

Appendix 8.5: Operational Noise Assessment

On-site Operational Noise - Calculation Parameters

Developments that fall into use class E(g) are by definition considered acceptable in close proximity to residential areas. No specific assessment of operational noise is considered necessary for E(g) uses, aside from that associated with external vehicle movements.

Developments that fall into a distribution use class (B8) are, to a large degree, predictable in terms of their likely noise emissions. Noise from HGVs is generally similar and provided the traffic volumes are known, the overall noise emissions can be calculated and assessed.

Developments that fall into a general industrial (B2) use class are less predictable, as the use class encompasses a wide range of potential activities, and consequently noise emissions. It is possible to assess B2 activities where they are similar to those undertaken for a B8 site, such as loading and unloading activities, and the assumptions detailed below for B8 sites will represent a large proportion of B2 sites.

The operation of the Proposed Scheme is likely to involve a number of HGV movements in the service yard areas, heavy and light vehicles on the access roads to the Site, and movements around the staff car parking areas. With each movement of each vehicle around the Site, a number of sources are likely to give rise to noise that has the potential to propagate off-site. These sources could include airbrake noise, generated by the release of air pressure from HGV brake systems, revving engines, and reversing alarms.

A database of typical noise emission levels is shown in **Table A8.5.1**. These values have been taken from similar but unrelated developments

Table A8.5.1: Typical source noise levels for vehicles at industrial and commercial site, free-field dB

Source	Distance	L _{AE}	L _{AFmax}
HGV air brakes	10	77	81
HGV start up and pull away	10	76	74
HGV reversing alarm	10	82	73
HGV dropping off trailer	10	79	85
HGV picking up trailer	10	84	86
HGV pass-by	10	80	71
Shunter pass-by with trailer	10	80	78
Shunter pass-by without trailer	10	79	72
Shunter dropping off trailer	10	75	77
Shunter picking up trailer	10	87	92
Car door slam	10	65	72
Car engine starting	10	62	66
Car pulling away	10	67	64
Car pass-by	10	70	63
Forklift pass-by	10	77	69
Forklift loading/unloading	10	82	70
Diesel-powered refrigerated trailer	-	96 ⁽¹⁾	-

⁽¹⁾ Noise level quoted is sound power level not L_{AE}

The likely operational traffic movements for the Proposed Scheme have been confirmed by the traffic consultant, David Tucker Associates (DTA).

The assessment considers a daytime (07:00 to 19:00) and evening (19:00 to 23:00) period and two night-time periods, an 'early night-time', from 23:00 to 05:00 hours, and a 'late night-time', from 05:00 to 07:00 hours.

The anticipated peak hourly traffic movements in the daytime, evening and each of the night-time periods are shown in **Table A8.5.2**.

Table A8.5.2: Operational traffic movements

Period	Plots 1 to 3		Plot 4	
	Cars	HGVs	Cars	HGVs
Day (07:00 to 19:00)	302	144	68	3
Evening (19:00 to 23:00)	160	77	0	0
Early night (23:00 to 05:00)	70	68	0	0
Late night (05:00 to 07:00)	342	128	0	0

Each of the vehicle movements in **Table A8.5.2** is assumed to give rise to each of the relevant noise-generating events set out in **Table A8.5.1**, to derive the overall vehicle noise emissions for the Proposed Scheme.

The assessment periods are taken as one hour for the daytime period and 15 minutes for each of the night-time periods, consistent with the approach recommended in BS4142: 2014+A1: 2019. Since the vehicle movements into and out of the Proposed Scheme had been derived in terms of hourly totals, it has been assumed that the night-time 15 minute period includes one quarter of the hourly vehicle movements, rounded up to the nearest whole number, where a fraction results.

For Plot 4, the traffic data suggests no vehicle movements outside of the period 07:00 to 19:00 hours. However, to account for the potential of some activity outside these hours, it has been assumed that a single HGV movement may occur in each of the evening, early night and late night periods.

The vehicle movements in **Table A8.5.2** are for the whole development. The number of vehicles accessing each assumed building on each of the two assessed layouts has been determined based on the floorspace of each unit, relative to the maximum quantum of floorspace as set out in **Chapter 4 – Development Specification**.

Shunters are assumed to operate at Units 1, 2, 3 and 4, which are the four largest units on both assessed layouts. The number of shunter movements is assumed to be equal to the number of HGV movements at each unit.

Forklifts are likely to operate at the Proposed Scheme, principally within buildings. However, it is also possible that they will operate outside buildings, loading or unloading HGVs at the level access doors. It has been assumed that 20 forklift loads are required per HGV at a level access door to either load it or unload it, based on observations made at other sites. The number of HGVs at each unit using level access doors has been calculated based on the ratio of dock levelers to level access doors; which are approximately 10% for Units 1 to 4 and 25% for Units 5 and 6 at Plots 1 to 3, and 100% for Plot 4.

Each forklift movement is assumed to give rise to each of the relevant noise-generating events set out in **Table A8.5.1** to derive the overall forklift noise emissions for the Proposed Scheme. The source noise levels for forklifts set out in **Table A8.5.1** are based on measurements of gas-powered forklifts.

In addition to the vehicle movements, it has been assumed that activities within buildings generate reverberant noise levels of 80dB(A). This is based on the lower exposure action value set out in the *Control of Noise at Work Regulations 2005*ⁱ and considered to be representative of a generic B2 use.

Based on measurements made at a number of existing storage and distribution facilities, typical B8 uses generate lower internal noise levels in the region of 75dB(A). Therefore, a value of 80dB(A) is considered reasonable and robust, as the exact mix of B2/B8 uses across the Proposed Scheme is currently unknown.

The external building fabric is assumed to provide a sound reduction performance of 25dB R_w , which is considered typical for a composite panel system of the type normally used in buildings in developments of this nature. Since rooflights are typically included in buildings of the type likely to be erected as part of the Proposed Scheme, the sound reduction performances of the building roofs have all been assumed to be 23dB R_w . This allows for the rooflights, which typically have a sound reduction performance of approximately 19dB R_w , and they typically form up to 15% of the roof area.

The effect of opening doors in the proposed buildings has also been considered, to test the sensitivity of the assessment outcome to the status of the doors. The doors that are modelled as open are the level access doors; the doors on the dock levellers will only open when a trailer is docked. Open level access doors are assumed to have a sound reduction of 0dB.

Where a sensitivity test has been undertaken to determine the potential effect of noise from refrigerated trailers, it has been assumed that the number of refrigerated trailers at a unit is equal to the peak hourly HGV movements. Refrigerated trailers, which are assumed to be diesel-powered, are assumed to operate for the duration of the daytime, evening and night-time assessment periods.

The noise levels generated by the activities have been calculated using the prediction framework set out in ISO9613 as implemented by the noise modelling software CADNA/A.

The vehicle activities in and around the Site have been modelled as acoustic point or line sources. Noise breaking-out from the building has been modelled using acoustic area sources, with the dimensions set to match the façade being modelled. The self-screening that may occur as a result of the occupation of the Site, for example HGV trailers screening other HGV activities, has been ignored to present a worst-case. The acoustic screening effects of garden fences have also been ignored.

The topography on and around the Site has been modelled using OS mapping information and topographical information provided by the landscape and visual consultant and the architect for the project.

The acoustic absorbency of the ground on the access roads and Development Plots of the Site is assumed to be 100% hard, and the acoustic absorbency of the ground around the Site is assumed to be 75% soft. All buildings have been modelled as approximately 70% acoustically reflective. Building heights at each plot are modelled as the maximum shown on the parameters plan.

One hour and 15 minute L_{Aeq} values have been calculated as appropriate for the daytime and two night-time assessment periods for each noise-generating event. The predicted noise levels from each event have been logarithmically summed to derive the overall noise levels from the Proposed Scheme.

BS4142: 2014+A1: 2019 requires that specific sound levels are corrected to account for perceptible acoustic characteristics.

The receptors to the south-west, including properties on Sissinghurst Drive, Monmouth Close and Kenilworth Gardens, forming the north-eastern edge of Thrapston are located approximately 50 metres from the site boundary, and 70 metres from the nearest development zone. However, they are separated from the site by the heavily trafficked A605. Based on the high residual sound levels, it is considered that tonal characteristics such as reversing alarms and impulsive elements such as HGV tractor units connecting to trailers may be perceptible to some degree, although not clearly above the existing residual acoustic climate. Therefore, a correction of +2dB has been applied for tonal elements, and a correction of +3dB for impulsive elements, giving a total of +5dB.

Springfield Cottage is located on the opposite side of Oundle Road to Plot 4, which has been identified for development as an Innovation Centre. Although this is likely to result in a lower intensity use than Plots 1 to 3, the residual sound levels at Springfield Cottage are lower due to the separation distance from the A605. On this basis, it is considered likely that any tonal elements such as HGV reversing alarms are likely to be more clearly perceptible, and therefore a correction of +4dB has been applied.

The smaller size of Plot 4 means that in practice HGVs uncoupling or coupling with trailers is unlikely to occur; there is unlikely to be space at the plot for separate HGV tractor and trailer parking for example. On this basis, it is considered that the likely impulsive elements will be vehicle door slams or loading/unloading noise, which is typically not as loud as HGVs connecting to trailers. On this basis, a correction of +3dB has been applied for impulsive elements. A total of +7dB has been applied.

The receptors to the north and east of the Site, forming the village of Titchmarsh and Polopit are subject to much lower residual sound levels. However, they are also located much further from the Site. Plot 1, which is located closest to these receptors, is also set on a development plateau lower than the surrounding land, meaning service yards will be partially screened from the receptors to the north and east by the surrounding topography. On this basis, it is considered unlikely that tonal elements will be perceptible at the receptors, and no correction has been applied for tonality. However, it is considered that loud impulsive elements such as HGVs coupling with trailers may still just be perceptible given the low residual sound levels that can occur at these receptors; therefore, a correction of +3dB has been applied for impulsive elements.

On-site Operational Noise - Mitigated Outcomes

Chapter 8 of the Environmental Statement considers a range of potential measures to mitigate on-site operational noise.

As the exact combination or configuration of mitigation measures that may be appropriate will depend on the details of final site layout and potential occupiers, it is suggested that it is secured through an appropriately worded planning condition.

However, to demonstrate the effectiveness of potential mitigation measures, the following scenarios have been assessed:

- Mitigation Scenario 1:
 - Assessed Layout 1: this is considered to demonstrate mitigation by (site) design, as it orients service yards so they face away from the receptors to the west, on the north-eastern edge of Thrapston, acoustically screened by buildings.
 - Assumed E(g) use at Plot 4: use class E(g) is by definition considered acceptable in close proximity to residential use; notwithstanding this, car and HGV activities have been retained in the calculation, to be robust.
 - no night-time (23:00 to 07:00 hours) use assumed at Plot 4: the assessment in Chapter 8 had tested HGV movements at night, as a worst-case; however, the traffic data provided for the assessment suggested there would be no vehicle movements at this plot at night.

- Mitigation Scenario 2:
 - Assessed Layout 2: this is considered a worst-case layout for receptors to the west, on the north-eastern edge of Thrapston, as the service yards are less screened by buildings.
 - 6 metre high noise barriers to screen service yards along the western edge of the site.
 - Assumed E(g) use at Plot 4: use class E(g) is by definition considered acceptable in close proximity to residential use; notwithstanding this, car and HGV activities have been retained in the calculation, to be robust.
 - no night-time (23:00 to 07:00 hours) use assumed at Plot 4: the assessment in Chapter 8 had tested HGV movements at night, as a worst-case; however, the traffic data provided for the assessment suggested there would be no vehicle movements at this plot at night.

The mitigation measures are illustrated below in Figure A8.5.1 and Figure A8.5.2.

Figure A8.5.1: Mitigation scenario 1



Figure A8.5.2: Mitigation scenario 2



The BS4142 assessment outcomes for Mitigation Scenario 1 are shown in Table A8.5.3, with noise contours plots for each of the daytime, evening, early-night and late-night periods shown in Figures A8.5.3 to A8.5.6.

