

M25 junction 10/A3 Wisley interchange TR010030

6.5 Environmental Statement: Appendix 5.1 Air quality

Regulation 5(2)(a)
Planning Act 2008

Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009



Infrastructure Planning

Planning Act 2008

The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 (as amended)

M25 junction 10/A3 Wisley interchange

The M25 junction 10/A3 Wisley interchange Development Consent Order 202[x]

6.5 ENVIRONMENTAL STATEMENT: APPENDIX 5.1 AIR QUALITY

Regulation Number:	Regulation 5(2)(a)
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Appendix 5.1 Air Quality

5.1 PM_{2.5}

- 5.1.1.1 At the closest monitoring station to the Scheme, the London Teddington Bushy Park urban background site, concentrations between 2013 and 2017 were below the annual mean air quality criterion of 25 µg/m³, ranging between 9 µg/m³ and 14 µg/m³. Even at the Camden Roadside site, the annual mean concentrations have been below the annual mean air quality criterion of 25 µg/m³, with a recorded concentration of 16 µg/m³ in 2017.
- 5.1.1.2 Highways England has calculated that a large increase in 10,000 vehicles a day at a point very close to the edge of a motorway (5 metres), would lead to an increase in PM_{2.5} of approximately 0.5 µg/m³, and even allowing for an uncertainty estimate of a factor of 2, would result in a maximum change of 1 µg/m³.
- 5.1.1.3 Combining a maximum increase in PM_{2.5} roadside concentrations of 1 µg/m³ with a measured concentration of 16 µg/m³, as recorded at Camden Roadside in 2017, would result in a concentration of 17 µg/m³, which is 8 µg/m³ below the limit value. On this basis there is not considered to be a risk that the Scheme would exceed the PM_{2.5} air quality criterion and consequently an assessment of PM_{2.5} has not been undertaken for this Scheme.

5.2 Receptors

Table 5.2.1: Discrete Human Health Receptors included in the Air Quality Model

Receptor ID	Name	X	Y	Local Authority
R1	1 Woodhaw, Egham, Surrey	501875	171755	Runnymede
R2	Pegasus Court, Alnaby Place, Egham, Surrey	501587	171430	Runnymede
R3	1 Vicarage Crescent, Egham, Surrey	501691	171434	Runnymede
R4	Elmside, Rosemary Lane, Thorpe, Egham, Surrey	501635	168811	Runnymede
R5	Oaklea, Mill House Lane, Thorpe, Egham, Surrey	501788	168205	Runnymede
R6	5 Maultway Close, Camberley, Surrey	489719	161833	Surrey Heath
R7	9 Butler Rd, Bagshot, Surrey	491823	162687	Surrey Heath
R8	Rose Cottage, Highams Lane, Chobham, Woking, Surrey	495201	163940	Surrey Heath
R9	Lyncroft, Lyne Close, Virginia Water, Surrey	500568	167199	Runnymede
R10	Mobile Home, Greenacres, Bittams Lane, Chertsey, Surrey	503706	165250	Runnymede
R11 [^]	Jubilee High School, School Lane, Addlestone	504162	164438	Runnymede

Receptor ID	Name	X	Y	Local Authority
R12^	2 Katherine Close, Addlestone, Surrey	504263	164025	Runnymede
R13^	160 Liberty Lane, Addlestone Rd, Surrey	504379	164036	Runnymede
R14^	Addlestone Pre-School, Ongar Place School, Milton Road, Addlestone	504345	163900	Runnymede
R15^	78 Woodham Lane, New Haw, Addlestone, Surrey	505220	162707	Runnymede
R16^	Byfleet County Primary School, Kings Head Lane, West Byfleet, Byfleet, Surrey	505657	161590	Woking
R17^	Linden Nursery School, Byfleet Cricket Pavillion at Sports Ground, Parvis Rd, Byfleet	505649	161295	Woking
R18*^	Byfleet recreation ground	505701	160920	Woking
R19*^	Eden Grove Allotments, Byfleet	505746	160686	Woking
R20	1 High Beeches, Weybridge, Surrey	509175	163923	Elmbridge
R21	Esher Rd, Walton-on-Thames, Surrey	511828	164484	Elmbridge
R22	Stable House, Lammas Lane, Esher, Surrey	513547	164714	Elmbridge
R23	Esher Chiropody, 13 Church St, Esher, Surrey	513829	164692	Elmbridge
R24	Silvermere Lodge, Redhill Rd, Cobham, Surrey	508397	159861	Elmbridge
R25^	Crestmonte House, Portsmouth Road, Cobham, Surrey	508902	160292	Elmbridge
R26^	The Bungalow, Heyswood Camp, Portsmouth Rd, Cobham, Surrey	508972	160208	Elmbridge
R27^	Wood Court Lodge, Seven Hills Rd, Cobham, Surrey	509131	160583	Elmbridge
R28	Old Lodge, Seven Hills Rd, Cobham, Surrey	509113	160790	Elmbridge
R29^	Leighton House, Felton Fleet School, Byfleet Rd, Cobham, Surrey	509385	160592	Elmbridge
R30^	West Lodge, Portsmouth Rd, Pains Hill, Cobham, Surrey	509615	160611	Elmbridge
R31^	Caigers Cottage, Convent Lane, Cobham, Surrey	509772	160933	Elmbridge
R32^	Bridge Lodge, Convent Lane, Burwood Park	509837	160583	Elmbridge
R33	42 Queens Court Ride, Cobham, Surrey	510321	160954	Elmbridge
R34	Flat 1, Lakewood, Portsmouth Rd, Esher, Surrey	512533	161828	Elmbridge
R35	40 Copsem Lane, Esher, Surrey	514017	162418	Elmbridge
R36	1 Oaksend Lodge, Oaksend Close, Oxshott, Leatherhead, Surrey	514084	161779	Elmbridge

Receptor ID	Name	X	Y	Local Authority
R37	Lovelace Primary School, Mansfield Rd, Chessington, Kingston-upon-Thames	517198	164117	Kingston upon Thames
R38*	Chessington Equestrian Centre, Clayton Rd, Chessington, Kingston upon Thames	517321	165197	Kingston upon Thames
R39	31 Kelvin Grove, Chessington, Kingston-upon-Thames	518118	165340	Kingston upon Thames
R40^	Ockham Bites Cafe, Old Lane, Cobham, Surrey	507842	158698	Guildford
R41^	The Chatley Cottage, Pointers Rd, Cobham, Surrey	508873	158873	Elmbridge
R42^	The Lodge, Hatchford Park, Pointers Rd, Cobham, Surrey	509373	158490	Elmbridge
R43^	Poynters Farm House, Poynters Farm, Ockham Ln, Cobham, Surrey	509969	158219	Elmbridge
R44^	The Old Vicarage, Ockham Lane, Cobham, Surrey	509803	157982	Elmbridge
R45^	Rye Saltasm, Horsley Rd, Downside, Cobham, Surrey	510687	157811	Elmbridge
R46	1 Staff House, QETC Leatherhead Court, Woodlands Rd, Leatherhead	514729	158521	Mole Valley
R47	Hillrise Cottage, Kingston Rd, Leatherhead, Surrey	516327	158492	Mole Valley
R48	St. Peter's Catholic Primary School, Grange Rd, Ashted, Leatherhead, Surrey	517357	157291	Mole Valley
R49	1 Quarry Gardens, Leatherhead, Surrey	517690	156761	Mole Valley
R50	The White Lodge, Sturts Lane, Walton on the Hill, Tadworth, Surrey	521876	153892	Reigate & Banstead
R51	Badgers Cottage, Sturts Lane, Walton on the Hill, Tadworth, Surrey	521912	153933	Reigate & Banstead
R52	Linden Lea, Chequers Lane, Walton on the Hill, Tadworth, Surrey	522112	153721	Reigate & Banstead
R53	Mogador End, Lower Kingswood, Tadworth, Surrey	523914	152607	Reigate & Banstead
R54	Rose Cottage, Margery Grove, Lower Kingswood, Tadworth, Surrey	524137	152557	Reigate & Banstead
R55	Merrywood Cottage, Merrywood Grove, Lower Kingswood, Surrey	524229	152441	Reigate & Banstead
R56	Hunters Lodge, Margery Lane, Lower Kingswood, Surrey	525188	152532	Reigate & Banstead
R57*^	RHS Wisley Gardens	506583	157840	Guildford
R58**^	Wisley Airfield - proposed development	506565	157518	Guildford
R59	Aberdeen House, High Street, Ripley, Woking, Surrey	505165	156748	Guildford
R60	Suncot, Portsmouth Rd, Ripley, Woking, Surrey	504501	155956	Guildford

