Preliminary Environmental Information Report Volume 2

Appendix 7.1 Air Quality Assessment Methodology

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7 Air Quality Assessment methodology

7.1 Introduction

7.1.1 This appendix supports and should be read in conjunction with **Chapter 7 Air Quality** of the Preliminary Environmental Information Report (PEIR) for LionLink (referred to as the 'Proposed Scheme'). This appendix presents the air quality assessment methodology followed for the construction dust assessment and construction traffic screening exercise undertaken as part of the PEIR.

7.1.2 The Proposed Onshore Scheme has been broken down into four geographical sections. These are presented on **Figure 2.1 Zoning Plan** and comprise:

a. Section A: Friston to Saxmundham;
b. Section B: Saxmundham to Middleton;
c. Section C: Middleton to south of Blythburgh; and
d. Section D: South of Blythburgh to Walberswick.

7.1.3 Receptors are reported with reference to the Proposed Onshore Scheme section in which they are located which are presented in **Figure 2.1 Zoning Plan.**

7.2 Construction dust assessment

7.2.1 The construction phase effects of the Proposed Onshore Scheme have been assessed using the five step, qualitative approach described in the Institute of Air Quality Management (IAQM) construction dust guidance (Ref 1). The guidance applies to the assessment of dust from construction/demolition activities.

7.2.2 An 'impact' is described as a change in pollutant concentrations or dust deposition, while an 'effect' is described as the consequence of an impact. The main impacts that may arise during construction activities of the Proposed Scheme are:

a. Dust deposition, resulting in the soiling of surfaces;
b. Visible dust plumes;
c. Elevated PM_{10} concentrations because of dust generating activities on site; and
d. An increase in Nitrogen Dioxide (NO_2) and PM_{10} concentrations due to exhaust emissions from non-road mobile machinery and vehicles accessing the site.

7.2.3 The IAQM guidance considers the potential for dust emissions from activities such as demolition of existing structures, earthworks, construction of new structures and track-out. Earthworks refer to the processes of soil stripping, ground levelling, excavation, and land capping, while track-out is the transport of dust and dirt from the site onto the public road network where it may be deposited and then re-suspended by vehicles using the network. This arises when vehicles leave the site with dust materials, which may then spill onto the

road, or when they travel over muddy ground on site and then transfer dust and dirt onto the road network.

7.2.4 For each of these dust-generating activities, the guidance considers three separate effects:

a. Annoyance due to dust soiling;
b. Harm to receptors; and
c. The risk of health effects due to a significant increase in PM_{10} exposure.

7.2.5 The receptors can be human or ecological and are selected based on their sensitivity to dust soiling and PM_{10} exposure. Sensitive receptors are defined as those properties/schools/hospitals that are likely to experience a change in pollutant concentrations and/or dust nuisance due to the construction of the Proposed Onshore Scheme.

7.2.6 The methodology considers the scale at which the above effects are likely to be generated (classed as small, medium or large), the levels of background PM_{10} concentrations and the distance to the closest receptor in order to determine the sensitivity of the area. This is then taken into consideration when deriving the overall risk of for the site. Suitable mitigation measures are also proposed to reduce the risk of the potential impacts on local air quality as a result of the construction works.

7.2.7 The five steps in the assessment process described in the IAQM guidance is summarised in the paragraphs that follow.

Step 1: Need for assessment

7.2.8 The first step is the initial screening for the need for a detailed assessment. According to the IAQM guidance, an assessment is required where there are sensitive receptors within 250m of a site boundary (for ecological receptors it is 50m) and/or within 50m of the route(s) used by the construction vehicles on the public highway and up to 250m from site entrance(s).

Step 2: Assess the risk of dust impacts

7.2.9 Step 2 is split into three sections as follows:

a. 2A. Define the potential dust emission magnitude;
b. 2B. Define the sensitivity of the area; and
c. 2C. Define the risk of impacts.

7.2.10 Each of the dust-generating activities is given a dust emission magnitude depending on the scale and nature of the works (step 2A) based on the criteria shown in **Table 7.1**.

7.2.11 The sensitivity of the surrounding area is then determined (step 2B) for each dust effect from the above dust-generating activities, based on the proximity and number of receptors, their sensitivity to dust, the local PM_{10} background concentrations and any other site-specific factors. **Table 7.2** and **Table 7.3** show the criteria for defining the sensitivity of the area to different dust effects.

7.2.12 The overall risk of the impacts for each activity is then determined (step 2C) prior to the application of any mitigation measures (**Table 7.4**) and an overall risk for the site derived.

Table 7.1: Dust emission magnitude

Dust Emission Magnitude		
Small	**Medium**	**Large**
Demolition		
• Total building volume <12, cubic metres (m^3) • Construction material with low potential for dust release (e.g., metal cladding or timber) • Demolition activities <6m above ground, demolition during wetter months	• Total building volume 12,000m^3 to 75,000m^3 • Potentially dusty construction material • Demolition activities 6 to 12m above ground level	• Total building volume >75,000m^3 • Potentially dusty construction material (e.g., concrete) • On-site crushing and screening, demolition activities >12m above ground level
Earthworks		
• Total site area <1.8ha, soil type with large grain size (e.g., sand) • < five heavy earth moving vehicles active at any one time • Formation of bunds <3m in height	• Total site area 1.8ha – 11ha, moderately dusty soil type (e.g., silt) • Five to 10 heavy earth moving vehicles active at any one time • Formation of bunds 3 to 6m in height	• Total site area >11ham^2 potentially dusty soil type (e.g., clay, which will be prone to suspension when dry due to small particle size) • >10 heavy earth moving vehicles active at any one time • Formation of bunds >6m in height
Construction		
• Total building volume <12,000m^3 • Construction material with low potential for dust release (e.g., metal cladding or timber)	• Total building volume 12,000m^3 to 75,000m^3 • Potentially dusty construction material (e.g., concrete) • On-site concrete batching	• Total building volume >75,000m^3 • On-site concrete batching • Sandblasting
Track out		
• <20 heavy duty vehicles (HDV) (>3.5 t) trips in any one day • Surface material with low potential for dust release • Unpaved road length <50m	• 20 to 50 HDV (>3.5 t) trips in any one day • Moderately dusty surface material (e.g., high clay content) • Unpaved road length 50m to 100m	• >50 HDV (>3.5 t) trips in any one day • Potentially dusty surface material (e.g., high clay content) • Unpaved road length >100m