Table A8.5.3: BS4142 assessment; mitigation scenario 1, free-field dB

Receptor	Period	Background Sound Level, L_{A90}	Predicted Rating Level, $L_{Ar,Tr}$	Difference
43 Sissinghurst Drive	Day	48	45	-3
	Evening	45	45	0
	Early-night	41	44	+3
	Late-night	44	45	+1
46 Sissinghurst Drive	Day	48	45	-3
	Evening	45	45	0
	Early-night	41	45	+4
	Late-night	44	45	+1
Monmouth Close	Day	48	43	-5
	Evening	45	43	-2
	Early-night	41	42	+1
	Late-night	44	43	-1
Kenilworth Gardens	Day	48	43	-5
	Evening	45	43	-2
	Early-night	41	41	0
	Late-night	44	43	-1
Springfield Cottage	Day	44	47	+3
	Evening	41	43	+2
	Early-night	36	37	+1
	Late-night	39	38	-1
72 Islington	Day	37	38	+1
	Evening	36	37	+1

Receptor	Period	Background Sound Level, L _{A90}	Predicted Rating Level, L _{Ar,Tr}	Difference
	Early-night	32	35	+3
	Late-night	36	38	+2
66 Islington	Day	37	39	+2
	Evening	36	38	+2
	Early-night	32	36	+4
	Late-night	36	39	+3
43 Islington	Day	37	37	0
	Evening	36	37	+1
	Early-night	32	35	+3
	Late-night	36	37	+1
The Old Rectory	Day	37	37	0
	Evening	36	36	0
	Early-night	32	35	+3
	Late-night	36	37	+1
19 Dryden's Close	Day	37	37	0
	Evening	36	36	0
	Early-night	32	34	+2
	Late-night	36	37	+1
34 Dryden's Close	Day	37	38	+1
	Evening	36	37	+1
	Early-night	32	35	+3
	Late-night	36	37	+1
2 Park Farm Court	Day	37	35	-2
	Evening	36	34	-2
	Early-night	32	33	+1
	Late-night	36	35	-1
The Old Forge	Day	37	34	-3
	Evening	36	33	-3
	Early-night	32	31	-1
	Late-night	36	34	-2
Castle Cottage	Day	37	33	-4
	Evening	36	32	-4
	Early-night	32	30	-2
	Late-night	36	33	-3
28 Polopit	Day	37	30	-7
	Evening	36	30	-6
	Early-night	32	28	-4
	Late-night	36	30	-6

It can be seen from Table A8.5.3 that at The Old Forge, Castle Cottage and 28 Polopit, the rating levels are predicted to be equal to or below the background sound levels. This is considered to be a negligible magnitude of change.

At receptors to the south-west on Sissinghurst Drive, Monmouth Close, Kenilworth Gardens and Springfield Cottage, rating levels are predicted to be between +1dB and +4dB above the background sound level during at least one assessment period. This is considered a small magnitude of change. A small magnitude of change is also predicted at receptors to the north and east of the Site at 72, 66 and 43 Islington, The Old Rectory, 2 Park Farm Court, and 19 and 34 Dryden's Close during at least one assessment period.

BS4142: 2014+A1: 2019 requires relevant context to be taken into account before reaching a final view on the impact outcomes. In this instance, it is considered that the operational assumptions push

the outcomes towards a worst-case by including peak traffic levels at all units, open level access doors across all units, internal noise levels that reflect all units being in B2 use, external use of forklifts at all units and shunter use at the four largest units modelled, with the number of shunters equaling the number of HGV movements, at Plots 1 to 3.

Plot 4 is assumed to be occupied by an E(g) use, which is by definition considered acceptable close to residential use; notwithstanding, this, car and HGV movements have been included in the calculations for Plot 4.

On this basis, the predicted small magnitudes of change are considered to be the worst outcome that is likely.

Figure A8.5.3: Specific sound level noise contours for mitigation scenario 1 - daytime

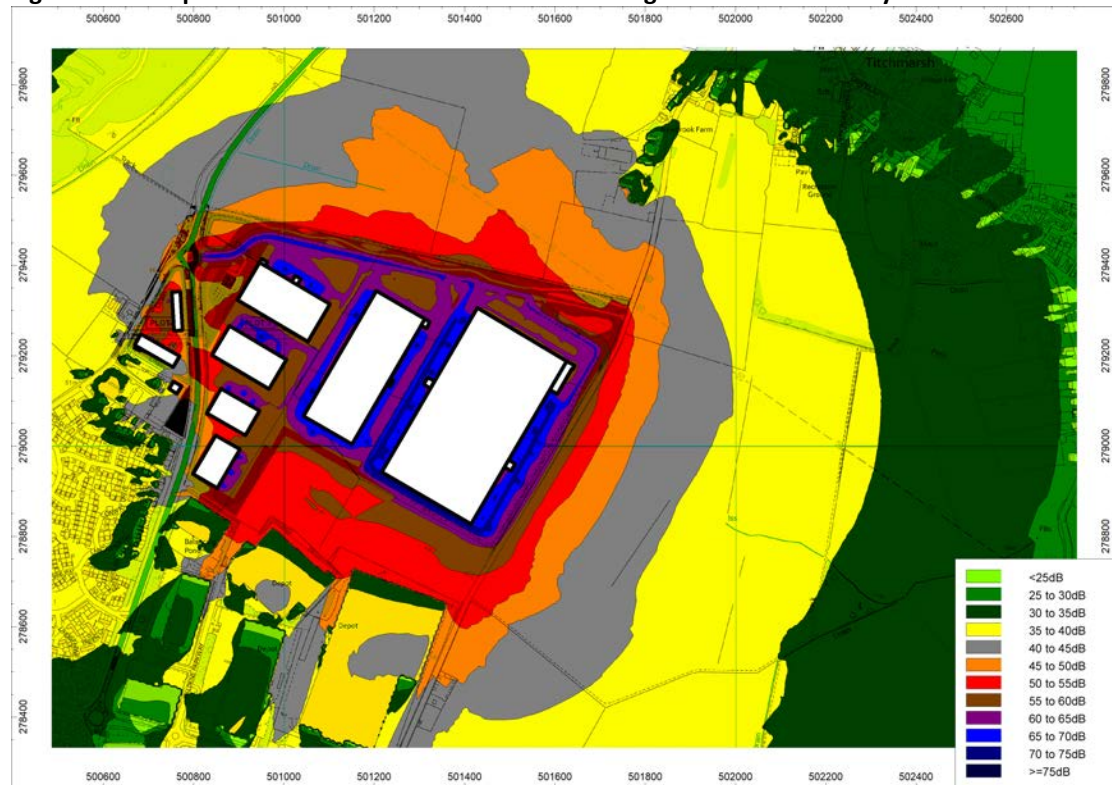


Figure A8.5.4: Specific sound level noise contours for mitigation scenario 1 - evening

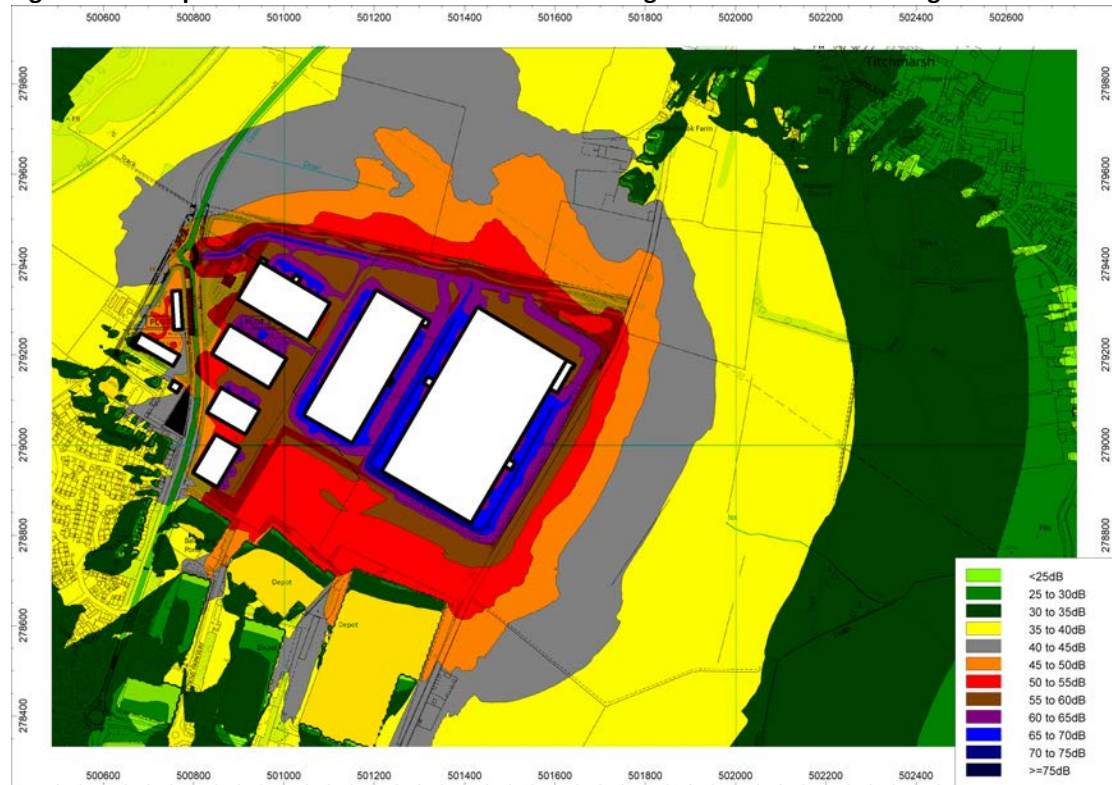


Figure A8.5.5: Specific sound level noise contours for mitigation scenario 1 – early-night

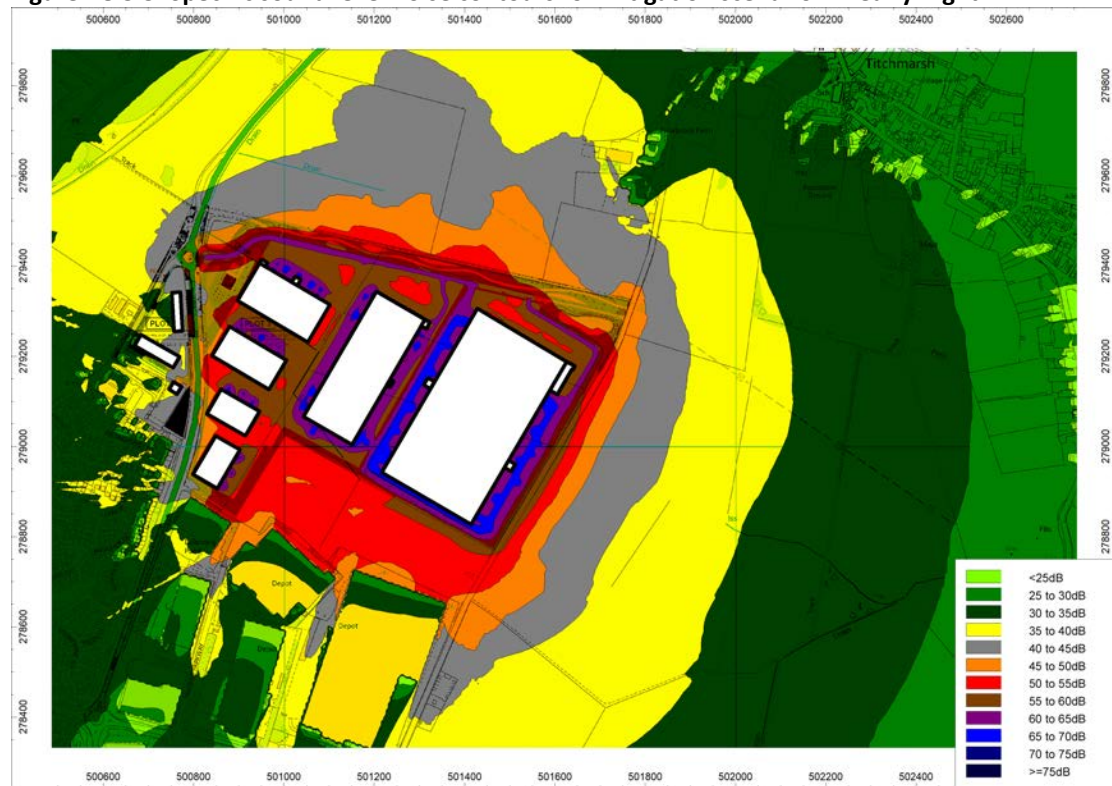
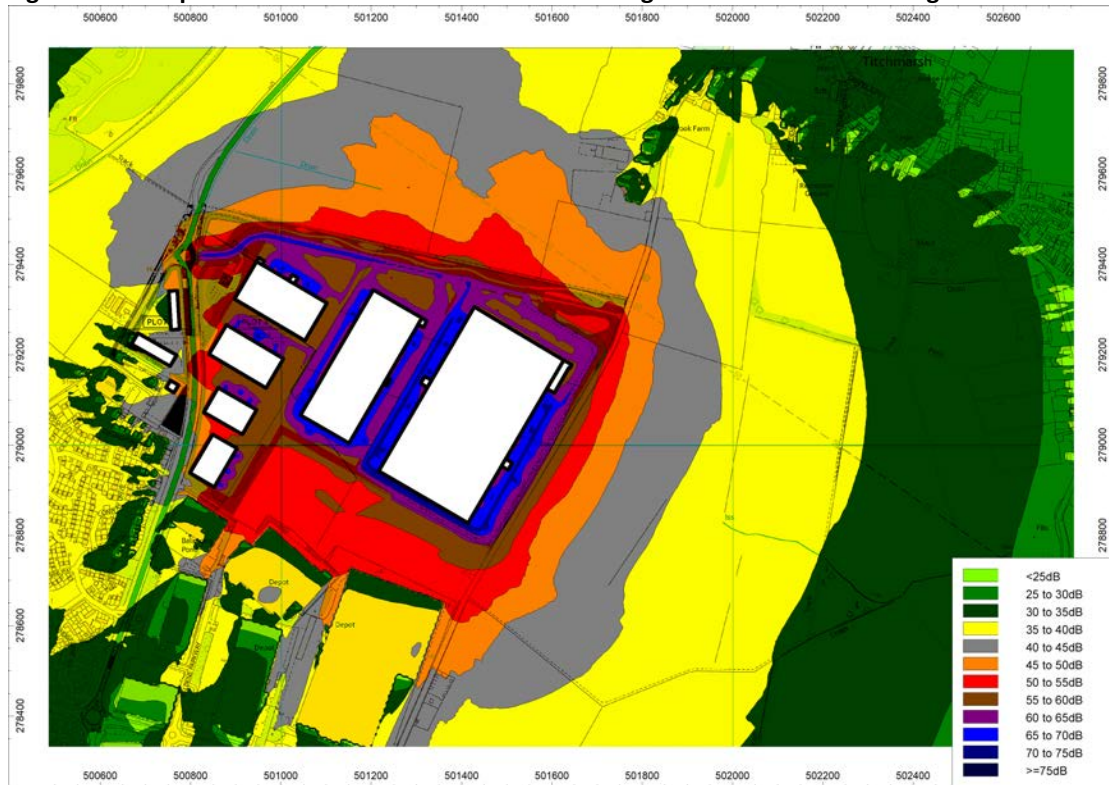