Receptor ID	Name	X	Y	Local Authority
R61	The Forge, Grove Heath Court, Gambles Lane, Ripley, Surrey	505088	155262	Guildford
R62	The Birches, Burnt Common Lane, Ripley, Woking, Surrey	504060	154930	Guildford
R63	Sutton Place, London Road, Guildford, Surrey	502246	152986	Guildford
R64	14 Weybrook Drive, Guildford, Surrey	501986	152806	Guildford
R65	High Noon, Burpham Lane, Guildford, Surrey	501239	152561	Guildford
R66	Burpham Foundation Primary School, Burpham Lane, Guildford, Surrey	501209	152520	Guildford
R67	Croft Cottage, Orchard Rd, Burpham, Guildford, Surrey	501760	152288	Guildford
R68	170 Windy Cottage, London Rd, Guildford, Surrey	501212	151441	Guildford
R69	Premier Inn, Parkway, Guildford, Surrey	499849	150859	Guildford
R70	34 Woodbridge Rd, Guildford, Surrey	499472	150371	Guildford
R71	Kendale Court, Weston Road, Stoughton, Guildford, Surrey	498654	150788	Guildford
R72	73A Bechingham Rd, Guildford, Surrey	498178	150674	Guildford
R73	2 The Drive, Beech Grove, Guildford, Surrey	497976	150161	Guildford
R74	13 Downing Ave, Guildford, Surrey	497798	149775	Guildford
R75***	Holiday Inn Guilford	497676	149543	Guildford
R76	Onslow Infant School, Powell Close, Guildford, Surrey	497622	149259	Guildford
R77	73 Manor Way, Guildford, Surrey	497178	148963	Guildford
R78	1A The Spinney, Beechcroft Drive, Guildford, Surrey	496993	148897	Guildford
R79	Beukenhof, Hogs Back, Compton, Surrey, Guildford	496562	148631	Guildford
R80	1 Bampflyde Cottages, Epsom Rd, West Clandon, Guildford, Surrey	503966	150920	Guildford
R81	4 Beckley Cottages, Leatherhead Rd, Bookham, Leatherhead, Surrey	514207	154498	Mole Valley
R82	The Gatehouse, Longcross Grange, Longcross, Chertsey, Surrey	498317	165868	Runnymede
R83	North Lodge, Convent Lane, Burwood Park, Cobham, Surrey	509104	161767	Elmbridge
R84	2A Parkside Cottage, Queensway North, Hersham, Walton-on-Thames, Surrey	511327	164562	Elmbridge
R85	Effingham Lodge, The Pheasantry, Guildford Rd, Effingham, East Horsley, Leatherhead, Surrey	510494	152540	Guildford

Receptor ID	Name	X	Y	Local Authority
R86	Amberley House, Epsom Rd, West Horsley, Leatherhead, Surrey	509195	152659	Guildford
R87	Doverhay, Blakes Lane, East Clandon, Guildford, Surrey	506168	151531	Guildford
R88	74C Woodbridge Rd, Guildford, Surrey	499514	149963	Guildford
R89	2 Homeland Cottages, Hardwick Lane, Chertsey, Surrey	502589	166481	Runnymede
R234^	1 to 7 Oakham, Carlton Road, Woking	501260	159993	Woking
R235^	64 to 99 Century Court, Woking	500671	159107	Woking
R236^	35a Saturn Trail, Woking	500296	158924	Woking
R237^	5 Victoria Way, Woking	500371	158620	Woking
R238^	Chertsey Ambulance Station, Guildford Road, Ottershaw, Chertsey	502338	164114	Woking
R239^	Shaw End Woodlands Close, Guildford Road, Ottershaw	501925	162421	Woking
*Selected for comparison with 1-hour mean NO ₂ AQS objective				
**Proposed receptor within Wisley Airfield development				
***Selected for comparison with 24-hour mean PM ₁₀ AQS objective				
^Selected for inclusion in the construction traffic assessment				

Table 5.2.2: Ecological Receptors included in the Air Quality Model

Receptor ID	Distance to road centre (metres)	Name	X	Y	Local Authority
R90	7	Colony Bog and Bagshot Heath SSSI/ Thursley, Ash, Pirbright & Chobham SAC/ Thames Basin Heaths SPA – South 7m	491619	162406	Surrey Heath
R91	10	Colony Bog and Bagshot Heath SSSI/ Thursley, Ash, Pirbright & Chobham SAC/ Thames Basin Heaths SPA – South 10m	49620	162402	Surrey Heath
R92	25	Colony Bog and Bagshot Heath SSSI/ Thursley, Ash, Pirbright & Chobham SAC/ Thames Basin Heaths SPA – South 25m	491621	162387	Surrey Heath
R93	50	Colony Bog and Bagshot Heath SSSI/ Thursley, Ash, Pirbright & Chobham SAC/ Thames Basin Heaths SPA – South 50m	491622	162359	Surrey Heath
R94	75	Colony Bog and Bagshot Heath SSSI/ Thursley, Ash, Pirbright & Chobham SAC/	491622	162332	Surrey Heath

Receptor ID	Distance to road centre (metres)	Name	X	Y	Local Authority
		Thames Basin Heaths SPA – South 75m			
R95	100	Colony Bog and Bagshot Heath SSSI/ Thursley, Ash, Pirbright & Chobham SAC/ Thames Basin Heaths SPA – South 100m	491623	162304	Surrey Heath
R96	150	Colony Bog and Bagshot Heath SSSI/ Thursley, Ash, Pirbright & Chobham SAC/ Thames Basin Heaths SPA – South 150m	491627	162251	Surrey Heath
R97	200	Colony Bog and Bagshot Heath SSSI/ Thursley, Ash, Pirbright & Chobham SAC/ Thames Basin Heaths SPA – South 200m	491634	162199	Surrey Heath
R98	5	Chobham Common SSSI/ Thursley, Ash, Pirbright & Chobham SAC/ Thames Basin Heaths SPA -North 5m	496725	164663	Surrey Heath
R99	10	Chobham Common SSSI/ Thursley, Ash, Pirbright & Chobham SAC/ Thames Basin Heaths SPA -North 10m	496723	164667	Surrey Heath
R100	25	Chobham Common SSSI/ Thursley, Ash, Pirbright & Chobham SAC/ Thames Basin Heaths SPA -North 25m	496716	164681	Surrey Heath
R101	50	Chobham Common SSSI/ Thursley, Ash, Pirbright & Chobham SAC/ Thames Basin Heaths SPA -North 50m	496706	164704	Surrey Heath
R102	75	Chobham Common SSSI/ Thursley, Ash, Pirbright & Chobham SAC/ Thames Basin Heaths SPA -North 75m	496696	164726	Surrey Heath
R103	100	Chobham Common SSSI/ Thursley, Ash, Pirbright & Chobham SAC/ Thames Basin Heaths SPA -North 100m	496685	164749	Surrey Heath
R104	150	Chobham Common SSSI/ Thursley, Ash, Pirbright & Chobham SAC/ Thames Basin Heaths SPA -North 150m	496665	164749	Surrey Heath
R105	200	Chobham Common SSSI/ Thursley, Ash, Pirbright & Chobham SAC/ Thames Basin Heaths SPA -North 200m	496644	164840	Surrey Heath

Receptor ID	Distance to road centre (metres)	Name	X	Y	Local Authority
R106	10	Chobham Common SSSI/ Thursley, Ash, Pirbright & Chobham SAC/ Thames Basin Heaths SPA -South 10m	497189	164869	Surrey Heath
R107	25	Chobham Common SSSI/ Thursley, Ash, Pirbright & Chobham SAC/ Thames Basin Heaths SPA -South 25m	497196	164856	Surrey Heath
R108	50	Chobham Common SSSI/ Thursley, Ash, Pirbright & Chobham SAC/ Thames Basin Heaths SPA -South 50m	497208	164834	Surrey Heath
R109	75	Chobham Common SSSI/ Thursley, Ash, Pirbright & Chobham SAC/ Thames Basin Heaths SPA -South 75m	497220	164812	Surrey Heath
R110	100	Chobham Common SSSI/ Thursley, Ash, Pirbright & Chobham SAC/ Thames Basin Heaths SPA -South 100m	497232	164791	Surrey Heath
R111	150	Chobham Common SSSI/ Thursley, Ash, Pirbright & Chobham SAC/ Thames Basin Heaths SPA -South 150m	497257	164747	Surrey Heath
R112	200	Chobham Common SSSI/ Thursley, Ash, Pirbright & Chobham SAC/ Thames Basin Heaths SPA -South 200m	497281	164703	Surrey Heath
R113	32	Esher Commons SSSI – North 32m	513286	162094	Elmbridge
R114	50	Esher Commons SSSI – North 50m	513279	162111	Elmbridge
R115	75	Esher Commons SSSI – North 75m	513269	162134	Elmbridge
R116	100	Esher Commons SSSI – North 100m	513259	162157	Elmbridge
R117	150	Esher Commons SSSI – North 150m	513239	162203	Elmbridge
R118	200	Esher Commons SSSI – North 200m	513220	162249	Elmbridge
R119	17	Esher Commons SSSI – South 17m	513311	162033	Elmbridge
R120	25	Esher Commons SSSI – South 25m	513315	162025	Elmbridge
R121	50	Esher Commons SSSI – South 50m	513325	162002	Elmbridge
R122	75	Esher Commons SSSI – South 75m	513335	161979	Elmbridge

