

High Speed Rail (Crewe – Manchester)

Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

Volume 5: Appendix AQ-001-0MA03

Air quality

Air quality report

MA03: Pickmere to Agden and Hulseheath

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Department for Transport

High Speed Two (HS2) Limited has been tasked by the Department for Transport (DfT) with managing the delivery of a new national high speed rail network. It is a non-departmental public body wholly owned by the DfT.

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1 Introduction

1.1 Structure of this appendix

- 1.1.1 This report is an appendix to the air quality assessment which forms part of Volume 5 of the Supplementary Environmental Statement 2 (SES2) and Additional Provision 2 Environmental Statement (AP2 ES) for the Pickmere to Agden and Hulseheath (MA03) community area.
- 1.1.2 This appendix provides details of changes to the air quality assessment since the High Speed Two (HS2) High Speed Rail (Crewe – Manchester) Environmental Statement (ES) published in 2022¹ (the main ES), and the Supplementary Environmental Statement 1 (SES1) and Additional Provision 1 Environmental Statement (AP1 ES) also published in 2022².
- 1.1.3 This report should be read in conjunction with the main ES Volume 5, Appendix: AQ-001-0MA03 and SES1 and AP1 ES Volume 5, Appendix: AQ-001-0MA03.
- 1.1.4 In order to differentiate between the original scheme and the subsequent changes, the following terms are used:
- ‘the original scheme’ – the Bill scheme submitted to Parliament in 2022, which was assessed in the main ES;
 - ‘the SES1 scheme’ – the original scheme with any changes described in SES1 that are within the existing powers of the Bill;
 - ‘the AP1 revised scheme’ – the original scheme as amended by SES1 changes and AP1 amendments;
 - ‘the SES2 scheme’ – the original scheme with any changes described in SES1 (submitted in July 2022) and the SES2; and
 - ‘the AP2 revised scheme’ – the original scheme as amended by SES1 and SES2 changes (as relevant) and AP2 amendments.
- 1.1.5 Maps referred to in this appendix are contained in the SES2 and AP2 ES Volume 5, Air Quality Map Book: Map Series AQ-01 – Monitoring Locations and Receptors.

¹ High Speed Two Ltd (2022), High Speed Rail (Crewe – Manchester), *Environmental Statement*. Available online at: <https://www.gov.uk/government/collections/hs2-phase2b-crewe-manchester-environmental-statement>.

² High Speed Two Ltd (2022), High Speed Rail (Crewe – Manchester), *Supplementary Environmental Statement 1 and Additional Provision 1 Environmental Statement*. Available online at: <https://www.gov.uk/government/collections/hs2-phase-2b-crewe-manchester-supplementary-environmental-statement-1-and-additional-provision-1-environmental-statement>.

- 1.1.6 In addition, the traffic data used for the air quality assessment is set out in Background Information and Data (BID)³ which accompanies the SES2 and AP2 ES (see BID AQ-002-0MA03 SES2 AP2 ES).
- 1.1.7 Where it has been possible to differentiate the air quality assessment between the SES2 changes and the AP2 amendments, this has been done and presented in this report. However, the assessment of road traffic emissions is a combined assessment of both SES2 changes and AP2 amendments in this area.

1.2 Scope, methodology, data sources, assumptions and limitations

- 1.2.1 The assessment scope, key assumptions and limitations are as set out in the main ES Environmental Impact Assessment Scope and Methodology Report (SMR)⁴ (see main ES Volume 5: Appendix CT-001-00001).
- 1.2.2 Since the preparation of the main ES, the Department for Environment, Food and Rural Affairs (Defra) has released new versions of tools for undertaking air quality assessments⁵, namely the emissions factors toolkit. This air quality assessment has therefore used the latest available tools.
- 1.2.3 The air quality standards for this assessment are:
- 40µg/m³ as an annual mean for nitrogen dioxide (NO₂) and fine particulate matter (PM₁₀);
 - 200µg/m³ one-hour mean NO₂ concentrations, not to be exceeded more than 18 times a year (equivalent to the 99.8th percentile of the one-hour mean);
 - 50µg/m³ 24-hour mean PM₁₀ concentrations, not to be exceeded more than 35 times a year (equivalent to the 90.4th percentile of the 24-hour mean); and
 - 20µg/m³ as an annual mean for very fine particulate matter (PM_{2.5}).

³High Speed Two Ltd (2023), High Speed Rail (Crewe – Manchester), *Background Information and Data accompanying Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement, Additional data used in the air quality assessment*, BID AQ-002-0MA01 SES2 and AP2 ES. Available online at: <https://www.gov.uk/government/collections/hs2-phase-2b-crewe-manchester-supplementary-environmental-statement-2-and-additional-provision-2-environmental-statement>.

⁴High Speed Two Ltd (2022), High Speed Rail (Crewe – Manchester), *Environmental Statement, Environmental Impact Assessment Scope and Methodology Report*, Volume 5, Appendix: CT-001-00001. Available online at: <https://www.gov.uk/government/collections/hs2-phase-2b-crewe-manchester-environmental-statement>.

⁵Department for Environment, Food and Rural Affairs (2022), *Local air quality management*. Available online at: <https://laqm.defra.gov.uk/whatsnew.html>.

2 Baseline air quality data

2.1 Existing air quality

Background pollutant concentrations

- 2.1.1 Estimates of background air quality were obtained from the Defra maps⁶. Background pollutant concentrations are within the air quality standards throughout the study area. Table 1 presents the range of background pollutant concentrations within the Pickmere to Agden and Hulseheath (MA03) community area for the future baseline. The 2018 background pollutant concentrations remain the same as reported in the main ES.
- 2.1.2 Background pollutant concentrations for the operational year of 2039 have been taken from the Defra background maps for 2030, which is the latest available year of data. The 2030 background maps have been used as representative of the future baseline conditions during operation of the AP2 revised scheme.

Table 1: Range of background pollutant concentrations

Pollutant	Background concentrations ($\mu\text{g}/\text{m}^3$)	
	2026	2039
Annual mean NO _x	8.7 $\mu\text{g}/\text{m}^3$ to 23.3 $\mu\text{g}/\text{m}^3$	8.0 $\mu\text{g}/\text{m}^3$ to 18.9 $\mu\text{g}/\text{m}^3$
Annual mean NO ₂	6.8 $\mu\text{g}/\text{m}^3$ to 17.0 $\mu\text{g}/\text{m}^3$	6.3 $\mu\text{g}/\text{m}^3$ to 14.0 $\mu\text{g}/\text{m}^3$
Annual mean PM ₁₀	9.2 $\mu\text{g}/\text{m}^3$ to 12.8 $\mu\text{g}/\text{m}^3$	9.1 $\mu\text{g}/\text{m}^3$ to 12.8 $\mu\text{g}/\text{m}^3$
Annual mean PM _{2.5}	6.0 $\mu\text{g}/\text{m}^3$ to 7.6 $\mu\text{g}/\text{m}^3$	5.9 $\mu\text{g}/\text{m}^3$ to 7.5 $\mu\text{g}/\text{m}^3$

⁶ Department for Environment, Food and Rural Affairs (Defra) (2018), *Defra Background Pollutant Concentration Maps*. Available online at: <https://uk-air.defra.gov.uk/data/laqm-background-maps?year=2018>.

3 Construction dust assessment

3.1 Introduction

- 3.1.1 This section provides details of the assessment of dust emissions during construction of the AP2 revised scheme. The assessment is provided separately for each proposed amendment to the design, where it has been identified that the amendment has the potential to change the risk of dust soiling, human health effects or ecological effects compared to the main ES as amended by SES1 and AP1 ES. A summary is then provided of the overall risk from construction dust in the Pickmere to Agden and Hulseheath (MA03) community area, and how it has changed from that reported in the main ES as amended by SES1 and AP1 ES.

3.2 Additional land temporarily required for modifications to the A556 Chester Road and A5033 Northwich Road junction (AP2-003-001)

Dust soiling and human health effects

- 3.2.1 There are no changes to the air quality information reported in the SES1 and AP1 ES for these junction modifications (AP2-003-001) for dust soiling and human health effects during construction of the AP2 revised scheme.

Ecological effects

Assessed receptors and sensitivity of the area

- 3.2.2 An assessment of ecological effects has been undertaken for ecological receptors Round and Rinks Woods Local Wildlife Site (LWS)/Ancient Woodland (AW)/Site of Biological Interest (SBI) and Leonards and Smoker Woods AW that are affected by these junction modifications (AP2-003-001). The ecological sites Round and Rinks Woods LWS/AW/SBI and Leonards and Smoker Woods AW are located within 20m of earthworks, construction and trackout⁷ activities. There are no demolition activities in this area.
- 3.2.3 The sensitivity of the area to ecological effects is defined as medium for all dust generating activities.

⁷ Trackout refers to the transport of dust and dirt from the construction site(s) onto the public road network, where it may be deposited and then re-suspended by vehicles using the network.

Dust emission magnitude

3.2.4 Each dust generating activity has been assigned a dust emission magnitude as shown in Table 2.

Table 2: Dust emission magnitude for ecological effects

Area	Demolition	Earthworks	Construction	Trackout
Round and Rinks Woods LWS/AW/SBI and Leonards and Smoker Woods AW	Not applicable	Large	Large	Large

Risk of impacts

3.2.5 Taking into consideration the dust emission magnitude of each activity and the sensitivity of the area, the risk of ecological effects from dust has been defined as shown in Table 3.

Table 3: Risk of ecological effects

Area	Demolition	Earthworks	Construction	Trackout
Round and Rinks Woods LWS/AW/SBI and Leonards and Smoker Woods AW	Not applicable	Medium risk	Medium risk	Medium risk

3.3 Additional land permanently required for modifications to M6 junction 19 (AP2-003-002)

Dust soiling and human health effects

3.3.1 There are no changes to the air quality information reported in the SES1 and AP1 ES for these junction modifications (AP2-003-002) for dust soiling and human health effects during construction of the AP2 revised scheme.

Ecological effects

Assessed receptors and sensitivity of the area

3.3.2 An assessment of ecological effects has been undertaken for the ecological receptors Bongs Wood AW, Bongs Wood and Rough LWS/SBI and Tabley Wood LWS/AW that are affected by these junction modifications (AP2-003-002). These ecological sites are located within 20m of earthworks, construction and trackout activities. There are no demolition activities in this area.

3.3.3 The sensitivity of the area to ecological effects is defined as medium for all dust generating activities.

Dust emission magnitude

3.3.4 Each dust generating activity has been assigned a dust emission magnitude as shown in Table 4.

Table 4: Dust emission magnitude for ecological effects

Area	Demolition	Earthworks	Construction	Trackout
Bongs Wood AW, Bongs Wood and Rough LWS/SBI and Tabley Wood LWS/AW	Not applicable	Large	Large	Large

Risk of impacts

3.3.5 Taking into consideration the dust emission magnitude of each activity and the sensitivity of the area, the risk of ecological effects from has been defined as shown in Table 5.

Table 5: Risk of ecological effects

Area	Demolition	Earthworks	Construction	Trackout
Bongs Wood AW, Bongs Wood and Rough LWS/SBI and Tabley Wood LWS/AW	Not applicable	Medium risk	Medium risk	Medium risk

3.4 Additional land permanently required for the diversion of three high pressure gas pipelines near Millington Clough Ancient Woodland (AP2-003-003)

Dust soiling and human health effects

3.4.1 There are no changes to the air quality information reported in the SES1 and AP1 ES for this utility diversion (AP2-003-003) for dust soiling and human health effects during construction of the AP2 revised scheme.

Ecological effects

Assessed receptors and sensitivity of the area

3.4.2 An assessment of ecological effects has been undertaken for the following ecological receptors that are affected by this utility diversion (AP2-003-003), from south to north:

- Tableypipe Wood LWS/SBI/AW, Woodland South West of Daisy Bank Farm AW, Park Covert LWS/AW and Belt Wood LWS/AW/SB are located within 20m of earthworks, construction and trackout activities. There are no demolition activities in this area; and
- Fields behind Ye Olde No.3 LWS and Millington Clough AW are located within 20m of earthworks and construction activities. There are no demolition or trackout activities in this area.

3.4.3 The sensitivity of each area to ecological effects is defined as medium for all dust generating activities.

Dust emission magnitude

3.4.4 Each dust generating activity has been assigned a dust emission magnitude as shown in Table 6.

Table 6: Dust emission magnitude for ecological effects

Area	Demolition	Earthworks	Construction	Trackout
Tableypipe Wood LWS/SBI/AW, Woodland South West of Daisy Bank Farm AW, Park Covert LWS/AW and Belt Wood LWS/AW/SBI	Not applicable	Large	Large	Large
Fields behind Ye Olde No.3 LWS and Millington Clough AW	Not applicable	Large	Large	Not applicable

Risk of impacts

3.4.5 Taking into consideration the dust emission magnitude of each activity and the sensitivity of the area, the risk of ecological effects from dust has been defined as shown in Table 7.

Table 7: Risk of ecological effects

Area	Demolition	Earthworks	Construction	Trackout
Tableypipe Wood LWS/SBI/AW, Woodland South West of Daisy Bank	Not applicable	Medium risk	Medium risk	Medium risk

Area	Demolition	Earthworks	Construction	Trackout
Farm AW, Park Covert LWS/AW and Belt Wood LWS/AW/SBI				
Fields behind Ye Olde No.3 LWS and Millington Clough AW	Not applicable	Medium risk	Medium risk	Not applicable

Summary of risks

3.4.6 This section summarises the risks for construction dust for the Pickmere to Agden and Hulseheath (MA03) community area. The risks identified for these design elements are summarised in Table 8. Table 9 summarises the new overall risk for the whole of the Pickmere to Agden and Hulseheath (MA03) community area.

3.4.7 Table 9 shows that the risk summary for the whole Pickmere to Agden and Hulseheath (MA03) community area is the same between that reported in the main ES as amended by SES1 and AP1 ES, and for the AP2 revised scheme, with the exception of the risks for ecological effects from earthworks, construction and trackout. The risk for ecological effects from earthworks, construction and trackout activities changes from 'low' in the main ES as amended by SES1 and AP1 ES, to 'low to medium' in the AP2 revised scheme. This assessment does not change the conclusion of the main ES as amended by SES1 with the proposed AP1 amendments if approved.

Table 8: Summary of risks for construction dust assessment accounting for the AP2 amendments (areas affected by the AP2 revised scheme)

Activity	Dust Soiling	Human Health	Ecological Effects
Demolition	Not applicable	Not applicable	Not applicable
Earthworks	Not applicable	Not applicable	Medium
Construction	Not applicable	Not applicable	Medium
Trackout	Not applicable	Not applicable	Medium

Table 9: Summary of risks for construction dust assessment accounting for the AP2 amendments (Pickmere to Agden and Hulseheath (MA03) community area)

Activity	Dust Soiling	Human Health	Ecological Effects
Demolition	Low to medium	Low	Not applicable
Earthworks	Medium to high	Low	Low to medium
Construction	Medium to high	Low	Low to medium
Trackout	Medium to high	Low	Low to medium

4 Assessment of road traffic emissions

4.1 Overview

4.1.1 This section provides details of the assessment of road traffic emissions during construction of the AP2 revised scheme. The assessment considers the combined effects of SES2 changes and AP2 amendments in this area.

4.2 Model verification

4.2.1 Since the main ES, as amended by SES1 and AP1 ES, additional traffic information has been collected, as well as further information relating to local junction modelling. As a result of this, revised traffic data for the baseline year of 2018 and future baseline years for construction and operation has become available. The model verification has therefore been updated to take account of this revised baseline traffic data.

4.2.2 Model verification was undertaken on a route-wide basis where monitoring sites are located adjacent to the modelled road network. The objectives of the model verification are to evaluate model performance and to determine if model adjustment is required.

4.2.3 Some monitoring locations were not considered suitable for model verification, due to missing traffic or monitoring data, or other spatial considerations. A total of 12 monitoring sites, spread across the Wimboldsley to Lostock Gralam (MA02), Pickmere to Agden and Hulseheath (MA03) and Hulseheath to Manchester Airport (MA06) community areas, were included in the model verification exercise. The comparison of monitored and modelled NO₂ concentrations is shown in Table 10.

Table 10: Comparison of monitored and modelled NO₂ concentrations

Site	Monitored concentration (µg/m ³)	Modelled concentration (µg/m ³)	Percent Difference (modelled - monitored/monitored)
CE301 ^a	42.8	38.4	-10.3%
CE54 ^a	42.7	35.5	-16.9%
CE298 ^a	26.4	18.1	-31.4%
MA03.4 ^a	21.8	17.6	-19.3%
MA03.5 ^a	18.2	16.0	-12.1%
MA06.1 ^a	19.5	16.7	-14.4%
MA06.3 ^a	22.6	23.0	1.8%
WADT5 ^b	45.6	52.8	15.8%
MA05.6 ^b	40.4	33.0	-18.3%
CWAC_AHH ^b	19.4	26.7	37.6%
CWAC_AP ^b	25.3	35.2	39.1%
CE76 ^b	17.3	22.3	28.9%

Note: ^a denotes sites used to derive the adjustment factor for locations covered by the non-strategic road locations covered by the M6 Junction 19 transport model. ^b denotes sites used to derive the adjustment factor for locations covered by the strategic road locations covered by the M6 Junction 19 transport model.

4.2.4 As some of the modelled NO₂ concentrations were greater than ±25% of the monitored concentrations and there was systematic under prediction, model adjustment was undertaken. Two adjustment factors were calculated for locations covered by the M6 Junction 19 transport model: a factor of 1.4 for non-strategic road locations and a factor of 1.0 for strategic road locations. Modelled concentrations of PM₁₀ and PM_{2.5} have not been adjusted. The comparison of monitored and adjusted modelled NO₂ concentrations is shown in Table 11.

Table 11: Comparison of monitored and adjusted modelled NO₂ concentrations

Site	Monitored concentration (µg/m ³)	Modelled adjusted concentration (µg/m ³)	Percent difference (modelled - monitored/monitored)
CE301 ^a	42.8	45.4	6.1%
CE54 ^a	42.7	41.5	-2.8%
CE298 ^a	26.4	20.4	-22.7%
MA03.4 ^a	21.8	20.2	-7.3%
MA03.5 ^a	18.2	16.7	-8.2%
MA06.1 ^a	19.5	18.3	-6.2%
MA06.3 ^a	22.6	24.8	9.7%
WADT5 ^b	45.6	45.1	-1.1%
MA05.6 ^b	40.4	29.9	-26.0%
CWAC_AHH ^b	19.4	24.1	24.2%
CWAC_AP ^b	25.3	30.9	22.1%
CE76 ^b	17.3	20.3	17.3%

Note: ^a denotes sites used to derive the adjustment factor for locations covered by the non-strategic road locations covered by the M6 Junction 19 transport model. ^b denotes sites used to derive the adjustment factor for locations covered by the strategic road locations covered by the M6 Junction 19 transport model.

4.3 Assessment of construction traffic emissions

4.3.1 The assessment of construction traffic emissions has used traffic data based on an estimate of the average daily flows in the peak year during the construction period (2026–2039). However, vehicle emissions and background concentrations have been taken for the first construction year in 2026. Three construction scenarios have been assessed for air quality to capture peak construction traffic activity at different times in the construction period. It has been assumed that the changes in construction traffic will occur for the whole year. In some cases, this is a conservative approach, as the duration of the peak traffic flows may well be much shorter. These scenarios have been assessed against the relevant future baseline case without the AP2 revised scheme.

- 4.3.2 Traffic data in the study area have been screened to identify roads that require further assessment and to confirm the likely effect of the change in emissions from vehicles using these roads during construction of the AP2 revised scheme.
- 4.3.3 Traffic data for construction vehicles using the site haul routes and moving between compounds have also been included in the assessment. Additional roads have also been included in the assessment where relevant to account for their emissions at nearby receptors.