Figure A8.5.6: Specific sound level noise contours for mitigation scenario 1 – late-night



The BS4142 assessment outcomes for Mitigation Scenario 2 are shown in Table A8.5.4, with noise contours plots for each of the daytime, evening, early-night and late-night periods shown in Figures A8.5.7 to A8.5.10.

Table A8.5.4: BS4142 assessment; mitigation scenario 2, free-field dB

Receptor	Period	Background Sound Level, L_{A90}	Predicted Rating Level, $L_{A,r,Tr}$	Difference
43 Sissinghurst Drive	Day	48	47	-1
	Evening	45	46	+1
	Early-night	41	45	+4
	Late-night	44	46	+2
46 Sissinghurst Drive	Day	48	47	-1
	Evening	45	46	+1
	Early-night	41	45	+4
	Late-night	44	47	+3
Monmouth Close	Day	48	45	-3
	Evening	45	45	0
	Early-night	41	44	+3
	Late-night	44	45	+1
Kenilworth Gardens	Day	48	41	-7
	Evening	45	40	-5
	Early-night	41	40	-1
	Late-night	44	41	-3
Springfield Cottage	Day	44	47	+3
	Evening	41	43	+2
	Early-night	36	37	+1
	Late-night	39	38	-1
72 Islington	Day	37	38	+1

Receptor	Period	Background Sound Level, L _{A90}	Predicted Rating Level, L _{Ar,Tr}	Difference
	Evening	36	37	+1
	Early-night	32	35	+3
	Late-night	36	37	+1
66 Islington	Day	37	39	+2
	Evening	36	38	+2
	Early-night	32	36	+4
	Late-night	36	38	+2
43 Islington	Day	37	37	0
	Evening	36	37	+1
	Early-night	32	35	+3
	Late-night	36	37	+1
The Old Rectory	Day	37	37	0
	Evening	36	36	0
	Early-night	32	34	+2
	Late-night	36	37	+1
19 Dryden's Close	Day	37	37	0
	Evening	36	36	0
	Early-night	32	34	+2
	Late-night	36	37	+1
34 Dryden's Close	Day	37	38	+1
	Evening	36	37	+1
	Early-night	32	35	+3
	Late-night	36	37	+1
2 Park Farm Court	Day	37	35	-2
	Evening	36	34	-2
	Early-night	32	32	0
	Late-night	36	35	-1
The Old Forge	Day	37	34	-3
	Evening	36	33	-3
	Early-night	32	31	-1
	Late-night	36	33	-3
Castle Cottage	Day	37	33	-4
	Evening	36	32	-4
	Early-night	32	30	-2
	Late-night	36	32	-4
28 Polopit	Day	37	30	-7
	Evening	36	30	-6
	Early-night	32	28	-4
	Late-night	36	30	-6

It can be seen from Table A8.5.4 that at 2 Park Farm Court, The Old Forge, Castle Cottage and 28 Polopit, rating levels are predicted to be equal to or below the background sound levels. This is considered to be a negligible magnitude of change.

At receptors to the south-west on Sissinghurst Drive, Monmouth Close, Kenilworth Gardens and Springfield Cottage, rating levels are predicted to be between +1dB and +4dB above the background sound level during at least one assessment period. This is considered a small magnitude of change. A small magnitude of change is also predicted at receptors to the north and east of the Site at 72, 66 and 43 Islington, The Old Rectory, and 19 and 34 Dryden's Close during at least one assessment period.

As previously noted, when considering the mitigation option 1 scenario, the operational assumptions push the outcomes towards a worst-case, and on this basis, the predicted small magnitudes of change are considered to be the worst outcome that is likely.

Figure A8.5.7: Specific sound level noise contours for mitigation scenario 2 - daytime

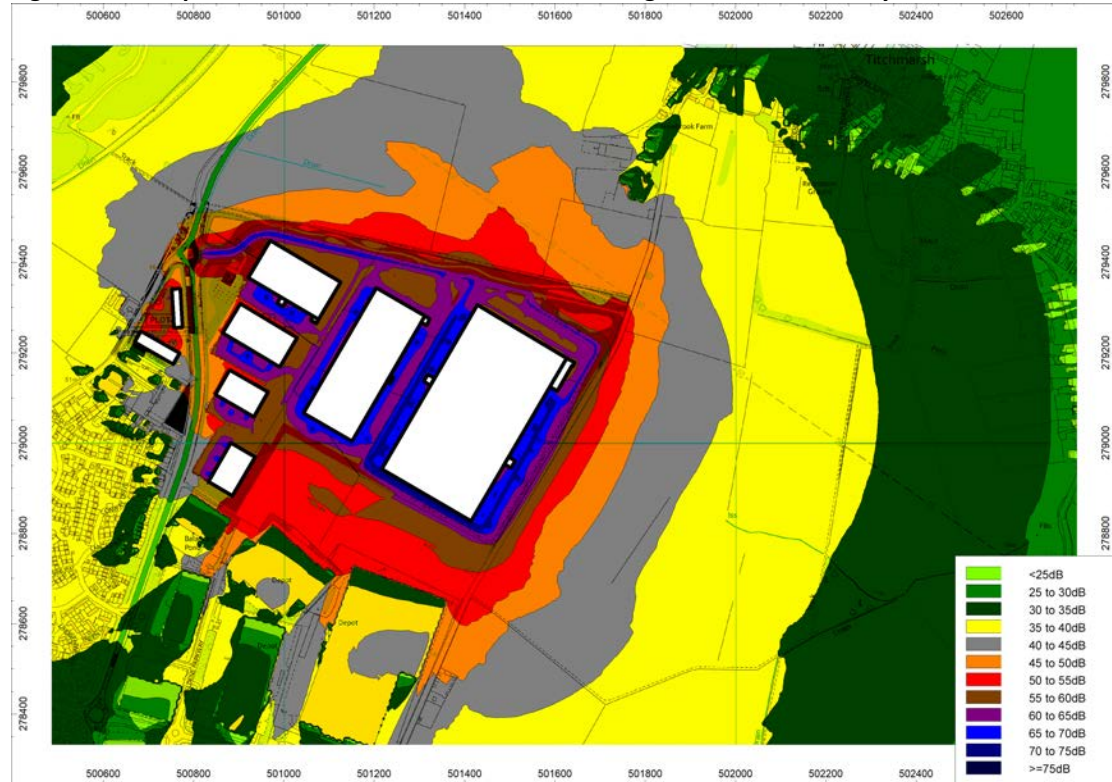


Figure A8.5.8: Specific sound level noise contours for mitigation scenario 2 - evening

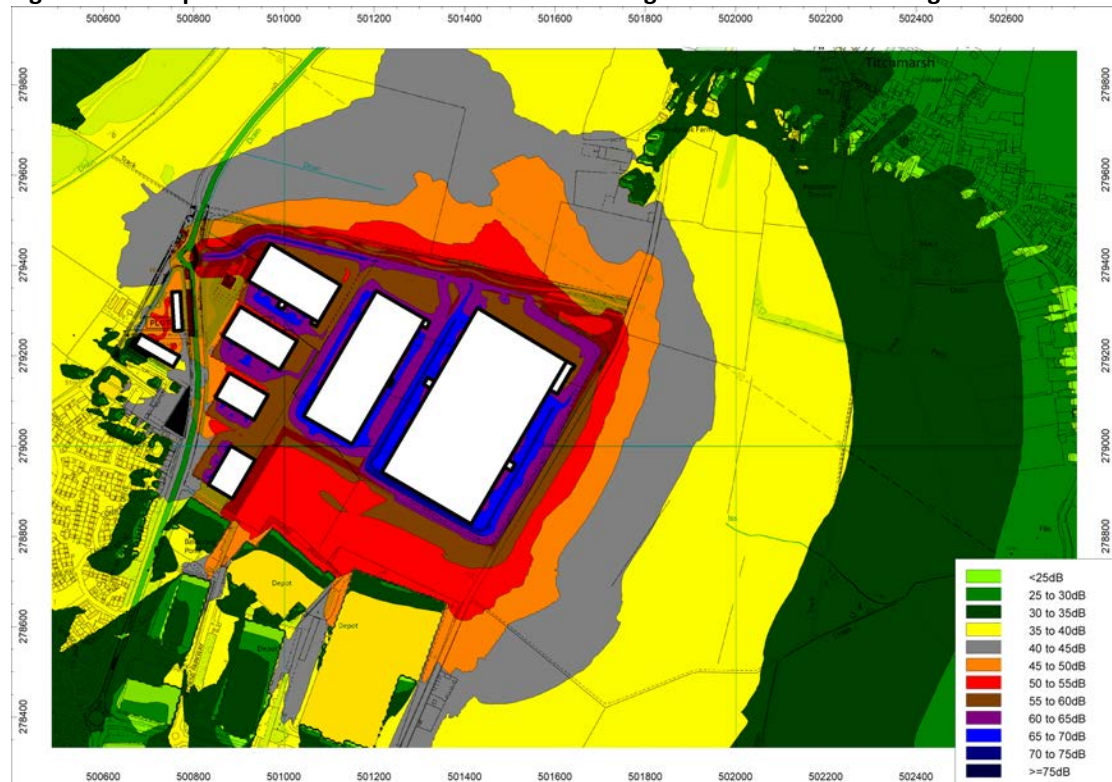


Figure A8.5.9: Specific sound level noise contours for mitigation scenario 2 – early-night