Table 7.2: Sensitivity of the area to dust soiling effects

Receptor Sensitivity	Number of Receptors	Distance from the Source (m)			
		<20	**<50**	**<100**	**<250**
High	>100	High	High	Medium	Low
	10-100	High	Medium	Low	Low
	<10	Medium	Low	Low	Low
Medium	>1	Medium	Low	Low	Low
Low	>1	Low	Low	Low	Low

Table 7.3: Sensitivity of the area to human health impacts

Receptor Sensitivity	**Annual Mean PM_{10} - Micrograms per cubic metre (µg/metres cubed)**	**Number of Receptors**	**<20**	**<50**	**<100**	**<250**
High	>32 µg/m³	>100	High	High	High	Medium
		10-100		High	Medium	Low
		<10		Medium	Low	
	28-32 µg/m³	>100	High	High	Medium	Low
		10-100		Medium	Low	
		<10				
	24-28 µg/m³	>100	High	Medium	Low	Low
		10-100				
		<10	Medium	Low		
	<24 µg/m³	>100	Medium	Low	Low	Low
		10-100	Low			
		<10				
Medium	>32 µg/m³	>10	High	Medium	Low	Low
		1-10	Medium	Low		
	28-32 µg/m³	>10	Medium	Low	Low	Low
		1-10	Low			
	24-28 µg/m³	>10	Low	Low	Low	Low
		1-10				
	<24 µg/m³	>10	Low	Low	Low	Low
		1-10				

Receptor Sensitivity	Annual Mean PM_{10} - Micrograms per cubic metre (µg/metres cubed)	Number of Receptors	<20	<50	<100	<250
Low	-	>1	Low	Low	Low	Low

Table 7.4: Risk of dust impacts

Sensitivity of Area	Dust Emission Magnitude		
	Large	**Medium**	**Small**
Demolition			
High	High risk site	Medium risk site	Medium risk site
Medium	High risk site	Medium risk site	Low risk site
Low	Medium risk site	Low risk site	Negligible
Earthworks			
High	High risk site	Medium risk site	Low risk site
Medium	Medium risk site	Medium risk site	Low risk site
Low	Low risk site	Low risk site	Negligible
Construction			
High	High risk site	Medium risk site	Low risk site
Medium	Medium risk site	Medium risk site	Low risk site
Low	Low risk site	Low risk site	Negligible
Track out			
High	High risk site	Medium risk site	Low risk site
Medium	Medium risk site	Medium risk site	Low risk site
Low	Low risk site	Low risk site	Negligible

Step 3: Determine the site-specific mitigation

7.2.13 Once each of the activities is assigned a risk rating, appropriate mitigation measures are identified. Where the risk is negligible, no mitigation measures are necessary.

Step 4: Determine any significant residual effects

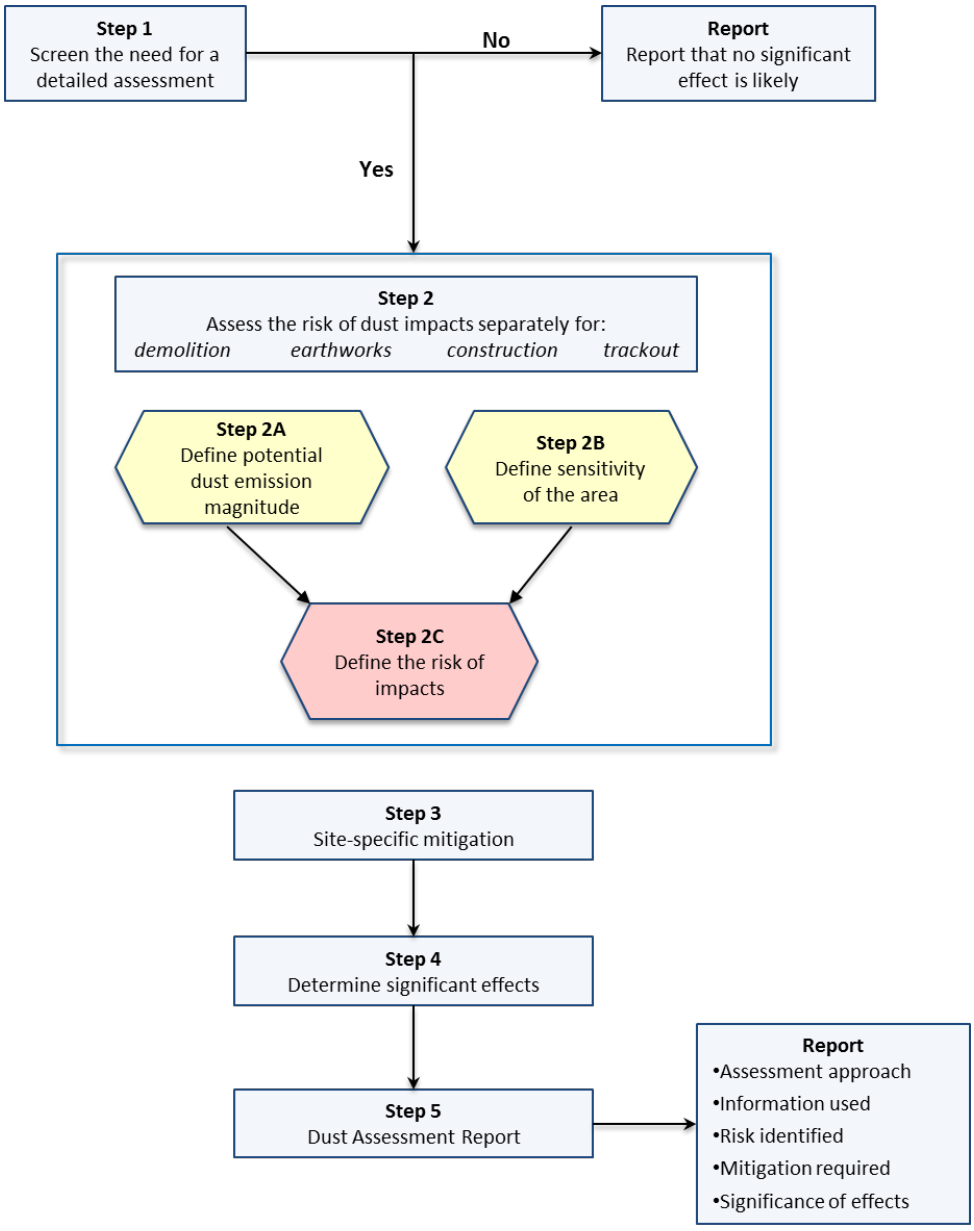
7.2.14 Once the risk of dust impacts has been determined and the appropriate dust mitigation measures identified, the final step is to determine whether there are any residual significant effects. The IAQM guidance (Ref 1) notes that it is anticipated that with the implementation of effective site-specific mitigation measures, the environmental effect will not be significant in most cases.