Receptors assessed and background concentrations

- 4.3.4 Details of the assessed receptors used in the assessment remain as reported within the main ES as amended by SES1 and AP1 ES. There were six human receptors modelled in the main ES as amended by SES1 and AP1 ES that have not been modelled as part of the AP2 revised scheme due to changes in the study area. Twenty two receptors have been added due to changes in the study area. The human receptors and background concentrations are shown in Table 12. The location of all receptors are shown in the accompanying SES2 and AP2 ES, Volume 5, Air quality Map Book: Map Series AQ-01 - Air Quality Monitoring Locations and Receptors.
- 4.3.5 Two designated ecological receptors, The Mere, Mere Site of Special Scientific Interest (SSSI)/ Midland Meres and Mosses Phase 2 Ramsar site, and Tabley Mere SSSI, were identified within 200m of the screened in roads within the Pickmere to Agden and Hulseheath (MA03) community area during construction of the AP2 revised scheme.
- 4.3.6 Table 12 shows the background concentrations for NO_x, background nitrogen deposition and critical loads. Table 13 shows the background acid deposition, critical loads and background ammonia concentrations. Acid deposition and ammonia were not previously assessed in the main ES.

Table 12: Modelled human receptors and background concentrations (construction phase)

Receptor	Description/Location	Ordnance Survey coordinates	Background concentrations in 2026 (µg/m ³)			
			NO _x	NO ₂	PM ₁₀	PM _{2.5}
3-C-H001	Holmes Chapel Road, Knutsford	375771, 376815	9.2	7.2	9.9	6.2
3-C-H002	Chester Road, Tabley	371481, 376854	10.0	7.8	10.2	6.4
3-C-H003	Gough's Lane, Knutsford	375792, 376943	9.2	7.2	9.9	6.2
3-C-H004	Chester Road, Tabley	371518, 376969	10.0	7.8	10.2	6.4
3-C-H009	Pickmere Lane, Pickmere	369907, 377647	8.9	7.0	9.6	6.1
3-C-H010	Pickmere Lane, Pickmere	370110, 377886	9.0	7.0	9.3	6.0
3-C-H011	Hield Lane, Northwich	367408, 377921	9.0	7.0	10.1	6.2

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Receptor	Description/Location	Ordnance Survey coordinates	Background concentrations in 2026 ($\mu\text{g}/\text{m}^3$)			
			NO _x	NO ₂	PM ₁₀	PM _{2.5}
3-C-H012	Hield Lane, Northwich	367402, 377951	9.0	7.0	10.1	6.2
3-C-H013	School Farm, School Lane, Tabley	370455, 378316	9.1	7.1	9.8	6.1
3-C-H014	Chester Road, Mere, MA03/063	372165, 378386	11.0	8.6	10.6	6.6
3-C-H015	Church Farm, School Lane, Pickmere	370277, 378400	9.1	7.1	9.8	6.1
3-C-H016	Budworth Road, Aston by Budworth	367687, 378546	8.7	6.9	9.6	6.1
3-C-H017	Northwich Road, Knutsford	374595, 378587	11.4	8.8	10.6	6.8
3-C-H018	Northwich Road, Knutsford	374640, 378603	11.4	8.8	10.6	6.8
3-C-H019	Mobberley Road, Knutsford	375668, 378675	12.9	9.8	10.2	6.7
3-C-H020	Frog Lane, Pickmere	370045, 378700	9.1	7.1	9.8	6.1
3-C-H021	Pickmere Lane, Tabley	370901, 378740	9.1	7.1	9.8	6.1
3-C-H022	Pickmere Lane, Tabley	370891, 378747	9.1	7.1	9.8	6.1
3-C-H023	Tabley Hill Lane, Tabley	372951, 378790	11.0	8.6	10.6	6.6
3-C-H024	Tabley Hill Lane, Tabley	373266, 378870	14.4	10.9	11.9	7.2
3-C-H025	Chester Road, Tabley	372203, 378896	11.0	8.6	10.6	6.6
3-C-H026	Budworth Road, Tabley	370915, 379051	9.5	7.4	9.7	6.1
3-C-H027	Pickmere Lane, Tabley	371345, 379065	9.9	7.7	11.4	7.1
3-C-H028	Budworth Road, Tabley	371140, 379073	9.9	7.7	11.4	7.1
3-C-H029	Pickmere Lane, Tabley	371325, 379089	9.9	7.7	11.4	7.1
3-C-H030	Budworth Road, Pickmere	369560, 379115	9.0	7.0	9.9	6.2
3-C-H031	Budworth Road, Northwich	368665, 379234	8.8	6.9	9.8	6.1
3-C-H032	Chester Road, Tabley	372229, 379253	9.8	7.6	12.3	7.4
3-C-H033	Chester Road, Tabley	372276, 379268	9.8	7.6	12.3	7.4
3-C-H034	Budworth Road, Aston by Budworth	368712, 379268	8.8	6.9	9.8	6.1
3-C-H035	Manchester Road, Knutsford	374425, 379319	10.4	8.1	10.2	6.5
3-C-H036	Old Hall Lane, Tabley	370815, 379528	9.5	7.4	9.7	6.1
3-C-H037	Old Hall Lane, Over Tabley	371767, 379656	9.9	7.7	11.4	7.1
3-C-H038	Chester Road, Over Tabley	372263, 379724	9.8	7.6	12.3	7.4
3-C-H039	Manchester Road, Knutsford	374245, 379765	10.4	8.1	10.2	6.5

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			NO _x	NO ₂	PM ₁₀	PM _{2.5}
3-C-H040	Old Hall Lane, Over Tabley	371976, 379779	9.9	7.7	11.4	7.1
3-C-H041	Old Hall Lane, Tabley	371139, 380107	13.4	10.2	11.4	7.0
3-C-H042	Old Hall Lane, Over Tabley	370869, 380388	13.7	10.5	11.2	7.0
3-C-H043	Chester Road, Knutsford	372548, 380733	12.2	9.4	11.1	6.9
3-C-H044	Manchester Road, Mere	373651, 380925	10.7	8.3	10.0	6.3
3-C-H045	Mereside Road, Mere	373605, 381010	10.4	8.1	9.7	6.2
3-C-H046	Winterbottom Lane, Mere	370985, 381083	10.6	8.2	10.7	6.5
3-C-H047	Warrington Road, Mere	373371, 381129	10.4	8.1	9.7	6.2
3-C-H048	Cann Lane, Aston by Budworth	369180, 381150	13.7	10.5	12.3	7.3
3-C-H049	Mereside Road, Mere	373647, 381278	10.4	8.1	9.7	6.2
3-C-H050	A556, Mere	372095, 381391	11.2	8.6	10.7	6.6
3-C-H051	Mere Day Nursery, Chester Road, Mere	372747, 381417	11.2	8.6	10.7	6.6
3-C-H052	Mereside Road, Mere	373620, 381443	10.4	8.1	9.7	6.2
3-C-H053	Ashley Road, Mere	373662, 381485	10.4	8.1	9.7	6.2
3-C-H054	Chester Road, Mere	372767, 381524	11.2	8.6	10.7	6.6
3-C-H055	Chester Road, Mere	372773, 381550	11.2	8.6	10.7	6.6
3-C-H056	Chester Road, Mere	372706, 381586	11.2	8.6	10.7	6.6
3-C-H057	Chester Road, Mere	372714, 381611	11.2	8.6	10.7	6.6
3-C-H058	Chester Road, Mere	372728, 381720	11.2	8.6	10.7	6.6
3-C-H059	Northwich Road, Lower Stretton	362211, 381853	9.8	7.6	9.9	6.3
3-C-H060	Winterbottom Lane, Mere	371209, 381921	11.3	8.7	10.8	6.6
3-C-H061	Tatton Dale, Knutsford	374180, 382242	10.3	8.0	9.8	6.2
3-C-H062	Moss Lane, High Legh	367695, 382555	14.3	10.9	11.9	7.2
3-C-H063	Hoo Green Lane, Knutsford	371825, 382712	10.2	8.0	10.5	6.4
3-C-H064	Warrington Road, Mere, Knutsford	371911, 382718	10.2	8.0	10.5	6.4
3-C-H065	Chester Road, Mere	373037, 382747	10.7	8.3	9.6	6.2
3-C-H067	Warrington Road, Mere, Knutsford	371783, 382780	10.2	8.0	10.5	6.4
3-C-H068	Warrington Road, Mere	371377, 383034	10.4	8.0	10.0	6.3

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			NO _x	NO ₂	PM ₁₀	PM _{2.5}
3-C-H069	Arley Road, Appleton Thorn	364405, 383058	15.2	11.5	11.6	7.2
3-C-H070	Chester Road, Bucklow Hill	373125, 383071	11.4	8.8	10.1	6.4
3-C-H071	Wrenshot Lane, High Legh	371291, 383123	10.4	8.0	10.0	6.3
3-C-H072	Wrenshot Lane, High Legh	371480, 383430	10.4	8.0	10.0	6.3
3-C-H073	Chapel Lane, Bucklow Hill	372795, 383436	10.5	8.1	11.2	6.8
3-C-H074	Swineyard Lane, High Legh	366747, 383691	17.8	13.3	12.6	7.5
3-C-H075	Woodlands Crescent, High Legh	369942, 383727	10.6	8.2	10.5	6.5
3-C-H076	Withers Lane, High Legh	366898, 383796	17.8	13.3	12.6	7.5
3-C-H077	Barleycastle Lane, Appleton Thorn	365736, 383802	15.6	11.8	12.0	7.3
3-C-H078	Peacock Lane, Mere	372073, 384015	11.1	8.6	10.1	6.4
3-C-H079	Swinyard Lane, High Legh	368590, 384063	14.5	11.0	12.1	7.3
3-C-H080	Crabtree Lane, High Legh	369065, 384154	13.3	10.1	10.8	6.6
3-C-H081	Withers Lane, High Legh	367075, 384159	16.4	12.4	12.8	7.6
3-C-H082	Swineyard Lane, High Legh	368709, 384208	14.5	11.0	12.1	7.3
3-C-H083	Swineyard Lane, High Legh	368746, 384214	14.5	11.0	12.1	7.3
3-C-H084	Warrington Road, High Legh	368676, 384263	14.5	11.0	12.1	7.3
3-C-H085	Back Lane, Moston	371993, 384284	10.9	8.4	9.9	6.3
3-C-H086	Back Lane, Moston	371994, 384294	10.9	8.4	9.9	6.3
3-C-H087	Peacock Lane, Knutsford	371813, 384296	10.9	8.4	9.9	6.3
3-C-H088	Peacock Lane, High Legh	371541, 384370	10.9	8.4	9.9	6.3
3-C-H089	Peacock Lane, Knutsford	371303, 384423	10.9	8.4	9.9	6.3
3-C-H090	Heath Lane, High Legh	367943, 384452	16.4	12.4	12.8	7.6
3-C-H091	Withers Lane, High Legh	366957, 384500	20.4	15.0	12.3	7.5
3-C-H092	Peacock Lane, High Legh	370617, 384665	11.2	8.7	9.9	6.3
3-C-H093	Primrose Hill, Cliff Lane	367457, 384718	16.4	12.4	12.8	7.6
3-C-H094	Agden Lane, Agden	371826, 384875	10.9	8.4	9.9	6.3
3-C-H095	Agden Lane, Agden	371811, 384878	10.9	8.4	9.9	6.3
3-C-H096	Cliff Lane, Lymm	366922, 384924	20.4	15.0	12.3	7.5

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			NOx	NO ₂	PM ₁₀	PM _{2.5}
3-C-H097	Peacock Lane, High Legh	370282, 384967	11.2	8.7	9.9	6.3
3-C-H098	Old Cherry Lane, Lymm	366410, 384999	20.4	15.0	12.3	7.5
3-C-H099	Cliff Lane, Lymm	366015, 385005	18.2	13.6	12.4	7.5
3-C-H100	Agden Lane, Agden	371652, 385034	14.4	10.9	11.3	7.0
3-C-H101	Froghall Lane, High Legh	371066, 385157	14.4	10.9	11.3	7.0
3-C-H102	West Lane, High Legh	370348, 385245	11.7	9.0	11.1	7.0
3-C-H103	Agden Lane, Agden	371314, 385293	14.4	10.9	11.3	7.0
3-C-H104	Agden Lane, Agden	371543, 385487	14.4	10.9	11.3	7.0
3-C-H105	Agden Park Lane, Broomedge	370849, 385893	11.7	9.0	11.1	7.0
3-C-H106	Agden Brow, Lymm	371040, 386001	12.0	9.2	10.0	6.4
3-C-H107	Lymm Road, Agden Brow	371300, 386252	12.0	9.2	10.0	6.4
3-C-H114	Chester Road, Plumley, Knutsford	370698, 376465	9.1	7.1	9.6	6.1
3-C-H119	Brook Street, Knutsford	375748, 378208	12.9	9.8	10.2	6.7
3-C-H120	Knutsford	375728, 378209	12.9	9.8	10.2	6.7
3-C-H121	Brook Street, Knutsford	375564, 378332	12.9	9.8	10.2	6.7
3-C-H122	Hollow Lane, Knutsford	375673, 378422	12.9	9.8	10.2	6.7
3-C-H123	Northwich Road, Knutsford	374348, 378542	11.4	8.8	10.6	6.8
3-C-H124	Northwich Road, Knutsford	374520, 378560	11.4	8.8	10.6	6.8
3-C-H126	Cann Lane, Aston By Budworth, Northwich	368678, 379298	8.8	6.9	9.8	6.1
3-C-H127	Cann Lane, Aston By Budworth, Northwich	368793, 379591	8.8	6.9	9.8	6.1
3-C-H130	Mereheath Lane, Mere, Knutsford	373680, 381257	10.4	8.1	9.7	6.2
3-C-H131	Clamhunger Lane, Knutsford	373590, 381415	10.4	8.1	9.7	6.2
3-C-H132	Whitley Lane, High Legh, Knutsford	369352, 381476	13.7	10.5	12.3	7.3
3-C-H133	Mereside Road, Mere	373602, 381483	10.4	8.1	9.7	6.2
3-C-H134	Hall Lane, Lower Stretton, Warrington	361762, 382010	14.9	11.3	11.9	7.3
3-C-H135	Fir Tree Close, Stretton, Warrington	361830, 382131	14.9	11.3	11.9	7.3

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			NOx	NO ₂	PM ₁₀	PM _{2.5}
3-C-H136	Rowley Bank Lane, High Legh, Knutsford	369919, 382395	10.5	8.2	10.7	6.5
3-C-H137	Rowley Bank Lane, High Legh, Knutsford	369753, 382546	10.5	8.2	10.7	6.5
3-C-H138	Rowley Bank Lane, High Legh, Knutsford	369698, 382621	10.5	8.2	10.7	6.5
3-C-H140	Reddy Lane, Little Bollington, Altrincham	372668, 385895	14.4	10.9	11.2	7.0
3-C-H148	Reddy Lane, Little Bollington, Altrincham	372790, 386313	11.7	9.0	9.8	6.3
3-C-H149**	Heath Drive, Knutsford	374568, 378658	11.4	8.8	10.6	6.8
3-C-H150**	Gaskell Avenue, Knutsford	374997, 378690	11.4	8.8	10.6	6.8
3-C-H151**	Tabley Road, Knutsford	374723, 379001	10.4	8.1	10.2	6.5
3-C-H152**	Budworth Road, Tabley, Knutsford	370922, 379007	9.5	7.4	9.7	6.1
3-C-H153**	A50 Manchester Road, Knutsford	374734, 379016	10.4	8.1	10.2	6.5
3-C-H154**	Tabley Road, Knutsford	374444, 379064	10.4	8.1	10.2	6.5
3-C-H155**	Tabley Road, Knutsford	374445, 379084	10.4	8.1	10.2	6.5
3-C-H156**	Budworth Road, Bate Heath	368662, 379230	8.8	6.9	9.8	6.1
3-C-H157**	Tabley Hill Lane, Knutsford	372340, 379262	9.8	7.6	12.3	7.4
3-C-H158**	Manchester Road, Knutsford	374425, 379319	10.4	8.1	10.2	6.5
3-C-H159**	Tabley Road, Tabley, Knutsford	373737, 379420	10.8	8.4	10.9	6.7
3-C-H160**	Tabley Hill Lane, Tabley, Knutsford	373612, 379451	10.8	8.4	10.9	6.7
3-C-H161**	Chester Road, Over Tabley	372284, 379688	9.8	7.6	12.3	7.4
3-C-H162**	Manchester Road, Knutsford	374245, 379764	10.4	8.1	10.2	6.5
3-C-H163**	Manchester Road, Knutsford	374053, 380101	9.8	7.7	9.6	6.1
3-C-H164**	Warrington Road A50, Mere	372832, 381552	11.2	8.6	10.7	6.6
3-C-H165**	Chester Road, Mere	372712, 381620	11.2	8.6	10.7	6.6

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Receptor	Description/Location	Ordnance Survey coordinates	Background concentrations in 2026 ($\mu\text{g}/\text{m}^3$)			
			NOx	NO ₂	PM ₁₀	PM _{2.5}
3-C-H166**	Barley Fields, Warrington Road, Knutsford	371938, 382647	10.2	8.0	10.5	6.4
3-C-H167**	Intack Lane, High Legh, Knutsford	367000, 383407	14.2	10.8	12.4	7.4
3-C-H168**	Peacock Lane, Mere	372076, 384015	11.1	8.6	10.1	6.4
3-C-H169**	A50 Cliff Lane, Warrington	366922, 384924	20.4	15.0	12.3	7.5
3-C-H170**	Agden Park Lane, Lymm	370833, 385644	11.7	9.0	11.1	7.0

Note: ** indicates that receptor was added at SES2 and AP2 ES.

Table 13: Modelled ecological receptor backgrounds and critical loads (construction phase)

Receptor	Sensitive habitat	2026 NOx background concentration ($\mu\text{g}/\text{m}^3$)	APIS data of average total N deposition (kg N/ha/yr)	APIS Critical load (kg N/ha/yr)
The Mere, Mere SSSI/Midland Meres and Mosses Phase 2 Ramsar site	Poor fen	10.7	28.9	10
Tabley Mere SSSI Transect 1	Broadleaved deciduous woodland	9.2	54.8	10
	Poor fen	9.2	31.9	10
Tabley Mere SSSI Transect 2	Broadleaved deciduous woodland	9.2	54.8	10
	Poor fen	9.2	31.9	10

Table 14: Modelled ecological receptor acid deposition backgrounds, critical loads and ammonia background concentrations (construction phase)

Receptor	Sensitive habitat	APIS data of average total acid deposition (k eq/ha/yr)	APIS Critical load nitrogen (k eq/ha/yr) (min)	APIS Ammonia background concentration ($\mu\text{g}/\text{m}^3$)
The Mere, Mere SSSI/Midland Meres and Mosses Phase 2 Ramsar site	Poor fen	2.2	0.2	3.6
Tabley Mere SSSI Transect 1	Broadleaved deciduous woodland	4.1	0.3	4.2
	Poor fen	2.4	0.3	4.2
Tabley Mere SSSI Transect 2	Broadleaved deciduous woodland	4.1	0.3	4.2
	Poor fen	2.4	0.3	4.2

Assessment results

- 4.3.7 Table 15 presents the predicted NO₂ impacts across all assessed scenarios for each assessed receptor. All impacts are predicted to be negligible for PM₁₀ and PM_{2.5} concentrations. Table 16 to Table 18 provide the summary of the worst-case modelled pollutant concentrations at each assessed receptor (i.e., the highest modelled concentration at a particular receptor given the different construction traffic scenarios). The magnitude of change and impact descriptor are also provided along with a comparison against the main ES, or alternatively the main ES as amended by SES1 and AP1 ES. These were derived for human receptors following the Institute of Air Quality Management (IAQM)/Environmental Protection UK (EPUK) methodology⁸.
- 4.3.8 Table 19 to Table 22 provide the summary of the worst-case modelled pollutant concentrations at each assessed ecological receptor (i.e., the highest modelled concentration at a particular receptor given the different construction traffic scenarios).
- 4.3.9 Table 20 provides a summary of the ammonia concentration results taken from the National Highways Ammonia N Deposition Tool⁹. Table 21 provides a summary of the nitrogen deposition receptor results with an additional ammonia component applied using the National Highways Ammonia N Deposition Tool. Table 22 provides a summary of the acid deposition receptor results with an additional ammonia component applied using the National Highways Ammonia N Deposition Tool.