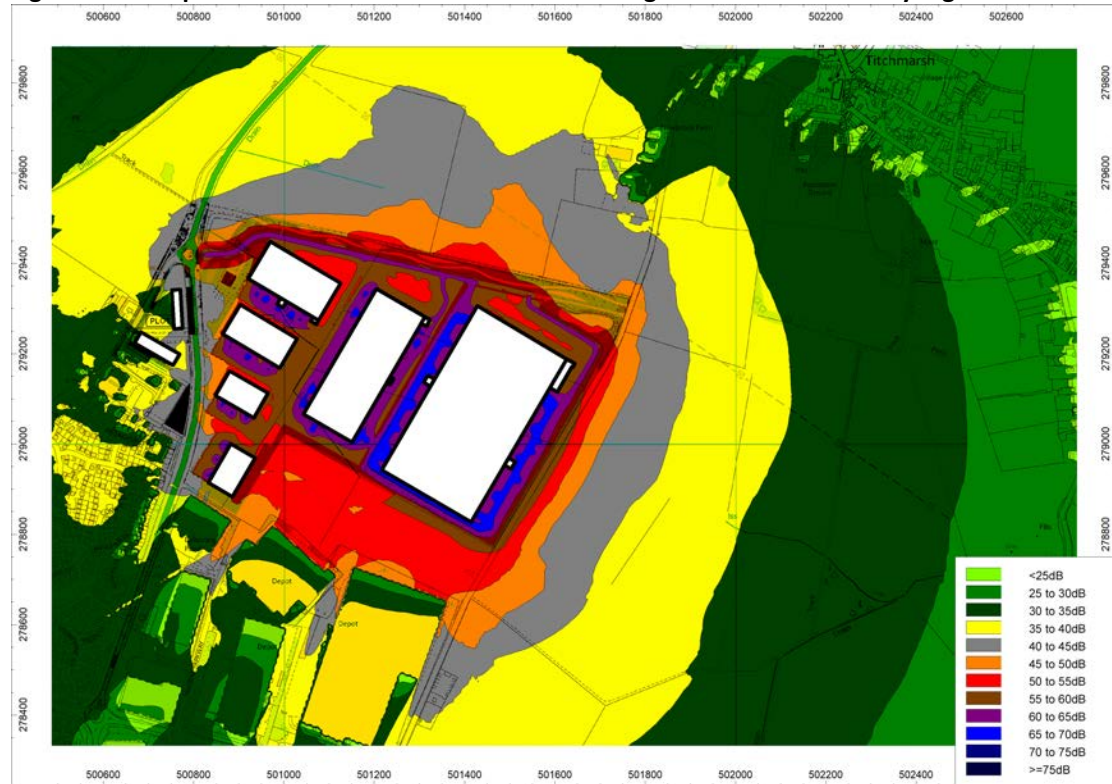
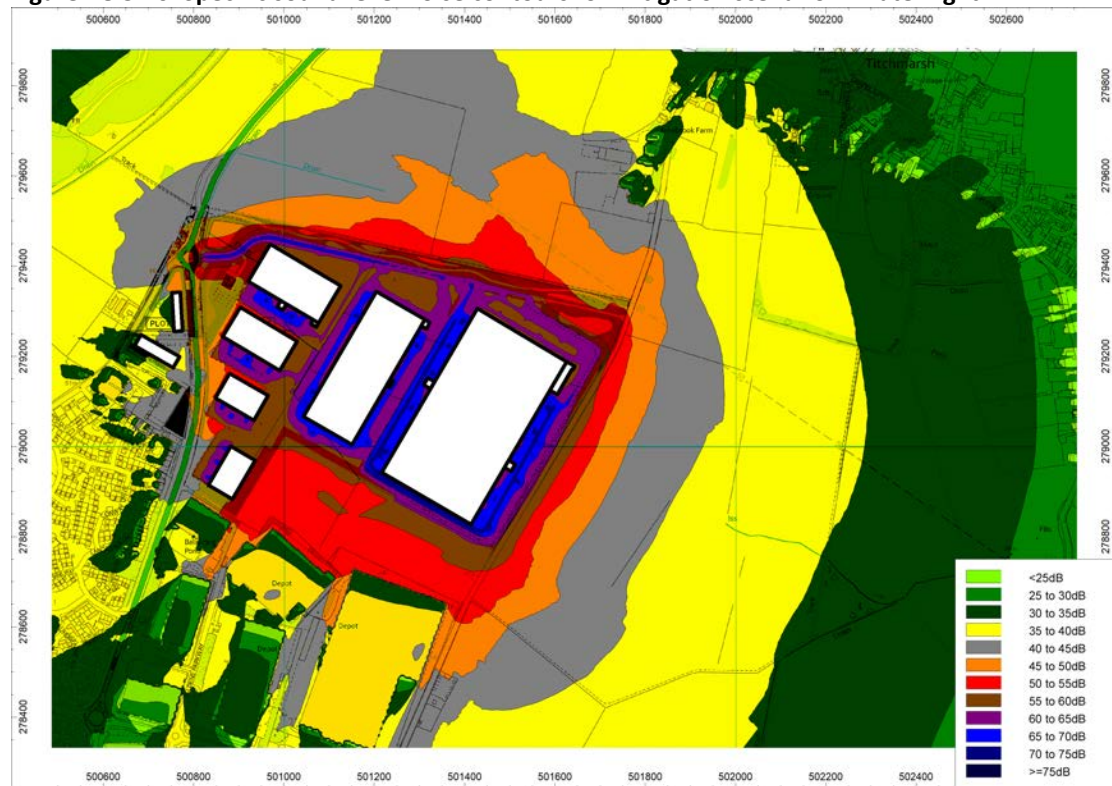


Figure A8.5.10: Specific sound level noise contours for mitigation scenario 2 – late-night



On-site Operational Noise - Plot 1 Operating in Isolation

The BS4142 assessment presented in Chapter 8 of the ES considers the year of full opening of the Proposed Scheme, 2028, to be consistent with the approach set out within **Chapter 2: Approach to EIA**. However, at NNC's request, an additional scenario has been tested, where Plot 1 comes into operation before the other plots at the site have been developed.

The BS4142 assessment outcomes with just Plot 1 built and operational are shown in Table A8.5.5.

Table A8.5.5: BS4142 assessment; Plot 1 only, free-field dB

Receptor	Period	Background Sound Level, L _{A90}	Predicted Rating Level, L _{Ar,Tr}	Difference
43 Sissinghurst Drive	Day	48	45	-3
	Evening	45	45	0
	Early-night	41	42	+1
	Late-night	44	45	+1
46 Sissinghurst Drive	Day	48	45	-3
	Evening	45	44	-1
	Early-night	41	42	+1
	Late-night	44	44	0
Monmouth Close	Day	48	49	+1
	Evening	45	49	+4
	Early-night	41	46	+5
	Late-night	44	49	+5
Kenilworth Gardens	Day	48	48	0
	Evening	45	47	+2
	Early-night	41	44	+3
	Late-night	44	47	+3
Springfield Cottage	Day	44	42	-2
	Evening	41	41	0
	Early-night	36	39	+3
	Late-night	39	41	+2
72 Islington	Day	37	35	-2
	Evening	36	34	-2
	Early-night	32	32	0
	Late-night	36	34	-2
66 Islington	Day	37	36	-1
	Evening	36	36	0
	Early-night	32	34	+2
	Late-night	36	36	0
43 Islington	Day	37	36	-1
	Evening	36	35	-1
	Early-night	32	33	+1
	Late-night	36	36	0
The Old Rectory	Day	37	36	-1
	Evening	36	35	-1
	Early-night	32	33	+1
	Late-night	36	35	-1
19 Dryden's Close	Day	37	36	-1
	Evening	36	35	-1
	Early-night	32	33	+1
	Late-night	36	36	0
34 Dryden's Close	Day	37	37	0
	Evening	36	36	0

Receptor	Period	Background Sound Level, L_{A90}	Predicted Rating Level, $L_{A,r,Tr}$	Difference
	Early-night	32	34	+2
	Late-night	36	36	0
2 Park Farm Court	Day	37	34	-3
	Evening	36	34	-2
	Early-night	32	32	0
	Late-night	36	34	-2
The Old Forge	Day	37	33	-4
	Evening	36	32	-4
	Early-night	32	30	-2
	Late-night	36	33	-3
Castle Cottage	Day	37	32	-5
	Evening	36	31	-5
	Early-night	32	29	-3
	Late-night	36	32	-4
28 Polopit	Day	37	30	-7
	Evening	36	29	-7
	Early-night	32	28	-4
	Late-night	36	30	-6

It can be seen from Table A8.5.5 that at 2 Park Farm Court, The Old Forge, Castle Cottage and 28 Polopit, rating levels are predicted to be equal to or below the background sound levels. This is considered to be a negligible magnitude of change.

At receptors to the south-west on Sissinghurst Drive, Kenilworth Gardens and Springfield Cottage, rating levels are predicted to be between +1dB and +4dB above the background sound level during at least one assessment period. This is considered a small magnitude of change. A small magnitude of change is also predicted at receptors to the north and east of the Site at 72, 66 and 43 Islington, The Old Rectory, and 19 and 34 Dryden's Close during at least one assessment period.

At Monmouth Close, rating levels are predicted to be +5dB above the background sound level during the early and late night-time, which is considered to be a medium magnitude of change.

However, as previously noted, BS4142: 2014+A1: 2019 requires relevant context to be taken into account before reaching a final view on the impact outcomes, and in this instance, it is considered that the operational assumptions push the outcomes towards a worst-case.

A specific occupier has been identified for Plot 1, and their vehicle movements are significantly lower than those used in the assessment, which, for the purposes of the EIA, have been based on generic traffic flow data for the use classes, taking account of the outline development parameters.

In particular, the calculations for Plot 1 assume peak hourly flow of 38 no. HGV movements during the early-night period and 71 no. HGV movements during the late night, with the peak hourly number of shunter movements assumed to equal the HGV movements. The likely movements provided by the proposed specific occupier for Plot 1 suggest a much lower peak hourly HGV flow of five during the early night and eight during the late night, with a total of approximately 50 no. shunter movements over a 24 hour period.

If the actual proposed occupier vehicle movements were assumed at Plot 1, the rating levels are predicted to be equal to or below the background sound levels at all receptor locations, as shown in Table A8.5.6.

Table A8.5.6: BS4142 assessment; Plot 1 only – specific occupier vehicle movements, free-field dB

Receptor	Period	Background Sound Level, L_{A90}	Predicted Rating Level, $L_{A,r,Tr}$	Difference
43 Sissinghurst Drive	Day	48	39	-9
	Evening	45	38	-7
	Early-night	41	38	-3
	Late-night	44	38	-6
46 Sissinghurst Drive	Day	48	39	-9
	Evening	45	37	-8
	Early-night	41	37	-4
	Late-night	44	38	-6
Monmouth Close	Day	48	42	-6
	Evening	45	40	-5
	Early-night	41	41	0
	Late-night	44	41	-3
Kenilworth Gardens	Day	48	40	-8
	Evening	45	38	-7
	Early-night	41	39	-2
	Late-night	44	39	-5
Springfield Cottage	Day	44	36	-8
	Evening	41	35	-6
	Early-night	36	34	-2
	Late-night	39	35	-4
72 Islington	Day	37	30	-7
	Evening	36	29	-7
	Early-night	32	28	-4
	Late-night	36	30	-6
66 Islington	Day	37	32	-5
	Evening	36	31	-5
	Early-night	32	30	-2
	Late-night	36	32	-4
43 Islington	Day	37	32	-5
	Evening	36	31	-5
	Early-night	32	30	-2
	Late-night	36	31	-5
The Old Rectory	Day	37	32	-5
	Evening	36	31	-5
	Early-night	32	29	-3
	Late-night	36	31	-5
19 Dryden's Close	Day	37	32	-5
	Evening	36	31	-5
	Early-night	32	30	-2
	Late-night	36	31	-5
34 Dryden's Close	Day	37	32	-5
	Evening	36	31	-5
	Early-night	32	30	-2
	Late-night	36	31	-5
2 Park Farm Court	Day	37	30	-7
	Evening	36	29	-7
	Early-night	32	28	-4
	Late-night	36	29	-7
The Old Forge	Day	37	29	-8
	Evening	36	28	-8
	Early-night	32	27	-5

Receptor	Period	Background Sound Level, L_{A90}	Predicted Rating Level, $L_{Ar,Tr}$	Difference
	Late-night	36	28	-8
Castle Cottage	Day	37	27	-10
	Evening	36	27	-9
	Early-night	32	26	-6
	Late-night	36	27	-9
28 Polopit	Day	37	26	-11
	Evening	36	25	-11
	Early-night	32	25	-7
	Late-night	36	26	-10

Noise contours plots showing the specific sound levels for Plot 1 operating in isolation are shown in Figures A8.5.11 to A8.5.14 for the ES vehicle movement assumptions and in Figures A8.5.15 to A8.5.18 for the specific occupier vehicle movement assumptions.

