 17, 18 and 19).
Ground Conditions and Water	A phased approach to the development has been proposed, but there does not appear to be any clear direction as to how any contaminated land issues arising from the still operating industrial sites will be addressed once phase 1 completed. This needs clarification.	For each phase of development, a scope for investigation will be submitted for approval prior to investigation works commencing. Where contamination requiring remediation is identified, for each development phase a detailed remediation appraisal and strategy will be submitted for approval prior to any new phase commencing. Prior to the completion of each phase a Verification report confirming all previously identified SPR linkage have been removed will be provided.



Table 5: LEAP Comments

Section	Comment	Response
Comments and Recommendations	The reports submitted recommend that a Phase 2 investigation should be undertaken, however no detail as to what this will comprise have been presented. It is appreciated that at this outline stage a detailed investigation design would be difficult to present. This will be needed to be submitted for approval prior to investigations commencing.	Noted.
	The Environment Agency Groundwater and Land Quality Team should be consulted for any comments they may have – noting historical land uses, probable use of deep and penetrative foundations, the underlying aquifer status and location of the site adjacent to surface water receptors.	Noted. The Applicant team are working with the Environment Agency to ensure they are in agreement with the Proposed Development.
	It is recommended that as part of any permission to proceed with this development that detailed land quality conditions are applied.	Noted.
	We recommend that a land quality condition or series of conditions be applied for each phase of development. This will allow a phased sign off of land quality issues as the development continues over a number of years.	Noted.
	Prior to demolition an asbestos survey of all buildings on site should be undertaken and then removal of asbestos undertaken appropriately prior to demolition to prevent potential for additional contamination from this activity.	Noted.
	Prior to commencement for each phase of development a scope for investigation should be submitted for approval prior to investigation works commencing. The investigation scope should include an assessment of all potential source pathway receptor linkages identified for the development phase, it should include detail	Noted.



Section	Comment	Response
	as to proposed investigation locations, methods of investigation, sources to be targeted, contaminants to be tested for, monitoring methods, frequency and duration including consideration of tidal influence. The investigation should be designed such that the approach proposed complies with available British Standards and Best Practise guidance available at the time of the works.	
	It is likely that investigations will need to phased to include pre and post demolition works to confirm ground conditions and contamination issues across the site.	Noted.
	Following approval of the scope for intrusive investigation(s) the investigation works shall then only be carried out strictly in accordance with the approved details.	Noted.
	Prior to commencement of development the findings from the investigation for each development phase shall be submitted for approval. The report(s) should include an assessment of all previously identified SPR linkages.	Noted.
	Where contamination requiring remediation is identified, for each development phase the applicant should submit a detailed remediation options appraisal and remediation strategy for approval prior to development commencing. The report should include a verification plan, detailing verification methods, sample frequency, locations and associated monitoring required during the development phase.	Noted.
	In the event that previously unidentified/unexpected contamination is encountered during development the applicant shall stop works in that area, notify the council, assess risks and propose appropriate remediations for approval.	Noted.



Section	Comment	Response
	A material management plan should be prepared documenting how materials (crushed concrete, made ground, natural soils, contaminated soils etc) will be stored and segregated on site prior to reuse or disposal.	Noted.
	The construction process is likely to generate significant quantities of materials for possible reuse and or disposal. Where material is proposed for reuse then it is recommended that the reuse is undertaken in accordance with the Development Industry Waste Code of Practice. Prior to completion of each development phase the applicant shall provide a Verification report confirming all previously identified SPR linkages have been removed. The report shall document all remediation works undertaken, detail any unexpected conditions encountered and detail agreed variations to the approved remediation strategy.	Noted.



APPENDIX A – DAYLIGHT RESULTS OF THE PROPOSED DEVELOPMENT AT SURROUNDING SENSITIVE RECEPTORS (VSC AN NSL)