Table 15: Comparison of impact descriptors for annual mean NO₂ concentrations across construction scenarios

Receptor	Impact descriptors for annual mean NO ₂ concentrations		
	Scenario 1	Scenario 2	Scenario 3
3-C-H001	Negligible	Negligible	Negligible
3-C-H002	Negligible	Negligible	Negligible
3-C-H003	Negligible	Negligible	Negligible
3-C-H004	Negligible	Negligible	Negligible
3-C-H009	Negligible	Negligible	Negligible
3-C-H010	Negligible	Negligible	Negligible
3-C-H011	Negligible	Negligible	Negligible
3-C-H012	Negligible	Negligible	Negligible
3-C-H013	Negligible	Negligible	Negligible
3-C-H014	Slight adverse	Slight adverse	Slight adverse
3-C-H015	Negligible	Negligible	Negligible
3-C-H016	Negligible	Negligible	Negligible
3-C-H017	Negligible	Negligible	Negligible

⁸ Institute of Air Quality Management (2017), *Land-Use planning & development control: Planning for air quality*, v1.2. Available online at: <https://iaqm.co.uk/guidance/>.

⁹ National Highways (2021), *Ammonia N Deposition Tool V2*.

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Receptor	Impact descriptors for annual mean NO ₂ concentrations		
	Scenario 1	Scenario 2	Scenario 3
3-C-H018	Negligible	Negligible	Negligible
3-C-H019	Negligible	Negligible	Negligible
3-C-H020	Negligible	Negligible	Negligible
3-C-H021	Negligible	Negligible	Negligible
3-C-H022	Negligible	Negligible	Negligible
3-C-H023	Negligible	Negligible	Negligible
3-C-H024	Negligible	Negligible	Negligible
3-C-H025	Negligible	Negligible	Negligible
3-C-H026	Negligible	Negligible	Negligible
3-C-H027	Negligible	Negligible	Negligible
3-C-H028	Negligible	Negligible	Negligible
3-C-H029	Negligible	Negligible	Negligible
3-C-H030	Negligible	Negligible	Negligible
3-C-H031	Negligible	Negligible	Negligible
3-C-H032	Negligible	Negligible	Negligible
3-C-H033	Negligible	Negligible	Negligible
3-C-H034	Negligible	Negligible	Negligible
3-C-H035	Negligible	Negligible	Negligible
3-C-H036	Negligible	Negligible	Negligible
3-C-H037	Negligible	Negligible	Negligible
3-C-H038	Negligible	Negligible	Negligible
3-C-H039	Negligible	Negligible	Negligible
3-C-H040	Negligible	Negligible	Negligible
3-C-H041	Negligible	Negligible	Negligible
3-C-H042	Negligible	Negligible	Negligible
3-C-H043	Negligible	Negligible	Negligible
3-C-H044	Negligible	Negligible	Negligible
3-C-H045	Negligible	Negligible	Negligible
3-C-H046	Negligible	Negligible	Negligible
3-C-H047	Negligible	Negligible	Negligible
3-C-H048	Negligible	Negligible	Negligible
3-C-H049	Negligible	Negligible	Negligible
3-C-H050	Negligible	Negligible	Negligible
3-C-H051	Negligible	Negligible	Negligible
3-C-H052	Negligible	Negligible	Negligible
3-C-H053	Negligible	Negligible	Negligible
3-C-H054	Negligible	Negligible	Negligible
3-C-H055	Negligible	Negligible	Negligible
3-C-H056	Negligible	Negligible	Negligible

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Receptor	Impact descriptors for annual mean NO ₂ concentrations		
	Scenario 1	Scenario 2	Scenario 3
3-C-H057	Negligible	Negligible	Negligible
3-C-H058	Negligible	Negligible	Negligible
3-C-H059	Negligible	Negligible	Negligible
3-C-H060	Negligible	Negligible	Negligible
3-C-H061	Negligible	Negligible	Negligible
3-C-H062	Negligible	Negligible	Negligible
3-C-H063	Negligible	Negligible	Negligible
3-C-H064	Negligible	Negligible	Negligible
3-C-H065	Negligible	Negligible	Negligible
3-C-H067	Negligible	Negligible	Negligible
3-C-H068	Negligible	Negligible	Negligible
3-C-H069	Negligible	Negligible	Negligible
3-C-H070	Negligible	Negligible	Negligible
3-C-H071	Negligible	Negligible	Negligible
3-C-H072	Negligible	Negligible	Negligible
3-C-H073	Negligible	Negligible	Negligible
3-C-H074	Negligible	Negligible	Negligible
3-C-H075	Negligible	Negligible	Negligible
3-C-H076	Negligible	Negligible	Negligible
3-C-H077	Negligible	Negligible	Negligible
3-C-H078	Negligible	Negligible	Negligible
3-C-H079	Negligible	Negligible	Negligible
3-C-H080	Negligible	Negligible	Negligible
3-C-H081	Negligible	Negligible	Negligible
3-C-H082	Negligible	Negligible	Negligible
3-C-H083	Negligible	Negligible	Negligible
3-C-H084	Negligible	Negligible	Negligible
3-C-H085	Negligible	Negligible	Negligible
3-C-H086	Negligible	Negligible	Negligible
3-C-H087	Negligible	Negligible	Negligible
3-C-H088	Negligible	Negligible	Negligible
3-C-H089	Negligible	Negligible	Negligible
3-C-H090	Negligible	Negligible	Negligible
3-C-H091	Negligible	Negligible	Negligible
3-C-H092	Negligible	Negligible	Negligible
3-C-H093	Negligible	Negligible	Negligible
3-C-H094	Negligible	Negligible	Negligible
3-C-H095	Negligible	Negligible	Negligible
3-C-H096	Negligible	Negligible	Negligible

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Receptor	Impact descriptors for annual mean NO ₂ concentrations		
	Scenario 1	Scenario 2	Scenario 3
3-C-H097	Negligible	Negligible	Negligible
3-C-H098	Negligible	Negligible	Negligible
3-C-H099	Negligible	Negligible	Negligible
3-C-H100	Negligible	Negligible	Negligible
3-C-H101	Negligible	Negligible	Negligible
3-C-H102	Negligible	Negligible	Negligible
3-C-H103	Negligible	Negligible	Negligible
3-C-H104	Negligible	Negligible	Negligible
3-C-H105	Negligible	Negligible	Negligible
3-C-H106	Negligible	Negligible	Negligible
3-C-H107	Negligible	Negligible	Negligible
3-C-H114	Negligible	Negligible	Negligible
3-C-H119	Negligible	Negligible	Negligible
3-C-H120	Negligible	Negligible	Negligible
3-C-H121	Negligible	Negligible	Negligible
3-C-H122	Negligible	Negligible	Negligible
3-C-H123	Negligible	Negligible	Negligible
3-C-H124	Negligible	Negligible	Negligible
3-C-H126	Negligible	Negligible	Negligible
3-C-H127	Negligible	Negligible	Negligible
3-C-H130	Negligible	Negligible	Negligible
3-C-H131	Negligible	Negligible	Negligible
3-C-H132	Negligible	Negligible	Negligible
3-C-H133	Negligible	Negligible	Negligible
3-C-H134	Negligible	Negligible	Negligible
3-C-H135	Negligible	Negligible	Negligible
3-C-H136	Negligible	Negligible	Negligible
3-C-H137	Negligible	Negligible	Negligible
3-C-H138	Negligible	Negligible	Negligible
3-C-H140	Negligible	Negligible	Negligible
3-C-H148	Negligible	Negligible	Negligible
3-C-H149**	Negligible	Negligible	Negligible
3-C-H150**	Negligible	Negligible	Negligible
3-C-H151**	Negligible	Negligible	Negligible
3-C-H152**	Negligible	Negligible	Negligible
3-C-H153**	Negligible	Negligible	Negligible
3-C-H154**	Negligible	Negligible	Negligible
3-C-H155**	Negligible	Negligible	Negligible
3-C-H156**	Negligible	Negligible	Negligible

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Receptor	Impact descriptors for annual mean NO ₂ concentrations		
	Scenario 1	Scenario 2	Scenario 3
3-C-H157**	Negligible	Negligible	Negligible
3-C-H158**	Negligible	Negligible	Negligible
3-C-H159**	Negligible	Negligible	Negligible
3-C-H160**	Negligible	Negligible	Negligible
3-C-H161**	Negligible	Negligible	Negligible
3-C-H162**	Negligible	Negligible	Negligible
3-C-H163**	Negligible	Negligible	Negligible
3-C-H164**	Negligible	Negligible	Negligible
3-C-H165**	Negligible	Negligible	Negligible
3-C-H166**	Negligible	Negligible	Negligible
3-C-H167**	Negligible	Negligible	Negligible
3-C-H168**	Negligible	Negligible	Negligible
3-C-H169**	Negligible	Negligible	Negligible
3-C-H170**	Negligible	Negligible	Negligible

Note: ** indicates that receptor was added at SES2 and AP2 ES.

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Table 16: Predicted annual mean NO₂ concentrations and impacts (construction phase)

Receptor	Description/Location	NO ₂ concentrations (µg/m ³)		Change in NO ₂ concentration s (µg/m ³)	Impact descriptor	Impact descriptor in the main ES as amended by SES1 and AP1 ES	Significance
		2026 without the AP2 revised scheme	2026 with the AP2 revised scheme				
3-C-H001	Holmes Chapel Road, Knutsford	13.5	13.8	0.3	Negligible	Negligible	Not significant
3-C-H002	Chester Road, Tabley	15.2	16.4	1.2	Negligible	Negligible	Not significant
3-C-H003	Gough's Lane, Knutsford	14.2	15.0	0.8	Negligible	Negligible	Not significant
3-C-H004	Chester Road, Tabley	18.5	20.1	1.6	Negligible	Negligible	Not significant
3-C-H009	Pickmere Lane, Pickmere	8.1	8.4	0.3	Negligible	Negligible	Not significant
3-C-H010	Pickmere Lane, Pickmere	8.2	8.3	0.1	Negligible	Negligible	Not significant
3-C-H011	Hield Lane, Northwich	9.3	9.6	0.3	Negligible	Negligible	Not significant
3-C-H012	Hield Lane, Northwich	9.1	9.4	0.3	Negligible	Negligible	Not significant
3-C-H013	School Farm, School Lane, Tabley	7.8	8.1	0.3	Negligible	Negligible	Not significant
3-C-H014	Chester Road, Mere, MA03/063	25.0	29.1	4.1	Slight adverse	Negligible	Not significant
3-C-H015	Church Farm, School Lane, Pickmere	7.7	7.9	0.2	Negligible	Negligible	Not significant
3-C-H016	Budworth Road, Aston by Budworth	9.2	9.5	0.3	Negligible	Negligible	Not significant
3-C-H017	Northwich Road, Knutsford	13.0	13.6	0.6	Negligible	Negligible	Not significant
3-C-H018	Northwich Road, Knutsford	13.9	14.4	0.5	Negligible	Negligible	Not significant
3-C-H019	Mobberley Road, Knutsford	16.8	17.2	0.4	Negligible	Negligible	Not significant
3-C-H020	Frog Lane, Pickmere	7.6	7.6	< 0.1	Negligible	Negligible	Not significant
3-C-H021	Pickmere Lane, Tabley	8.3	9.1	0.8	Negligible	Negligible	Not significant

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Receptor	Description/Location	NO ₂ concentrations (µg/m ³)		Change in NO ₂ concentrations (µg/m ³)	Impact descriptor	Impact descriptor in the main ES as amended by SES1 and AP1 ES	Significance
		2026 without the AP2 revised scheme	2026 with the AP2 revised scheme				
3-C-H022	Pickmere Lane, Tabley	8.1	8.6	0.5	Negligible	Negligible	Not significant
3-C-H023	Tabley Hill Lane, Tabley	11.7	11.8	0.1	Negligible	Negligible	Not significant
3-C-H024	Tabley Hill Lane, Tabley	13.4	13.5	0.1	Negligible	Negligible	Not significant
3-C-H025	Chester Road, Tabley	20.2	22.0	1.8	Negligible	Negligible	Not significant
3-C-H026	Budworth Road, Tabley	8.3	8.2	-0.1	Negligible	Negligible	Not significant
3-C-H027	Pickmere Lane, Tabley	9.4	10.3	0.9	Negligible	Negligible	Not significant
3-C-H028	Budworth Road, Tabley	8.9	8.9	< 0.1	Negligible	Negligible	Not significant
3-C-H029	Pickmere Lane, Knutsford	9.5	10.1	0.6	Negligible	Negligible	Not significant
3-C-H030	Budworth Road, Pickmere	7.5	7.5	< 0.1	Negligible	Negligible	Not significant
3-C-H031	Budworth Road, Northwich	7.7	7.7	< 0.1	Negligible	Negligible	Not significant
3-C-H032	Chester Road, Tabley	14.8	15.9	1.1	Negligible	Negligible	Not significant
3-C-H033	Chester Road, Tabley	13.5	14.4	0.9	Negligible	Negligible	Not significant
3-C-H034	Budworth Road, Aston by Budworth	7.6	7.6	< 0.1	Negligible	Negligible	Not significant
3-C-H035	Manchester Road, Knutsford	13.1	13.2	0.1	Negligible	Negligible	Not significant
3-C-H036	Old Hall Lane, Tabley	8.0	8.1	0.1	Negligible	Negligible	Not significant
3-C-H037	Old Hall Lane, Over Tabley	11.5	11.8	0.3	Negligible	Negligible	Not significant
3-C-H038	Chester Road, Over Tabley	17.0	17.5	0.5	Negligible	Negligible	Not significant
3-C-H039	Manchester Road, Knutsford	12.1	12.5	0.4	Negligible	Negligible	Not significant
3-C-H040	Old Hall Lane, Over Tabley	14.4	14.9	0.5	Negligible	Negligible	Not significant
3-C-H041	Old Hall Lane, Tabley	11.3	11.4	0.1	Negligible	Negligible	Not significant
3-C-H042	Old Hall Lane, Over Tabley	12.0	12.1	0.1	Negligible	Negligible	Not significant

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Receptor	Description/Location	NO ₂ concentrations (µg/m ³)		Change in NO ₂ concentrations (µg/m ³)	Impact descriptor	Impact descriptor in the main ES as amended by SES1 and AP1 ES	Significance
		2026 without the AP2 revised scheme	2026 with the AP2 revised scheme				
3-C-H043	Chester Road, Knutsford	11.8	12.9	1.1	Negligible	Negligible	Not significant
3-C-H044	Manchester Road, Mere	13.7	13.9	0.2	Negligible	Negligible	Not significant
3-C-H045	Mereside Road, Mere	12.4	12.8	0.4	Negligible	Negligible	Not significant
3-C-H046	Winterbottom Lane, Mere	9.6	9.7	0.1	Negligible	Negligible	Not significant
3-C-H047	Warrington Road, Mere	11.9	12.4	0.5	Negligible	Negligible	Not significant
3-C-H048	Cann Lane, Aston by Budworth	11.9	12.0	0.1	Negligible	Negligible	Not significant
3-C-H049	Mereside Road, Mere	11.9	12.6	0.7	Negligible	Negligible	Not significant
3-C-H050	A556, Mere	10.6	10.6	< 0.1	Negligible	Negligible	Not significant
3-C-H051	Mere Day Nursery, Chester Road, Mere	10.4	11.0	0.6	Negligible	Negligible	Not significant
3-C-H052	Mereside Road, Mere	11.1	11.7	0.6	Negligible	Negligible	Not significant
3-C-H053	Ashley Road, Mere	10.5	11.8	1.3	Negligible	Negligible	Not significant
3-C-H054	Chester Road, Mere	11.3	12.1	0.8	Negligible	Negligible	Not significant
3-C-H055	Chester Road, Mere	12.2	13.1	0.9	Negligible	Negligible	Not significant
3-C-H056	Chester Road, Mere	11.2	12.0	0.8	Negligible	Negligible	Not significant
3-C-H057	Chester Road, Mere	12.3	13.3	1.0	Negligible	Negligible	Not significant
3-C-H058	Chester Road, Mere	12.3	12.9	0.6	Negligible	Negligible	Not significant
3-C-H059	Northwich Road, Lower Stretton	16.9	17.6	0.7	Negligible	Negligible	Not significant
3-C-H060	Winterbottom Lane, Mere	9.5	9.6	0.1	Negligible	Negligible	Not significant
3-C-H061	Tatton Dale, Knutsford	9.2	10.1	0.9	Negligible	Negligible	Not significant
3-C-H062	Moss Lane, High Legh	26.6	27.4	0.8	Negligible	Slight adverse	Not significant

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		2026 without the AP2 revised scheme	2026 with the AP2 revised scheme				
3-C-H063	Hoo Green Lane, Knutsford	10.6	10.8	0.2	Negligible	Negligible	Not significant
3-C-H064	Warrington Road, Mere, Knutsford	12.5	12.9	0.4	Negligible	Negligible	Not significant
3-C-H065	Chester Road, Mere	9.2	9.6	0.4	Negligible	Negligible	Not significant
3-C-H067	Warrington Road, Mere, Knutsford	13.8	14.6	0.8	Negligible	Negligible	Not significant
3-C-H068	Warrington Road, Mere	11.7	12.0	0.3	Negligible	Negligible	Not significant
3-C-H069	Arley Road, Appleton Thorn	12.9	12.9	< 0.1	Negligible	Negligible	Not significant
3-C-H070	Chester Road, Bucklow Hill	9.9	10.0	0.1	Negligible	Negligible	Not significant
3-C-H071	Wrenshot Lane, High Legh	15.5	16.2	0.7	Negligible	Negligible	Not significant
3-C-H072	Wrenshot Lane, High Legh	8.9	8.9	< 0.1	Negligible	Negligible	Not significant
3-C-H073	Chapel Lane, Bucklow Hill	10.0	10.1	0.1	Negligible	Negligible	Not significant
3-C-H074	Swineyard Lane, High Legh	18.0	18.4	0.4	Negligible	Negligible	Not significant
3-C-H075	Woodland Crescent, High Legh	13.5	14.0	0.5	Negligible	Negligible	Not significant
3-C-H076	Withers Lane, High Legh	21.2	21.7	0.5	Negligible	Negligible	Not significant
3-C-H077	Barleycastle Lane, Appleton Thorn	19.6	19.7	0.1	Negligible	Negligible	Not significant
3-C-H078	Peacock Lane, Mere	9.9	10.1	0.2	Negligible	Negligible	Not significant
3-C-H079	Swinyard Lane, High Legh	12.0	12.2	0.2	Negligible	Negligible	Not significant
3-C-H080	Crabtree Lane, High Legh	14.9	15.4	0.5	Negligible	Negligible	Not significant
3-C-H081	Withers Lane, High Legh	16.0	16.0	< 0.1	Negligible	Negligible	Not significant
3-C-H082	Swineyard Lane, High Legh	12.6	12.8	0.2	Negligible	Negligible	Not significant

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Receptor	Description/Location	NO ₂ concentrations (µg/m ³)		Change in NO ₂ concentration s (µg/m ³)	Impact descriptor	Impact descriptor in the main ES as amended by SES1 and AP1 ES	Significance
		2026 without the AP2 revised scheme	2026 with the AP2 revised scheme				
3-C-H083	Swineyard Lane, High Legh	12.9	13.2	0.3	Negligible	Negligible	Not significant
3-C-H084	Warrington Road, High Legh	13.7	13.9	0.2	Negligible	Negligible	Not significant
3-C-H085	Back Lane, Moston	9.5	9.6	0.1	Negligible	Negligible	Not significant
3-C-H086	Back Lane, Moston	9.5	9.8	0.3	Negligible	Negligible	Not significant
3-C-H087	Peacock Lane, Knutsford	9.6	10.0	0.4	Negligible	Negligible	Not significant
3-C-H088	Peacock Lane, High Legh	9.4	9.8	0.4	Negligible	Negligible	Not significant
3-C-H089	Peacock Lane, Knutsford	9.1	9.3	0.2	Negligible	Negligible	Not significant
3-C-H090	Heath Lane, High Legh	16.0	16.4	0.4	Negligible	Negligible	Not significant
3-C-H091	Withers Lane, High Legh	19.2	19.2	< 0.1	Negligible	Negligible	Not significant
3-C-H092	Peacock Lane, High Legh	9.2	9.4	0.2	Negligible	Negligible	Not significant
3-C-H093	Primrose Hill, Cliff Lane	15.4	15.7	0.3	Negligible	Negligible	Not significant
3-C-H094	Agden Lane, Agden	9.7	9.9	0.2	Negligible	Negligible	Not significant
3-C-H095	Agden Lane, Agden	9.6	9.8	0.2	Negligible	Negligible	Not significant
3-C-H096	Cliff Lane, Lymm	19.4	19.7	0.3	Negligible	Negligible	Not significant
3-C-H097	Peacock Lane, High Legh	11.9	12.5	0.6	Negligible	Negligible	Not significant
3-C-H098	Old Cherry Lane, Lymm	20.2	20.4	0.2	Negligible	Negligible	Not significant
3-C-H099	Cliff Lane, Lymm	19.7	19.8	0.1	Negligible	Negligible	Not significant
3-C-H100	Agden Lane, Agden	13.0	13.2	0.2	Negligible	Negligible	Not significant
3-C-H101	Froghall Lane, High Legh	18.1	18.0	-0.1	Negligible	Negligible	Not significant
3-C-H102	West Lane, High Legh	19.1	18.9	-0.2	Negligible	Negligible	Not significant
3-C-H103	Agden Lane, Agden	20.9	20.8	-0.1	Negligible	Negligible	Not significant
3-C-H104	Agden Lane, Agden	13.7	13.7	< 0.1	Negligible	Negligible	Not significant