On this basis, and given the inherent worst-case nature of other assumptions such as level access doors being open throughout it can be concluded that Plot 1 operating on its own will not lead to adverse effects.

Figure A8.5.11: Specific sound level noise contours for Plot 1 in isolation – ES vehicle movements - daytime

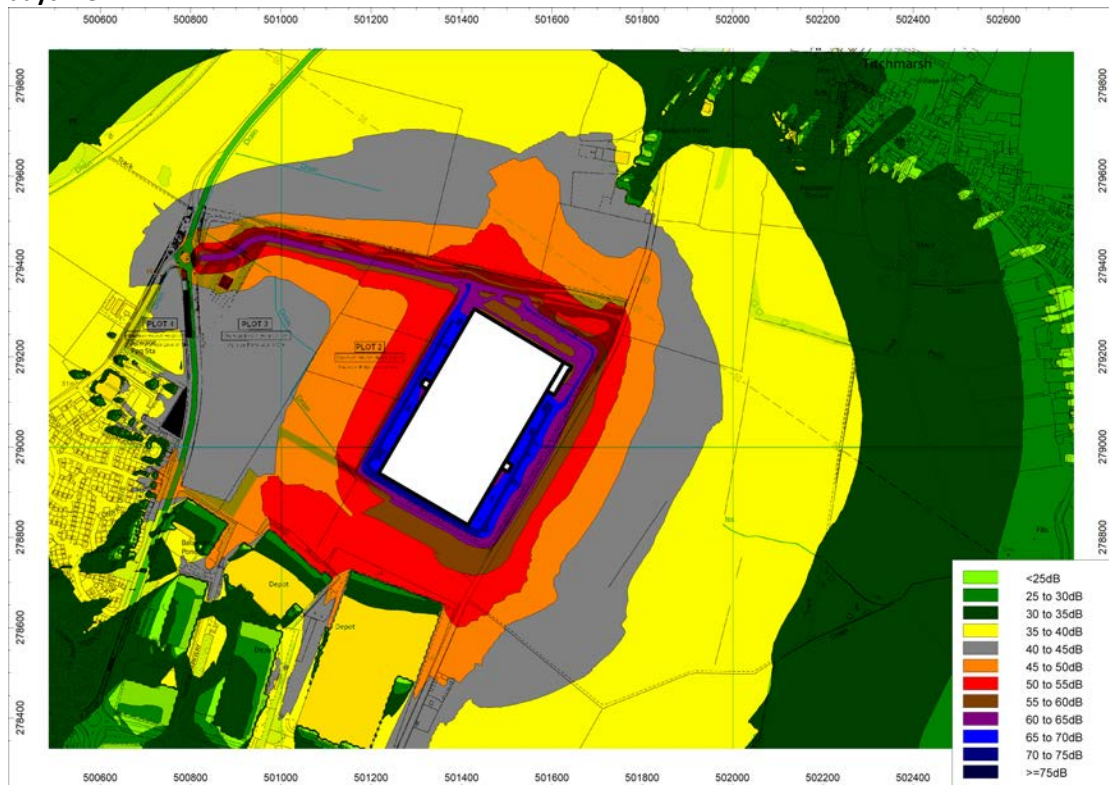


Figure A8.5.12: Specific sound level noise contours for Plot 1 in isolation – ES vehicle movements – evening

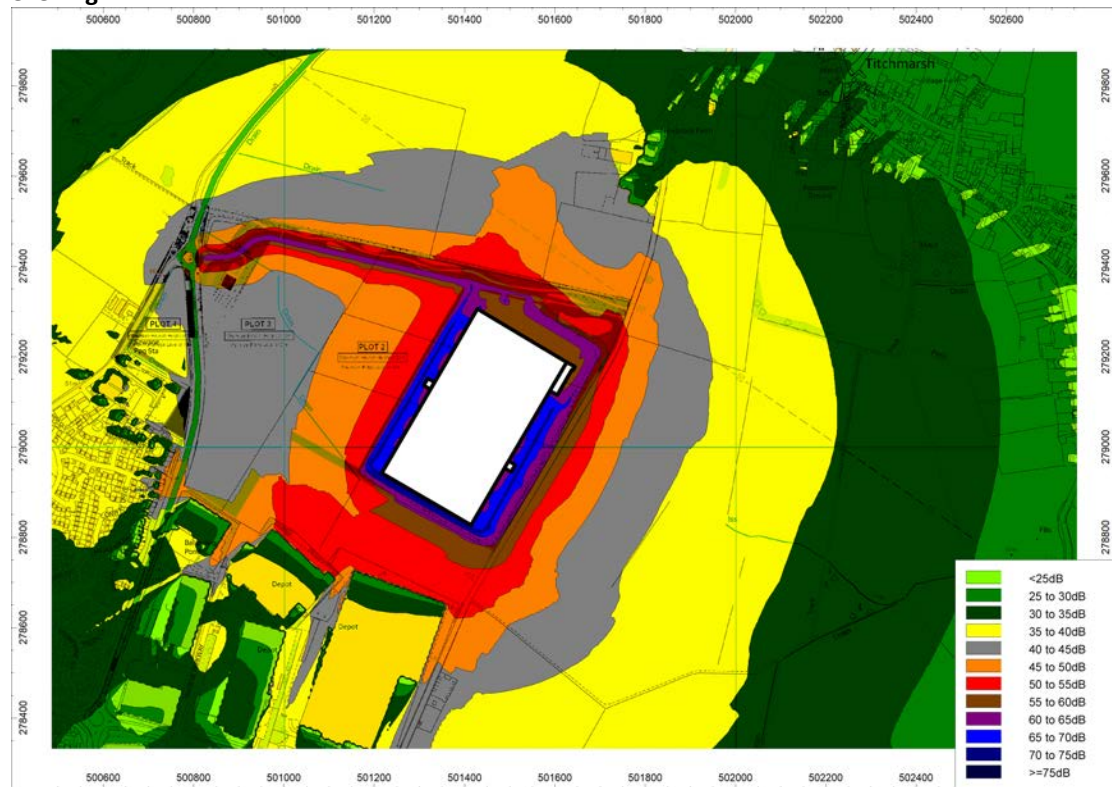


Figure A8.5.13: Specific sound level noise contours for Plot 1 in isolation – ES vehicle movements – early-night

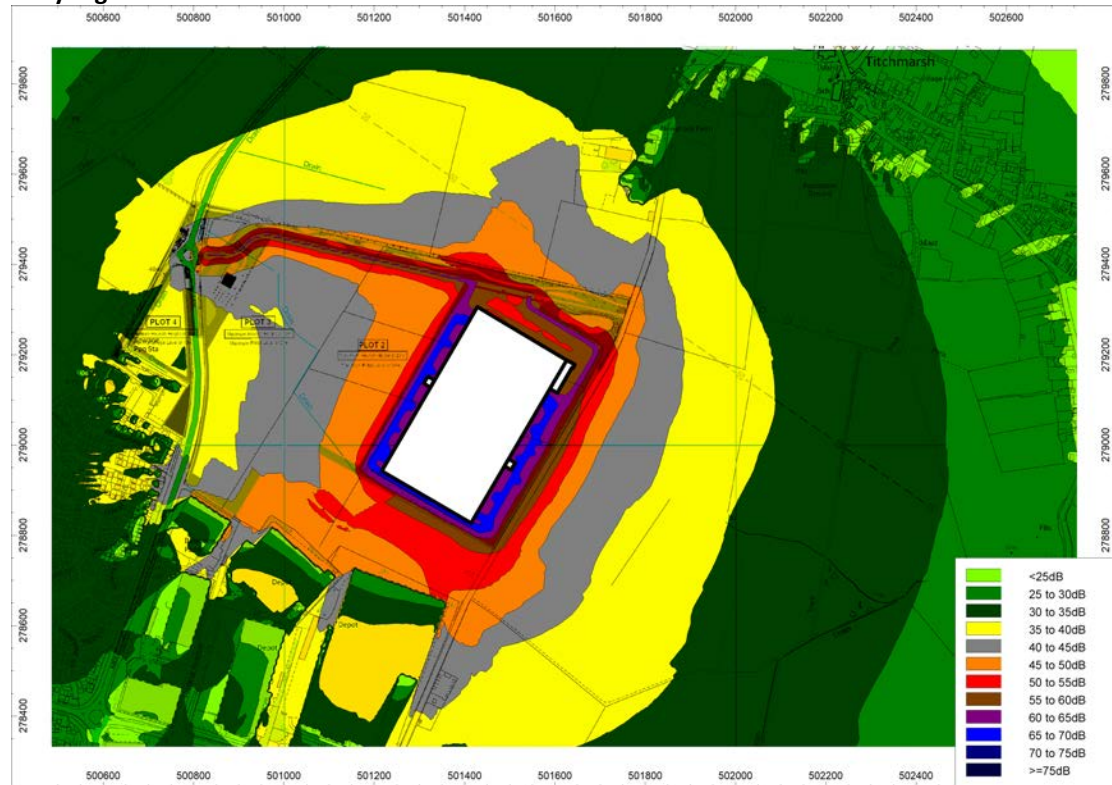


Figure A8.5.14: Specific sound level noise contours for Plot 1 in isolation – ES vehicle movements – late-night

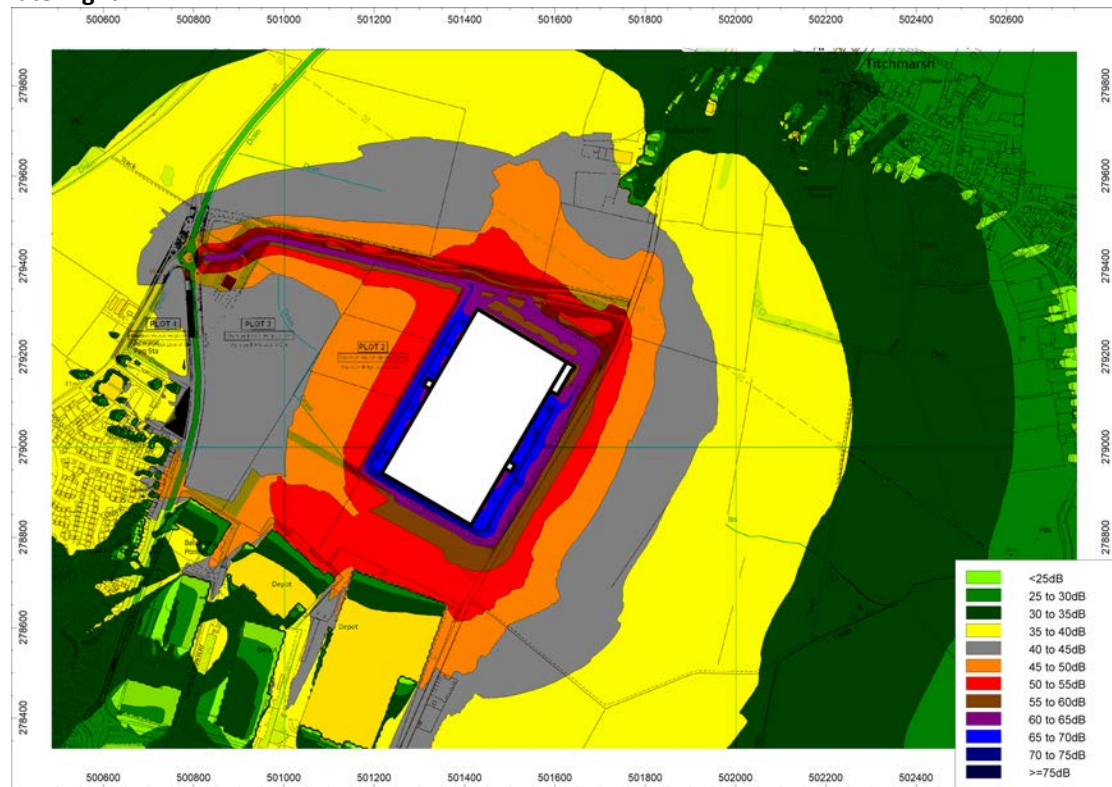


Figure A8.5.15: Specific sound level noise contours for Plot 1 in isolation – specific occupier vehicle movements - daytime