Address	VSC						NSL					
	Total No. of Windows	No. Windows that meet BRE criteria	Below BRE Guidelines criteria				Total No. of Rooms	No. Rooms that meet the 0.8 times former value criteria	Below BRE Guidelines criteria			
			20-29.9% Reduction	30-39.9% Reduction	>40% Reduction	Total			20-29.9% Reduction	30-39.9% Reduction	>40% Reduction	Total
Galley Hill Road 24-25	14	14	0	0	0	0	8	8	0	0	0	0
Galley Hill Road 20-23	28	27	1	0	0	1	18	18	0	0	0	0
Galley Hill Road 19-18	16	14	0	1	1	2	8	8	0	0	0	0
Galley Hill Road 16-17	16	16	0	0	0	0	8	8	0	0	0	0
Galley Hill Road 14-15	14	14	0	0	0	0	8	8	0	0	0	0
Galley Hill Road 12-13	10	10	0	0	0	0	10	10	0	0	0	0
Galley Hill Road 10-11	12	10	0	2	0	2	9	9	0	0	0	0
Taunton Road 1-2	15	15	0	0	0	0	8	8	0	0	0	0
Taunton Road 3-4	14	14	0	0	0	0	8	8	0	0	0	0
Taunton Road 5-6	12	12	0	0	0	0	10	10	0	0	0	0
Taunton Road 7-8	19	19	0	0	0	0	11	11	0	0	0	0
Taunton Road 12-13	11	11	0	0	0	0	4	3	1	0	0	1
Taunton Road 14	5	5	0	0	0	0	3	1	2	0	0	2
Taunton Road 15	2	2	0	0	0	0	2	1	0	0	1	1
Taunton Road 16	4	4	0	0	0	0	2	1	0	0	1	2
Taunton Road 17	4	4	0	0	0	0	2	0	1	0	1	2
Taunton Road 18	3	3	0	0	0	0	2	0	1	0	1	2
Taunton Road 19	1	1	0	0	0	0	1	0	0	0	1	1
Rising Bollards 57	9	7	0	1	1	2	4	4	0	0	0	0
Rising Bollards 56	9	7	1	1	0	2	4	4	0	0	0	0
Rising Bollards 55	13	12	0	0	1	1	6	6	0	0	0	0
Taunton Road 20-38	63	63	0	0	0	0	42	39	2	0	1	3
Snowden Hill 11	5	5	0	0	0	0	4	4	0	0	0	0
Snowden Hill 10	5	5	0	0	0	0	4	4	0	0	0	0
Snowden Hill 9	5	5	0	0	0	0	4	4	0	0	0	0
Snowden Hill 8	5	5	0	0	0	0	4	4	0	0	0	0



Address	VSC						NSL					
	Total No. of Windows	No. Windows that meet BRE criteria	Below BRE Guidelines criteria				Total No. of Rooms	No. Rooms that meet the 0.8 times former value criteria	Below BRE Guidelines criteria			
			20-29.9% Reduction	30-39.9% Reduction	>40% Reduction	Total			20-29.9% Reduction	30-39.9% Reduction	>40% Reduction	Total
Snowden Hill 7	5	5	0	0	0	0	4	4	0	0	0	0
Snowden Hill 6	2	2	0	0	0	0	2	2	0	0	0	0
Snowden Hill 5	2	2	0	0	0	0	2	2	0	0	0	0
Snowden Hill 4	2	2	0	0	0	0	2	2	0	0	0	0
Snowden Hill 3	2	2	0	0	0	0	2	2	0	0	0	0
Snowden Hill 2	2	2	0	0	0	0	2	2	0	0	0	0
Snowden Hill 1	3	3	0	0	0	0	2	2	0	0	0	0
Railway Street 44	8	6	2	0	0	2	7	6	1	0	0	1
Railway Street 50	13	9	3	0	1	4	10	8	1	1	0	2
Railway Street 46	6	5	1	0	0	1	6	4	1	1	0	2
Railway Street 48	7	5	1	0	1	2	7	4	2	0	1	3
Railway Street 38	9	9	0	0	0	0	8	8	0	0	0	0
Railway Street 40	9	9	0	0	0	0	7	7	0	0	0	0
Railway Street 42	9	9	0	0	0	0	7	7	0	0	0	0
Railway Street 36	9	9	0	0	0	0	8	8	0	0	0	0
Phoenix Court 12-32-46-59-73-86-99-103	103	103	0	0	0	0	36	36	0	0	0	0
Phoenix Court 104-151	124	100	11	9	4	24	37	28	1	2	6	9
Phoenix Court 1-11-33-45-60-72-87-98	63	63	0	0	0	0	21	21	0	0	0	0
Total	692	649	20	14	9	43	364	334	13	4	13	30

Trium Environmental Consulting LLP
+44 (0) 20 3887 7118
hello@triumenv.co.uk
www.triumenvironmental.co.uk