Step 5: Prepare a dust assessment report

7.2.15 The last step of the assessment is the preparation of a dust assessment report (**Appendix 7.3: Air Quality Assessment Results**).

7.2.16 This process is shown in **Inset 7.1**.

Inset 7.1: IAQM dust assessment methodology



7.3 Construction traffic

7.3.1 This section provides the methodology for the assessment of the construction traffic phase.

7.3.2 As construction traffic data was not available during the preparation of the PEIR, an affected road network (ARN) could not be determined using the screening criteria from the Environmental Protection UK (EPUK) and IAQM planning guidance (Ref 2).

7.3.3 The study area for construction traffic has been determined as a 200m buffer from the Draft Order Limits, which includes all construction haul and access routes known during the PEIR. As such, sensitive receptors within the 200m buffer from the Draft Order Limits have been reviewed and assessed on a risk basis.

7.3.4 The following sections detail the sensitive human and ecological receptors scoped into the assessment as they are located within the 200 m buffer.

Human receptors

7.3.5 This section details the human receptors selected for inclusion in the assessment. Human receptors included in the assessment are sensitive residential properties, school, nurseries and hospitals within 200m of the Draft Order Limits. The receptor choices are considered to capture the most sensitive receptors, with the information available during the PEIR.

7.3.6 To identify receptors sensitive to air quality, the building usage was determined using the Ordnance Survey (OS) Address Base Plus dataset, and geographic information system (GIS) software was used to include any sensitive human receptor within a 200 m buffer of the Draft Order Limits. A total of 469 human receptors (**Table 7.5**) were included in the assessment.

7.3.7 The list of all sensitive receptors includes dwellings and educational establishments, and the locations are shown in **Figure 7.2: Air Quality Receptor Locations.**

Table 7.5: Sensitive human receptors within 200m of the Draft Order limits

ID	Description	Proposed Scheme Section	Grid Reference (m)	
			X	Y
H_1	Residential	A	638637	261846
H_2	Residential	A	641436	260534
H_3	Residential	A	641166	262086
H_4	Residential	A	640288	261012
H_5	Residential	A	642142	261314
H_6	School	A	641184	260449
H_7	School	A	641766	259452

ID	Description	Proposed Scheme Section	Grid Reference (m)	
			X	Y
H_8	School	A	641171	260508
H_9	School	A	641268	260387
H_10	School	A	641487	260516
H_11	School	A	638716	261848
H_12	School	A	638560	262516
H_13	School	A	642571	261619
H_14	School	A	640777	260745
H_15	School	A	639684	260865
H_16	School	A	639163	262948
H_17	School	A	639690	260876
H_18	School	A	640849	262059
H_19	Residential	A	641813	261649
H_20	Residential	A	638672	261825
H_21	Residential	A	639002	262579
H_22	Residential	A	639058	262556
H_23	Residential	A	639924	260386
H_24	Hospital	A	641301	260462
H_25	Residential	A	642147	261323
H_26	Hospital	A	641843	261172
H_27	School	A	641416	261542
H_28	School	A	641486	260568
H_29	School	A	638570	261955
H_30	Hospital	A	642769	261489
H_31	Residential	A	639869	261471
H_32	Residential	A	642160	261325
H_33	Residential	A	642170	261323
H_34	Residential	A	640360	261759
H_35	Residential	A	640313	261019
H_36	Residential	A	641412	260335
H_37	Residential	A	642171	261307
H_38	Residential	A	639042	262516
H_39	Residential	A	638894	261684
H_40	Residential	A	641222	260507
H_41	Residential	A	641214	260503
H_42	Residential	A	641190	260498
H_43	Residential	A	641184	260496
H_44	Residential	A	641155	260489
H_45	Residential	A	641149	260487
H_46	Residential	A	641122	260480
H_47	Residential	A	641115	260478
H_48	Residential	A	639167	262996
H_49	Residential	A	639146	262966
H_50	Residential	A	639132	262962