Receptor ID	Distance to road centre (metres)	Name	X	Y	Local Authority
R123	100	Esher Commons SSSI – South 100m	513345	161956	Elmbridge
R124	150	Esher Commons SSSI – South 150m	513364	161910	Elmbridge
R125	200	Esher Commons SSSI – South 200m	513384	161864	Elmbridge
R126^	8	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – West of A3 8m	507450	158453	Guildford
R127^	10	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – West of A3 10m	507449	158454	Guildford
R128^	25	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – West of A3 25m	507440	158466	Guildford
R129^	50	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – West of A3 50m	507425	158486	Guildford
R130^	75	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – West of A3 75m	507410	158506	Guildford
R131^	100	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – West of A3 100m	507395	158526	Guildford
R132^	150	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – West of A3 150m	507365	158567	Guildford
R133^	200	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – West of A3 200m	507335	158607	Guildford
R134^	10	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – East of A3 10m	507469	158426	Guildford
R135^	25	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – East of A3 25m	507478	158415	Guildford
R136^	50	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – East of A3 50m	507493	158394	Guildford
R137^	75	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – East of A3 75m	507508	158375	Guildford

Receptor ID	Distance to road centre (metres)	Name	X	Y	Local Authority
R138^	100	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – East of A3 100m	507523	158355	Guildford
R139^	150	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – East of A3 150m	507553	158314	Guildford
R140^	200	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – East of A3 200m	507583	158274	Guildford
R141^	7	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – West of A3 (south of junction 10) 7m	507899	158965	Guildford
R142^	10	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – West of A3 (south of junction 10) 10m	507897	158967	Guildford
R143^	25	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – West of A3 (south of junction 10) 25m	507883	158974	Guildford
R144^	50	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – West of A3 (south of junction 10) 50m	507861	158986	Guildford
R145^	75	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – West of A3 (south of junction 10) 75m	507839	158999	Guildford
R146^	100	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – West of A3 (south of junction 10) 100m	507817	159011	Guildford
R147^	150	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – West of A3 (south of junction 10) 150m	507773	159036	Guildford
R148^	200	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – West of A3 (south of junction 10) 200m	507728	159061	Guildford
R149^	5	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – East of A3 (south of junction 10) 5m	507937	158941	Guildford
R150^	10	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – East of A3 (south of junction 10) 10m	507941	158938	Guildford

Receptor ID	Distance to road centre (metres)	Name	X	Y	Local Authority
R151^	25	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – East of A3 (south of junction 10) 25m	507955	158931	Guildford
R152^	50	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – East of A3 (south of junction 10) 50m	507977	158919	Guildford
R153^	75	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – East of A3 (south of junction 10) 75m	507999	158907	Guildford
R154^	100	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – East of A3 (south of junction 10) 100m	508021	158895	Guildford
R155^	150	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – East of A3 (south of junction 10) 150m	508065	158871	Guildford
R156^	200	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – East of A3 (south of junction 10) 200m	508109	158847	Guildford
R157^	5	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – South of M25 (west of junction 10) 5m	507689	159374	Guildford
R158^	10	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – South of M25 (west of junction 10) 10m	507686	159369	Guildford
R159^	25	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – South of M25 (west of junction 10) 25m	507680	159355	Guildford
R160^	50	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – South of M25 (west of junction 10) 50m	507670	159333	Guildford
R161^	75	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – South of M25 (west of junction 10) 75m	507659	159310	Guildford
R162^	100	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – South of M25 (west of junction 10) 100m	507649	159287	Guildford
R163^	150	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – South of M25 (west of junction 10) 150m	507628	159242	Guildford

Receptor ID	Distance to road centre (metres)	Name	X	Y	Local Authority
		SPA – South of M25 (west of junction 10) 150m			
R164^	200	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – South of M25 (west of junction 10) 200m	507607	159196	Guildford
R165^	5	Ockham & Wisley Commons SSSI – North of M25 (west of junction 10) 5m	507726	159434	Guildford
R166^	10	Ockham & Wisley Commons SSSI – North of M25 (west of junction 10) 10m	507729	159439	Guildford
R167^	25	Ockham & Wisley Commons SSSI – North of M25 (west of junction 10) 25m	507735	159453	Guildford
R168^	50	Ockham & Wisley Commons SSSI – North of M25 (west of junction 10) 50m	507745	159476	Guildford
R169^	75	Ockham & Wisley Commons SSSI – North of M25 (west of junction 10) 75m	507756	159499	Elmbridge
R170^	100	Ockham & Wisley Commons SSSI – North of M25 (west of junction 10) 100m	507767	159522	Elmbridge
R171^	150	Ockham & Wisley Commons SSSI – North of M25 (west of junction 10) 150m	507788	159568	Elmbridge
R172^	200	Ockham & Wisley Commons SSSI – North of M25 (west of junction 10) 200m	507809	159615	Elmbridge
R173^	5	Ockham & Wisley Commons SSSI – West of A3 (north of junction 10) 5m	508214	159565	Elmbridge
R174^	10	Ockham & Wisley Commons SSSI – West of A3 (north of junction 10) 10m	508210	159568	Elmbridge
R175^	25	Ockham & Wisley Commons SSSI – West of A3 (north of junction 10) 25m	508198	159577	Elmbridge
R176^	50	Ockham & Wisley Commons SSSI – West of A3 (north of junction 10) 50m	508178	159592	Elmbridge
R177^	75	Ockham & Wisley Commons SSSI – West of A3 (north of junction 10) 75m	508157	159606	Elmbridge
R178^	100	Ockham & Wisley Commons SSSI – West of A3 (north of junction 10) 100m	508137	159621	Guildford

Receptor ID	Distance to road centre (metres)	Name	X	Y	Local Authority
R179^	150	Ockham & Wisley Commons SSSI – West of A3 (north of junction 10) 150m	508096	159650	Guildford
R180^	200	Ockham & Wisley Commons SSSI – West of A3 (north of junction 10) 200m	508055	159679	Guildford
R181^	15	Ockham & Wisley Commons SSSI – East of A3 (north of junction 10) 15m	508260	159532	Guildford
R182^	25	Ockham & Wisley Commons SSSI – East of A3 (north of junction 10) 25m	508268	159527	Guildford
R183^	50	Ockham & Wisley Commons SSSI – East of A3 (north of junction 10) 50m	508289	159512	Guildford
R184^	75	Ockham & Wisley Commons SSSI – East of A3 (north of junction 10) 75m	508309	159497	Guildford
R185^	100	Ockham & Wisley Commons SSSI – East of A3 (north of junction 10) 100m	508330	159482	Guildford
R186^	150	Ockham & Wisley Commons SSSI – East of A3 (north of junction 10) 150m	508372	159452	Elmbridge
R187^	200	Ockham & Wisley Commons SSSI – East of A3 (north of junction 10) 200m	508413	159422	Elmbridge
R188^	12	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – South of M25 (east of junction 10) 12m	508362	159068	Elmbridge
R189^	25	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – South of M25 (east of junction 10) 25m	508354	159058	Elmbridge
R190^	50	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – South of M25 (east of junction 10) 50m	508339	159037	Elmbridge
R191^	75	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – South of M25 (east of junction 10) 75m	508325	159017	Elmbridge
R192^	100	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – South of M25 (east of junction 10) 100m	508310	158997	Elmbridge
R193^	150	Ockham & Wisley Commons SSSI/ Thames Basin Heaths	508280	158956	Elmbridge

Receptor ID	Distance to road centre (metres)	Name	X	Y	Local Authority
		SPA – South of M25 (east of junction 10) 150m			
R194^	200	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – South of M25 (east of junction 10) 200m	508250	158915	Elmbridge
R195^	5	Ockham & Wisley Commons SSSI – North of M25 (east of junction 10) 5m	508406	159130	Elmbridge
R196^	10	Ockham & Wisley Commons SSSI – North of M25 (east of junction 10) 10m	508409	159135	Elmbridge
R197^	25	Ockham & Wisley Commons SSSI – North of M25 (east of junction 10) 25m	508418	159147	Elmbridge
R198^	50	Ockham & Wisley Commons SSSI – North of M25 (east of junction 10) 50m	508433	159168	Elmbridge
R199^	75	Ockham & Wisley Commons SSSI – North of M25 (east of junction 10) 75m	508446	159187	Elmbridge
R200^	100	Ockham & Wisley Commons SSSI – North of M25 (east of junction 10) 100m	508460	159207	Elmbridge
R201^	150	Ockham & Wisley Commons SSSI – North of M25 (east of junction 10) 150m	508492	159248	Elmbridge
R202^	200	Ockham & Wisley Commons SSSI – North of M25 (east of junction 10) 200m	508519	159289	Guildford
R203	4	Sheepleas SSSI – South 4m	509224	152659	Guildford
R204	10	Sheepleas SSSI – South 10m	509224	152653	Guildford
R205	25	Sheepleas SSSI – South 25m	509224	152638	Guildford
R206	50	Sheepleas SSSI – South 50m	509224	152613	Guildford
R207	75	Sheepleas SSSI – South 75m	509224	152587	Guildford
R208	100	Sheepleas SSSI – South 100m	509224	152562	Guildford
R209	150	Sheepleas SSSI – South 150m	509224	152512	Guildford
R210	200	Sheepleas SSSI – South 200m	509225	152462	Reigate & Banstead
R211	32	Mole Gap to Reigate Escarpment SSSI/SAC – South 32m	524469	152405	Reigate & Banstead
R212	50	Mole Gap to Reigate Escarpment SSSI/SAC – South 50m	524469	152386	Reigate & Banstead