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Receptor	Description/Location	NO ₂ concentrations (µg/m ³)		Change in NO ₂ concentrations (µg/m ³)	Impact descriptor	Impact descriptor in the main ES as amended by SES1 and AP1 ES	Significance
		2026 without the AP2 revised scheme	2026 with the AP2 revised scheme				
3-C-H105	Agden Park Lane, Broomedge	12.6	12.8	0.2	Negligible	Negligible	Not significant
3-C-H106	Agden Brow, Lymm	14.6	14.5	-0.1	Negligible	Negligible	Not significant
3-C-H107	Lymm Road, Agden Brow	13.6	13.5	-0.1	Negligible	Negligible	Not significant
3-C-H114	Chester Road, Plumley, Knutsford	7.7	7.9	0.2	Negligible	Negligible	Not significant
3-C-H119	Brook Street, Knutsford	20.5	21.0	0.5	Negligible	Negligible	Not significant
3-C-H120	Knutsford	16.0	16.6	0.6	Negligible	Negligible	Not significant
3-C-H121	Brook Street, Knutsford	17.8	18.4	0.6	Negligible	Negligible	Not significant
3-C-H122	Hollow Lane, Knutsford	19.3	19.6	0.3	Negligible	Negligible	Not significant
3-C-H123	Northwich Road, Knutsford	17.1	18.6	1.5	Negligible	Negligible	Not significant
3-C-H124	Northwich Road, Knutsford	12.2	12.8	0.6	Negligible	Negligible	Not significant
3-C-H126	Cann Lane, Aston By Budworth, Northwich	7.6	7.7	0.1	Negligible	Negligible	Not significant
3-C-H127	Cann Lane, Aston By Budworth, Northwich	8.0	8.2	0.2	Negligible	Negligible	Not significant
3-C-H130	Mereheath Lane, Mere, Knutsford	10.5	10.9	0.4	Negligible	Negligible	Not significant
3-C-H131	Clamhunger Lane, Knutsford	11.1	12.0	0.9	Negligible	Negligible	Not significant
3-C-H132	Whitley Lane, High Legh, Knutsford	14.1	14.3	0.2	Negligible	Negligible	Not significant
3-C-H133	Mereside Road, Mere	11.5	12.3	0.8	Negligible	Negligible	Not significant
3-C-H134	Hall Lane, Lower Stretton, Warrington	18.1	18.2	0.1	Negligible	Negligible	Not significant

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		2026 without the AP2 revised scheme	2026 with the AP2 revised scheme				
3-C-H135	Fir Tree Close, Stretton, Warrington	25.2	25.5	0.3	Negligible	Slight adverse	Not significant
3-C-H136	Rowley Bank Lane, High Legh, Knutsford	10.3	10.5	0.2	Negligible	Negligible	Not significant
3-C-H137	Rowley Bank Lane, High Legh, Knutsford	11.0	11.3	0.3	Negligible	Negligible	Not significant
3-C-H138	Rowley Bank Lane, High Legh, Knutsford	9.5	9.9	0.4	Negligible	Negligible	Not significant
3-C-H140	Reddy Lane, Little Bollington, Altrincham	11.9	12.2	0.3	Negligible	Negligible	Not significant
3-C-H148	Reddy Lane, Little Bollington, Altrincham	9.7	9.9	0.2	Negligible	Negligible	Not significant
3-C-H149**	Heath Drive, Knutsford	12.4	12.8	0.4	Negligible	Not applicable	Not significant
3-C-H150**	Gaskell Avenue, Knutsford	18.4	18.8	0.4	Negligible	Not applicable	Not significant
3-C-H151**	Tabley Road, Knutsford	11.8	11.1	-0.7	Negligible	Not applicable	Not significant
3-C-H152**	Budworth Road, Tabley, Knutsford	8.2	8.3	0.1	Negligible	Not applicable	Not significant
3-C-H153**	A50 Manchester Road, Knutsford	12.0	11.6	-0.4	Negligible	Not applicable	Not significant
3-C-H154**	Tabley Road, Knutsford	10.0	9.8	-0.2	Negligible	Not applicable	Not significant
3-C-H155**	Tabley Road, Knutsford	10.4	10.0	-0.4	Negligible	Not applicable	Not significant
3-C-H156**	Budworth Road, Bate Heath	7.7	7.7	< 0.1	Negligible	Not applicable	Not significant
3-C-H157**	Tabley Hill Lane, Knutsford	10.8	11.0	0.2	Negligible	Not applicable	Not significant
3-C-H158**	Manchester Road, Knutsford	13.1	13.1	< 0.1	Negligible	Not applicable	Not significant

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Receptor	Description/Location	NO ₂ concentrations (µg/m ³)		Change in NO ₂ concentrations (µg/m ³)	Impact descriptor	Impact descriptor in the main ES as amended by SES1 and AP1 ES	Significance
		2026 without the AP2 revised scheme	2026 with the AP2 revised scheme				
3-C-H159**	Tabley Road, Tabley, Knutsford	9.5	9.2	-0.3	Negligible	Not applicable	Not significant
3-C-H160**	Tabley Hill Lane, Tabley, Knutsford	9.7	9.2	-0.5	Negligible	Not applicable	Not significant
3-C-H161**	Chester Road, Over Tabley	17.1	17.5	0.4	Negligible	Not applicable	Not significant
3-C-H162**	Manchester Road, Knutsford	12.1	12.5	0.4	Negligible	Not applicable	Not significant
3-C-H163**	Manchester Road, Knutsford	11.0	11.2	0.2	Negligible	Not applicable	Not significant
3-C-H164**	Warrington Road A50, Mere	12.5	13.1	0.6	Negligible	Not applicable	Not significant
3-C-H165**	Chester Road, Mere	12.4	13.2	0.8	Negligible	Not applicable	Not significant
3-C-H166**	Barley Fields, Warrington Road, Knutsford	10.2	10.4	0.2	Negligible	Not applicable	Not significant
3-C-H167**	Intack Lane, High Legh, Knutsford	21.8	22.3	0.5	Negligible	Not applicable	Not significant
3-C-H168**	Peacock Lane, Mere	9.9	10.1	0.2	Negligible	Not applicable	Not significant
3-C-H169**	A50 Cliff Lane, Warrington	19.4	19.7	0.3	Negligible	Not applicable	Not significant
3-C-H170**	Agden Park Lane, Lymm	11.3	11.5	0.2	Negligible	Not applicable	Not significant

Note: ** indicates that receptor was added at SES2 and AP2 ES.

Table 17: Predicted annual mean PM₁₀ concentrations and impacts (construction phase)

Receptor	Description/Location	PM ₁₀ concentrations (µg/m ³)		Change in PM ₁₀ concentrations (µg/m ³)	Impact descriptor	Impact descriptor in the main ES as amended by SES1 and AP1 ES	Significance
		2026 without the AP2 revised scheme	2026 with the AP2 revised scheme				
3-C-H001	Holmes Chapel Road, Knutsford	11.1	11.2	0.1	Negligible	Negligible	Not significant

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Receptor	Description/Location	PM ₁₀ concentrations (µg/m ³)		Change in PM ₁₀ concentrations (µg/m ³)	Impact descriptor	Impact descriptor in the main ES as amended by SES1 and AP1 ES	Significance
		2026 without the AP2 revised scheme	2026 with the AP2 revised scheme				
3-C-H002	Chester Road, Tabley	11.8	12.2	0.4	Negligible	Negligible	Not significant
3-C-H003	Gough's Lane, Knutsford	11.4	11.4	< 0.1	Negligible	Negligible	Not significant
3-C-H004	Chester Road, Tabley	12.5	13.1	0.6	Negligible	Negligible	Not significant
3-C-H009	Pickmere Lane, Pickmere	9.8	9.8	< 0.1	Negligible	Negligible	Not significant
3-C-H010	Pickmere Lane, Pickmere	9.5	9.5	< 0.1	Negligible	Negligible	Not significant
3-C-H011	Hield Lane, Northwich	10.6	10.7	0.1	Negligible	Negligible	Not significant
3-C-H012	Hield Lane, Northwich	10.5	10.6	0.1	Negligible	Negligible	Not significant
3-C-H013	School Farm, School Lane, Tabley	9.9	9.9	< 0.1	Negligible	Negligible	Not significant
3-C-H014	Chester Road, Mere, MA03/063	13.3	14.1	0.8	Negligible	Negligible	Not significant
3-C-H015	Church Farm, School Lane, Pickmere	9.9	9.9	< 0.1	Negligible	Negligible	Not significant
3-C-H016	Budworth Road, Aston by Budworth	10.0	10.1	0.1	Negligible	Negligible	Not significant
3-C-H017	Northwich Road, Knutsford	11.7	11.8	0.1	Negligible	Negligible	Not significant
3-C-H018	Northwich Road, Knutsford	11.9	12.0	0.1	Negligible	Negligible	Not significant
3-C-H019	Mobberley Road, Knutsford	12.2	12.3	0.1	Negligible	Negligible	Not significant
3-C-H020	Frog Lane, Pickmere	9.9	9.8	-0.1	Negligible	Negligible	Not significant
3-C-H021	Pickmere Lane, Tabley	10.0	10.2	0.2	Negligible	Negligible	Not significant
3-C-H022	Pickmere Lane, Tabley	9.9	10.1	0.2	Negligible	Negligible	Not significant
3-C-H023	Tabley Hill Lane, Tabley	11.3	11.4	0.1	Negligible	Negligible	Not significant
3-C-H024	Tabley Hill Lane, Tabley	12.5	12.5	< 0.1	Negligible	Negligible	Not significant
3-C-H025	Chester Road, Tabley	13.2	13.7	0.5	Negligible	Negligible	Not significant
3-C-H026	Budworth Road, Tabley	9.9	9.8	-0.1	Negligible	Negligible	Not significant
3-C-H027	Pickmere Lane, Tabley	11.7	11.8	0.1	Negligible	Negligible	Not significant

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Receptor	Description/Location	PM ₁₀ concentrations (µg/m ³)		Change in PM ₁₀ concentrations (µg/m ³)	Impact descriptor	Impact descriptor in the main ES as amended by SES1 and AP1 ES	Significance
		2026 without the AP2 revised scheme	2026 with the AP2 revised scheme				
3-C-H028	Budworth Road, Tabley	11.6	11.6	< 0.1	Negligible	Negligible	Not significant
3-C-H029	Pickmere Lane, Tabley	11.7	11.8	0.1	Negligible	Negligible	Not significant
3-C-H030	Budworth Road, Pickmere	10.0	10.0	< 0.1	Negligible	Negligible	Not significant
3-C-H031	Budworth Road, Northwich	9.9	9.9	< 0.1	Negligible	Negligible	Not significant
3-C-H032	Chester Road, Tabley	14.4	14.9	0.5	Negligible	Negligible	Not significant
3-C-H033	Chester Road, Tabley	14.0	14.3	0.3	Negligible	Negligible	Not significant
3-C-H034	Budworth Road, Aston by Budworth	9.9	9.9	< 0.1	Negligible	Negligible	Not significant
3-C-H035	Manchester Road, Knutsford	11.6	11.6	< 0.1	Negligible	Negligible	Not significant
3-C-H036	Old Hall Lane, Tabley	9.8	9.8	< 0.1	Negligible	Negligible	Not significant
3-C-H037	Old Hall Lane, Over Tabley	12.4	12.4	< 0.1	Negligible	Negligible	Not significant
3-C-H038	Chester Road, Over Tabley	14.5	14.6	0.1	Negligible	Negligible	Not significant
3-C-H039	Manchester Road, Knutsford	11.1	11.2	0.1	Negligible	Negligible	Not significant
3-C-H040	Old Hall Lane, Over Tabley	13.1	13.2	0.1	Negligible	Negligible	Not significant
3-C-H041	Old Hall Lane, Tabley	11.6	11.6	< 0.1	Negligible	Negligible	Not significant
3-C-H042	Old Hall Lane, Over Tabley	11.6	11.6	< 0.1	Negligible	Negligible	Not significant
3-C-H043	Chester Road, Knutsford	11.6	11.9	0.3	Negligible	Negligible	Not significant
3-C-H044	Manchester Road, Mere	11.0	11.1	0.1	Negligible	Negligible	Not significant
3-C-H045	Mereside Road, Mere	10.5	10.6	0.1	Negligible	Negligible	Not significant
3-C-H046	Winterbottom Lane, Mere	11.0	11.0	< 0.1	Negligible	Negligible	Not significant
3-C-H047	Warrington Road, Mere	10.4	10.5	0.1	Negligible	Negligible	Not significant
3-C-H048	Cann Lane, Aston by Budworth	12.7	12.7	< 0.1	Negligible	Negligible	Not significant
3-C-H049	Mereside Road, Mere	10.4	10.6	0.2	Negligible	Negligible	Not significant

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Receptor	Description/Location	PM ₁₀ concentrations (µg/m ³)		Change in PM ₁₀ concentrations (µg/m ³)	Impact descriptor	Impact descriptor in the main ES as amended by SES1 and AP1 ES	Significance
		2026 without the AP2 revised scheme	2026 with the AP2 revised scheme				
3-C-H050	A556, Mere	11.2	11.2	< 0.1	Negligible	Negligible	Not significant
3-C-H051	Mere Day Nursery, Chester Road, Mere	11.1	11.3	0.2	Negligible	Negligible	Not significant
3-C-H052	Mereside Road, Mere	10.2	10.4	0.2	Negligible	Negligible	Not significant
3-C-H053	Ashley Road, Mere	10.1	10.4	0.3	Negligible	Negligible	Not significant
3-C-H054	Chester Road, Mere	11.2	11.5	0.3	Negligible	Negligible	Not significant
3-C-H055	Chester Road, Mere	11.4	11.7	0.3	Negligible	Negligible	Not significant
3-C-H056	Chester Road, Mere	11.2	11.4	0.2	Negligible	Negligible	Not significant
3-C-H057	Chester Road, Mere	11.4	11.6	0.2	Negligible	Negligible	Not significant
3-C-H058	Chester Road, Mere	11.4	11.6	0.2	Negligible	Negligible	Not significant
3-C-H059	Northwich Road, Lower Stretton	12.6	13.0	0.4	Negligible	Negligible	Not significant
3-C-H060	Winterbottom Lane, Mere	11.0	11.0	< 0.1	Negligible	Negligible	Not significant
3-C-H061	Tatton Dale, Knutsford	10.0	10.3	0.3	Negligible	Negligible	Not significant
3-C-H062	Moss Lane, High Legh	16.2	16.4	0.2	Negligible	Negligible	Not significant
3-C-H063	Hoo Green Lane, Knutsford	11.0	11.0	< 0.1	Negligible	Negligible	Not significant
3-C-H064	Warrington Road, Mere, Knutsford	11.4	11.6	0.2	Negligible	Negligible	Not significant
3-C-H065	Chester Road, Mere	9.8	9.8	< 0.1	Negligible	Negligible	Not significant
3-C-H067	Warrington Road, Mere, Knutsford	11.7	11.8	0.1	Negligible	Negligible	Not significant
3-C-H068	Warrington Road, Mere	10.7	11.0	0.3	Negligible	Negligible	Not significant
3-C-H069	Arley Road, Appleton Thorn	11.9	12.0	0.1	Negligible	Negligible	Not significant
3-C-H070	Chester Road, Bucklow Hill	10.3	10.3	< 0.1	Negligible	Negligible	Not significant
3-C-H071	Wrenshot Lane, High Legh	11.6	11.9	0.3	Negligible	Negligible	Not significant

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Receptor	Description/Location	PM ₁₀ concentrations (µg/m ³)		Change in PM ₁₀ concentrations (µg/m ³)	Impact descriptor	Impact descriptor in the main ES as amended by SES1 and AP1 ES	Significance
		2026 without the AP2 revised scheme	2026 with the AP2 revised scheme				
3-C-H072	Wrenshot Lane, High Legh	10.2	10.2	< 0.1	Negligible	Negligible	Not significant
3-C-H073	Chapel Lane, Bucklow Hill	11.6	11.6	< 0.1	Negligible	Negligible	Not significant
3-C-H074	Swineyard Lane, High Legh	13.9	14.0	0.1	Negligible	Negligible	Not significant
3-C-H075	Woodlands Crescent, High Legh	11.5	11.8	0.3	Negligible	Negligible	Not significant
3-C-H076	Withers Lane, High Legh	14.8	14.9	0.1	Negligible	Negligible	Not significant
3-C-H077	Barleycastle Lane, Appleton Thorn	13.8	13.9	0.1	Negligible	Negligible	Not significant
3-C-H078	Peacock Lane, Mere	10.3	10.4	0.1	Negligible	Negligible	Not significant
3-C-H079	Swinyard Lane, High Legh	12.3	12.4	0.1	Negligible	Negligible	Not significant
3-C-H080	Crabtree Lane, High Legh	11.8	12.0	0.2	Negligible	Negligible	Not significant
3-C-H081	Withers Lane, High Legh	13.7	13.7	< 0.1	Negligible	Negligible	Not significant
3-C-H082	Swineyard Lane, High Legh	12.4	12.5	0.1	Negligible	Negligible	Not significant
3-C-H083	Swineyard Lane, High Legh	12.5	12.6	0.1	Negligible	Negligible	Not significant
3-C-H084	Warrington Road, High Legh	12.7	12.8	0.1	Negligible	Negligible	Not significant
3-C-H085	Back Lane, Moston	10.1	10.2	0.1	Negligible	Negligible	Not significant
3-C-H086	Back Lane, Moston	10.1	10.2	0.1	Negligible	Negligible	Not significant
3-C-H087	Peacock Lane, Knutsford	10.1	10.2	0.1	Negligible	Negligible	Not significant
3-C-H088	Peacock Lane, High Legh	10.0	10.1	0.1	Negligible	Negligible	Not significant
3-C-H089	Peacock Lane, Knutsford	10.0	10.0	< 0.1	Negligible	Negligible	Not significant
3-C-H090	Heath Lane, High Legh	13.8	14.1	0.3	Negligible	Negligible	Not significant
3-C-H091	Withers Lane, High Legh	13.4	13.4	< 0.1	Negligible	Negligible	Not significant
3-C-H092	Peacock Lane, High Legh	10.0	10.0	< 0.1	Negligible	Negligible	Not significant
3-C-H093	Primrose Hill, Cliff Lane	13.5	13.6	0.1	Negligible	Negligible	Not significant