ID	Description	Proposed Scheme Section	Grid Reference (m)	
			X	Y
H_51	Residential	A	639119	262958
H_52	Residential	A	639069	262952
H_53	Residential	A	639090	262913
H_54	Residential	A	639117	262923
H_55	Residential	A	639153	262914
H_56	Residential	A	639180	262936
H_57	Residential	A	639192	262944
H_58	Residential	A	639206	262953
H_59	Residential	A	639198	262916
H_60	Residential	A	639203	262903
H_61	Residential	A	639206	262890
H_62	Residential	A	639194	262874
H_63	Residential	A	639180	262869
H_64	Residential	A	639165	262864
H_65	Residential	A	639124	262859
H_66	Residential	A	639120	262871
H_67	Residential	A	639115	262885
H_68	Residential	A	639113	262897
H_69	Residential	A	638878	261682
H_70	Residential	A	638878	261682
H_71	Residential	A	641283	260514
H_72	Residential	A	641472	260505
H_73	Residential	A	641257	260503
H_74	Residential	A	641256	260597
H_75	Residential	A	641233	260626
H_76	Residential	A	639041	262546
H_77	Residential	A	640965	261697
H_78	Residential	A	640960	261712
H_79	Residential	A	641843	261172
H_80	Residential	A	641508	260371
H_81	Residential	A	641465	260565
H_82	Residential	A	641452	260356
H_83	Residential	A	641474	260363
H_84	Residential	A	641843	261172
H_85	Residential	A	641142	262049
H_86	Residential	A	641701	261666
H_87	Residential	A	642096	261293
H_88	Residential	A	641829	261650
H_89	Residential	A	639168	262979
H_90	Residential	A	639149	262928
H_91	Residential	A	639150	262860
H_92	Residential	A	639165	262864
H_93	Residential	A	639097	262957

ID	Description	Proposed Scheme Section	Grid Reference (m)	
			X	Y
H_94	Residential	A	641231	261672
H_95	Residential	A	642555	261560
H_96	Residential	A	642742	260118
H_97	Residential	A	642315	259783
H_98	Residential	A	642322	259780
H_99	Residential	A	638563	261810
H_100	Residential	A	638605	261824
H_101	Residential	A	638580	261835
H_102	Residential	A	638597	261828
H_103	Residential	A	638574	261839
H_104	Residential	A	638584	261830
H_105	Residential	A	638598	261814
H_106	Residential	A	640464	261735
H_107	Residential	A	638896	261678
H_108	Residential	A	639862	261468
H_109	Residential	A	638595	261831
H_110	Residential	A	638871	261700
H_111	Residential	A	642761	261499
H_112	Residential	A	642769	261489
H_113	Residential	A	639802	261758
H_114	Residential	A	641431	260536
H_115	Hospital	A	642745	260123
H_116	Hospital	A	642323	259781
H_117	Residential	A	640374	261187
H_118	Residential	A	641409	260536
H_119	Hospital	A	640364	261677
H_120	Residential	A	641981	259271
H_121	Residential	A	641452	260533
H_122	Residential	A	641464	260533
H_123	Residential	A	641271	260426
H_124	Residential	A	641268	260465
H_125	Residential	A	641277	260459
H_126	Residential	A	641412	260335
H_127	Residential	A	641141	260422
H_128	Residential	A	641162	260425
H_129	Residential	A	638468	261830
H_130	Residential	A	638521	261818
H_131	Residential	A	638602	261941
H_132	Residential	A	638506	261857
H_133	Residential	A	640990	261689
H_134	Residential	A	641184	260428
H_135	Residential	A	641202	260436
H_136	Residential	A	641224	260447

ID	Description	Proposed Scheme Section	Grid Reference (m)	
			X	Y
H_137	Residential	A	641246	260434
H_138	Residential	A	642745	260123
H_139	Residential	A	639370	262493
H_140	Residential	A	638959	262544
H_141	Residential	A	638600	261817
H_142	Residential	A	638654	261844
H_143	Residential	A	639928	260387
H_144	Residential	A	639926	260391
H_145	Residential	A	638865	261770
H_146	Residential	A	641301	260462
H_147	Residential	A	641301	260462
H_148	Residential	A	640807	260767
H_149	Residential	A	640928	260730
H_150	Residential	A	638621	261868
H_151	Residential	A	638625	261850
H_152	Residential	A	641300	260471
H_153	Residential	A	638878	261682
H_154	Residential	A	638623	261874
H_155	Hospital	A	639928	260387
H_156	Residential	B	641622	267764
H_157	Residential	B	640274	262955
H_158	Residential	B	641932	267386
H_159	Residential	B	643184	265114
H_160	School	B	642059	267303
H_161	School	B	642714	266829
H_162	School	B	642458	267081
H_163	School	B	640992	263372
H_164	School	B	642925	265126
H_165	School	B	641729	267649
H_166	School	B	640753	262385
H_167	School	B	639217	263039
H_168	School	B	642764	266786
H_169	School	B	641727	267387
H_170	Residential	B	640978	263331
H_171	Residential	B	641362	264110
H_172	Hospital	B	640969	263381
H_173	School	B	642461	265089
H_174	School	B	640754	262389
H_175	Residential	B	639036	263014
H_176	Residential	B	639033	263027
H_177	Residential	B	639039	263054
H_178	Residential	B	639028	263056
H_179	Residential	B	639016	263051