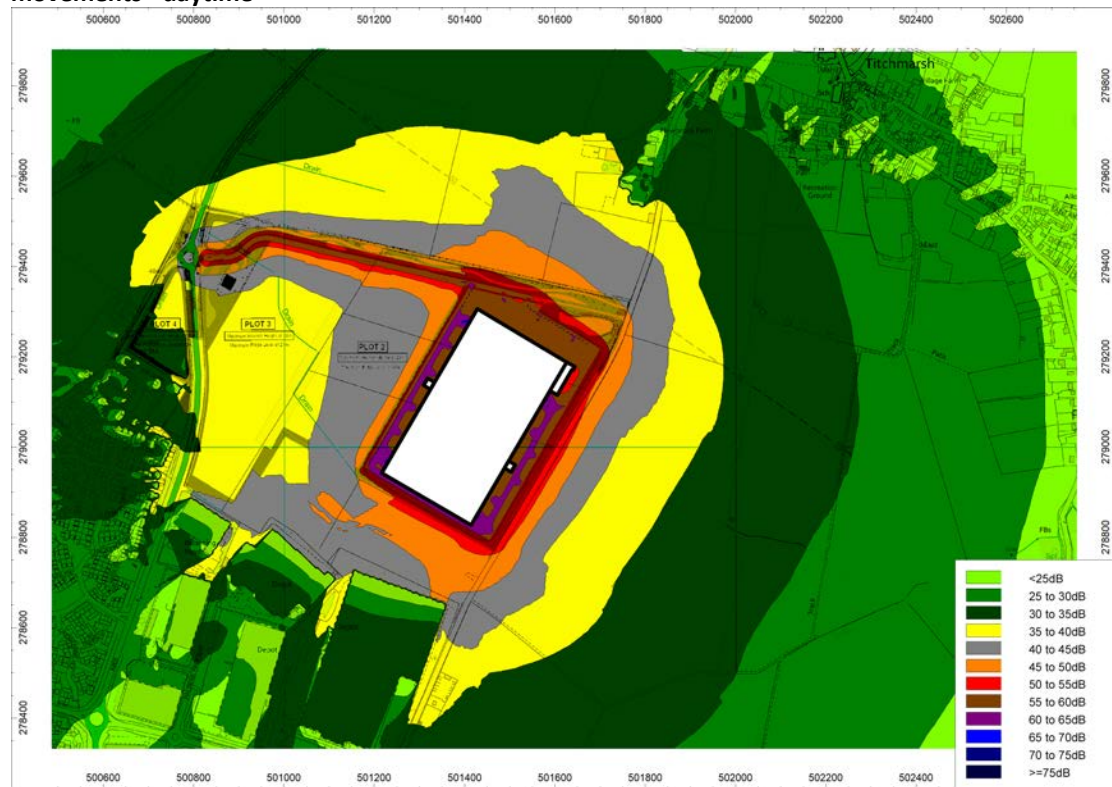


Figure A8.5.16: Specific sound level noise contours for Plot 1 in isolation – specific occupier vehicle movements - evening

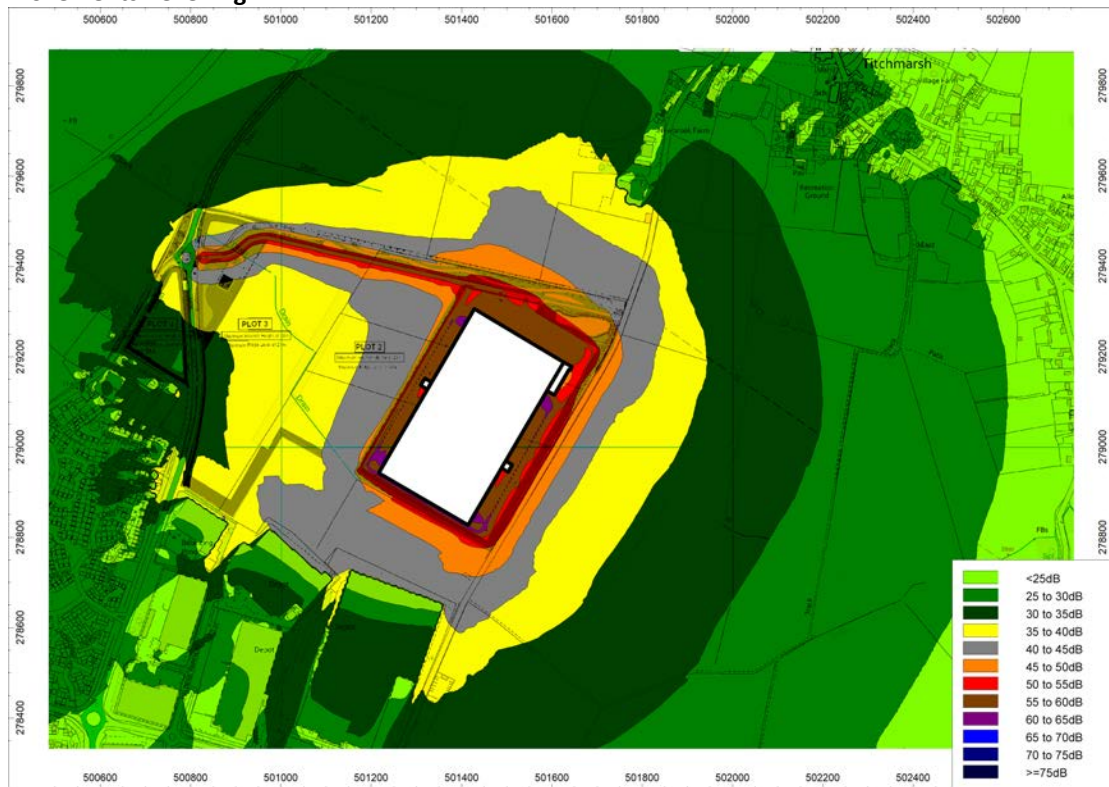


Figure A8.5.17: Specific sound level noise contours for Plot 1 in isolation – specific occupier vehicle movements – early-night

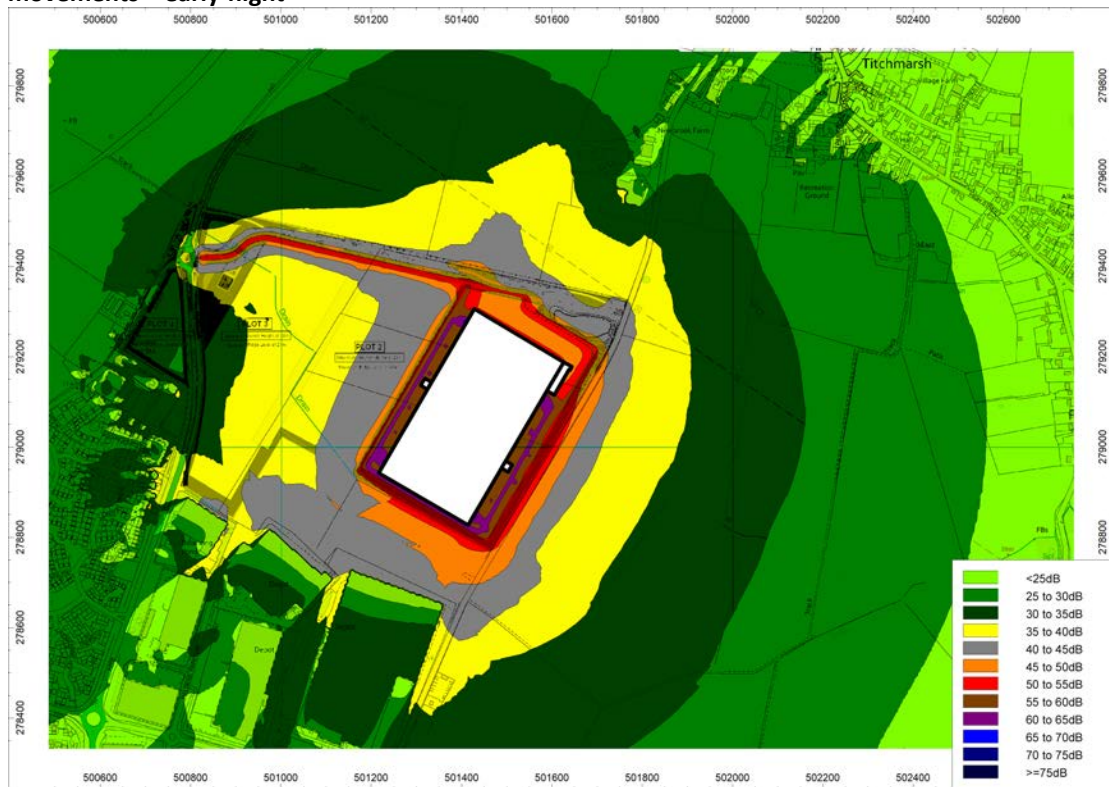
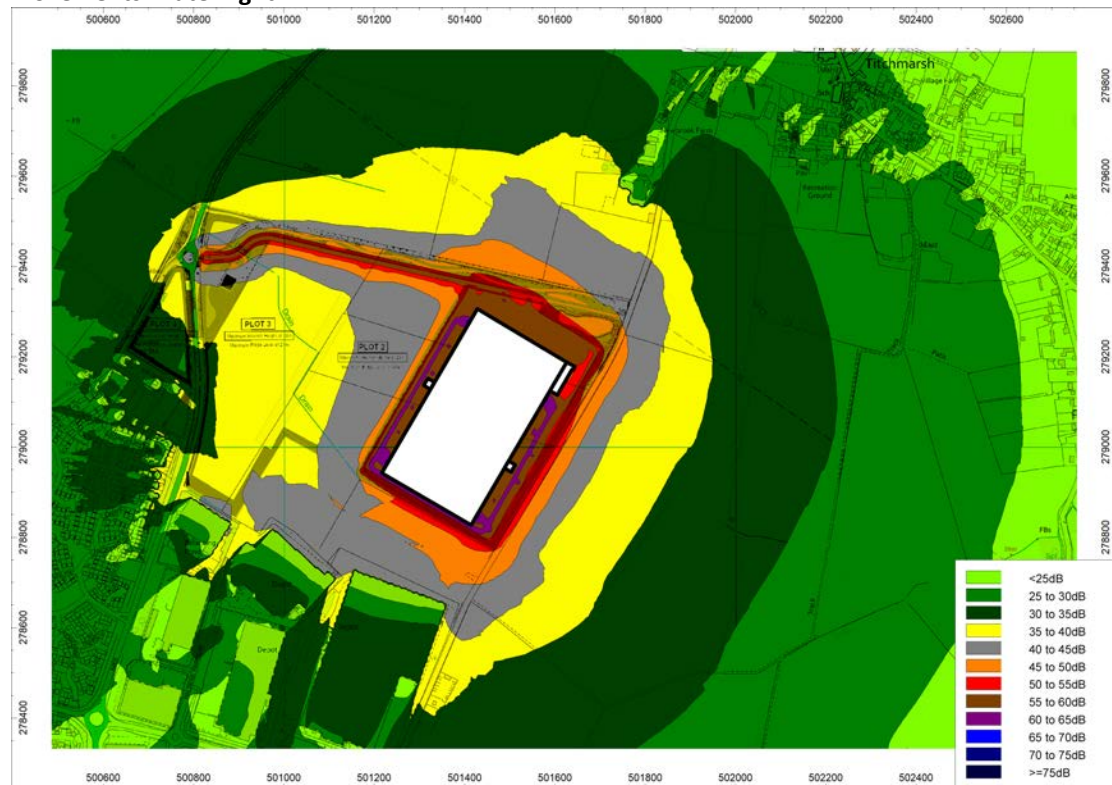


Figure A8.5.18: Specific sound level noise contours for Plot 1 in isolation – specific occupier vehicle movements – late-night



Off-site Road Traffic

Traffic noise predictions have been carried out at notional receptor locations 10 metres from the edge of each carriageway and 1.5 metres above ground level. Notional receptors have been used because it is the changes in traffic noise levels that are of interest, not the absolute noise levels at any given receptor. The predicted change in noise level will occur at noise-sensitive receptors along each road considered.

For the night-time period, the changes in road traffic noise have been calculated on the same basis as the daytime calculations, but using the one hour calculation method instead of the 18 hour calculation method. The eight hour night-time traffic flows are assumed to be spread evenly across eight, one hour periods, and the calculated one hour values are aggregated to determine the eight hour value.