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Receptor	Description/Location	PM ₁₀ concentrations (µg/m ³)		Change in PM ₁₀ concentrations (µg/m ³)	Impact descriptor	Impact descriptor in the main ES as amended by SES1 and AP1 ES	Significance
		2026 without the AP2 revised scheme	2026 with the AP2 revised scheme				
3-C-H094	Agden Lane, Agden	10.1	10.2	0.1	Negligible	Negligible	Not significant
3-C-H095	Agden Lane, Agden	10.1	10.1	< 0.1	Negligible	Negligible	Not significant
3-C-H096	Cliff Lane, Lymm	13.2	13.3	0.1	Negligible	Negligible	Not significant
3-C-H097	Peacock Lane, High Legh	10.5	10.6	0.1	Negligible	Negligible	Not significant
3-C-H098	Old Cherry Lane, Lymm	13.7	13.7	< 0.1	Negligible	Negligible	Not significant
3-C-H099	Cliff Lane, Lymm	14.1	14.1	< 0.1	Negligible	Negligible	Not significant
3-C-H100	Agden Lane, Agden	11.6	11.8	0.2	Negligible	Negligible	Not significant
3-C-H101	Froghall Lane, High Legh	13.0	13.0	< 0.1	Negligible	Negligible	Not significant
3-C-H102	West Lane, High Legh	13.6	13.6	< 0.1	Negligible	Negligible	Not significant
3-C-H103	Agden Lane, Agden	13.8	13.9	0.1	Negligible	Negligible	Not significant
3-C-H104	Agden Lane, Agden	11.7	11.7	< 0.1	Negligible	Negligible	Not significant
3-C-H105	Agden Park Lane, Broomedge	11.7	11.8	0.1	Negligible	Negligible	Not significant
3-C-H106	Agden Brow, Lymm	11.0	11.0	< 0.1	Negligible	Negligible	Not significant
3-C-H107	Lymm Road, Agden Brow	10.8	10.8	< 0.1	Negligible	Negligible	Not significant
3-C-H114	Chester Road, Plumley, Knutsford	9.7	9.7	< 0.1	Negligible	Negligible	Not significant
3-C-H119	Brook Street, Knutsford	12.9	13	0.1	Negligible	Negligible	Not significant
3-C-H120	Knutsford	11.8	11.9	0.1	Negligible	Negligible	Not significant
3-C-H121	Brook Street, Knutsford	12.1	12.2	0.1	Negligible	Negligible	Not significant
3-C-H122	Hollow Lane, Knutsford	12.7	12.8	0.1	Negligible	Negligible	Not significant
3-C-H123	Northwich Road, Knutsford	12.3	12.6	0.3	Negligible	Negligible	Not significant
3-C-H124	Northwich Road, Knutsford	11.5	11.6	0.1	Negligible	Negligible	Not significant

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Receptor	Description/Location	PM ₁₀ concentrations (µg/m ³)		Change in PM ₁₀ concentrations (µg/m ³)	Impact descriptor	Impact descriptor in the main ES as amended by SES1 and AP1 ES	Significance
		2026 without the AP2 revised scheme	2026 with the AP2 revised scheme				
3-C-H126	Cann Lane, Aston By Budworth, Northwich	9.9	9.9	< 0.1	Negligible	Negligible	Not significant
3-C-H127	Cann Lane, Aston By Budworth, Northwich	10.0	10.0	< 0.1	Negligible	Negligible	Not significant
3-C-H130	Mereheath Lane, Mere, Knutsford	10.1	10.2	0.1	Negligible	Negligible	Not significant
3-C-H131	Clamhunger Lane, Knutsford	10.2	10.4	0.2	Negligible	Negligible	Not significant
3-C-H132	Whitley Lane, High Legh, Knutsford	13.0	13.1	0.1	Negligible	Negligible	Not significant
3-C-H133	Mereside Road, Mere	10.3	10.5	0.2	Negligible	Negligible	Not significant
3-C-H134	Hall Lane, Lower Stretton, Warrington	13.8	13.8	< 0.1	Negligible	Negligible	Not significant
3-C-H135	Fir Tree Close, Stretton, Warrington	15.5	15.6	0.1	Negligible	Negligible	Not significant
3-C-H136	Rowley Bank Lane, High Legh, Knutsford	11.1	11.2	0.1	Negligible	Negligible	Not significant
3-C-H137	Rowley Bank Lane, High Legh, Knutsford	11.3	11.4	0.1	Negligible	Negligible	Not significant
3-C-H138	Rowley Bank Lane, High Legh, Knutsford	11.0	11.0	< 0.1	Negligible	Negligible	Not significant
3-C-H140	Reddy Lane, Little Bollington, Altrincham	11.4	11.5	0.1	Negligible	Negligible	Not significant
3-C-H148	Reddy Lane, Little Bollington, Altrincham	10.0	10.0	< 0.1	Negligible	Negligible	Not significant
3-C-H149**	Heath Drive, Knutsford	11.5	11.6	0.1	Negligible	Not applicable	Not significant
3-C-H150**	Gaskell Avenue, Knutsford	12.9	13.0	0.1	Negligible	Not applicable	Not significant
3-C-H151**	Tabley Road, Knutsford	11.2	11.0	-0.2	Negligible	Not applicable	Not significant

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Receptor	Description/Location	PM ₁₀ concentrations (µg/m ³)		Change in PM ₁₀ concentrations (µg/m ³)	Impact descriptor	Impact descriptor in the main ES as amended by SES1 and AP1 ES	Significance
		2026 without the AP2 revised scheme	2026 with the AP2 revised scheme				
3-C-H152**	Budworth Road, Tabley, Knutsford	9.8	9.9	0.1	Negligible	Not applicable	Not significant
3-C-H153**	A50 Manchester Road, Knutsford	11.3	11.2	-0.1	Negligible	Not applicable	Not significant
3-C-H154**	Tabley Road, Knutsford	10.7	10.6	-0.1	Negligible	Not applicable	Not significant
3-C-H155**	Tabley Road, Knutsford	10.8	10.7	-0.1	Negligible	Not applicable	Not significant
3-C-H156**	Budworth Road, Bate Heath	9.9	9.9	< 0.1	Negligible	Not applicable	Not significant
3-C-H157**	Tabley Hill Lane, Knutsford	13.2	13.2	< 0.1	Negligible	Not applicable	Not significant
3-C-H158**	Manchester Road, Knutsford	11.6	11.6	< 0.1	Negligible	Not applicable	Not significant
3-C-H159**	Tabley Road, Tabley, Knutsford	11.1	11.0	-0.1	Negligible	Not applicable	Not significant
3-C-H160**	Tabley Hill Lane, Tabley, Knutsford	11.1	11.0	-0.1	Negligible	Not applicable	Not significant
3-C-H161**	Chester Road, Over Tabley	14.5	14.7	0.2	Negligible	Not applicable	Not significant
3-C-H162**	Manchester Road, Knutsford	11.1	11.2	0.1	Negligible	Not applicable	Not significant
3-C-H163**	Manchester Road, Knutsford	10.2	10.3	0.1	Negligible	Not applicable	Not significant
3-C-H164**	Warrington Road A50, Mere	11.5	11.7	0.2	Negligible	Not applicable	Not significant
3-C-H165**	Chester Road, Mere	11.4	11.6	0.2	Negligible	Not applicable	Not significant
3-C-H166**	Barley Fields, Warrington Road, Knutsford	10.9	11.0	0.1	Negligible	Not applicable	Not significant
3-C-H167**	Intack Lane, High Legh, Knutsford	15.4	15.5	0.1	Negligible	Not applicable	Not significant
3-C-H168**	Peacock Lane, Mere	10.3	10.4	0.1	Negligible	Not applicable	Not significant
3-C-H169**	A50 Cliff Lane, Warrington	13.2	13.3	0.1	Negligible	Not applicable	Not significant
3-C-H170**	Agden Park Lane, Lymm	11.5	11.7	0.2	Negligible	Not applicable	Not significant

Note: ** indicates that receptor was added at SES2 and AP2 ES.

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Table 18: Predicted annual mean PM_{2.5} concentrations and impacts (construction phase)

Receptor	Description/Location	PM _{2.5} concentrations (µg/m ³)		Change in PM _{2.5} concentrations (µg/m ³)	Impact descriptor	Impact descriptor in the main ES as amended by SES1 and AP1 ES	Significance
		2026 without the AP2 revised scheme	2026 with the AP2 revised scheme				
3-C-H001	Holmes Chapel Road, Knutsford	6.9	6.9	< 0.1	Negligible	Negligible	Not significant
3-C-H002	Chester Road, Tabley	7.3	7.5	0.2	Negligible	Negligible	Not significant
3-C-H003	Gough's Lane, Knutsford	7.0	7.0	< 0.1	Negligible	Negligible	Not significant
3-C-H004	Chester Road, Tabley	7.7	8.1	0.4	Negligible	Negligible	Not significant
3-C-H009	Pickmere Lane, Pickmere	6.2	6.2	< 0.1	Negligible	Negligible	Not significant
3-C-H010	Pickmere Lane, Pickmere	6.1	6.1	< 0.1	Negligible	Negligible	Not significant
3-C-H011	Hield Lane, Northwich	6.5	6.5	< 0.1	Negligible	Negligible	Not significant
3-C-H012	Hield Lane, Northwich	6.4	6.5	0.1	Negligible	Negligible	Not significant
3-C-H013	School Farm, School Lane, Tabley	6.2	6.2	< 0.1	Negligible	Negligible	Not significant
3-C-H014	Chester Road, Mere, MA03/063	8.3	8.7	0.4	Negligible	Negligible	Not significant
3-C-H015	Church Farm, School Lane, Pickmere	6.2	6.2	< 0.1	Negligible	Negligible	Not significant
3-C-H016	Budworth Road, Aston by Budworth	6.3	6.4	0.1	Negligible	Negligible	Not significant
3-C-H017	Northwich Road Knutsford	7.4	7.5	0.1	Negligible	Negligible	Not significant
3-C-H018	Northwich Road, Knutsford	7.5	7.6	0.1	Negligible	Negligible	Not significant
3-C-H019	Mobberley Road, Knutsford	7.8	7.8	< 0.1	Negligible	Negligible	Not significant
3-C-H020	Frog Lane, Pickmere	6.2	6.1	-0.1	Negligible	Negligible	Not significant
3-C-H021	Pickmere Lane, Tabley	6.2	6.3	0.1	Negligible	Negligible	Not significant
3-C-H022	Pickmere Lane, Tabley	6.2	6.3	0.1	Negligible	Negligible	Not significant
3-C-H023	Tabley Hill Lane, Tabley	7.1	7.1	< 0.1	Negligible	Negligible	Not significant
3-C-H024	Tabley Hill Lane, Tabley	7.6	7.6	< 0.1	Negligible	Negligible	Not significant
3-C-H025	Chester Road, Tabley	8.1	8.5	0.4	Negligible	Negligible	Not significant

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Receptor	Description/Location	PM _{2.5} concentrations (µg/m ³)		Change in PM _{2.5} concentrations (µg/m ³)	Impact descriptor	Impact descriptor in the main ES as amended by SES1 and AP1 ES	Significance
		2026 without the AP2 revised scheme	2026 with the AP2 revised scheme				
3-C-H026	Budworth Road, Tabley	6.2	6.2	< 0.1	Negligible	Negligible	Not significant
3-C-H027	Pickmere Lane, Tabley	7.2	7.3	0.1	Negligible	Negligible	Not significant
3-C-H028	Budworth Road, Tabley	7.2	7.2	< 0.1	Negligible	Negligible	Not significant
3-C-H029	Pickmere Lane, Knutsford	7.3	7.3	< 0.1	Negligible	Negligible	Not significant
3-C-H030	Budworth Road, Pickmere	6.2	6.2	< 0.1	Negligible	Negligible	Not significant
3-C-H031	Budworth Road, Northwich	6.2	6.2	< 0.1	Negligible	Negligible	Not significant
3-C-H032	Chester Road, Tabley	8.6	8.9	0.3	Negligible	Negligible	Not significant
3-C-H033	Chester Road, Tabley	8.4	8.6	0.2	Negligible	Negligible	Not significant
3-C-H034	Budworth Road, Aston by Budworth	6.2	6.2	< 0.1	Negligible	Negligible	Not significant
3-C-H035	Manchester Road, Knutsford	7.2	7.2	< 0.1	Negligible	Negligible	Not significant
3-C-H036	Old Hall Lane, Tabley	6.2	6.2	< 0.1	Negligible	Negligible	Not significant
3-C-H037	Old Hall Lane, Over Tabley	7.7	7.7	< 0.1	Negligible	Negligible	Not significant
3-C-H038	Chester Road, Over Tabley	8.7	8.8	0.1	Negligible	Negligible	Not significant
3-C-H039	Manchester Road, Knutsford	7.0	7.0	< 0.1	Negligible	Negligible	Not significant
3-C-H040	Old Hall Lane, Over Tabley	8.1	8.2	0.1	Negligible	Negligible	Not significant
3-C-H041	Old Hall Lane, Tabley	7.1	7.2	0.1	Negligible	Negligible	Not significant
3-C-H042	Old Hall Lane, Over Tabley	7.2	7.2	< 0.1	Negligible	Negligible	Not significant
3-C-H043	Chester Road, Knutsford	7.2	7.4	0.2	Negligible	Negligible	Not significant
3-C-H044	Manchester Road, Mere	6.9	7	0.1	Negligible	Negligible	Not significant
3-C-H045	Mereside Road, Mere	6.7	6.8	0.1	Negligible	Negligible	Not significant
3-C-H046	Winterbottom Lane, Mere	6.7	6.7	< 0.1	Negligible	Negligible	Not significant
3-C-H047	Warrington Road, Mere	6.6	6.7	0.1	Negligible	Negligible	Not significant

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		2026 without the AP2 revised scheme	2026 with the AP2 revised scheme				
3-C-H048	Cann Lane, Aston by Budworth	7.5	7.5	< 0.1	Negligible	Negligible	Not significant
3-C-H049	Mereside Road, Mere	6.6	6.8	0.2	Negligible	Negligible	Not significant
3-C-H050	A556, Mere	6.9	6.9	< 0.1	Negligible	Negligible	Not significant
3-C-H051	Mere Day Nursery, Chester Road, Mere	6.8	6.9	0.1	Negligible	Negligible	Not significant
3-C-H052	Mereside Road, Mere	6.5	6.6	0.1	Negligible	Negligible	Not significant
3-C-H053	Ashley Road, Mere	6.5	6.6	0.1	Negligible	Negligible	Not significant
3-C-H054	Chester Road, Mere	6.9	7	0.1	Negligible	Negligible	Not significant
3-C-H055	Chester Road, Mere	7	7.1	0.1	Negligible	Negligible	Not significant
3-C-H056	Chester Road, Mere	6.9	7	0.1	Negligible	Negligible	Not significant
3-C-H057	Chester Road, Mere	7.0	7.1	0.1	Negligible	Negligible	Not significant
3-C-H058	Chester Road, Mere	7.0	7.1	0.1	Negligible	Negligible	Not significant
3-C-H059	Northwich Road, Lower Stretton	7.8	8.0	0.2	Negligible	Negligible	Not significant
3-C-H060	Winterbottom Lane, Mere	6.7	6.7	< 0.1	Negligible	Negligible	Not significant
3-C-H061	Tatton Dale, Knutsford	6.3	6.4	0.1	Negligible	Negligible	Not significant
3-C-H062	Moss Lane, High Legh	9.9	10	0.1	Negligible	Negligible	Not significant
3-C-H063	Hoo Green Lane, Knutsford	6.7	6.7	< 0.1	Negligible	Negligible	Not significant
3-C-H064	Mere, Knutsford	6.9	7.0	0.1	Negligible	Negligible	Not significant
3-C-H065	Chester Road, Mere	6.3	6.3	< 0.1	Negligible	Negligible	Not significant
3-C-H067	Mere, Knutsford	7.1	7.2	0.1	Negligible	Negligible	Not significant
3-C-H068	Warrington Road, Mere	6.7	6.8	0.1	Negligible	Negligible	Not significant
3-C-H069	Arley Road, Appleton Thorn	7.4	7.4	< 0.1	Negligible	Negligible	Not significant

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Receptor	Description/Location	PM _{2.5} concentrations (µg/m ³)		Change in PM _{2.5} concentrations (µg/m ³)	Impact descriptor	Impact descriptor in the main ES as amended by SES1 and AP1 ES	Significance
		2026 without the AP2 revised scheme	2026 with the AP2 revised scheme				
3-C-H070	Chester Road, Bucklow Hill	6.5	6.5	< 0.1	Negligible	Negligible	Not significant
3-C-H071	Wrenshot Lane, High Legh	7.2	7.4	0.2	Negligible	Negligible	Not significant
3-C-H072	Wrenshot Lane, High Legh	6.4	6.4	< 0.1	Negligible	Negligible	Not significant
3-C-H073	Chapel Lane, Bucklow Hill	7.1	7.1	< 0.1	Negligible	Negligible	Not significant
3-C-H074	Swineyard Lane, High Legh	8.3	8.3	< 0.1	Negligible	Negligible	Not significant
3-C-H075	A50, High Legh	7.1	7.2	0.1	Negligible	Negligible	Not significant
3-C-H076	Withers Lane, High Legh	8.8	8.9	0.1	Negligible	Negligible	Not significant
3-C-H077	Barleycastle Lane, Appleton Thorn	8.4	8.4	< 0.1	Negligible	Negligible	Not significant
3-C-H078	Peacock Lane, Mere	6.5	6.5	< 0.1	Negligible	Negligible	Not significant
3-C-H079	Swinyard Lane, High Legh	7.4	7.4	< 0.1	Negligible	Negligible	Not significant
3-C-H080	A50, High Legh	7.2	7.3	0.1	Negligible	Negligible	Not significant
3-C-H081	Withers Lane, High Legh	8.1	8.1	< 0.1	Negligible	Negligible	Not significant
3-C-H082	Swineyard Lane, High Legh	7.5	7.5	< 0.1	Negligible	Negligible	Not significant
3-C-H083	Swineyard Lane, High Legh	7.5	7.5	< 0.1	Negligible	Negligible	Not significant
3-C-H084	A50, High Legh	7.6	7.7	0.1	Negligible	Negligible	Not significant
3-C-H085	Back Lane, Moston	6.4	6.5	0.1	Negligible	Negligible	Not significant
3-C-H086	Back Lane, Moston	6.4	6.5	0.1	Negligible	Negligible	Not significant
3-C-H087	Peacock Lane, Knutsford	6.4	6.4	< 0.1	Negligible	Negligible	Not significant
3-C-H088	Peacock Lane, High Legh	6.4	6.4	< 0.1	Negligible	Negligible	Not significant
3-C-H089	Peacock Lane, Knutsford	6.3	6.4	0.1	Negligible	Negligible	Not significant
3-C-H090	Warrington Road, High Legh	8.2	8.3	0.1	Negligible	Negligible	Not significant
3-C-H091	Withers Lane, High Legh	8.1	8.1	< 0.1	Negligible	Negligible	Not significant

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		2026 without the AP2 revised scheme	2026 with the AP2 revised scheme				
3-C-H092	Peacock Lane, High Legh	6.4	6.4	< 0.1	Negligible	Negligible	Not significant
3-C-H093	Warrington Road, Knutsford	7.9	8	0.1	Negligible	Negligible	Not significant
3-C-H094	Agden Lane, Agden	6.4	6.4	< 0.1	Negligible	Negligible	Not significant
3-C-H095	Agden Lane, Agden	6.4	6.4	< 0.1	Negligible	Negligible	Not significant
3-C-H096	Cliff Lane, Lymm	8.0	8.1	0.1	Negligible	Negligible	Not significant
3-C-H097	Peacock Lane, High Legh	6.7	6.8	0.1	Negligible	Negligible	Not significant
3-C-H098	Old Cherry Lane, Lymm	8.3	8.3	< 0.1	Negligible	Negligible	Not significant
3-C-H099	Cliff Lane, Lymm	8.5	8.5	< 0.1	Negligible	Negligible	Not significant
3-C-H100	Agden Lane, Agden	7.2	7.3	0.1	Negligible	Negligible	Not significant
3-C-H101	Froghall Lane, High Leigh	8.1	8.1	< 0.1	Negligible	Negligible	Not significant
3-C-H102	West Lane, High Legh	8.5	8.5	< 0.1	Negligible	Negligible	Not significant
3-C-H103	Agden Lane, Agden	8.5	8.6	0.1	Negligible	Negligible	Not significant
3-C-H104	Agden Lane, Agden	7.3	7.3	< 0.1	Negligible	Negligible	Not significant
3-C-H105	Agden Park Lane, Broomedge	7.3	7.4	0.1	Negligible	Negligible	Not significant
3-C-H106	Agden Brow, Lymm	7.0	7.0	< 0.1	Negligible	Negligible	Not significant
3-C-H107	Lymm Road, Agden Brow	6.9	6.9	< 0.1	Negligible	Negligible	Not significant
3-C-H114	Chester Road, Plumley, Knutsford	6.1	6.2	0.1	Negligible	Negligible	Not significant
3-C-H119	Brook Street, Knutsford	8.2	8.3	0.1	Negligible	Negligible	Not significant
3-C-H120	Knutsford (socio-ec)	7.6	7.6	< 0.1	Negligible	Negligible	Not significant
3-C-H121	Brook Street, Knutsford	7.8	7.8	< 0.1	Negligible	Negligible	Not significant
3-C-H122	Hollow Lane, Knutsford	8.1	8.1	< 0.1	Negligible	Negligible	Not significant
3-C-H123	Northwich Road, Knutsford	7.8	7.9	0.1	Negligible	Negligible	Not significant