ID	Description	Proposed Scheme Section	Grid Reference (m)	
			X	Y
H_180	Residential	B	639042	263074
H_181	Residential	B	639040	263080
H_182	Residential	B	639037	263108
H_183	Residential	B	639044	263108
H_184	Residential	B	639021	263078
H_185	School	B	639023	262998
H_186	Residential	B	641020	263313
H_187	Residential	B	642024	266749
H_188	Residential	B	641390	267172
H_189	Residential	B	641415	267180
H_190	Residential	B	642006	266787
H_191	Residential	B	642780	266836
H_192	Hospital	B	643328	265942
H_193	Residential	B	639171	263121
H_194	Residential	B	642574	266602
H_195	Residential	B	642567	266598
H_196	Residential	B	640743	262623
H_197	Residential	B	641684	267431
H_198	Residential	B	641742	267410
H_199	Residential	B	642607	266146
H_200	Residential	B	642275	266358
H_201	Hospital	B	642574	266602
H_202	Residential	B	641357	264105
H_203	Residential	B	642037	266751
H_204	Residential	B	642348	267186
H_205	Residential	B	642364	267160
H_206	Residential	B	642805	266922
H_207	Residential	B	642578	267003
H_208	Residential	B	641610	267771
H_209	Residential	B	641607	267773
H_210	Residential	B	641754	267709
H_211	Residential	B	641728	267784
H_212	Residential	B	641694	267675
H_213	Residential	B	641620	267746
H_214	Residential	B	641664	267722
H_215	Residential	B	642399	267130
H_216	Residential	B	640966	263380
H_217	Residential	B	640972	263382
H_218	Residential	B	640474	262618
H_219	Residential	B	641618	267766
H_220	Residential	B	642764	266763
H_221	Residential	B	642768	266759
H_222	Residential	B	642409	267124

ID	Description	Proposed Scheme Section	Grid Reference (m)	
			X	Y
H_223	Residential	B	641872	267316
H_224	Residential	B	642369	267187
H_225	Residential	B	642722	266763
H_226	Residential	B	642067	267324
H_227	Residential	B	641650	267731
H_228	Residential	B	642745	266835
H_229	Hospital	B	642764	266763
H_230	Residential	C	644071	271696
H_231	Residential	C	643511	269608
H_232	Residential	C	644766	274242
H_233	Residential	C	644147	271761
H_234	Residential	C	644247	271836
H_235	Residential	C	644254	271836
H_236	Residential	C	644293	273188
H_237	School	C	644375	274494
H_238	School	C	645016	272607
H_239	School	C	643180	268979
H_240	School	C	643795	271438
H_241	School	C	642584	270068
H_242	School	C	643070	271561
H_243	School	C	643328	269508
H_244	School	C	642969	270282
H_245	Residential	C	644004	272413
H_246	School	C	641176	270776
H_247	School	C	642347	267833
H_248	School	C	641695	270972
H_249	School	C	641403	271258
H_250	School	C	644641	273264
H_251	School	C	644274	271912
H_252	Hospital	C	641267	270920
H_253	Residential	C	644269	271833
H_254	Residential	C	642452	270768
H_255	Residential	C	642664	267966
H_256	Residential	C	642618	267917
H_257	Residential	C	642508	267864
H_258	Residential	C	642944	268486
H_259	Residential	C	641540	271080
H_260	Residential	C	644528	273252
H_261	Residential	C	642534	268806
H_262	Residential	C	641700	267911
H_263	Residential	C	641705	267912
H_264	Residential	C	641724	267919
H_265	Residential	C	642528	270143

ID	Description	Proposed Scheme Section	Grid Reference (m)	
			X	Y
H_266	Residential	C	642491	270041
H_267	Residential	C	641498	271373
H_268	Residential	C	641467	271320
H_269	Residential	C	641470	271328
H_270	Residential	C	641455	271273
H_271	Residential	C	641191	270862
H_272	Residential	C	642913	268977
H_273	Residential	C	641266	270906
H_274	Residential	C	641273	270902
H_275	Residential	C	641290	270935
H_276	Residential	C	641264	270913
H_277	Residential	C	641267	270920
H_278	Residential	C	641265	270916
H_279	Residential	C	642108	267962
H_280	Residential	C	642098	267963
H_281	Residential	C	641261	270907
H_282	Residential	C	641500	271379
H_283	Residential	C	643512	269571
H_284	Residential	C	644157	271818
H_285	Residential	C	644157	271818
H_286	Residential	C	644250	271836
H_287	Residential	C	641467	271320
H_288	Residential	C	641209	270978
H_289	Hospital	C	641266	270910
H_290	Residential	D	648022	274844
H_291	Residential	D	648813	274653
H_292	School	D	649402	274748
H_293	School	D	645402	274372
H_294	School	D	649095	274811
H_295	School	D	649342	274682
H_296	School	D	649171	274540
H_297	School	D	648954	274652
H_298	School	D	648972	274605
H_299	School	D	649180	274835
H_300	School	D	649603	274604
H_301	School	D	649514	274841
H_302	School	D	650015	274430
H_303	School	D	645413	274279
H_304	Hospital	D	648813	274653
H_305	Residential	D	649398	274675
H_306	Residential	D	649130	274586
H_307	Residential	D	649129	274595
H_308	Residential	D	649111	274733