Receptor ID	Distance to road centre (metres)	Name	X	Y	Local Authority
R213	75	Mole Gap to Reigate Escarpment SSSI/SAC – South 75m	524469	152361	Reigate & Banstead
R214	100	Mole Gap to Reigate Escarpment SSSI/SAC – South 100m	524469	152336	Reigate & Banstead
R215	150	Mole Gap to Reigate Escarpment SSSI/SAC – South 150m	524470	152286	Reigate & Banstead
R216	200	Mole Gap to Reigate Escarpment SSSI/SAC – South 200m	524470	152236	Reigate & Banstead
R226^	5	Horsell Common 5m	501527	160852	Woking
R227^	10	Horsell Common 10m	501524	160853	Woking
R228^	25	Horsell Common 25m	501514	160855	Woking
R229^	50	Horsell Common 50m	501499	160858	Woking
R230^	75	Horsell Common 75m	501484	160861	Woking
R231^	100	Horsell Common 100m	501469	160864	Woking
R232^	150	Horsell Common 150m	501438	160871	Woking
R233^	200	Horsell Common 200m	501407	160877	Woking
^ selected for inclusion in the construction traffic assessment					

5.3 Comparison of background concentrations

Table 5.3.1: Comparison of NO₂ Background Concentrations (µg/m³)

Local Authority	Local Authority ID	Site Type	X, Y	Grid Square X, Y	2015 Defra Background	2015 Monitored background	% difference (grid square NO ₂ - monitored NO ₂) / monitored NO ₂ *100
Guildford	GD3	Urban background	499659, 150739	499500, 150500	21.5	20.0	+7.6%
Guildford	GD6	Rural background	500385, 148342	500500, 148500	10.7	13.0	-17.9%
Guildford	GD10	Urban background	488629, 150032	488500, 150500	17.5	17.0	+3.0%
Runnymede	RY7	Urban background	505712, 164622	505500, 164500	17.7	19.6	-9.6%
Runnymede	RY33	Intermediate	501679, 171676	501500, 171500	28.7	32.4	-11.4%

Local Authority	Local Authority ID	Site Type	X, Y	Grid Square X, Y	2015 Defra Background	2015 Monitored background	% difference (grid square NO ₂ - monitored NO ₂) / monitored NO ₂ *100
Runnymede	RY40	Urban background	502052, 165119	502500, 165500	17.5	17.0	+3.2%
Mole Valley	MV3	Urban background	516869, 149797	516500, 149500	14.2	14.5	-2.0%
Mole Valley	MV4	Urban background	514123, 155336	514500, 155500	11.8	11.7	+1.0%
Mole Valley	MV5	Background	517227, 138685	517500, 138500	10.3	11.2	-8.1%
Mole Valley	MV8	Rural background	523412, 140582	523500, 140500	10.3	9.4	+9.1%
Mole Valley	MV9	Rural background	526913, 142369	526500, 142500	16.1	14.4	+11.5%
Reigate & Banstead	RB3	Urban background	524944, 159630	524500, 159500	15.1	17.6	-14.0%
Reigate & Banstead	RB8	Urban background	525246, 150286	525500, 150500	15.3	18.5	-17.2%
Reigate & Banstead	RB9	Urban background	525750, 149677	525500, 149500	13.0	14.8	-12.2%
Reigate & Banstead	RB17	Urban background	528511, 149715	528500, 149500	13.0	13.0	-0.2%
Reigate & Banstead	RB18	Urban background	529263, 153156	529500, 153500	24.6	22.3	+10.2%
Reigate & Banstead	RB23	Urban background	523612, 159906	523500, 159500	14.4	16.2	-11.0%
Reigate & Banstead	RB24	Background	528208, 142337	528500, 142500	21.1	21.9	-3.5%
Reigate & Banstead	RB25	Background	528208, 142337	528500, 142500	21.1	20.8	+1.6%
Reigate & Banstead	RB21	Background	528208, 142337	528500, 142500	21.1	20.3	+4.1%
Reigate & Banstead	RB147	Background	528731, 156407	528500, 156500	13.8	15.2	-9.4%
Surrey Heath	SH4	Urban Background	492810, 164408	492500, 164500	14.7	24.4	-39.7%
Surrey Heath	SH5	Urban Background	494764, 159623	494500, 159500	11.7	18.5	-36.7%
Surrey Heath	SH21	Urban Background	495137, 161092	495500, 161500	12.6	22.6	-44.2%
Surrey Heath	SH26	Urban Background	487762, 161393	487500, 161500	12.2	30.6	-60.0%

5.4 Verification

Table 5.4.1: Diffusion Tube Sites Excluded from Model Verification

Site ID (Local Authority ID)	X,Y	Reason for exclusion from
HE_5	497738, 149591	Kerbside site
HE_9	498213, 150665	Kerbside site
HE_12	498670, 150809	Insufficient data capture for base year (2015)
HE_21	507841, 158598	Located at a car park entrance
HE_35	497022, 164864	Insufficient data capture for base year (2015)
HE_36	497018, 164869	Insufficient data capture for base year (2015)
HE_37	497017, 164883	Insufficient data capture for base year (2015)
E_9 (Esher 5)	514150, 162470	Kerbside site
G_16 (GD15)	499807, 150792	No data available for base year (2015)
G_28 (RP1)	505243, 156819	No data available for base year (2015)
G_29 (RP2)	505090, 156777	No data available for base year (2015)
RB29	521924, 153937	No data available for base year (2015)
RB31	525506, 152366	Not all roads included within the traffic model
SH29	494223, 163480	Not all roads included within the traffic model
Wk_3 (M25)	505611, 161180	Located on a bridge over the M25
CP4	506262, 160016	Data not annualised for calendar year
CP8	508378, 159813	Data not annualised for calendar year
CP9	510561, 161143	Kerbside site
CP10	505578, 161229	Data not annualised for calendar year
CP27	509891, 158070	Data not annualised for calendar year

Table 5.4.2: Comparison of Unadjusted Modelled and Measured NO₂ Concentrations (µg/m³)

Site ID (Local Authority ID)	Measured NO ₂	Modelled Total NO ₂	Modelled - Measured	Modelled / Measured	% Difference
E_6 (Downside 3)	26.3	19.1	-7.2	0.7	-27%
E_7 (Esher 1)	48.8	22.0	-26.8	0.5	-55%
E_10 (Esher 7)	48.4	25.4	-23.0	0.5	-48%
E_11 (Esher 8)	44.4	19.4	-25.0	0.4	-56%
E_12 (Esher 9)	32.1	19.7	-12.4	0.6	-39%
E_13 (Esher 10)	33.0	21.3	-11.7	0.6	-35%
E_14 (Esher 11)	38.9	20.2	-18.7	0.5	-48%

Site ID (Local Authority ID)	Measured NO ₂	Modelled Total NO ₂	Modelled - Measured	Modelled / Measured	% Difference
G_6 (GD5)	46.0	34.8	-11.2	0.8	-24%
G_12 (GD11)	28.0	28.9	+0.9	1.0	+3%
HE_1	28.1	22.3	-5.7	0.8	-20%
HE_2	25.7	19.5	-6.2	0.8	-24%
HE_3	26.6	21.3	-5.3	0.8	-20%
HE_4	25.0	22.0	-2.9	0.9	-12%
HE_6	54.2	50.7	-3.5	0.9	-7%
HE_7	54.8	43.6	-11.2	0.8	-21%
HE_8	27.0	28.3	+1.3	1.0	+5%
HE_10	44.0	44.7	+0.7	1.0	+2%
HE_11	24.8	27.3	+2.5	1.1	+10%
HE_13	32.8	29.7	-3.1	0.9	-9%
HE_14	20.9	18.2	-2.7	0.9	-13%
HE_15	26.6	22.7	-3.8	0.9	-14%
HE_16	23.6	18.8	-4.8	0.8	-20%
HE_17	29.7	24.9	-4.8	0.8	-16%
HE_18	32.4	21.2	-11.2	0.7	-34%
HE_19	29.0	25.0	-4.0	0.9	-14%
HE_20	23.9	19.0	-4.8	0.8	-20%
HE_22	25.4	17.6	-7.8	0.7	-31%
HE_23	26.7	19.0	-7.7	0.7	-29%
HE_24	22.9	25.7	+2.8	1.1	+12%
HE_25	23.0	17.6	-5.4	0.8	-24%
HE_26	29.2	21.4	-7.8	0.7	-27%
HE_27	32.3	31.9	-0.4	1.0	-1%
HE_28	33.3	22.7	-10.6	0.7	-32%
HE_29	33.1	28.1	-5.1	0.8	-15%
HE_30	23.7	20.3	-3.4	0.9	-14%
HE_31	37.0	28.1	-8.8	0.8	-24%
HE_32	25.9	21.3	-4.6	0.8	-18%
HE_33	36.8	32.8	-4.0	0.9	-11%
HE_34	29.9	26.5	-3.5	0.9	-12%
HE_38	22.3	18.0	-4.3	0.8	-19%
MV6	28.4	24.6	-3.8	0.9	-14%
MV10	31.2	34.5	+3.3	1.1	+10%
MV11	27.8	19.1	-8.7	0.7	-31%
MV12	24.8	24.9	+0.1	1.0	+0%