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		2026 without the AP2 revised scheme	2026 with the AP2 revised scheme				
3-C-H124	Northwich Road, Knutsford	7.3	7.3	< 0.1	Negligible	Negligible	Not significant
3-C-H126	Cann Lane, Aston By Budworth, Northwich	6.2	6.2	< 0.1	Negligible	Negligible	Not significant
3-C-H127	Cann Lane, Aston By Budworth, Northwich	6.2	6.3	0.1	Negligible	Negligible	Not significant
3-C-H130	Mereheath Lane, Mere, Knutsford	6.5	6.5	< 0.1	Negligible	Negligible	Not significant
3-C-H13	Clamhunger Lane, Knutsford	6.5	6.6	0.1	Negligible	Negligible	Not significant
3-C-H132	Whitley Lane, High Legh, Knutsford	7.7	7.7	< 0.1	Negligible	Negligible	Not significant
3-C-H133	Mereside Road, Mere	6.6	6.7	0.1	Negligible	Negligible	Not significant
3-C-H134	Hall Lane, Lower Stretton, Warrington	8.4	8.5	0.1	Negligible	Negligible	Not significant
3-C-H135	Fir Tree Close, Stretton, Warrington	9.5	9.5	< 0.1	Negligible	Negligible	Not significant
3-C-H136	Rowley Bank Lane, High Legh, Knutsford	6.8	6.8	< 0.1	Negligible	Negligible	Not significant
3-C-H137	Rowley Bank Lane, High Legh, Knutsford	6.9	6.9	< 0.1	Negligible	Negligible	Not significant
3-C-H138	Rowley Bank Lane, High Legh, Knutsford	6.7	6.7	< 0.1	Negligible	Negligible	Not significant
3-C-H140	Reddy Lane, Little Bollington, Altrincham	7.1	7.1	< 0.1	Negligible	Negligible	Not significant
3-C-H148	Reddy Lane, Little Bollington, Altrincham	6.4	6.4	< 0.1	Negligible	Negligible	Not significant
3-C-H149**	Heath Drive, Knutsford	7.3	7.3	< 0.1	Negligible	Not applicable	Not significant
3-C-H150**	Gaskell Avenue, Knutsford	8.1	8.1	< 0.1	Negligible	Not applicable	Not significant

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Receptor	Description/Location	PM _{2.5} concentrations (µg/m ³)		Change in PM _{2.5} concentrations (µg/m ³)	Impact descriptor	Impact descriptor in the main ES as amended by SES1 and AP1 ES	Significance
		2026 without the AP2 revised scheme	2026 with the AP2 revised scheme				
3-C-H151**	Tabley Road, Knutsford	7.0	6.9	-0.1	Negligible	Not applicable	Not significant
3-C-H152**	Budworth Road, Tabley, Knutsford	6.2	6.2	< 0.1	Negligible	Not applicable	Not significant
3-C-H153**	A50 Manchester Road, Knutsford	7.0	7.0	< 0.1	Negligible	Not applicable	Not significant
3-C-H154**	Tabley Road, Knutsford	6.7	6.7	< 0.1	Negligible	Not applicable	Not significant
3-C-H155**	Tabley Road, Knutsford	6.8	6.7	-0.1	Negligible	Not applicable	Not significant
3-C-H156**	Budworth Road, Bate Heath	6.2	6.2	< 0.1	Negligible	Not applicable	Not significant
3-C-H157**	Tabley Hill Lane, Knutsford	7.9	7.9	< 0.1	Negligible	Not applicable	Not significant
3-C-H158**	Manchester Road, Knutsford	7.2	7.2	< 0.1	Negligible	Not applicable	Not significant
3-C-H159**	Tabley Road, Tabley, Knutsford	6.8	6.8	< 0.1	Negligible	Not applicable	Not significant
3-C-H160**	Tabley Hill Lane, Tabley, Knutsford	6.8	6.8	< 0.1	Negligible	Not applicable	Not significant
3-C-H161**	Chester Road, Over Tabley	8.7	8.8	0.1	Negligible	Not applicable	Not significant
3-C-H162**	Manchester Road, Knutsford	7.0	7.0	< 0.1	Negligible	Not applicable	Not significant
3-C-H163**	Manchester Road, Knutsford	6.5	6.5	< 0.1	Negligible	Not applicable	Not significant
3-C-H164**	Warrington Road A50, Mere	7.0	7.1	0.1	Negligible	Not applicable	Not significant
3-C-H165**	Chester Road, Mere	7.0	7.1	0.1	Negligible	Not applicable	Not significant
3-C-H166**	Barley Fields, Warrington Road, Knutsford	6.7	6.7	< 0.1	Negligible	Not applicable	Not significant
3-C-H167**	Intack Lane, High Legh, Knutsford	9.2	9.3	0.1	Negligible	Not applicable	Not significant
3-C-H168**	Peacock Lane, Mere	6.5	6.5	< 0.1	Negligible	Not applicable	Not significant
3-C-H169**	A50 Cliff Lane, Warrington	8.0	8.1	0.1	Negligible	Not applicable	Not significant
3-C-H170**	Agden Park Lane, Lymm	7.2	7.3	0.1	Negligible	Not applicable	Not significant

Note: ** indicates that receptor was added at SES2 and AP2 ES.

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Table 19: Predicted annual mean of NOx concentrations at ecological sites (construction phase)

Ecological site	Sensitive habitat	Distance to road (m)	NOx concentrations ($\mu\text{g}/\text{m}^3$)		Change in NOx concentrations ($\mu\text{g}/\text{m}^3$)	Comparison against air quality standard ($30\mu\text{g}/\text{m}^3$)	Percent change in relation to air quality standard
			2026 without the AP2 revised scheme	2026 with the AP2 revised scheme			
The Mere, Mere SSSI/Midland Meres and Mosses Phase 2 Ramsar site	Poor fen	193	11.6	11.8	0.2	Within standard	0.7%
	Poor fen	200	11.6	11.7	0.1	Within standard	0.3%
Tabley Mere SSSI Transect 1	Broadleaved deciduous woodland	108	11.1	11.6	0.5	Within standard	1.7%
	Poor fen	150	10.5	10.8	0.3	Within standard	1.0%
	Poor fen	200	10.1	10.4	0.3	Within standard	1.0%
Tabley Mere SSSI Transect 2	Broadleaved deciduous woodland	146	10.7	11.0	0.3	Within standard	1.0%
	Poor fen	150	10.6	11.0	0.4	Within standard	1.3%
	Poor fen	200	10.2	10.5	0.3	Within standard	1.0%

Table 20: Predicted annual mean of ammonia (NH3) concentrations at ecological sites (construction phase)

Ecological site	Sensitive habitat	Distance to road (m)	NH ₃ concentrations ($\mu\text{g}/\text{m}^3$)		Change in NH ₃ concentrations ($\mu\text{g}/\text{m}^3$)	Comparison against critical level ($1\mu\text{g}/\text{m}^3$ for low and $3\mu\text{g}/\text{m}^3$ high vegetation)	Percent change in relation to critical level
			2026 without the AP2 revised scheme	2026 with the AP2 revised scheme			
The Mere, Mere SSSI/Midland Meres and Mosses Phase 2 Ramsar site	Poor fen	193	3.6	3.7	0.1	Above standard	1.7%
	Poor fen	200	3.6	3.7	0.1	Above standard	1.7%
Tabley Mere SSSI Transect 1	Broadleaved deciduous woodland	108	4.4	4.4	< 0.1	Above standard	3.9%
	Poor fen	150	4.3	4.3	< 0.1	Above standard	2.8%

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Ecological site	Sensitive habitat	Distance to road (m)	NH ₃ concentrations (µg/m ³)		Change in NH ₃ concentrations (µg/m ³)	Comparison against critical level (1µg/m ³ for low and 3µg/m ³ high vegetation)	Percent change in relation to critical level
			2026 without the AP2 revised scheme	2026 with the AP2 revised scheme			
Tabley Mere SSSI Transect 2	Poor fen	200	4.3	4.3	< 0.1	Above standard	2.0%
	Broadleaved deciduous woodland	146	4.3	4.4	0.1	Above standard	3.0%
	Poor fen	150	4.3	4.4	0.1	Above standard	2.9%
	Poor fen	200	4.3	4.3	< 0.1	Above standard	2.2%

Table 21: Assessment of N deposition with ammonia at ecological sites (construction phase)

Ecological Site	Sensitive habitat	Distance to road (m)	Dry deposition (kg N/ha/yr)		Change in N deposition (kg N/ha/yr)	Lower Critical Load (kg N/ha/yr)	Percent change in relation to lower critical load
			2026 without the AP2 revised scheme	2026 with the AP2 revised scheme			
The Mere, Mere SSSI/Midland Meres and Mosses Phase 2 Ramsar site	Poor fen	193	29.3	29.4	0.1	10	1.0%
	Poor fen	200	29.3	29.4	0.1	10	1.0%
Tabley Mere SSSI Transect 1	Broadleaved deciduous woodland	108	56.4	56.8	0.4	10	3.7%
	Poor fen	150	32.6	32.8	0.2	10	1.7%
	Poor fen	200	32.4	32.5	0.1	10	1.2%
Tabley Mere SSSI Transect 2	Broadleaved deciduous woodland	146	56.1	56.3	0.2	10	2.9%
	Poor fen	150	32.7	32.9	0.2	10	1.8%
	Poor fen	200	32.5	32.6	0.1	10	1.3%

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Table 22: Assessment of acid deposition with ammonia at ecological sites (construction phase)

Ecological Site	Sensitive habitat	Distance to road (m)	Total acid deposition (k eq/ha/yr)		Change in acid deposition (k eq/ha/yr)	Change in acid deposition as percent of CLNmax	With AP2 revised scheme acid deposition as percent of CLNmax
			2026 without the AP2 revised scheme	2026 with the AP2 revised scheme			
The Mere, Mere SSSI/Midland Meres and Mosses Phase 2 Ramsar site	Poor fen	193	2.2	2.2	< 0.1	1.3%	387.5%
	Poor fen	200	2.2	2.2	< 0.1	1.3%	387.2%
Tabley Mere SSSI Transect 1	Broadleaved deciduous woodland	108	4.2	4.2	< 0.1	4.4%	706.7%
	Poor fen	150	2.5	2.5	< 0.1	2.0%	413.5%
	Poor fen	200	2.4	2.4	< 0.1	1.5%	410.5%
Tabley Mere SSSI Transect 2	Broadleaved deciduous woodland	146	4.2	4.2	< 0.1	3.5%	701.3%
	Poor fen	150	2.5	2.5	< 0.1	2.1%	414.2%
	Poor fen	200	2.4	2.5	0.1	1.6%	411.1%

- 4.3.10 The annual mean NO₂, PM₁₀ and PM_{2.5} concentrations are predicted to be within the air quality standards during construction of the AP2 revised scheme. Since the annual mean NO₂ concentrations are predicted to be well below 60µg/m³, the hourly mean standard is also expected to be met. Similarly, since the annual mean PM₁₀ concentrations are predicted to be below 35µg/m³, the daily mean standard is also expected to be met.
- 4.3.11 Negligible or slight adverse impacts are predicted at all human receptors in the area for annual mean NO₂ concentrations. Negligible impacts are predicted at all human receptors in the area for annual mean PM₁₀ and PM_{2.5} concentrations.
- 4.3.12 NO_x concentrations at The Mere, Mere SSSI Midland Meres and Mosses Phase 2 Ramsar site and Ramsar and Tabley Mere SSSI are predicted to be within the air quality standard, both without and with the AP2 revised scheme, and the changes in NO_x concentrations are equal to 1% of the air quality standard or less, except at a distance of between 108m and 150m from the road for Tabley Mere SSSI transect 1 and between 146m and 200m from the road for Tabley Mere SSSI transect 2.
- 4.3.13 NH₃ concentrations at The Mere, Mere SSSI/Midland Meres and Mosses Phase 2 Ramsar site and Ramsar and Tabley Mere SSSI are predicted to be above the relevant critical level, both without and with the AP2 revised scheme, and the changes in NH₃ concentrations are greater than 1% of the air quality critical level at The Mere, Mere SSSI/Midland Meres and Mosses Phase 2 Ramsar site up to 200m from the road and Tabley Mere SSSI up to 200m from the road.
- 4.3.14 The change in nitrogen deposition due to the AP2 revised scheme is predicted to be 1% of the lower critical load at The Mere, Mere SSSI/Midland Meres and Mosses Phase 2 Ramsar site but is predicted to be greater than 1% of the lower critical load at Tabley Mere SSSI up to 200m from the road.
- 4.3.15 The change in acid deposition due to the AP2 revised scheme is predicted to be greater than 1% of the maximum nitrogen critical load at The Mere, Mere SSSI/Midland Meres and Mosses Phase 2 Ramsar site up to 200m from the road and Tabley Mere SSSI up to 200m from the road.

Assessment of significance

- 4.3.16 No significant effects are anticipated at any receptors in relation to annual mean NO₂, PM₁₀ or PM_{2.5} concentrations.
- 4.3.17 There are no new or different significant effects from the construction of the AP2 revised scheme compared to the main ES as amended by SES1 and AP1 ES for human receptors.
- 4.3.18 Since the change in NO_x concentrations are predicted to be equal to 1% or less of the air quality standard, no significant effects are predicted at The Mere, Mere SSSI/Midland Meres and Mosses Phase 2 Ramsar site due to NO_x concentrations. Since the change in NO_x concentrations are predicted to be greater than 1% of the air quality standard, there is the potential for significant effects to occur at except at Tabley Mere SSSI except at a distance of

between 108m and 150m from the road for Tabley Mere SSSI transect 1 and between 146m and 200m from the road for Tabley Mere SSSI transect 2 due to NO_x concentrations.

- 4.3.19 Since the change in NH₃ concentrations are predicted to be greater than 1% of the air quality critical level, there is the potential for significant effects to occur at The Mere, Mere SSSI/Midland Meres and Mosses Phase 2 Ramsar site up to 200m from the road and Tabley Mere SSSI up to 200m from the road due to NH₃ concentrations.
- 4.3.20 Since the change in nitrogen deposition is predicted to be 1% of the lower critical load, no significant effects are predicted at The Mere, Mere SSSI/Midland Meres and Mosses Phase 2 Ramsar site due to nitrogen deposition. Since the change in nitrogen deposition is predicted to be greater than 1% of the lower critical load, there is the potential for significant effects to occur at Tabley Mere SSSI up to 200m from the road due to nitrogen deposition.
- 4.3.21 Since the change in acid deposition is predicted to be greater than 1% of the maximum nitrogen critical load, there is the potential for significant effects to occur at The Mere, Mere SSSI/Midland Meres and Mosses Phase 2 Ramsar site up to 200m from the road and Tabley Mere SSSI up to 200m from the road due to acid deposition.
- 4.3.22 There is the potential for new significant effects from the construction of the AP2 revised scheme compared to the main ES as amended by SES1 and AP1 ES at The Mere, Mere SSSI/Midland Meres and Mosses Phase 2 Ramsar site for acid deposition and at Tabley Mere SSSI for NO_x concentrations, nitrogen and acid deposition.

4.4 Assessment of operational traffic emissions

Operational traffic model

- 4.4.1 For the assessment of traffic on the highway network, data for the year 2039 were used as the operational year of the AP2 revised scheme.

Screening of traffic data

- 4.4.2 The screening process identified 29 roads in the Pickmere to Agden and Hulseheath (MA03) community area exceeding the thresholds for changes in Annual Average Daily Traffic (AADT) or daily Heavy Duty Vehicle (HDV) flows and/or changes in road alignment by 5m or more. These roads include:

- the M6 J19;
- the M6 J19 to the M6 J20;
- the M6 J19 Tabley Interchange;
- the M6 J20 to the M6 J21;
- the M56 J7 to the M56 J9;
- the A50 Cliff Lane;
- the A50 Manchester Road;

- the A50 Mere Junction;
- the A50 Warrington Road;
- the A556;
- the A556 Chester Road;
- the A5033 Northwich Road; and
- the A5034 Chester Road.

4.4.3 Further roads have been included in the assessment to account for their emissions at nearby receptors.

Receptors assessed and background concentrations

4.4.4 Details of the assessed receptors and the background concentrations used in the assessment remain as reported within the main ES, Volume 5, Appendix: AQ-001-0MA03, or the main ES as amended by SES1 and AP1 ES. There were 17 human receptors modelled in the main ES, or the main ES as amended by SES1 and AP1 ES, that have not been modelled as part of the AP2 revised scheme and 28 receptors have been added due to changes in the study area. Details of the assessed human receptors and the background concentrations used in the assessment are shown in Table 23. The location of all receptors is shown in the accompanying SES2 and AP2 ES, Volume 5, Air quality Map Book: Map Series AQ-01 – Monitoring Locations and Receptors.

4.4.5 One designated ecological site has been identified within 200m of the screened in roads, The Mere, Mere SSSI/Midland Meres and Mosses Phase 2 Ramsar site, located east of the AP2 revised scheme in Mere.

4.4.6 Table 24 shows the background concentrations for NO_x, background nitrogen deposition and critical loads. Table 25 shows the background acid deposition, critical loads and background ammonia concentrations. Acid deposition and ammonia were not previously assessed in the main ES.