ID	Description	Proposed Scheme Section	Grid Reference (m)	
			X	Y
H_309	Hospital	D	649433	274746
H_310	Hospital	D	649985	274469
H_311	Residential	D	649260	274675
H_312	Residential	D	649070	274606
H_313	Residential	D	649021	274470
H_314	Residential	D	649420	274754
H_315	Residential	D	648883	274640
H_316	Residential	D	648801	274620
H_317	Residential	D	649402	274877
H_318	Residential	D	648913	274563
H_319	Residential	D	649139	274567
H_320	Residential	D	649146	274547
H_321	Residential	D	649103	274492
H_322	Residential	D	649338	274736
H_323	Residential	D	649377	274745
H_324	Residential	D	649340	274763
H_325	Residential	D	649385	274758
H_326	Residential	D	649351	274790
H_327	Residential	D	649354	274808
H_328	Residential	D	649351	274821
H_329	Residential	D	649403	274791
H_330	Residential	D	649357	274841
H_331	Residential	D	649448	274790
H_332	Residential	D	649430	274838
H_333	Residential	D	649400	274820
H_334	Residential	D	645409	274350
H_335	Residential	D	645410	274359
H_336	Residential	D	649050	274795
H_337	Residential	D	649091	274834
H_338	Residential	D	649078	274794
H_339	Residential	D	649130	274780
H_340	Residential	D	649116	274828
H_341	Residential	D	649478	274774
H_342	Residential	D	649538	274836
H_343	Residential	D	649473	274852
H_344	Residential	D	649519	274812
H_345	Residential	D	649504	274737
H_346	Residential	D	649518	274781
H_347	Residential	D	649468	274778
H_348	Residential	D	649575	274856
H_349	Residential	D	649482	274733
H_350	Residential	D	649085	274613
H_351	Residential	D	648910	274606

ID	Description	Proposed Scheme Section	Grid Reference (m)	
			X	Y
H_352	Residential	D	648885	274597
H_353	Residential	D	648882	274562
H_354	Residential	D	648934	274570
H_355	Residential	D	649026	274594
H_356	Residential	D	648804	274539
H_357	Residential	D	648862	274590
H_358	Residential	D	648844	274551
H_359	Residential	D	648840	274628
H_360	Residential	D	649386	274770
H_361	Residential	D	649388	274788
H_362	Residential	D	649410	274837
H_363	Residential	D	649337	274715
H_364	Residential	D	649572	274521
H_365	Residential	D	649632	274633
H_366	Residential	D	649588	274615
H_367	Residential	D	649668	274595
H_368	Residential	D	649611	274582
H_369	Residential	D	649553	274605
H_370	Residential	D	649648	274545
H_371	Residential	D	649615	274489
H_372	Residential	D	649690	274547
H_373	Residential	D	649672	274623
H_374	Residential	D	649561	274561
H_375	Residential	D	649603	274576
H_376	Residential	D	649590	274576
H_377	Residential	D	649208	274829
H_378	Residential	D	649162	274710
H_379	Residential	D	649147	274698
H_380	Residential	D	649148	274815
H_381	Residential	D	649042	274544
H_382	Residential	D	649205	274535
H_383	Residential	D	649210	274512
H_384	Residential	D	649230	274488
H_385	Residential	D	649161	274513
H_386	Residential	D	649076	274549
H_387	Residential	D	649179	274467
H_388	Residential	D	649117	274540
H_389	Residential	D	649169	274490
H_390	Residential	D	649193	274551
H_391	Residential	D	649178	274584
H_392	Residential	D	649132	274497
H_393	Residential	D	649118	274624
H_394	Residential	D	649443	274706

ID	Description	Proposed Scheme Section	Grid Reference (m)	
			X	Y
H_395	Residential	D	649285	274682
H_396	Residential	D	649162	274628
H_397	Residential	D	649672	274701
H_398	Residential	D	649331	274665
H_399	Residential	D	649662	274701
H_400	Residential	D	649529	274729
H_401	Residential	D	649687	274701
H_402	Residential	D	649667	274701
H_403	Residential	D	649279	274644
H_404	Residential	D	649354	274673
H_405	Residential	D	649187	274634
H_406	Residential	D	649380	274702
H_407	Residential	D	649635	274707
H_408	Residential	D	649586	274686
H_409	Residential	D	649571	274683
H_410	Residential	D	649213	274628
H_411	Residential	D	649572	274718
H_412	Residential	D	649306	274652
H_413	Residential	D	649623	274723
H_414	Residential	D	649428	274681
H_415	Residential	D	649555	274716
H_416	Residential	D	649650	274715
H_417	Residential	D	649500	274695
H_418	Residential	D	649260	274675
H_419	Residential	D	649622	274676
H_420	Residential	D	649478	274691
H_421	Residential	D	649304	274685
H_422	Residential	D	649227	274637
H_423	Residential	D	648828	274673
H_424	Residential	D	649407	274675
H_425	Residential	D	649428	274791
H_426	Residential	D	649150	274756
H_427	Residential	D	649671	274679
H_428	Residential	D	649519	274673
H_429	Residential	D	649565	274681
H_430	Residential	D	649479	274805
H_431	Residential	D	648931	274679
H_432	Residential	D	648947	274628
H_433	Residential	D	649098	274783
H_434	Residential	D	649100	274700
H_435	Residential	D	649052	274479
H_436	Residential	D	649013	274526
H_437	Residential	D	649118	274624