Site ID (Local Authority ID)	Measured NO ₂	Modelled Total NO ₂	Modelled - Measured	Modelled / Measured	% Difference
R_3 (RY8)	35.1	29.2	-5.9	0.8	-17%
R_5 (RY19)	34.3	41.2	+6.9	1.2	+20%
R_8 (RY25)	28.2	27.8	-0.4	1.0	-1%
R_9 (RY26)	41.0	33.1	-7.9	0.8	-19%
R_10 (RY33)	32.4	30.8	-1.6	1.0	-5%
R_12 (RY39)	25.1	25.4	+0.3	1.0	+1%
RB27	27.1	32.4	+5.3	1.2	+19%
RB28	24.2	20.1	-4.1	0.8	-17%
RB30	22.7	26.8	+4.1	1.2	+18%
RB33	21.4	19.7	-1.7	0.9	-8%
RB34	25.6	18.8	-6.8	0.7	-26%
SH7	50.4	36.2	-14.2	0.7	-28%
SH8	28.9	20.1	-8.8	0.7	-30%
SH9	31.2	15.4	-15.8	0.5	-51%

Table 5.4.3: Comparison of Modelled and Measured NO_x Concentrations (µg/m³)

Site ID	Measured NO _x	Modelled Total NO _x	Modelled - Measured	Modelled / Measured	% Difference
E_6 (Downside 3)	36.1	21.1	-15.0	0.6	-41%
E_7 (Esher 1)	83.4	20.5	-62.9	0.2	-75%
E_10 (Esher 7)	82.4	27.5	-54.9	0.3	-67%
E_11 (Esher 8)	71.8	15.3	-56.5	0.2	-79%
E_12 (Esher 9)	42.0	15.8	-26.2	0.4	-62%
E_13 (Esher 10)	44.0	19.1	-24.9	0.4	-57%
E_14 (Esher 11)	58.0	16.9	-41.1	0.3	-71%
G_6 (GD5)	81.3	54.1	-27.2	0.7	-33%
G_12 (GD11)	27.6	29.4	+1.8	1.1	+7%
HE_1	40.2	28.0	-12.3	0.7	-30%
HE_2	35.0	22.1	-12.9	0.6	-37%
HE_3	36.2	25.4	-10.9	0.7	-30%
HE_4	31.6	25.4	-6.2	0.8	-20%
HE_6	97.9	88.1	-9.8	0.9	-10%
HE_7	99.6	69.3	-30.3	0.7	-30%
HE_8	25.5	28.3	+2.8	1.1	+11%
HE_10	64.7	66.6	+1.9	1.0	+3%
HE_11	20.9	26.1	+5.2	1.2	+25%
HE_13	41.8	34.8	-6.9	0.8	-17%

Site ID	Measured NO _x	Modelled Total NO _x	Modelled - Measured	Modelled / Measured	% Difference
HE_14	22.0	16.6	-5.4	0.8	-25%
HE_15	34.1	26.1	-8.1	0.8	-24%
HE_16	29.3	19.6	-9.7	0.7	-33%
HE_17	43.3	33.0	-10.2	0.8	-24%
HE_18	49.3	25.4	-23.9	0.5	-48%
HE_19	40.9	32.3	-8.6	0.8	-21%
HE_20	28.4	18.5	-9.9	0.7	-35%
HE_22	30.7	14.8	-15.9	0.5	-52%
HE_23	34.6	18.9	-15.7	0.5	-45%
HE_24	23.1	28.9	+5.7	1.2	+25%
HE_25	23.3	12.4	-10.9	0.5	-47%
HE_26	36.1	19.7	-16.4	0.5	-45%
HE_27	42.7	41.7	-1.0	1.0	-2%
HE_28	46.5	23.3	-23.1	0.5	-50%
HE_29	44.8	33.5	-11.3	0.7	-25%
HE_30	21.9	15.1	-6.8	0.7	-31%
HE_31	46.9	27.1	-19.8	0.6	-42%
HE_32	30.4	20.9	-9.5	0.7	-31%
HE_33	57.6	48.3	-9.4	0.8	-16%
HE_34	41.7	34.1	-7.6	0.8	-18%
HE_38	25.4	16.7	-8.6	0.7	-34%
MV6	36.3	28.1	-8.2	0.8	-23%
MV10	42.8	50.3	+7.5	1.2	+17%
MV11	35.3	17.2	-18.1	0.5	-51%
MV12	28.9	29.0	+0.2	1.0	+1%
R_3 (RY8)	51.4	38.0	-13.3	0.7	-26%
R_5 (RY19)	47.7	64.3	+16.6	1.3	+35%
R_8 (RY25)	27.3	26.5	-0.8	1.0	-3%
R_9 (RY26)	56.7	38.0	-18.6	0.7	-33%
R_10 (RY33)	36.5	33.0	-3.5	0.9	-9%
R_12 (RY39)	30.4	31.0	+0.6	1.0	+2%
RB27	36.9	48.6	+11.7	1.3	+32%
RB28	30.7	22.2	-8.4	0.7	-27%
RB30	27.5	36.1	+8.6	1.3	+31%
RB33	25.6	22.2	-3.4	0.9	-13%
RB34	34.4	20.4	-14.0	0.6	-41%
SH7	92.2	55.6	-36.6	0.6	-40%

Site ID	Measured NO _x	Modelled Total NO _x	Modelled - Measured	Modelled / Measured	% Difference
SH8	38.9	20.4	-18.5	0.5	-48%
SH9	42.3	9.8	-32.5	0.2	-77%

Figure: 5.4.1: Modelled vs. Measured road NO_x

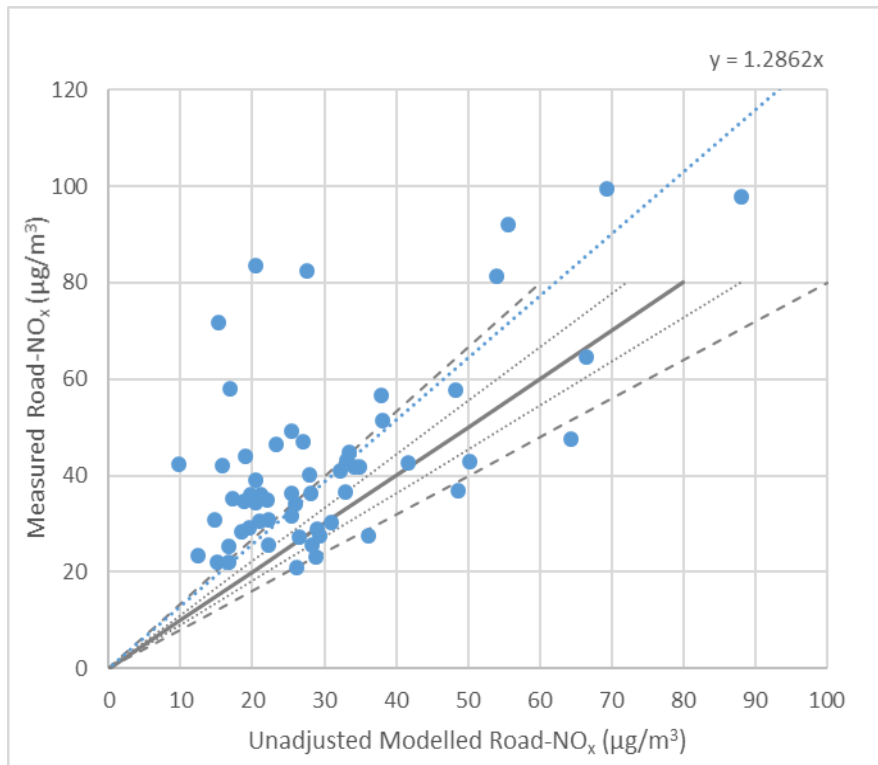


Table 5.4.4: RMSE and Adjustment Factors Used in Air Quality Verification

Model Domain	Number of Monitoring Sites within ±25% of the Monitored Concentration Pre-Adjustment	Raw RMSE (Pre Adjustment µg/m³)	Model Adjustment Factor	Adjusted Model RMSE	Fractional Bias (Post Adjustment)	Number of Monitoring Sites within ±25% of the Monitored Concentration Post-Adjustment
Esher/Urban	0	8.89	3.3	4.22	0.031	7
Other (M25/ M3/ A3)	33		1.3			42
M25 <50 m	8		0.9			8
Total Number of Monitoring Points	41 out of 58		-			57 out of 58