Table 23: Modelled human receptors and background concentrations (operational phase)

Receptor	Description/Location	Ordnance Survey coordinates	Background concentrations in 2039 (µg/m ³)			
			NO _x	NO ₂	PM ₁₀	PM _{2.5}
3-O-H003	School Lane, Tabley	370455, 378316	8.3	6.5	9.7	6.0
3-O-H004	School Lane, Pickmere	370277, 378400	8.3	6.5	9.7	6.0
3-O-H005	Frog Lane, Pickmere	370045, 378700	8.3	6.5	9.7	6.0
3-O-H006	Pickmere Lane, Tabley	370901, 378740	8.3	6.5	9.7	6.0
3-O-H008	Pickmere Lane, Tabley	371345, 379065	8.9	7.0	11.3	7.0

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Receptor	Description/Location	Ordnance Survey coordinates	Background concentrations in 2039 (µg/m ³)			
			NO _x	NO ₂	PM ₁₀	PM _{2.5}
3-O-H010	Budworth Road, Pickmere	369560, 379115	8.2	6.5	9.8	6.1
3-O-H012	Chester Road, Tabley	372276, 379268	9.2	7.2	12.2	7.3
3-O-H013	Budworth Road, Aston by Budworth	368712, 379268	8.1	6.4	9.7	6.1
3-O-H014	Old Hall Lane, Over Tabley	371767, 379656	8.9	7.0	11.3	7.0
3-O-H015	Old Hall Lane, Over Tabley	371976, 379779	8.9	7.0	11.3	7.0
3-O-H016	Old Hall Lane, Tabley	370869, 380388	11.6	9.0	11.1	6.9
3-O-H017	Mereside Road, Mere	373605, 381010	9.4	7.3	9.6	6.2
3-O-H018	Warrington Road, Mere	373371, 381129	9.4	7.3	9.6	6.2
3-O-H019	Cann Lane, Aston by Budworth	369180, 381150	11.7	9.0	12.3	7.3
3-O-H023	Chester Road, Mere	372773, 381550	9.9	7.7	10.7	6.6
3-O-H024	Chester Road, Mere	372712, 381620	9.9	7.7	10.7	6.6
3-O-H025	Chester Road, Mere	372728, 381720	9.9	7.7	10.7	6.6
3-O-H027	Moss Lane, High Legh	367695, 382555	12.1	9.3	11.8	7.2
3-O-H028	Hoo Green Lane, Knutsford	371825, 382712	9.2	7.2	10.5	6.4
3-O-H029	Mere, Knutsford	371911, 382718	9.2	7.2	10.5	6.4
3-O-H030	Mere, Knutsford	371783, 382780	9.2	7.2	10.5	6.4
3-O-H031	Warrington Road, Mere	371377, 383034	9.3	7.3	10.0	6.2
3-O-H033	Barleycastle Lane, Appleton Thorn	365736, 383802	13.0	10.0	11.9	7.2
3-O-H034	Peacock Lane, Mere	372076, 384015	10.0	7.7	10.0	6.3
3-O-H035	Withers Lane, High Legh	367075, 384159	13.9	10.6	12.8	7.5
3-O-H036	Back Lane, Moston	371994, 384294	9.8	7.6	9.8	6.2
3-O-H037	Peacock Lane, Knutsford	371813, 384296	9.8	7.6	9.8	6.2
3-O-H038	Peacock Lane, High Legh	371541, 384370	9.8	7.6	9.8	6.2
3-O-H039	Peacock Lane, Knutsford	371303, 384423	9.8	7.6	9.8	6.2
3-O-H041	Agden Lane, Agden	371826, 384875	9.8	7.6	9.8	6.2
3-O-H043	Cliff Lane, Lymm	366015, 385005	15.0	11.4	12.4	7.4
3-O-H044	Agden Lane, Agden	371652, 385034	10.3	8.0	11.2	6.9
3-O-H045	Froghall Lane, High Leigh	371066, 385157	10.3	8.0	11.2	6.9

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Receptor	Description/Location	Ordnance Survey coordinates	Background concentrations in 2039 (µg/m ³)			
			NO _x	NO ₂	PM ₁₀	PM _{2.5}
3-O-H046	West Lane, High Legh	370348, 385245	10.5	8.1	11.0	6.9
3-O-H047	Agden Lane, Agden	371314, 385293	10.3	8.0	11.2	6.9
3-O-H048	Agden Park Lane, Broomedge	370849, 385893	10.5	8.1	11.0	6.9
3-O-H057	Chapel Lane, Bucklow Hill	372795, 383436	9.4	7.4	11.1	6.8
3-O-H063**	Northwich Road, Knutsford	374595, 378587	10.2	7.9	10.5	6.7
3-O-H064**	Northwich Road, Knutsford	374640, 378603	10.2	7.9	10.5	6.7
3-O-H065**	Heath Drive, Knutsford	374568, 378658	10.2	7.9	10.5	6.7
3-O-H066**	Gaskell Avenue, Knutsford	374997, 378690	10.2	7.9	10.5	6.7
3-O-H067**	Tabley Road, Knutsford	374444, 379064	9.4	7.3	10.2	6.4
3-O-H068**	Tabley Road, Knutsford	374445, 379084	9.4	7.3	10.2	6.4
3-O-H069**	Pickmere Lane, Knutsford	371325, 379089	8.9	7.0	11.3	7.0
3-O-H070**	Budworth Road, Bate Heath	368662, 379230	8.1	6.4	9.7	6.1
3-O-H071**	Tabley Hill Lane, Knutsford	372340, 379262	9.2	7.2	12.2	7.3
3-O-H072**	Manchester Road, Knutsford	374425, 379319	9.4	7.3	10.2	6.4
3-O-H073**	Tabley Road, Tabley, Knutsford	373737, 379420	9.6	7.5	10.8	6.6
3-O-H074**	Tabley Hill Lane, Tabley, Knutsford	373612, 379451	9.6	7.5	10.8	6.6
3-O-H075**	Chester Road, Over Tabley	372284, 379688	9.2	7.2	12.2	7.3
3-O-H076**	Chester Road, Over Tabley	372263, 379724	9.2	7.2	12.2	7.3
3-O-H077**	Manchester Road, Knutsford	374245, 379764	9.4	7.3	10.2	6.4
3-O-H078**	Manchester Road, Knutsford	374053, 380101	8.9	7.0	9.5	6.1
3-O-H079**	Manchester Road, Mere	373651, 380925	9.6	7.5	9.9	6.3
3-O-H080**	Warrington Road A50, Mere	372832, 381552	9.9	7.7	10.7	6.6
3-O-H081**	Barley Fields, Warrington Road, Knutsford	371938, 382647	9.2	7.2	10.5	6.4
3-O-H082**	Wrenshot Lane, High Legh	371291, 383123	9.3	7.3	10.0	6.2
3-O-H083**	Intack Lane, High Legh, Knutsford	367000, 383407	12.1	9.3	12.3	7.3
3-O-H084**	A50, High Legh	369942, 383727	9.5	7.4	10.4	6.4
3-O-H085**	A50, High Legh	369065, 384154	12.0	9.2	10.7	6.5

Receptor	Description/Location	Ordnance Survey coordinates	Background concentrations in 2039 ($\mu\text{g}/\text{m}^3$)			
			NO _x	NO ₂	PM ₁₀	PM _{2.5}
3-O-H086**	A50, High Legh	368676, 384263	12.4	9.5	12.1	7.2
3-O-H087**	Warrington Road, High Legh	367943, 384452	13.9	10.6	12.8	7.5
3-O-H088**	Warrington Road, Knutsford	367457, 384718	13.9	10.6	12.8	7.5
3-O-H089**	A50 Cliff Lane, Warrington	366922, 384924	16.8	12.6	12.3	7.4
3-O-H090**	Agden Park Lane, Lymm	370833, 385644	10.5	8.1	11.0	6.9

Note: ** indicates that receptor is new to the SES2 and AP2 ES.

Table 24: Modelled ecological receptor backgrounds and critical loads (operational phase)

Receptor	Sensitive habitat	2039 NO _x background concentration ($\mu\text{g}/\text{m}^3$)	APIS data ⁵ of average total N deposition (kg N/ha/yr)	APIS Critical load (kg N/ha/yr)
The Mere, Mere SSSI/Midland Meres and Mosses Phase 2 Ramsar site	Poor fen	9.6	28.9	10

Table 25: Modelled ecological receptor acid deposition backgrounds, critical loads and ammonia background concentrations (operational phase)

Receptor	Sensitive habitat	APIS data of average total acid deposition (k eq/ha/yr)	APIS Critical load nitrogen (k eq/ha/yr) (min)	APIS Critical load nitrogen (k eq/ha/yr) (max)	APIS Ammonia background concentration ($\mu\text{g}/\text{m}^3$)
The Mere, Mere SSSI/Midland Meres and Mosses Phase 2 Ramsar site	Poor fen	2.2	0.2	0.6	3.6

Assessment results

4.4.7 Table 26 to Table 28 provide the summary of the modelled pollutant concentrations for the assessed human receptors. The magnitude of change and impact descriptor are provided along with a comparison against the main ES or the main ES as amended by SES1 and AP1 ES. These were derived following the IAQM/EPUK methodology⁸. Table 29 to Table 32 provide the summary of the assessment for ecological receptors.

4.4.8 Table 30 provides a summary of the ammonia concentration results. Table 31 provides a summary of the nitrogen deposition receptor results with an additional ammonia component applied using the National Highways Ammonia N Deposition Tool⁹. Table 32 provides a summary of the acid deposition receptor results with an additional ammonia component applied using the National Highways Ammonia N Deposition Tool.

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Table 26: Predicted annual mean NO₂ concentrations and impacts (operation phase)

Receptor	Description/Location	NO ₂ concentrations (µg/m ³)		Change in NO ₂ concentrations (µg/m ³)	Impact descriptor	Impact descriptor in the main ES, or the main ES as amended by SES1 and AP1 ES	Significance
		2039 without the AP2 revised scheme	2039 with the AP2 revised scheme				
3-O-H003	School Lane, Tabley	6.9	6.9	< 0.1	Negligible	Negligible	Not significant
3-O-H004	School Lane, Pickmere	6.8	6.8	< 0.1	Negligible	Negligible	Not significant
3-O-H005	Frog Lane, Pickmere	6.8	6.7	-0.1	Negligible	Negligible	Not significant
3-O-H006	Pickmere Lane, Tabley	7.2	7.3	0.1	Negligible	Negligible	Not significant
3-O-H008	Pickmere Lane, Tabley	7.8	7.8	< 0.1	Negligible	Negligible	Not significant
3-O-H010	Budworth Road, Pickmere	6.7	6.7	< 0.1	Negligible	Negligible	Not significant
3-O-H012	Chester Road, Tabley	11.7	11.7	< 0.1	Negligible	Negligible	Not significant
3-O-H013	Budworth Road, Aston by Budworth	6.8	6.7	-0.1	Negligible	Negligible	Not significant
3-O-H014	Old Hall Lane, Over Tabley	9.2	9.2	< 0.1	Negligible	Negligible	Not significant
3-O-H015	Old Hall Lane, Over Tabley	10.9	11.0	0.1	Negligible	Negligible	Not significant
3-O-H016	Old Hall Lane, Tabley	9.8	10.5	0.7	Negligible	Negligible	Not significant
3-O-H017	Mereside Road, Mere	9.6	9.8	0.2	Negligible	Negligible	Not significant
3-O-H018	Warrington Road, Mere	9.4	9.6	0.2	Negligible	Negligible	Not significant
3-O-H019	Cann Lane, Aston by Budworth	9.8	9.8	< 0.1	Negligible	Negligible	Not significant
3-O-H023	Chester Road, Mere	9.7	9.8	0.1	Negligible	Negligible	Not significant
3-O-H024	Chester Road, Mere	9.7	9.9	0.2	Negligible	Negligible	Not significant
3-O-H025	Chester Road, Mere	9.6	9.8	0.2	Negligible	Negligible	Not significant

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Receptor	Description/Location	NO ₂ concentrations (µg/m ³)		Change in NO ₂ concentrations (µg/m ³)	Impact descriptor	Impact descriptor in the main ES, or the main ES as amended by SES1 and AP1 ES	Significance
		2039 without the AP2 revised scheme	2039 with the AP2 revised scheme				
3-O-H027	Moss Lane, High Legh	19.3	19.2	-0.1	Negligible	Negligible	Not significant
3-O-H028	Hoo Green Lane, Knutsford	8.6	8.1	-0.5	Negligible	Negligible	Not significant
3-O-H029	Mere, Knutsford	9.4	9.6	0.2	Negligible	Negligible	Not significant
3-O-H030	Mere, Knutsford	10.0	10.1	0.1	Negligible	Negligible	Not significant
3-O-H031	Warrington Road, Mere	9.0	9.3	0.3	Negligible	Negligible	Not significant
3-O-H033	Barleycastle Lane, Appleton Thorn	14.6	14.6	< 0.1	Negligible	Negligible	Not significant
3-O-H034	Peacock Lane, Mere	8.4	8.3	-0.1	Negligible	Negligible	Not significant
3-O-H035	Withers Lane, High Legh	12.7	12.7	< 0.1	Negligible	Negligible	Not significant
3-O-H036	Back Lane, Moston	8.2	8.6	0.4	Negligible	Negligible	Not significant
3-O-H037	Peacock Lane, Knutsford	8.3	8.2	-0.1	Negligible	Negligible	Not significant
3-O-H038	Peacock Lane, High Legh	8.2	8.2	< 0.1	Negligible	Negligible	Not significant
3-O-H039	Peacock Lane, Knutsford	8.1	8.1	< 0.1	Negligible	Negligible	Not significant
3-O-H041	Agden Lane, Agden	8.5	8.6	0.1	Negligible	Negligible	Not significant
3-O-H043	Cliff Lane, Lymm	14.9	14.9	< 0.1	Negligible	Negligible	Not significant
3-O-H044	Agden Lane, Agden	9.3	9.6	0.3	Negligible	Negligible	Not significant
3-O-H045	Froghall Lane, High Leigh	12.2	12.2	< 0.1	Negligible	Negligible	Not significant
3-O-H046	West Lane, High Legh	14.0	14.1	0.1	Negligible	Negligible	Not significant
3-O-H047	Agden Lane, Agden	13.8	14.0	0.2	Negligible	Negligible	Not significant
3-O-H048	Agden Park Lane, Broomedge	10.2	10.5	0.3	Negligible	Negligible	Not significant

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Receptor	Description/Location	NO ₂ concentrations (µg/m ³)		Change in NO ₂ concentrations (µg/m ³)	Impact descriptor	Impact descriptor in the main ES, or the main ES as amended by SES1 and AP1 ES	Significance
		2039 without the AP2 revised scheme	2039 with the AP2 revised scheme				
3-O-H057	Chapel Lane, Bucklow Hill	8.8	8.9	0.1	Negligible	Negligible	Not significant
3-O-H063**	Northwich Road Knutsford	10.2	10.2	< 0.1	Negligible	Not applicable	Not significant
3-O-H064**	Northwich Road, Knutsford	10.8	10.8	< 0.1	Negligible	Not applicable	Not significant
3-O-H065**	Heath Drive, Knutsford	9.8	9.9	0.1	Negligible	Not applicable	Not significant
3-O-H066**	Gaskell Avenue, Knutsford	13.3	13.3	< 0.1	Negligible	Not applicable	Not significant
3-O-H067**	Tabley Road, Knutsford	8.3	8.3	< 0.1	Negligible	Not applicable	Not significant
3-O-H068**	Tabley Road, Knutsford	8.6	8.5	-0.1	Negligible	Not applicable	Not significant
3-O-H069**	Pickmere Lane, Knutsford	7.9	7.9	< 0.1	Negligible	Not applicable	Not significant
3-O-H070**	Budworth Road, Bate Heath	6.8	6.8	< 0.1	Negligible	Not applicable	Not significant
3-O-H071**	Tabley Hill Lane, Knutsford	9.6	9.6	< 0.1	Negligible	Not applicable	Not significant
3-O-H072**	Manchester Road, Knutsford	10.0	10.1	0.1	Negligible	Not applicable	Not significant
3-O-H073**	Tabley Road, Tabley, Knutsford	8.3	8.1	-0.2	Negligible	Not applicable	Not significant
3-O-H074**	Tabley Hill Lane, Tabley, Knutsford	8.4	8.2	-0.2	Negligible	Not applicable	Not significant
3-O-H075**	Chester Road, Over Tabley	12.7	12.7	< 0.1	Negligible	Not applicable	Not significant

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Receptor	Description/Location	NO ₂ concentrations (µg/m ³)		Change in NO ₂ concentrations (µg/m ³)	Impact descriptor	Impact descriptor in the main ES, or the main ES as amended by SES1 and AP1 ES	Significance
		2039 without the AP2 revised scheme	2039 with the AP2 revised scheme				
3-O-H076**	Chester Road, Over Tabley	12.6	12.6	< 0.1	Negligible	Not applicable	Not significant
3-O-H077**	Manchester Road, Knutsford	9.5	9.7	0.2	Negligible	Not applicable	Not significant
3-O-H078**	Manchester Road, Knutsford	8.8	8.9	0.1	Negligible	Not applicable	Not significant
3-O-H079**	Manchester Road, Mere	10.3	10.5	0.2	Negligible	Not applicable	Not significant
3-O-H080**	Warrington Road A50, Mere	9.7	9.9	0.2	Negligible	Not applicable	Not significant
3-O-H081**	Barley Fields, Warrington Road, Knutsford	8.3	8.4	0.1	Negligible	Not applicable	Not significant
3-O-H082**	Wrenshot Lane, High Legh	10.9	11.3	0.4	Negligible	Not applicable	Not significant
3-O-H083**	Intack Lane, High Legh, Knutsford	16.2	16.1	-0.1	Negligible	Not applicable	Not significant
3-O-H084**	A50, High Legh	10.2	10.5	0.3	Negligible	Not applicable	Not significant
3-O-H085**	A50, High Legh	11.6	11.9	0.3	Negligible	Not applicable	Not significant
3-O-H086**	A50, High Legh	10.9	11.1	0.2	Negligible	Not applicable	Not significant
3-O-H087**	Warrington Road, High Legh	13.5	13.8	0.3	Negligible	Not applicable	Not significant
3-O-H088**	Warrington Road, Knutsford	12.6	12.9	0.3	Negligible	Not applicable	Not significant
3-O-H089**	A50 Cliff Lane, Warrington	14.9	15.1	0.2	Negligible	Not applicable	Not significant

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Receptor	Description/Location	NO ₂ concentrations (µg/m ³)		Change in NO ₂ concentrations (µg/m ³)	Impact descriptor	Impact descriptor in the main ES, or the main ES as amended by SES1 and AP1 ES	Significance
		2039 without the AP2 revised scheme	2039 with the AP2 revised scheme				
3-O-H090**	Agden Park Lane, Lymm	9.7	10.0	0.3	Negligible	Not applicable	Not significant

Note: ** indicates that receptor is new to the SES2 and AP2 ES.

Table 27: Predicted annual mean PM₁₀ concentrations and impacts (operation phase)

Receptor	Description/Location	PM ₁₀ concentrations (µg/m ³)		Change in PM ₁₀ concentrations (µg/m ³)	Impact descriptor	Impact descriptor in the main ES, or the main ES as amended by SES1 and AP1 ES	Significance
		2039 without the AP2 revised scheme	2039 with the AP2 revised scheme				
3-O-H003	School Lane, Tabley	9.8	9.8	< 0.1	Negligible	Negligible	Not significant
3-O-H004	School Lane, Pickmere	9.8	9.8	< 0.1	Negligible	Negligible	Not significant
3-O-H005	Frog Lane, Pickmere	9.8	9.8	< 0.1	Negligible	Negligible	Not significant
3-O-H006	Pickmere Lane, Tabley	9.9	9.9	< 0.1	Negligible	Negligible	Not significant
3-O-H008	Pickmere Lane, Tabley	11.6	11.6	< 0.1	Negligible	Negligible	Not significant
3-O-H010	Budworth Road, Pickmere	9.9	9.9	< 0.1	Negligible	Negligible	Not significant
3-O-H012	Chester Road, Tabley	13.9	13.9	< 0.1	Negligible	Negligible	Not significant
3-O-H013	Budworth Road, Aston by Budworth	9.8	9.8	< 0.1	Negligible	Negligible	Not significant
3-O-H014	Old Hall Lane, Over Tabley	12.3	12.3	< 0.1	Negligible	Negligible	Not significant
3-O-H015	Old Hall Lane, Over Tabley	13.1	13.1	< 0.1	Negligible	Negligible	Not significant
3-O-H016	Old Hall Lane, Tabley	11.5	11.8	0.3	Negligible	Negligible	Not significant
3-O-H017	Mereside Road, Mere	10.4	10.5	0.1	Negligible	Negligible	Not significant

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		2039 without the AP2 revised scheme	2039 with the AP2 revised scheme				
3-O-H018	Warrington Road, Mere	10.3	10.4	0.1	Negligible	Negligible	Not significant
3-O-H019	Cann Lane, Aston by Budworth	12.6	12.7	0.1	Negligible	Negligible	Not significant
3-O-H023	Chester Road, Mere	11.4	11.4	< 0.1	Negligible	Negligible	Not significant
3-O-H024	Chester Road, Mere	11.3	11.4	0.1	Negligible	Negligible	Not significant
3-O-H025	Chester Road, Mere	11.3	11.4	0.1	Negligible	Negligible	Not significant
3-O-H027	Moss Lane, High Legh	16.5	16.5	< 0.1	Negligible	Negligible	Not significant
3-O-H028	Hoo Green Lane, Knutsford	10.9	10.8	-0.1	Negligible	Negligible	Not significant
3-O-H029	Mere, Knutsford	11.2	11.3	0.1	Negligible	Negligible	Not significant
3-O-H030	Mere, Knutsford	11.4	11.5	0.1	Negligible	Negligible	Not significant
3-O-H031	Warrington Road, Mere	10.6	10.7	0.1	Negligible	Negligible	Not significant
3-O-H033	Barleycastle Lane, Appleton Thorn	13.8	13.9	0.1	Negligible	Negligible	Not significant
3-O-H034	Peacock Lane, Mere	10.2	10.2	< 0.1	Negligible	Negligible	Not significant
3-O-H035	Withers Lane, High Legh	13.7	13.7	< 0.1	Negligible	Negligible	Not significant
3-O-H036	Back Lane, Moston	10.0	10.1	0.1	Negligible	Negligible	Not significant
3-O-H037	Peacock Lane, Knutsford	10.0	10.0	< 0.1	Negligible	Negligible	Not significant
3-O-H038	Peacock Lane, High Legh	10.0	10.0	< 0.1	Negligible	Negligible	Not significant
3-O-H039	Peacock Lane, Knutsford	10.0	10.0	< 0.1	Negligible	Negligible	Not significant
3-O-H041	Agden Lane, Agden	10.1	10.1	< 0.1	Negligible	Negligible	Not significant
3-O-H043	Cliff Lane, Lymm	14.0	14.1	0.1	Negligible	Negligible	Not significant
3-O-H044	Agden Lane, Agden	11.6	11.7	0.1	Negligible	Negligible	Not significant