ID	Description	Proposed Scheme Section	Grid Reference (m)	
			X	Y
H_438	Residential	D	648799	274586
H_439	Residential	D	648931	274617
H_440	Residential	D	648957	274574
H_441	Residential	D	648787	274588
H_442	Residential	D	649000	274586
H_443	Residential	D	649090	274646
H_444	Hospital	D	645409	274350
H_445	Residential	D	649157	274696
H_446	Residential	D	649089	274672
H_447	Residential	D	649012	274671
H_448	Residential	D	648870	274670
H_449	Residential	D	648849	274684
H_450	Residential	D	649465	274707
H_451	Residential	D	649030	274676
H_452	Residential	D	648783	274655
H_453	Residential	D	648984	274639
H_454	Residential	D	648984	274639
H_455	Residential	D	648984	274639
H_456	Residential	D	648984	274639
H_457	Hospital	D	648984	274639
H_458	Residential	D	649053	274602
H_459	Residential	D	648766	274539
H_460	Residential	D	649388	274703
H_461	Residential	D	648894	274684
H_462	Residential	D	648899	274684
H_463	Residential	D	649076	274708
H_464	Residential	D	648920	274678
H_465	Residential	D	649040	274716
H_466	Residential	D	649606	274624
H_467	Residential	D	648827	274588
H_468	Residential	D	649689	274679
H_469	Hospital	D	648894	274684

Ecological receptors

7.3.8 Sensitive ecological receptors are defined as those sites whose features have been designated as sensitive to air pollutants, either directly or indirectly. A total of 86 ecological receptors, as shown in **Table 7.6**, were included in the assessment. In addition, the list of ecological receptors has been prepared to provide early indication of receptors that could be at potential risk due to the increase of construction traffic.

7.3.9 Ecological receptors within the 200m buffer of the Draft Order Limits include statutory and non-statutory sites. Site designations are included in **Table 7.6**.

Table 7.6: Sensitive ecological receptor within 200m of the Draft Order Limits

ID	Designated sites	Description	Proposed Scheme Section	Grid Reference (m)	
				X	Y
E_1	Ancient Veteran/Notable Tree (AVT) (SBIS)	TM43867182 Tree	C	643860	271820
E_2	AVT	TM44507279 Tree	C	644500	272790
E_3	AVT	TM43367123 Tree	C	643360	271230
E_4	AVT	TM41926164 Tree	A	641920	261640
E_5	AVT	TM41926165 Tree	A	641920	261650
E_6	AVT	TM43867182 Tree	C	643860	271820
E_7	AVT	TM44507279 Tree	C	644500	272790
E_8	AVT	48499 Tree	C	643860	271820
E_9	AVT	48500 Tree	C	644500	272790
E_10	AVT	48785 Tree	A	641920	261650
E_11	AVT	48786 Tree	A	641920	261640
E_12	AVT	48961 Tree	C	643360	271230
E_13	AVT	Unknown Tree	A	639060	262900
E_14	VT	T875S Tree	A	638912	262266
E_15	VT	T871S Tree	A	638860	262207
E_16	VT	T891S Tree	A	638723	261890
E_17	VT	T869S Tree	A	638892	261862
E_18	VT	T870S Tree	A	638883	262004
E_19	VT	T856S Tree	A	638874	262075
E_20	VT	T843S Tree	A	639379	262356
E_21	VT	T841S Tree	A	639571	262291
E_22	VT	T8092 Tree	A	639731	262081
E_23	VT	T861S Tree	B	639233	263005
E_24	VT	T862S Tree	A	639272	262867
E_25	VT	T733S Tree	A	640249	262492
E_26	VT	T776S Tree	A	640057	262495
E_27	VT	T791S Tree	A	640133	262306
E_28	VT	T771S Tree	A	640133	262306
E_29	VT	T822S Tree	A	639986	262166
E_30	VT	T780S Tree	A	639826	261914
E_31	VT	T674S Tree	A	640051	261935

ID	Designated sites	Description	Proposed Scheme Section	Grid Reference (m)	
				X	Y
E_32	VT	T655S Tree	A	640279	261797
E_33	VT	T671S, T668S, T667S Tree	A	640552	262074
E_34	VT	T579S Tree	A	640640	261758
E_35	VT	T524S Tree	A	640762	261651
E_36	VT	T525S Tree	A	640841	261221
E_37	VT	T522S Tree	A	640832	261202
E_38	VT	T916S Tree	A	639710	260871
E_39	VT	T938S Tree	A	639848	260566
E_40	VT	T940S Tree	A	639844	260602
E_41	VT	T941S Tree	A	639866	260604
E_42	VT	T974S Tree	A	641519	260990
E_43	VT	T996S, T1002S Tree	A	641723	261237
E_44	VT	T398S Tree	A	641892	260395
E_45	VT	T402S Tree	A	641907	260307
E_46	VT	T393S Tree	A	642088	260359
E_47	VT	T354S Tree	A	642429	259678
E_48	VT	T350S Tree	A	642452	259668
E_49	Ramsar	Minsmere-Walberswick	D	647626	274462
E_50	Special Protection Area (SPA)	Outer Thames Estuary	D	647617	274635
E_51	SPA	Minsmere-Walberswick	C	644532	272578
E_52	Site of Special Scientific Interest (SSSI)	Minsmere-Walberswick Heaths and Marshes	D	646622	274430
E_53	NNR	Suffolk Coast 446	D	649403	274290
E_54	NNR	Suffolk Coast 451	D	649637	274056
E_55	Special Area of Conservation (SAC)	Southern North Sea	D	649586	274207
E_56	SAC	Minsmere to Walberswick Heaths and Marshes	D	648611	274299