Table 5.4.5: Comparison of Adjusted Modelled and Measured NO₂ Concentrations (µg/m³)

Site ID	Measured NO ₂	Modelled Total NO ₂	Modelled - Measured	Modelled / Measured	% Difference
E_6 (Downside 3)	26.3	22.4	-3.9	0.9	-15%
E_7 (Esher 1)	48.8	42.8	-6.0	0.9	-12%
E_10 (Esher 7)	48.4	51.5	+3.1	1.1	+6%
E_11 (Esher 8)	44.4	35.7	-8.7	0.8	-20%
E_12 (Esher 9)	32.1	36.4	+4.3	1.1	+14%
E_13 (Esher 10)	33.0	40.9	+7.9	1.2	+24%
E_14 (Esher 11)	38.9	38.0	-0.9	1.0	-2%
G_6 (GD5)	46.0	41.9	-4.1	0.9	-9%
G_12 (GD11)	28.0	33.1	+5.1	1.2	+18%
HE_1	28.1	26.5	-1.6	0.9	-6%
HE_2	25.7	22.9	-2.8	0.9	-11%
HE_3	26.6	25.1	-1.5	0.9	-6%
HE_4	25.0	25.8	+0.9	1.0	+3%
HE_6	54.2	60.4	+6.2	1.1	+11%
HE_7	54.8	51.8	-3.0	0.9	-6%
HE_8	27.0	32.4	+5.4	1.2	+20%
HE_10	44.0	52.7	+8.6	1.2	+20%
HE_11	24.8	31.1	+6.3	1.3	+25%
HE_13	32.8	34.6	+1.8	1.1	+5%
HE_14	20.9	20.8	-0.1	1.0	0%
HE_15	26.6	26.6	+0.1	1.0	0%
HE_16	23.6	21.9	-1.7	0.9	-7%
HE_17	29.7	29.7	+0.1	1.0	0%
HE_18	32.4	25.1	-7.3	0.8	-23%
HE_19	29.0	29.7	+0.7	1.0	+2%
HE_20	23.9	21.9	-2.0	0.9	-8%
HE_22	25.4	19.9	-5.4	0.8	-21%
HE_23	26.7	21.9	-4.8	0.8	-18%
HE_24	22.9	24.0	+1.1	1.0	+5%
HE_25	23.0	19.5	-3.4	0.8	-15%

Site ID	Measured NO ₂	Modelled Total NO ₂	Modelled - Measured	Modelled / Measured	% Difference
HE_26	29.2	24.4	-4.8	0.8	-16%
HE_27	32.3	29.7	-2.6	0.9	-8%
HE_28	33.3	26.2	-7.1	0.8	-21%
HE_29	33.1	32.8	-0.3	1.0	-1%
HE_30	23.7	22.6	-1.1	1.0	-5%
HE_31	37.0	32.0	-4.9	0.9	-13%
HE_32	25.9	24.5	-1.4	0.9	-5%
HE_33	36.8	39.2	+2.4	1.1	+6%
HE_34	29.9	31.3	+1.4	1.0	+5%
HE_38	22.3	20.6	-1.7	0.9	-7%
MV6	28.4	28.7	+0.3	1.0	+1%
MV10	31.2	31.9	+0.7	1.0	+2%
MV11	27.8	21.8	-6.0	0.8	-22%
MV12	24.8	29.1	+4.3	1.2	+17%
R_3 (RY8)	35.1	27.2	-7.9	0.8	-23%
R_5 (RY19)	34.3	38.1	+3.8	1.1	+11%
R_8 (RY25)	28.2	31.6	+3.4	1.1	+12%
R_9 (RY26)	41.0	38.2	-2.8	0.9	-7%
R_10 (RY33)	32.4	29.1	-3.4	0.9	-10%
R_12 (RY39)	25.1	29.9	+4.8	1.2	+19%
RB27	27.1	29.8	+2.7	1.1	+10%
RB28	24.2	23.5	-0.7	1.0	-3%
RB30	22.7	24.8	+2.1	1.1	+9%
RB33	21.4	23.1	+1.7	1.1	+8%
RB34	25.6	22.0	-3.6	0.9	-14%
SH7	50.4	43.2	-7.2	0.9	-14%
SH8	28.9	23.2	-5.7	0.8	-20%
SH9	31.2	26.6	-4.6	0.9	-15%

5.5 Trend analysis of NO₂ concentrations

Table 5.5.1: Summary of Annual Mean NO₂ Trend Analysis

Site ID	Site Type	Number of Data Points	Required S Value	S Value	Sen's Slope	Significant (Y/N)
E_6	Rural	7	≥11	-14	-1.7	Y
E_7	Urban traffic	7	≥11	-13	-1.5	Y
E_9	Urban traffic	7	≥11	-9	-0.8	N
E_10	Urban traffic	7	≥11	-17	-1.7	Y

Site ID	Site Type	Number of Data Points	Required S Value	S Value	Sen's Slope	Significant (Y/N)
E_11	Urban traffic	7	≥11	-15	-2.0	Y
E_12	Urban traffic	7	≥11	-8	-1.1	N
E_13	Urban traffic	7	≥11	-3	-0.5	N
E_14	Urban traffic	7	≥11	-14	-1.4	Y
G_6	Kerbside	7	≥ 11	6	0.5	N
G_12	Suburban near-road	8	≥ 12	-10	-0.3	N
MV6	Kerbside	8	≥ 12	-12	-1.3	Y
MV10	Kerbside	8	≥ 12	-12	-1.3	Y
MV11	Kerbside	8	≥ 12	-13	-1.0	Y
MV12	Kerbside	8	≥ 12	-18	-1.2	Y
R_3	Roadside	7	≥ 11	-1	-0.1	N
R_5	Roadside	8	≥ 12	-24	-2.2	Y
R_8	Roadside	8	≥ 12	-24	-2.0	Y
R_9	Roadside	8	≥ 12	-20	-3.5	Y
R_10	Intermediate	7	≥ 11	-15	-1.2	Y
R_12	Roadside	4	≥ 6	-4	-1.2	N
RB27	Roadside (near M25)	8	≥ 12	-22	-1.2	Y
RB28	Roadside (near M25)	6	≥ 9	-12	-1.8	Y
RB29	Roadside (near M25)	4	≥ 6	-6	-0.5	Y
RB30	Roadside	8	≥ 12	-14	-0.9	Y
RB31	Roadside (near M25)	8	≥ 12	-18	-1.0	Y
RB33	Roadside (near M25)	8	≥ 12	-18	-0.6	Y
RB34	Roadside (near M25)	8	≥ 12	6	0.7	N
SH7	Roadside	6	≥ 9	-7	-3.8	N
SH8	Roadside	6	≥ 9	-7	-1.6	N
SH9	Roadside	6	≥ 9	-11	-2.0	Y
SH29	Roadside	6	≥ 9	8	2.5	N
Wk_3	Other	7	≥ 11	-9	-1.8	N

5.6 Air quality monitoring

5.6.1 Passive Monitoring

Table 5.6.1: Local Authority Diffusion Tube Monitoring Data, NO₂ (µg/m³)

Site ID	LA ID	Site Name	Site Type	X,Y	2010	2011	2012	2013	2014	2015	2016	2017
Guildford Borough Council												
G_4	GD3	Josephs Road (3)	Urban Background	499659, 150739	22	21	22	22	16	20	24	17
G_6	GD5	Wisley (5)	Kerbside	507947, 159099	40	44	44	45	40	46	N/A^	N/A
G_12	GD11	Beckingham Road (11)	Suburban near-road	498133, 150648	29	30	28	29	29	28	29	24
G_16	GD15	Stoke Road (Lido)	Roadside	499807, 150792	N/A	N/A	N/A	N/A	N/A	N/A	32	28
G_28	RP1	Ripley High Street	Roadside	505243, 156819	N/A	N/A	N/A	N/A	N/A	N/A	34	27
G_29	RP2	Newark Lane	Kerbside	505090, 156777	N/A	N/A	N/A	N/A	N/A	N/A	29	24
G_30	WS1	Elm Corner	Semi-rural	507346, 158005	N/A	N/A	N/A	N/A	N/A	N/A	14	14
^Decommissioned end of June 2016												
Elmbridge Borough Council												