The vehicle speeds have been modelled in accordance with the guidance in CRTN, according to the class of road. As required in CRTN, low flow corrections have been applied to all routes with a daytime flow of less than 4,000 vehicles, or night-time flow of less than 200 vehicles per hour.

Traffic Data

The main assessment presented in the noise and vibration chapter considers the year of full opening of the Proposed Scheme, 2028, as this is the opening year of the Proposed Scheme being considered by the Environmental Statement.

Additional assessments have been undertaken for the year of Phase 1 opening (2025) and the year with the highest traffic flows within 15 years of the full opening (2043).

The traffic data for these scenarios are set out below.

For the purposes of the off-site road traffic noise assessment, the baseline year is represented by vehicle flows provided for the year 2019.

Full Opening Year (2028)

Table A8.5.7: Daytime traffic flows for full opening year

Road	Traffic Flow ⁽¹⁾		
	Baseline (2019)	Full opening year (2028) without development	Full opening year (2028) with development
Islington	920 (3.4)	989 (3.1)	989 (3.1)
Huntingdon Road West of Site	2,455 (27.2)	2,596 (25.8)	2,596 (25.8)
Haldens Parkway	1,437 (27.2)	1,520 (25.8)	1,520 (25.8)
Huntingdon Road East of A605	4,018 (27.2)	4,249 (25.8)	4,249 (25.8)
A605 North of Huntingdon Road	16,554 (11.3)	17,700 (10.6)	21,433 (14.9)
Huntingdon Road West of A605	3,678 (1.8)	3,958 (1.7)	3,958 (1.7)
A605 North of A14	23,811 (15.8)	25,381 (14.9)	29,114 (17.5)
A14 East of J13 (E/B)	23,397 (27.4)	24,738 (26)	25,026 (26.5)
A14 East of J13 (W/B)	22,979 (24.3)	24,349 (23)	24,629 (23.5)
Oundle Road	4,244 (1.1)	4,569 (1)	5,656 (0.8)
A14 West of J13 (E/B)	20,824 (27.4)	22,018 (26)	22,945 (26.6)
A14 West of J13 (W/B)	21,525 (24.3)	22,810 (23)	23,783 (23.6)
A605 North of Oundle Road	19,469 (9.2)	20,848 (8.6)	21,397 (9.1)
Kettering Road East of A6116	5,930 (1.3)	6,385 (1.2)	6,385 (1.2)
A6116 North of Kettering Road	9,279 (11.3)	9,921 (10.6)	10,565 (10.0)
Kettering Road West of A6116	-(²)	-(²)	-(²)
A6116 North of A14	-(²)	-(²)	-(²)
A14 West of J12 (E/B)	21,136 (21.5)	22,441 (20.3)	23,367 (21.1)
A14 West of J12 (W/B)	21,199 (21.7)	22,504 (20.5)	23,478 (21.2)
A45 South of A14	24,051 (7.6)	25,782 (7.1)	27,048 (7.6)

Notes:

⁽¹⁾ Traffic flow in terms of vehicle movements between 06:00 and 24:00 hours, with percentage of heavy goods vehicles in brackets.

⁽²⁾ No data available.

Table A8.5.8: Night-time traffic flows for full opening year

Road	Traffic Flow ⁽¹⁾		
	Baseline (2019)	Full opening year (2028) without development	Full opening year (2028) with development
Islington	62 (9.6)	66 (9)	66 (9.0)
Huntingdon Road West of Site	582 (31.9)	613 (30.3)	613 (30.3)
Haldens Parkway	341 (31.9)	359 (30.3)	359 (30.3)
Huntingdon Road East of A605	952 (31.9)	1,003 (30.3)	1,003 (30.3)
A605 North of Huntingdon Road	2,474 (19.3)	2,631 (18.2)	3,607 (24.4)
Huntingdon Road West of A605	216 (3.1)	232 (2.9)	232 (2.9)
A605 North of A14	3,135 (29.3)	3,310 (27.9)	4,287 (30.9)
A14 East of J13 (E/B)	4,204 (45.3)	4,389 (43.5)	4,464 (44.1)
A14 East of J13 (W/B)	2,965 (46)	3,095 (44.2)	3,179 (44.8)
Oundle Road	190 (1.2)	204 (1.1)	463 (0.5)
A14 West of J13 (E/B)	3,739 (45.3)	3,904 (43.6)	4,182 (43.3)
A14 West of J13 (W/B)	2,787 (45.9)	2,909 (44.1)	3,131 (44.6)
A605 North of Oundle Road	2,455 (22.7)	2,604 (21.5)	2,745 (22.0)
Kettering Road East of A6116	397 (2.1)	427 (1.9)	427 (1.9)
A6116 North of Kettering Road	1,137 (16.9)	1,211 (16)	1,365 (14.2)
Kettering Road West of A6116	_(2)	_(2)	_(2)
A6116 North of A14	_(2)	_(2)	_(2)
A14 West of J12 (E/B)	3,521 (41.7)	3,685 (40)	3,963 (40.0)
A14 West of J12 (W/B)	2,660 (43.9)	2,780 (42.2)	3,003 (42.8)
A45 South of A14	3,019 (14.1)	3,222 (13.2)	3,538 (13.9)

Notes:

⁽¹⁾ Traffic flow in terms of vehicle movements between 23:00 and 07:00 hours, with percentage of heavy goods vehicles in brackets.

⁽²⁾ No data available.

Additional Assessment Scenarios

Phase 1 Opening Year (2025)

Table A8.5.9: Daytime traffic flows for phase 1 opening year

Road	Traffic Flow ⁽¹⁾		
	Baseline (2019)	Phase 1 Opening year (2025) without development	Phase 1 Opening year (2025) with development
Islington	920 (3.4)	969 (3.2)	969 (3.2)
Huntingdon Road West of Site	2,455 (27.2)	2,556 (26.2)	2,556 (26.2)
Haldens Parkway	1,437 (27.2)	1,496 (26.2)	1,496 (26.2)
Huntingdon Road East of A605	4,018 (27.2)	4,183 (26.2)	4,183 (26.2)
A605 North of Huntingdon Road	16,554 (11.3)	17,371 (10.8)	19,502 (14.3)
Huntingdon Road West of A605	3,678 (1.8)	3,877 (1.8)	3,877 (1.8)
A605 North of A14	23,811 (15.8)	24,931 (15.2)	27,062 (17.3)
A14 East of J13 (E/B)	23,397 (27.4)	24,357 (26.4)	24,540 (26.8)
A14 East of J13 (W/B)	22,979 (24.3)	23,959 (23.4)	24,131 (23.7)
Oundle Road	4,244 (1.1)	4,475 (1.1)	5,022 (1)
A14 West of J13 (E/B)	20,824 (27.4)	21,679 (26.4)	22,199 (26.9)
A14 West of J13 (W/B)	21,525 (24.3)	22,444 (23.3)	23,020 (23.9)
A605 North of Oundle Road	19,469 (9.2)	20,451 (8.8)	20,755 (9.1)
Kettering Road East of A6116	5,930 (1.3)	6,253 (1.3)	6,253 (1.3)
A6116 North of Kettering Road	9,279 (11.3)	9,736 (10.8)	10,060 (10.5)
Kettering Road West of A6116	-(²)	-(²)	-(²)
A6116 North of A14	-(²)	-(²)	-(²)
A14 West of J12 (E/B)	21,136 (21.5)	22,068 (20.7)	22,588 (21.3)
A14 West of J12 (W/B)	21,199 (21.7)	22,131 (20.9)	22,708 (21.5)
A45 South of A14	24,051 (7.6)	25,283 (7.3)	25,963 (7.7)

Notes:

⁽¹⁾ Traffic flow in terms of vehicle movements between 06:00 and 24:00 hours, with percentage of heavy goods vehicles in brackets.

⁽²⁾ No data available.

Table A8.5.10: Night-time traffic flows for phase 1 opening year

Road	Traffic Flow ⁽¹⁾		
	Baseline (2019)	Phase 1 Opening year (2025) without development	Phase 1 Opening year (2025) with development
Islington	62 (9.6)	65 (9.2)	65 (9.2)
Huntingdon Road West of Site	582 (31.9)	604 (30.8)	604 (30.8)
Haldens Parkway	341 (31.9)	354 (30.8)	354 (30.8)
Huntingdon Road East of A605	952 (31.9)	989 (30.8)	989 (30.8)
A605 North of Huntingdon Road	2,474 (19.3)	2,586 (18.5)	3,128 (23.6)
Huntingdon Road West of A605	216 (3.1)	227 (3)	227 (3)
A605 North of A14	3,135 (29.3)	3,260 (28.3)	3,803 (31.1)
A14 East of J13 (E/B)	4,204 (45.3)	4,337 (44.1)	4,383 (44.4)
A14 East of J13 (W/B)	2,965 (46)	3,059 (44.8)	3,108 (45.2)
Oundle Road	190 (1.2)	200 (1.1)	327 (0.7)
A14 West of J13 (E/B)	3,739 (45.3)	3,858 (44.1)	4,008 (44.3)
A14 West of J13 (W/B)	2,787 (45.9)	2,875 (44.7)	3,005 (45.1)
A605 North of Oundle Road	2,455 (22.7)	2,562 (21.9)	2,638 (22.3)
Kettering Road East of A6116	397 (2.1)	418 (2)	418 (2)
A6116 North of Kettering Road	1,137 (16.9)	1,190 (16.3)	1,265 (15.3)
Kettering Road West of A6116	_(2)	_(2)	_(2)
A6116 North of A14	_(2)	_(2)	_(2)
A14 West of J12 (E/B)	3,521 (41.7)	3,639 (40.5)	3,789 (40.8)
A14 West of J12 (W/B)	2,660 (43.9)	2,746 (42.7)	2,877 (43.3)
A45 South of A14	3,019 (14.1)	3,163 (13.5)	3,329 (14.1)

Notes:

⁽¹⁾ Traffic flow in terms of vehicle movements between 23:00 and 07:00 hours, with percentage of heavy goods vehicles in brackets.

⁽²⁾ No data available.

Future Year (2043)

Table A8.5.11: Daytime traffic flows for full opening future year

Road	Traffic Flow ⁽¹⁾		
	Baseline (2019)	Full opening future year (2043) without development	Full opening future year (2043) with development
Islington	920 (3.4)	1,087 (2.9)	1,087 (2.9)
Huntingdon Road West of Site	2,455 (27.2)	2,799 (24.2)	2,799 (24.2)
Haldens Parkway	1,437 (27.2)	1,638 (24.2)	1,638 (24.2)
Huntingdon Road East of A605	4,018 (27.2)	4,580 (24.2)	4,580 (24.2)
A605 North of Huntingdon Road	16,554 (11.3)	19,333 (9.8)	23,066 (13.9)
Huntingdon Road West of A605	3,678 (1.8)	4,357 (1.6)	4,357 (1.6)
A605 North of A14	23,811 (15.8)	27,620 (13.8)	31,353 (16.4)
A14 East of J13 (E/B)	23,397 (27.4)	26,660 (24.3)	26,948 (24.8)
A14 East of J13 (W/B)	22,979 (24.3)	26,311 (21.5)	26,590 (21.9)
Oundle Road	4,244 (1.1)	5,032 (1)	6,118 (0.8)
A14 West of J13 (E/B)	20,824 (27.4)	23,730 (24.3)	24,656 (24.9)
A14 West of J13 (W/B)	21,525 (24.3)	24,648 (21.4)	25,622 (22.0)
A605 North of Oundle Road	19,469 (9.2)	22,811 (7.9)	23,360 (8.4)
Kettering Road East of A6116	5,930 (1.3)	7,030 (1.1)	7,030 (1.1)
A6116 North of Kettering Road	9,279 (11.3)	10,836 (9.8)	11,480 (9.3)
Kettering Road West of A6116	_(2)	_(2)	_(2)
A6116 North of A14	_(2)	_(2)	_(2)
A14 West of J12 (E/B)	21,136 (21.5)	24,305 (18.9)	25,231 (19.7)
A14 West of J12 (W/B)	21,199 (21.7)	24,370 (19.1)	25,343 (19.8)
A45 South of A14	24,051 (7.6)	28,245 (6.6)	29,511 (7.0)

Notes:

⁽¹⁾ Traffic flow in terms of vehicle movements between 06:00 and 24:00 hours, with percentage of heavy goods vehicles in brackets.