ID	Designated sites	Description	Proposed Scheme Section	Grid Reference (m)	
				X	Y
E_57	SAC	Minsmere to Walberswick Heaths and Marshes	D	648084	274820
E_58	SAC	Minsmere to Walberswick Heaths and Marshes	D	647797	274454
E_59	SAC	Minsmere to Walberswick Heaths and Marshes	D	646377	274409
E_60	SAC	Minsmere to Walberswick Heaths and Marshes	C	645134	273431
E_61	Ancient Woodland (AW)	BIG/COMMON WOODS	C	644173	272976
E_62	AW	GROVE WOOD	A	641633	261024
E_63	AW	HINTON LONG SPRING	C	643814	272121
E_64	AW	PECKOVER WOOD	B	642678	265585
E_65	AW	Suff81102	A	639047	262468
E_66	AW	COLTSCLOSE PICKLE	A	639342	262572
E_67	AW	THE FOREST	B	642815	264848
E_68	AW	HINTON ROUND SPRING	C	643944	272010
E_69	AW	BIG/COMMON WOODS	C	644111	272940
E_70	AW	HINTON LONG SPRING	A	638555	261933
E_71	AW	RUDLEY'S GROVE	A	639805	260607
E_72	AW	GROVE WOOD	A	641901	261358
E_73	AW	KILN GROVE	B	642609	265759
E_74	AW	THEBERTON WOODS	B	642201	265270
E_75	AW	HURTSHALL PARK	A	638808	262414

ID	Designated sites	Description	Proposed Scheme Section	Grid Reference (m)	
				X	Y
E_76	County Wildlife Site (CWS)	Benhall Green Meadows	A	638728	261837
E_77	CWS	Big, Common and Haw Woods	C	644296	273056
E_78	CWS	Darsham Marshes	C	642511	268453
E_79	CWS	Grove Wood	A	642006	260873
E_80	CWS	Hinton Long Spring	C	643828	272142
E_81	CWS	Kiln Grove and Meadow	A	638670	261151
E_82	CWS	Leiston Airfield	C	642888	272258
E_83	CWS	Minsmere Valley Reckford Bridge to Beveriche Manor	C	642703	268475
E_84	CWS	The Wilderness (Darsham)	C	643128	269528
E_85	CWS	Theberton Woods	B	642518	265076
E_86	CWS	Walberswick Saltmarsh	D	650114	274462

Topic glossary

Acronym/Phrase/Abbreviation	Definition
µg/m3	Micrograms per cubic metre
Ancient Woodland	Land that has been continually wooded since at least 1600 in England. Regarded as 'irreplaceable habitat' in national planning guidance. Ancient woodland greater than 2 ha is recorded on the Natural England Ancient Woodland Inventory.
Annual average daily traffic flow	24-hour traffic count data averaged for all the days in the year i.e. the total traffic flow on a road for a year divided by 365.
AQMA	Air Quality Management Area
ARN	Affected Road Network
AVT	Ancient Veteran/Notable Tree
AW	Ancient Woodland
Construction route	These are the roads on the local road network that would be used by construction vehicles between the strategic road network and the access points within the Draft Order Limits.
CWS	County Wildlife Site
Defra	Department for Environment, Food and Rural Affairs
Draft Order Limits	The area of land identified as being subject to the DCO application. The Draft Order Limits are made up of the land required both temporarily and permanently to allow for the construction and operation of the Proposed Scheme.
Dust emission magnitude	The potential scale of dust emissions as a result of construction activities, classified based on the nature, scale and intensity of the works being undertaken across four key construction phases (demolition, earthworks, construction and track-out).
Effect	The consequence of an impact.
EPUK	Environmental Protection UK
GIS	Geographic Information System
Habitat	The natural home or environment of an animal, plant, or other organism.
Haul Road	Another term used for the temporary access route, which is a temporary route built to carry construction vehicles within the Draft Order Limits
HDV	Heavy-Duty Vehicles
Heavy Duty Vehicles	Vehicles weighing more than 3,500 kg.
IAQM	Institute of Air Quality Management

Acronym/Phrase/Abbreviation	Definition
Impact	Described as a change in pollutant concentrations or dust deposition.
LDV	Light-Duty Vehicles
Light Duty Vehicles	Vehicles weighing 3,500 kg or less.
LNR	Local Nature Reserve
Local Nature Reserve	Sites dedicated by the local authority under Section 21 of the National Parks and Access to the Countryside Act 1949 for nature conservation which have wildlife or geological features that are of special interest locally.
Mitigation	The action of reducing the severity and magnitude of change (impact) to the environment. Measures to avoid, reduce, remedy or compensate for significant adverse effects.
NNR	National Nature Reserve
NO_2	Nitrogen Dioxide
Non-statutory designated site	A site designated at a local level for its biodiversity and/or geological value. These are not underpinned by legislation.
NOx	Nitrogen Oxide
OS	Ordnance Survey
PEIR	Preliminary Environmental Information Report
PM_{10}	Particulate Matter (10 micrometres or less in diameter)
$PM_{2.5}$	Particulate Matter (2.5 micrometres or less in diameter)
Proposed Scheme Section	Geographical 'sections' have been identified that break the Proposed Scheme down into smaller units for ease of description within the documentation.
Receptor	The physical resource or user group that would respond to an effect e.g. somebody or something adversely affected by a pollutant.
SAC	Special Area of Conservation
SBIS	Suffolk Biodiversity Information Service
Sensitivity	A term applied to specific receptors, combing judgements of the susceptibility of the receptors to the specific type of change or development proposed and the value related to that receptor.
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest
VT	Veteran Tree

References

Ref 1 Institute of Air Quality Management (IAQM) Assessment of dust from demolition and construction (2024) V2.2. Available from: https://iaqm.co.uk/wp-content/uploads/2013/02/Construction-Dust-Guidance-Jan-2024.pdf (Accessed July 2025).

Ref 2 Institute of Air Quality Management (IAQM) Land-Use Planning and Development Control; Planning for Air Quality (2017). Available from: https://iaqm.co.uk/text/guidance/air-quality-planning-guidance.pdf (Accessed July 2025).

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