Site ID	LA ID	Site Name	Site Type	X,Y	2010	2011	2012	2013	2014	2015	2016	2017
E_3	Cobham 1	26 High St	Urban traffic	510828, 159996	42	42	40	40	42	35	33	N/A
E_4	Cobham 6	Harlequin Dry Cleaners, 2 Anyards Rd	Urban traffic	510814, 160099	36	31	34	33	33	28	29	N/A
E_5	Cobham 7	Exclusively Surrey, 38A High Street	Urban traffic	510861, 159906	41	38	42	38	43	36	34	N/A
E_6	Downside 3	Bookham Rd	Rural	511429, 157606	35	31	30	32	31	26	21	N/A
E_7	Esher 1	Lamp post outside the Hair Gallery, Church St	Urban traffic	513840, 164693	58	49	49	52	48	49	45	N/A
E_8	Esher 4	Bus stop opposite Sandown House, Portsmouth Rd	Urban traffic	514058, 164855	50	46	47	45	46	43	40	N/A
E_9	Esher 5	Roundabout, Copsem Lane/A3	Urban traffic	514150, 162470	54	49	53	50	52	51	44	N/A
E_10	Esher 7	Outside Clinton Cards, 35–39 High St	Urban traffic	513982, 164750	55	54	53	48	53	48	41	N/A
E_11	Esher 8	Outside 9 Church St	Urban traffic	513832, 164684	54	53	55	47	51	44	42	N/A
E_12	Esher 9	Lamp post next to Churchard, Church St	Urban traffic	513821, 164712	42	34	36	36	37	32	33	N/A
E_13	Esher 10	Traffic sign, outside 15 Esher Green	Urban traffic	513886, 164767	35	33	36	36	36	33	30	N/A
E_14	Esher 11	The Bear, Copsem Lane side	Urban traffic	513893, 164607	46	39	40	42	39	39	33	N/A
E_15	Esher 13	Panahar Tandoori, 124–126 High St	Urban traffic	513736, 164489	50	44	42	41	38	40	36	N/A
Woking Borough Council												

Site ID	LA ID	Site Name	Site Type	X,Y	2010	2011	2012	2013	2014	2015	2016	2017
Wk_3	M25	M25	Other	505611, 161180	N/A	66	50	52	50	61	51	42
Runnyede Borough Council												
R_3	RY8	Ongar Place First School, Milton Road, Addlestone	Roadside	504325, 163940	32	24	21	29	26	35	24	N/A
R_5	RY19	78 Woodham Lane, New Haw	Roadside	505227, 162701	46	45	37	44	37	34	34	35
R_8	RY25	1 Pooley Green Road, Egham	Roadside	501748, 171316	49	38	36	34	32	28	31	30
R_9	RY26	Railway crossing, Vicarage Road, Egham	Roadside	501716, 171383	71	56	58	54	54	41	44	43
R_10	RY33	46 The Avenue, Egham	Intermediate	501679, 171676	N/A	37	37	38	37	32	31	32
R_12	RY39	Chobham Lane, Longcross, near Kitsmead Lane roundabout	Roadside	498827, 166217	N/A	N/A	N/A	N/A	27	25	26	24
Mole Valley District Council												
MV6	MV6	Surrey County Council Highways depot	Roadside	517210, 157200	43	36	33	39	28	28	30	30
MV10	MV10	Green Lane	Roadside	517712, 156744	43	41	32	34	34	31	35	33
MV11	MV11	Green Lane	Roadside	517804, 156751	36	36	30	31	25	28	32	28
MV12	MV12	Green Lane (Quarry Gardens)	Roadside	517674, 156840	38	33	32	30	26	25	29	30
Surrey Heath Borough Council												
SH7	SH7	M3 Brickhill Roadside	Roadside	496220, 164432	N/A	N/A	60	41	72	50	40	41

Site ID	LA ID	Site Name	Site Type	X,Y	2010	2011	2012	2013	2014	2015	2016	2017
SH8	SH8	M3 Brickhill Roadside 60 m back	Roadside	496168, 164467	N/A	N/A	28	32	39	29	27	25
SH9	SH9	A30 Jolly Farmer	Roadside	489617, 161874	N/A	N/A	36	47	42	31	30	28
SH29	SH29	Heath Park, Windlesham	Roadside	494223, 163481	N/A	N/A	17	22	22	31	32	22
Reigate and Banstead Borough Council												
RB27	RB27	White Lodge, Sturts Lane	Roadside (near M25)	521873, 153896	35	29	34	30	28	27	28	25
RB28	RB28	Badgers Cottage, Sturts Lane	Roadside (near M25)	521913, 153940	33	27	32	26	24	24	N/A	N/A
RB29	RB29	April Cottage, Sturts Lane	Roadside (near M25)	521921, 153937	31	26	N/A	N/A	N/A	N/A	25	25
RB30	RB30	Linden Lea, Chequers Lane	Roadside (near M25)	522112, 153728	31	24	30	25	24	23	25	24
RB31	RB31	Margery Hall, Reigate Hill	Roadside (near M25)	525506, 152366	27	18	21	21	18	17	18	16
RB33	RB33	Rose Cottage, Margery Grove	Roadside (near M25)	524081, 152580	27	23	28	22	23	21	23	21
RB34	RB34	Stagholt, Merrywood Grove	Roadside (near M25)	524177, 152393	28	18	23	25	26	26	32	24

5.7 GAP Analysis and results

Table 5.7.1: Derivation of GAP Factor in Accordance with Highways England IAN 170/12v3 LTTE6 for Human Health Receptors

Receptor ID	Base 2015 NO ₂	Projected Base NO ₂	Projected Base NO ₂ / Base 2015 NO ₂ (Ratio A)	2022 Long Term Adjustment Factor / 2015 Long Term Adjustment Factor (Ratio B)	Gap Factor (Ratio B / Ratio A)
R1	49.7	29.1	0.6	0.8	1.3
R2	38.4	23.0	0.6	0.8	1.3
R3	48.4	27.7	0.6	0.8	1.3
R4	41.9	23.5	0.6	0.8	1.4
R5	48.5	27.1	0.6	0.8	1.4
R6	31.5	21.6	0.7	0.8	1.1
R7	29.9	19.2	0.6	0.8	1.2
R8	33.2	20.7	0.6	0.8	1.2
R9	47.5	29.9	0.6	0.8	1.2
R10	29.9	16.9	0.6	0.8	1.3
R11	36.6	20.3	0.6	0.8	1.4
R12	35.5	19.8	0.6	0.8	1.4
R13	37.6	20.7	0.6	0.8	1.4
R14	32.2	17.8	0.6	0.8	1.4
R15	46.0	25.2	0.5	0.8	1.4
R16	34.7	19.2	0.6	0.8	1.4
R17	41.6	22.6	0.5	0.8	1.4
R18	39.1	20.8	0.5	0.8	1.4
R19	47.4	24.8	0.5	0.8	1.5

Receptor ID	Base 2015 NO ₂	Projected Base NO ₂	Projected Base NO ₂ / Base 2015 NO ₂ (Ratio A)	2022 Long Term Adjustment Factor / 2015 Long Term Adjustment Factor (Ratio B)	Gap Factor (Ratio B / Ratio A)
R20	17.5	12.4	0.7	0.8	1.1
R21	35.8	24.2	0.7	0.8	1.1
R22	46.5	31.0	0.7	0.8	1.1
R23	40.7	27.2	0.7	0.8	1.1
R24	20.6	13.4	0.6	0.8	1.2
R25	20.3	13.5	0.7	0.8	1.2
R26	23.8	15.7	0.7	0.8	1.2
R27	15.5	10.7	0.7	0.8	1.1
R28	26.8	17.4	0.6	0.8	1.2
R29	26.6	17.3	0.6	0.8	1.2
R30	32.0	21.0	0.7	0.8	1.2
R31	15.5	10.8	0.7	0.8	1.1
R32	20.8	13.8	0.7	0.8	1.2
R33	19.4	13.6	0.7	0.8	1.1
R34	20.2	13.9	0.7	0.8	1.1
R35	18.5	12.8	0.7	0.8	1.1
R36	21.3	14.6	0.7	0.8	1.1
R37	19.7	14.0	0.7	0.8	1.1
R38	28.3	19.4	0.7	0.8	1.1
R39	34.6	23.7	0.7	0.8	1.1
R40	35.6	22.0	0.6	0.8	1.2
R41	23.4	12.8	0.5	0.8	1.4
R42	29.2	15.2	0.5	0.8	1.5

Receptor ID	Base 2015 NO ₂	Projected Base NO ₂	Projected Base NO ₂ / Base 2015 NO ₂ (Ratio A)	2022 Long Term Adjustment Factor / 2015 Long Term Adjustment Factor (Ratio B)	Gap Factor (Ratio B / Ratio A)
R43	19.1	10.9	0.6	0.8	1.3
R44	16.7	10.0	0.6	0.8	1.3
R45	21.5	12.1	0.6	0.8	1.4
R46	21.1	12.1	0.6	0.8	1.3
R47	26.5	15.0	0.6	0.8	1.4
R48	25.9	14.9	0.6	0.8	1.3
R49	44.0	23.1	0.5	0.8	1.5
R50	44.1	22.3	0.5	0.8	1.5
R51	24.9	13.5	0.5	0.8	1.4
R52	36.1	18.5	0.5	0.8	1.5
R53	28.4	14.7	0.5	0.8	1.5
R54	25.5	13.6	0.5	0.8	1.4
R55	43.5	22.4	0.5	0.8	1.5
R56	28.8	15.2	0.5	0.8	1.5
R57	26.2	17.1	0.7	0.8	1.2
R58	14.8	10.3	0.7	0.8	1.1
R59	16.7	11.8	0.7	0.8	1.1
R60	13.5	9.8	0.7	0.8	1.1
R61	16.6	11.3	0.7	0.8	1.1
R62	14.0	10.1	0.7	0.8	1.1
R63	40.2	26.2	0.7	0.8	1.2
R64	28.7	19.1	0.7	0.8	1.1
R65	25.5	17.0	0.7	0.8	1.1