⁽²⁾ No data available.

Table A8.5.12: Night-time traffic flows for full opening future year

Road	Traffic Flow ⁽¹⁾		
	Baseline (2019)	Full opening future year (2043) without development	Full opening future year (2043) with development
Islington	62 (9.6)	73 (8.3)	73 (8.3)
Huntingdon Road West of Site	582 (31.9)	658 (28.5)	658 (28.5)
Haldens Parkway	341 (31.9)	385 (28.5)	385 (28.5)
Huntingdon Road East of A605	952 (31.9)	1,077 (28.5)	1,077 (28.5)
A605 North of Huntingdon Road	2,474 (19.3)	2,854 (16.9)	3,831 (23.1)
Huntingdon Road West of A605	216 (3.1)	255 (2.7)	255 (2.7)
A605 North of A14	3,135 (29.3)	3,562 (26.1)	4,538 (29.4)
A14 East of J13 (E/B)	4,204 (45.3)	4,657 (41.4)	4,732 (41.9)
A14 East of J13 (W/B)	2,965 (46)	3,282 (42.1)	3,366 (42.7)
Oundle Road	190 (1.2)	225 (1)	484 (0.5)
A14 West of J13 (E/B)	3,739 (45.3)	4,142 (41.4)	4,421 (41.3)
A14 West of J13 (W/B)	2,787 (45.9)	3,085 (41.9)	3,308 (42.5)
A605 North of Oundle Road	2,455 (22.7)	2,818 (20)	2,958 (20.6)
Kettering Road East of A6116	397 (2.1)	470 (1.8)	470 (1.8)
A6116 North of Kettering Road	1,137 (16.9)	1,317 (14.8)	1,470 (13.3)
Kettering Road West of A6116	_(2)	_(2)	_(2)
A6116 North of A14	_(2)	_(2)	_(2)
A14 West of J12 (E/B)	3,521 (41.7)	3,923 (37.9)	4,201 (38.0)
A14 West of J12 (W/B)	2,660 (43.9)	2,954 (40)	3,176 (40.7)
A45 South of A14	3,019 (14.1)	3,511 (12.2)	3,827 (13.0)

Notes:

⁽¹⁾ Traffic flow in terms of vehicle movements between 23:00 and 07:00 hours, with percentage of heavy goods vehicles in brackets.

⁽²⁾ No data available.

Change In Off-site Road Traffic Noise Calculations

The changes in off-site road traffic noise levels for the year of full opening (2028) are presented in the chapter itself.

The changes in off-site road traffic noise levels for the year of Phase 1 opening (2025) and the year with the highest flows within 15 years of the opening year (2043) are set out below.

Phase 1 Opening Year (2025)

Table A8.5.13: Calculated changes in daytime road traffic noise, 2025 free-field $L_{A10,18hrs}$

Road	Scenario		
	Baseline (2019)	2025 without development ⁽¹⁾	2025 with development ⁽²⁾
Islington	_(3)	_(3)	_(3)
Huntingdon Road West of Site	64.6	64.7 (+0.1)	64.7 (+0.1)
Haldens Parkway	61.4	61.6 (+0.2)	61.6 (+0.2)
Huntingdon Road East of A605	67.0	67.1 (+0.1)	67.1 (+0.1)
A605 North of Huntingdon Road	70.8	70.9 (+0.1)	72.1 (+1.3)
Huntingdon Road West of A605	61.7	61.9 (+0.2)	61.9 (+0.2)
A605 North of A14	73.2	73.3 (+0.1)	74.0 (+0.8)
A14 East of J13 (E/B)	78.9	78.9 (0)	79.0 (+0.1)
A14 East of J13 (W/B)	78.5	78.6 (+0.1)	78.6 (+0.1)
Oundle Road	62.0	62.3 (+0.3)	62.7 (+0.7)
A14 West of J13 (E/B)	78.4	78.4 (0)	78.6 (+0.2)
A14 West of J13 (W/B)	78.2	78.3 (+0.1)	78.4 (+0.2)
A605 North of Oundle Road	74.6	74.7 (+0.1)	74.9 (+0.3)
Kettering Road East of A6116	63.6	63.8 (+0.2)	63.8 (+0.2)
A6116 North of Kettering Road	71.7	71.8 (+0.1)	71.9 (+0.2)
Kettering Road West of A6116	_(4)	_(4)	_(4)
A6116 North of A14	_(4)	_(4)	_(4)
A14 West of J12 (E/B)	77.8	77.9 (+0.1)	78.1 (+0.3)
A14 West of J12 (W/B)	77.9	78.0 (+0.1)	78.1 (+0.2)
A45 South of A14	75.2	75.4 (+0.2)	75.6 (+0.4)

Note:

⁽¹⁾ Figures in brackets are the changes from the baseline year (2019) to the Phase 1 opening year (2025) without development scenario. The changes are due to natural traffic growth.

⁽²⁾ Figures in brackets are the changes from the baseline year (2019) to the Phase 1 opening year (2025) with development scenario. The changes are due to the combination of operational traffic and natural traffic growth.

⁽³⁾ Below range of validity in CRTN.

⁽⁴⁾ No data available.

Table A8.5.14: Calculated changes in night-time road traffic noise, 2025 free-field L_{A10,8hrs}

Road	Scenario		
	Baseline (2019)	2025 without development ⁽¹⁾	2025 with development ⁽²⁾
Islington	_(3)	_(3)	_(3)
Huntingdon Road West of Site	62.2	62.3 (+0.1)	62.3 (+0.1)
Haldens Parkway	_(3)	_(3)	_(3)
Huntingdon Road East of A605	65.1	65.2 (+0.1)	65.2 (+0.1)
A605 North of Huntingdon Road	68.0	68.0 (0)	69.6 (+1.6)
Huntingdon Road West of A605	_(3)	_(3)	_(3)
A605 North of A14	70.3	70.3 (0)	71.3 (+1.0)
A14 East of J13 (E/B)	76.9	76.9 (0)	77.0 (+0.1)
A14 East of J13 (W/B)	75.4	75.5 (+0.1)	75.6 (+0.2)
Oundle Road	_(3)	_(3)	_(3)
A14 West of J13 (E/B)	76.4	76.4 (0)	76.6 (+0.2)
A14 West of J13 (W/B)	75.1	75.2 (+0.1)	75.4 (+0.3)
A605 North of Oundle Road	71.5	71.6 (+0.1)	71.8 (+0.3)
Kettering Road East of A6116	56.2	54.4 (-1.8)	54.4 (-1.8)
A6116 North of Kettering Road	67.3	67.5 (+0.2)	67.7 (+0.4)
Kettering Road West of A6116	_(4)	_(4)	_(4)
A6116 North of A14	_(4)	_(4)	_(4)
A14 West of J12 (E/B)	75.9	75.9 (0)	76.1 (+0.2)
A14 West of J12 (W/B)	74.8	74.8 (0)	75.1 (+0.3)
A45 South of A14	71.3	71.4 (+0.1)	71.8 (+0.5)

Note:

⁽¹⁾ Figures in brackets are the changes from the baseline year (2019) to the Phase 1 opening year (2025) without development scenario. The changes are due to natural traffic growth.

⁽²⁾ Figures in brackets are the changes from the baseline year (2019) to the Phase 1 opening year (2025) with development scenario. The changes are due to the combination of operational traffic and natural traffic growth.

⁽³⁾ Below range of validity in CRTN.

⁽⁴⁾ No data available.

Future Year (2043)

Table A8.5.15: Calculated changes in daytime road traffic noise, 2043 free-field $L_{A10,18hrs}$

Road	Scenario		
	Baseline (2019)	2043 without development ⁽¹⁾	2043 with development ⁽²⁾
Islington	-(³)	59.0	59.0
Huntingdon Road West of Site	64.6	65.0 (+0.4)	65.0 (+0.4)
Haldens Parkway	61.4	61.9 (+0.5)	61.9 (+0.5)
Huntingdon Road East of A605	67.0	67.2 (+0.2)	67.2 (+0.2)
A605 North of Huntingdon Road	70.8	71.1 (+0.3)	72.7 (+1.9)
Huntingdon Road West of A605	61.7	62.3 (+0.6)	62.3 (+0.6)
A605 North of A14	73.2	73.5 (+0.3)	74.5 (+1.3)
A14 East of J13 (E/B)	78.9	79.1 (+0.2)	79.2 (+0.3)
A14 East of J13 (W/B)	78.5	78.8 (+0.3)	78.9 (+0.4)
Oundle Road	62.0	62.7 (+0.7)	63.5 (+1.5)
A14 West of J13 (E/B)	78.4	78.6 (+0.2)	78.8 (+0.4)
A14 West of J13 (W/B)	78.2	78.5 (+0.3)	78.7 (+0.5)
A605 North of Oundle Road	74.6	75.1 (+0.5)	75.2 (+0.6)
Kettering Road East of A6116	63.6	64.2 (+0.6)	64.2 (+0.6)
A6116 North of Kettering Road	71.7	72.1 (+0.4)	72.3 (+0.6)
Kettering Road West of A6116	-(⁴)	-(⁴)	-(⁴)
A6116 North of A14	-(⁴)	-(⁴)	-(⁴)
A14 West of J12 (E/B)	77.8	78.2 (+0.4)	78.4 (+0.6)
A14 West of J12 (W/B)	77.9	78.2 (+0.3)	78.4 (+0.5)
A45 South of A14	75.2	75.7 (+0.5)	76.0 (+0.8)

Note:

⁽¹⁾ Figures in brackets are the changes from the baseline year (2019) to the full opening future year (2043) without development scenario. The changes are due to natural traffic growth.

⁽²⁾ Figures in brackets are the changes from the baseline year (2019) to the full opening future year (2043) with development scenario. The changes are due to the combination of operational traffic and natural traffic growth.

⁽³⁾ Below range of validity in CRTN.

⁽⁴⁾ No data available.

Table A8.5.16: Calculated changes in night-time road traffic noise, 2043 free-field L_{A10,8hrs}

Road	Scenario		
	Baseline (2019)	2043 without development ⁽¹⁾	2043 with development ⁽²⁾
Islington	_(3)	_(3)	_(3)
Huntingdon Road West of Site	62.2	62.5 (+0.3)	62.5 (+0.3)
Haldens Parkway	_(3)	_(3)	_(3)
Huntingdon Road East of A605	65.1	65.4 (+0.3)	65.4 (+0.3)
A605 North of Huntingdon Road	68.0	68.2 (+0.2)	70.4 (+2.4)
Huntingdon Road West of A605	_(3)	_(3)	_(3)
A605 North of A14	70.3	70.5 (+0.2)	71.9 (+1.6)
A14 East of J13 (E/B)	76.9	77.1 (+0.2)	77.2 (+0.3)
A14 East of J13 (W/B)	75.4	75.6 (+0.2)	75.7 (+0.3)
Oundle Road	_(3)	_(3)	54.9
A14 West of J13 (E/B)	76.4	76.5 (+0.1)	76.8 (+0.4)
A14 West of J13 (W/B)	75.1	75.3 (+0.2)	75.7 (+0.6)
A605 North of Oundle Road	71.5	71.8 (+0.3)	72.1 (+0.6)
Kettering Road East of A6116	56.2	55.2 (-1.0)	55.2 (-1.0)
A6116 North of Kettering Road	67.3	67.8 (+0.5)	68.1 (+0.8)
Kettering Road West of A6116	_(4)	_(4)	_(4)
A6116 North of A14	_(4)	_(4)	_(4)
A14 West of J12 (E/B)	75.9	76.0 (+0.1)	76.4 (+0.5)
A14 West of J12 (W/B)	74.8	75.0 (+0.2)	75.3 (+0.5)
A45 South of A14	71.3	71.7 (+0.4)	72.2 (+0.9)

Note:

⁽¹⁾ Figures in brackets are the changes from the baseline year (2019) to the full opening future year (2043) without development scenario. The changes are due to natural traffic growth.

⁽²⁾ Figures in brackets are the changes from the baseline year (2019) to the full opening future year (2043) with development scenario. The changes are due to the combination of operational traffic and natural traffic growth.

⁽³⁾ Below range of validity in CRTN.

⁽⁴⁾ No data available.

ⁱ SI 2005 No. 1643 *Control of Noise at Work Regulations 2005*, HMSO