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Receptor	Description/Location	PM ₁₀ concentrations (µg/m ³)		Change in PM ₁₀ concentrations (µg/m ³)	Impact descriptor	Impact descriptor in the main ES, or the main ES as amended by SES1 and AP1 ES	Significance
		2039 without the AP2 revised scheme	2039 with the AP2 revised scheme				
3-O-H045	Froghall Lane, High Leigh	13.0	13.0	< 0.1	Negligible	Negligible	Not significant
3-O-H046	West Lane, High Legh	13.6	13.6	< 0.1	Negligible	Negligible	Not significant
3-O-H047	Agden Lane, Agden	13.7	13.8	0.1	Negligible	Negligible	Not significant
3-O-H048	Agden Park Lane, Broomedge	11.7	11.8	0.1	Negligible	Negligible	Not significant
3-O-H057	Chapel Lane, Bucklow Hill	11.5	11.6	0.1	Negligible	Negligible	Not significant
3-O-H063**	Northwich Road Knutsford	11.6	11.6	< 0.1	Negligible	Not applicable	Not significant
3-O-H064**	Northwich Road, Knutsford	11.9	11.9	< 0.1	Negligible	Not applicable	Not significant
3-O-H065**	Heath Drive, Knutsford	11.4	11.4	< 0.1	Negligible	Not applicable	Not significant
3-O-H066**	Gaskell Avenue, Knutsford	12.8	12.8	< 0.1	Negligible	Not applicable	Not significant
3-O-H067**	Tabley Road, Knutsford	10.6	10.6	< 0.1	Negligible	Not applicable	Not significant
3-O-H068**	Tabley Road, Knutsford	10.7	10.7	< 0.1	Negligible	Not applicable	Not significant
3-O-H069**	Pickmere Lane, Knutsford	11.6	11.6	< 0.1	Negligible	Not applicable	Not significant
3-O-H070**	Budworth Road, Bate Heath	9.8	9.8	< 0.1	Negligible	Not applicable	Not significant
3-O-H071**	Tabley Hill Lane, Knutsford	13.0	13.0	< 0.1	Negligible	Not applicable	Not significant
3-O-H072**	Manchester Road, Knutsford	11.5	11.5	< 0.1	Negligible	Not applicable	Not significant

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Receptor	Description/Location	PM ₁₀ concentrations (µg/m ³)		Change in PM ₁₀ concentrations (µg/m ³)	Impact descriptor	Impact descriptor in the main ES, or the main ES as amended by SES1 and AP1 ES	Significance
		2039 without the AP2 revised scheme	2039 with the AP2 revised scheme				
3-O-H073**	Tabley Road, Tabley, Knutsford	11.1	11.0	-0.1	Negligible	Not applicable	Not significant
3-O-H074**	Tabley Hill Lane, Tabley, Knutsford	11.1	11.1	< 0.1	Negligible	Not applicable	Not significant
3-O-H075**	Chester Road, Over Tabley	14.5	14.5	< 0.1	Negligible	Not applicable	Not significant
3-O-H076**	Chester Road, Over Tabley	14.5	14.5	< 0.1	Negligible	Not applicable	Not significant
3-O-H077**	Manchester Road, Knutsford	11.0	11.0	< 0.1	Negligible	Not applicable	Not significant
3-O-H078**	Manchester Road, Knutsford	10.2	10.2	< 0.1	Negligible	Not applicable	Not significant
3-O-H079**	Manchester Road, Mere	10.9	11.0	0.1	Negligible	Not applicable	Not significant
3-O-H080**	Warrington Road A50, Mere	11.4	11.5	0.1	Negligible	Not applicable	Not significant
3-O-H081**	Barley Fields, Warrington Road, Knutsford	10.8	10.9	0.1	Negligible	Not applicable	Not significant
3-O-H082**	Wrenshot Lane, High Legh	11.3	11.5	0.2	Negligible	Not applicable	Not significant
3-O-H083**	Intack Lane, High Legh, Knutsford	15.5	15.5	< 0.1	Negligible	Not applicable	Not significant
3-O-H084**	A50, High Legh	11.5	11.6	0.1	Negligible	Not applicable	Not significant
3-O-H085**	A50, High Legh	11.7	11.8	0.1	Negligible	Not applicable	Not significant
3-O-H086**	A50, High Legh	12.6	12.7	0.1	Negligible	Not applicable	Not significant

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Receptor	Description/Location	PM ₁₀ concentrations (µg/m ³)		Change in PM ₁₀ concentrations (µg/m ³)	Impact descriptor	Impact descriptor in the main ES, or the main ES as amended by SES1 and AP1 ES	Significance
		2039 without the AP2 revised scheme	2039 with the AP2 revised scheme				
3-O-H087**	Warrington Road, High Legh	13.8	13.9	0.1	Negligible	Not applicable	Not significant
3-O-H088**	Warrington Road, Knutsford	13.5	13.6	0.1	Negligible	Not applicable	Not significant
3-O-H089**	A50 Cliff Lane, Warrington	13.1	13.2	0.1	Negligible	Not applicable	Not significant
3-O-H090**	Agden Park Lane, Lymm	11.5	11.6	0.1	Negligible	Not applicable	Not significant

Note: ** indicates that receptor is new to the SES2 and AP2 ES.

Table 28: Predicted annual mean PM_{2.5} concentrations and impacts (operation phase)

Receptor	Description/Location	PM _{2.5} concentrations (µg/m ³)		Change in PM _{2.5} concentrations (µg/m ³)	Impact descriptor	Impact descriptor in the main ES, or the main ES as amended by SES1 and AP1 ES	Significance
		2039 without the AP2 revised scheme	2039 with the AP2 revised scheme				
3-O-H003	School Lane, Tabley	6.1	6.1	< 0.1	Negligible	Negligible	Not significant
3-O-H004	School Lane, Pickmere	6.1	6.1	< 0.1	Negligible	Negligible	Not significant
3-O-H005	Frog Lane, Pickmere	6.1	6.1	< 0.1	Negligible	Negligible	Not significant
3-O-H006	Pickmere Lane, Tabley	6.2	6.2	< 0.1	Negligible	Negligible	Not significant
3-O-H008	Pickmere Lane, Tabley	7.2	7.2	< 0.1	Negligible	Negligible	Not significant
3-O-H010	Budworth Road, Pickmere	6.1	6.1	< 0.1	Negligible	Negligible	Not significant
3-O-H012	Chester Road, Tabley	8.3	8.3	< 0.1	Negligible	Negligible	Not significant
3-O-H013	Budworth Road, Aston by Budworth	6.1	6.1	< 0.1	Negligible	Negligible	Not significant

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Receptor	Description/Location	PM _{2.5} concentrations (µg/m ³)		Change in PM _{2.5} concentrations (µg/m ³)	Impact descriptor	Impact descriptor in the main ES, or the main ES as amended by SES1 and AP1 ES	Significance
		2039 without the AP2 revised scheme	2039 with the AP2 revised scheme				
3-O-H014	Old Hall Lane, Over Tabley	7.6	7.6	< 0.1	Negligible	Negligible	Not significant
3-O-H015	Old Hall Lane, Over Tabley	8.1	8.1	< 0.1	Negligible	Negligible	Not significant
3-O-H016	Old Hall Lane, Tabley	7.2	7.3	0.1	Negligible	Negligible	Not significant
3-O-H017	Mereside Road, Mere	6.6	6.6	< 0.1	Negligible	Negligible	Not significant
3-O-H018	Warrington Road, Mere	6.6	6.6	< 0.1	Negligible	Negligible	Not significant
3-O-H019	Cann Lane, Aston by Budworth	7.5	7.5	< 0.1	Negligible	Negligible	Not significant
3-O-H023	Chester Road, Mere	6.9	7.0	0.1	Negligible	Negligible	Not significant
3-O-H024	Chester Road, Mere	6.9	7.0	0.1	Negligible	Negligible	Not significant
3-O-H025	Chester Road, Mere	6.9	7.0	0.1	Negligible	Negligible	Not significant
3-O-H027	Moss Lane, High Legh	10.0	10.0	< 0.1	Negligible	Negligible	Not significant
3-O-H028	Hoo Green Lane, Knutsford	6.6	6.5	-0.1	Negligible	Negligible	Not significant
3-O-H029	Mere, Knutsford	6.8	6.9	0.1	Negligible	Negligible	Not significant
3-O-H030	Mere, Knutsford	6.9	7.0	0.1	Negligible	Negligible	Not significant
3-O-H031	Warrington Road, Mere	6.6	6.6	< 0.1	Negligible	Negligible	Not significant
3-O-H033	Barleycastle Lane, Appleton Thorn	8.4	8.4	< 0.1	Negligible	Negligible	Not significant
3-O-H034	Peacock Lane, Mere	6.4	6.4	< 0.1	Negligible	Negligible	Not significant
3-O-H035	Withers Lane, High Legh	8.1	8.1	< 0.1	Negligible	Negligible	Not significant
3-O-H036	Back Lane, Moston	6.3	6.4	0.1	Negligible	Negligible	Not significant

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Receptor	Description/Location	PM _{2.5} concentrations (µg/m ³)		Change in PM _{2.5} concentrations (µg/m ³)	Impact descriptor	Impact descriptor in the main ES, or the main ES as amended by SES1 and AP1 ES	Significance
		2039 without the AP2 revised scheme	2039 with the AP2 revised scheme				
3-O-H037	Peacock Lane, Knutsford	6.4	6.3	-0.1	Negligible	Negligible	Not significant
3-O-H038	Peacock Lane, High Legh	6.3	6.3	< 0.1	Negligible	Negligible	Not significant
3-O-H039	Peacock Lane, Knutsford	6.3	6.3	< 0.1	Negligible	Negligible	Not significant
3-O-H041	Agden Lane, Agden	6.4	6.4	< 0.1	Negligible	Negligible	Not significant
3-O-H043	Cliff Lane, Lymm	8.4	8.4	< 0.1	Negligible	Negligible	Not significant
3-O-H044	Agden Lane, Agden	7.2	7.2	< 0.1	Negligible	Negligible	Not significant
3-O-H045	Froghall Lane, High Leigh	8.0	8.0	< 0.1	Negligible	Negligible	Not significant
3-O-H046	West Lane, High Legh	8.5	8.5	< 0.1	Negligible	Negligible	Not significant
3-O-H047	Agden Lane, Agden	8.4	8.5	0.1	Negligible	Negligible	Not significant
3-O-H048	Agden Park Lane, Broomedge	7.3	7.4	0.1	Negligible	Negligible	Not significant
3-O-H057	Chapel Lane, Bucklow Hill	7.0	7.0	< 0.1	Negligible	Negligible	Not significant
3-O-H063**	Northwich Road Knutsford	7.3	7.3	< 0.1	Negligible	Not applicable	Not significant
3-O-H064**	Northwich Road, Knutsford	7.5	7.5	< 0.1	Negligible	Not applicable	Not significant
3-O-H065**	Heath Drive, Knutsford	7.2	7.2	< 0.1	Negligible	Not applicable	Not significant
3-O-H066**	Gaskell Avenue, Knutsford	8.0	8.0	< 0.1	Negligible	Not applicable	Not significant
3-O-H067**	Tabley Road, Knutsford	6.7	6.6	-0.1	Negligible	Not applicable	Not significant
3-O-H068**	Tabley Road, Knutsford	6.7	6.7	< 0.1	Negligible	Not applicable	Not significant

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Receptor	Description/Location	PM _{2.5} concentrations (µg/m ³)		Change in PM _{2.5} concentrations (µg/m ³)	Impact descriptor	Impact descriptor in the main ES, or the main ES as amended by SES1 and AP1 ES	Significance
		2039 without the AP2 revised scheme	2039 with the AP2 revised scheme				
3-O-H069**	Pickmere Lane, Knutsford	7.2	7.2	< 0.1	Negligible	Not applicable	Not significant
3-O-H070**	Budworth Road, Bate Heath	6.1	6.1	< 0.1	Negligible	Not applicable	Not significant
3-O-H071**	Tabley Hill Lane, Knutsford	7.8	7.8	< 0.1	Negligible	Not applicable	Not significant
3-O-H072**	Manchester Road, Knutsford	7.1	7.2	0.1	Negligible	Not applicable	Not significant
3-O-H073**	Tabley Road, Tabley, Knutsford	6.8	6.8	< 0.1	Negligible	Not applicable	Not significant
3-O-H074**	Tabley Hill Lane, Tabley, Knutsford	6.8	6.8	< 0.1	Negligible	Not applicable	Not significant
3-O-H075**	Chester Road, Over Tabley	8.7	8.7	< 0.1	Negligible	Not applicable	Not significant
3-O-H076**	Chester Road, Over Tabley	8.7	8.7	< 0.1	Negligible	Not applicable	Not significant
3-O-H077**	Manchester Road, Knutsford	6.9	6.9	< 0.1	Negligible	Not applicable	Not significant
3-O-H078**	Manchester Road, Knutsford	6.5	6.5	< 0.1	Negligible	Not applicable	Not significant
3-O-H079**	Manchester Road, Mere	6.9	6.9	< 0.1	Negligible	Not applicable	Not significant
3-O-H080**	Warrington Road A50, Mere	7.0	7.0	< 0.1	Negligible	Not applicable	Not significant

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Receptor	Description/Location	PM _{2.5} concentrations (µg/m ³)		Change in PM _{2.5} concentrations (µg/m ³)	Impact descriptor	Impact descriptor in the main ES, or the main ES as amended by SES1 and AP1 ES	Significance
		2039 without the AP2 revised scheme	2039 with the AP2 revised scheme				
3-O-H081**	Barley Fields, Warrington Road, Knutsford	6.6	6.6	< 0.1	Negligible	Not applicable	Not significant
3-O-H082**	Wrenshot Lane, High Legh	7.0	7.1	0.1	Negligible	Not applicable	Not significant
3-O-H083**	Intack Lane, High Legh, Knutsford	9.3	9.3	< 0.1	Negligible	Not applicable	Not significant
3-O-H084**	A50, High Legh	7.0	7.1	0.1	Negligible	Not applicable	Not significant
3-O-H085**	A50, High Legh	7.1	7.1	< 0.1	Negligible	Not applicable	Not significant
3-O-H086**	A50, High Legh	7.5	7.6	0.1	Negligible	Not applicable	Not significant
3-O-H087**	Warrington Road, High Legh	8.1	8.2	0.1	Negligible	Not applicable	Not significant
3-O-H088**	Warrington Road, Knutsford	8.0	8.0	< 0.1	Negligible	Not applicable	Not significant
3-O-H089**	A50 Cliff Lane, Warrington	7.9	7.9	< 0.1	Negligible	Not applicable	Not significant
3-O-H090**	Agden Park Lane, Lymm	7.2	7.3	0.1	Negligible	Not applicable	Not significant

Note: ** indicates that receptor is new to the SES2 and AP2 ES.

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Table 29: Predicted annual mean of NO_x concentrations at ecological sites (operational phase)

Ecological site	Sensitive habitat	Distance to road (m)	NO _x concentrations (µg/m ³)		Change in NO _x concentrations (µg/m ³)	Comparison against air quality standard (30µg/m ³)	Percent change in relation to air quality standard
			2039 without the AP2 revised scheme	2039 with the AP2 revised scheme			
The Mere, Mere SSSI/Midland Meres and Mosses Phase 2 Ramsar site	Poor fen	193	10.1	10.1	< 0.1	Within standard	< 0.1%
	Poor fen	200	10.1	10.1	< 0.1	Within standard	< 0.1%

Table 30: Predicted annual mean of ammonia (NH₃) concentrations at ecological sites (operational phase)

Ecological site	Sensitive habitat	Distance to road (m)	NH ₃ concentrations (µg/m ³)		Change in NH ₃ concentrations (µg/m ³)	Comparison against critical level (3µg/m ³ for low and 1µg/m ³ high vegetation)	Percent change in relation to critical level
			2039 without the AP2 revised scheme	2039 with the AP2 revised scheme			
The Mere, Mere SSSI/Midland Meres and Mosses Phase 2 Ramsar site	Poor fen	193	3.6	3.6	< 0.1	Above standard	0.5%
	Poor fen	200	3.6	3.6	< 0.1	Above standard	0.5%

Table 31: Assessment of N deposition with ammonia at ecological sites (operational phase)

Ecological Site	Sensitive habitat	Distance to road (m)	Dry deposition (kg N/ha/yr)		Change in N deposition (kg N/ha/yr)	Critical Load (kg N/ha/yr)	Percent change in relation to lower critical load
			2039 without the AP2 revised scheme	2039 with the AP2 revised scheme			
The Mere, Mere SSSI/Midland Meres and Mosses Phase 2 Ramsar site	Poor fen	193	29.3	29.3	< 0.1	10	0.3%
	Poor fen	200	29.2	29.3	0.1	10	0.3%

Table 32: Assessment of acid deposition at ecological sites (operational phase)

Ecological Site	Sensitive habitat	Distance to road (m)	Acid deposition (k eq/ha/yr)		Change in acid deposition (k eq/ha/yr)	Change in acid deposition as percent of CLmax	With AP2 revised scheme acid deposition as percent of CLmax
			2039 without the AP2 revised scheme	2039 with the AP2 revised scheme			
	Poor fen	193	2.2	2.2	<0.1	0.4%	385.6%

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Ecological Site	Sensitive habitat	Distance to road (m)	Acid deposition (k eq/ha/yr)		Change in acid deposition (k eq/ha/yr)	Change in acid deposition as percent of CLmax	With AP2 revised scheme acid deposition as percent of CLmax
			2039 without the AP2 revised scheme	2039 with the AP2 revised scheme			
The Mere, Mere SSSI/Midland Meres and Mosses Phase 2 Ramsar site	Poor fen	200	2.2	2.2	<0.1	0.4%	385.4%

- 4.4.9 The annual mean NO₂, PM₁₀ and PM_{2.5} concentrations are predicted to be within the air quality standards during operation of the AP2 revised scheme. Since the annual mean NO₂ concentrations are predicted to be well below 60µg/m³, the hourly mean standard is also expected to be met. Similarly, since the annual mean PM₁₀ concentrations are predicted to be below 35µg/m³, the daily mean standard is also expected to be met.
- 4.4.10 Negligible impacts are predicted at all human receptors in the area for annual mean NO₂, PM₁₀ and PM_{2.5} concentrations.
- 4.4.11 NO_x concentrations at The Mere, Mere SSSI/Midland Meres and Mosses Phase 2 Ramsar site are predicted to be within the air quality standard, both without and with the AP2 revised scheme, and the changes in NO_x concentrations are equal to 1% of the air quality standard or less.
- 4.4.12 NH₃ concentrations at The Mere, Mere SSSI/Midland Meres and Mosses Phase 2 Ramsar site are predicted to be above the relevant critical level, both without and with the AP2 revised scheme, and the changes in NH₃ concentrations are less than 1% of the air quality critical level.
- 4.4.13 The change in nitrogen deposition due to the AP2 revised scheme is predicted to be less than 1% of the lower critical load for these sites.
- 4.4.14 The change in acid deposition due to the AP2 revised scheme is predicted to be less than 1% of the maximum nitrogen critical load for these sites.

Assessment of significance

- 4.4.15 No significant effects are anticipated at any receptors in relation to annual mean NO₂, PM₁₀ and PM_{2.5} concentrations.
- 4.4.16 There are no new or different significant effects from the construction of the AP2 revised scheme compared to the main ES as amended by SES1 and AP1 ES for human receptors.
- 4.4.17 Since the change in NO_x concentrations are predicted to be less than 1% of the air quality standard, no significant effects are predicted at The Mere, Mere SSSI/Midland Meres and Mosses Phase 2 Ramsar site due to NO_x concentrations.
- 4.4.18 Since the change in NH₃ concentrations are predicted to be equal to 1% or less of the air quality critical level, no significant effects are predicted at The Mere, Mere SSSI/Midland Meres and Mosses Phase 2 Ramsar site due to NH₃ concentrations.
- 4.4.19 Since the change in nitrogen deposition is predicted to be less than 1% of the lower critical load, no significant effects are predicted at The Mere, Mere SSSI/Midland Meres and Mosses Phase 2 Ramsar site due to nitrogen deposition.
- 4.4.20 Since the change in acid deposition is predicted to be less than 1% of the relevant critical load, no significant effects are predicted at The Mere, Mere SSSI/Midland Meres and Mosses Phase 2 Ramsar site due to acid deposition.

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- 4.4.21 There are no new or different significant effects from the operation of the AP2 revised scheme compared to the main ES or the main ES as amended by SES1 and AP1 ES.

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