Receptor ID	Base 2015 NO ₂	Projected Base NO ₂	Projected Base NO ₂ / Base 2015 NO ₂ (Ratio A)	2022 Long Term Adjustment Factor / 2015 Long Term Adjustment Factor (Ratio B)	Gap Factor (Ratio B / Ratio A)
R66	23.9	16.1	0.7	0.8	1.1
R67	17.8	12.3	0.7	0.8	1.1
R68	23.0	15.6	0.7	0.8	1.1
R69	32.9	22.2	0.7	0.8	1.1
R70	23.9	16.6	0.7	0.8	1.1
R71	55.2	36.9	0.7	0.8	1.1
R72	49.2	33.3	0.7	0.8	1.1
R73	41.8	28.0	0.7	0.8	1.1
R74	36.8	24.5	0.7	0.8	1.1
R75	26.0	17.4	0.7	0.8	1.1
R76	31.9	21.3	0.7	0.8	1.1
R77	33.6	22.3	0.7	0.8	1.2
R78	35.4	23.2	0.7	0.8	1.2
R79	30.2	19.8	0.7	0.8	1.2
R80	14.1	9.9	0.7	0.8	1.1
R81	13.4	9.7	0.7	0.8	1.1
R82	26.9	17.1	0.6	0.8	1.2
R83	31.6	21.7	0.7	0.8	1.1
R84	30.7	21.0	0.7	0.8	1.1
R85	12.7	9.2	0.7	0.8	1.1
R86	15.1	10.9	0.7	0.8	1.1
R87	12.0	8.8	0.7	0.8	1.0
R88	27.0	18.5	0.7	0.8	1.1

Receptor ID	Base 2015 NO ₂	Projected Base NO ₂	Projected Base NO ₂ / Base 2015 NO ₂ (Ratio A)	2022 Long Term Adjustment Factor / 2015 Long Term Adjustment Factor (Ratio B)	Gap Factor (Ratio B / Ratio A)
R89	28.4	16.5	0.6	0.8	1.3
R234	30.2	19.2	0.6	0.8	1.2
R235	33.3	21.1	0.6	0.8	1.2
R236	32.9	21.9	0.7	0.8	1.1
R237	36.6	24.6	0.7	0.8	1.1
R238	26.0	17.1	0.7	0.8	1.2
R239	37.6	22.6	0.6	0.8	1.3

Table 5.7.2: Derivation of GAP Factor in Accordance with Highways England IAN 170/12v3 LTTE6 for Ecological Receptors

Receptor ID	Base 2015 NO _x	Projected Base NO _x	Projected Base NO _x / Base 2015 NO _x (Ratio A)	2022 Long Term Adjustment Factor / 2015 Long Term Adjustment Factor (Ratio B)	Gap Factor (Ratio B / Ratio A)
R90	89.9	51.5	0.6	0.7	1.2
R91	81.8	47.0	0.6	0.7	1.2
R92	61.3	35.8	0.6	0.7	1.2
R93	46.3	27.8	0.6	0.7	1.1
R94	38.6	23.8	0.6	0.7	1.1
R95	33.8	21.2	0.6	0.7	1.1
R96	27.9	18.2	0.7	0.7	1.1
R97	24.6	16.4	0.7	0.7	1.0
R98	176.8	94.6	0.5	0.7	1.3
R99	120.5	65.1	0.5	0.7	1.3
R100	71.5	39.9	0.6	0.7	1.2
R101	47.7	27.7	0.6	0.7	1.2

Receptor ID	Base 2015 NO _x	Projected Base NO _x	Projected Base NO _x / Base 2015 NO _x (Ratio A)	2022 Long Term Adjustment Factor / 2015 Long Term Adjustment Factor (Ratio B)	Gap Factor (Ratio B / Ratio A)
R102	38.3	23.0	0.6	0.7	1.1
R103	33.2	20.4	0.6	0.7	1.1
R104	27.9	17.7	0.6	0.7	1.1
R105	25.8	16.6	0.6	0.7	1.1
R106	141.3	76.1	0.5	0.7	1.3
R107	86.9	48.3	0.6	0.7	1.2
R108	58.0	33.4	0.6	0.7	1.2
R109	45.9	27.1	0.6	0.7	1.2
R110	39.2	23.7	0.6	0.7	1.1
R111	31.8	19.9	0.6	0.7	1.1
R112	27.8	17.8	0.6	0.7	1.1
R113	33.5	21.6	0.6	0.7	1.1
R114	28.1	18.5	0.7	0.7	1.0
R115	24.2	16.4	0.7	0.7	1.0
R116	22.1	15.2	0.7	0.7	1.0
R117	19.9	13.9	0.7	0.7	1.0
R118	18.7	13.3	0.7	0.7	1.0
R119	51.9	32.3	0.6	0.7	1.1
R120	43.1	27.3	0.6	0.7	1.1
R121	31.8	20.8	0.7	0.7	1.1
R122	27.4	18.3	0.7	0.7	1.0
R123	24.7	16.8	0.7	0.7	1.0
R124	21.9	15.1	0.7	0.7	1.0
R125	20.3	14.3	0.7	0.7	1.0

Receptor ID	Base 2015 NO _x	Projected Base NO _x	Projected Base NO _x / Base 2015 NO _x (Ratio A)	2022 Long Term Adjustment Factor / 2015 Long Term Adjustment Factor (Ratio B)	Gap Factor (Ratio B / Ratio A)
R126	105.1	61.2	0.6	0.7	1.2
R127	92.4	54.0	0.6	0.7	1.2
R128	57.5	34.1	0.6	0.7	1.2
R129	40.2	24.3	0.6	0.7	1.1
R130	33.3	20.4	0.6	0.7	1.1
R131	29.5	18.2	0.6	0.7	1.1
R132	25.5	16.0	0.6	0.7	1.1
R133	23.4	14.8	0.6	0.7	1.1
R134	109.5	64.0	0.6	0.7	1.2
R135	69.9	41.4	0.6	0.7	1.2
R136	48.4	29.1	0.6	0.7	1.1
R137	39.5	24.1	0.6	0.7	1.1
R138	34.4	21.2	0.6	0.7	1.1
R139	28.7	18.0	0.6	0.7	1.1
R140	25.5	16.2	0.6	0.7	1.1
R141	91.1	51.3	0.6	0.7	1.2
R142	81.6	46.0	0.6	0.7	1.2
R143	58.4	33.1	0.6	0.7	1.2
R144	45.0	25.7	0.6	0.7	1.2
R145	39.0	22.4	0.6	0.7	1.2
R146	36.1	20.9	0.6	0.7	1.2
R147	32.2	18.8	0.6	0.7	1.2
R148	30.2	17.7	0.6	0.7	1.2
R149	164.8	89.2	0.5	0.7	1.3

Receptor ID	Base 2015 NO _x	Projected Base NO _x	Projected Base NO _x / Base 2015 NO _x (Ratio A)	2022 Long Term Adjustment Factor / 2015 Long Term Adjustment Factor (Ratio B)	Gap Factor (Ratio B / Ratio A)
R150	126.3	69.0	0.5	0.7	1.3
R151	83.6	46.3	0.6	0.7	1.2
R152	59.6	33.4	0.6	0.7	1.2
R153	49.1	27.8	0.6	0.7	1.2
R154	42.4	24.1	0.6	0.7	1.2
R155	35.6	20.5	0.6	0.7	1.2
R156	31.8	18.5	0.6	0.7	1.2
R157	94.5	43.2	0.5	0.7	1.5
R158	84.1	38.9	0.5	0.7	1.5
R159	65.6	31.3	0.5	0.7	1.4
R160	51.1	25.5	0.5	0.7	1.4
R161	43.6	22.4	0.5	0.7	1.3
R162	38.9	20.6	0.5	0.7	1.3
R163	33.4	18.4	0.6	0.7	1.3
R164	30.2	17.2	0.6	0.7	1.2
R165	85.1	38.2	0.4	0.7	1.5
R166	77.4	35.2	0.5	0.7	1.5
R167	62.1	29.3	0.5	0.7	1.5
R168	49.0	24.2	0.5	0.7	1.4
R169	41.9	21.4	0.5	0.7	1.3
R170	37.3	19.7	0.5	0.7	1.3
R171	31.7	17.5	0.6	0.7	1.2
R172	28.4	16.2	0.6	0.7	1.2
R173	71.9	39.6	0.6	0.7	1.3

Receptor ID	Base 2015 NO _x	Projected Base NO _x	Projected Base NO _x / Base 2015 NO _x (Ratio A)	2022 Long Term Adjustment Factor / 2015 Long Term Adjustment Factor (Ratio B)	Gap Factor (Ratio B / Ratio A)
R174	60.5	33.8	0.6	0.7	1.2
R175	46.9	26.7	0.6	0.7	1.2
R176	38.2	22.1	0.6	0.7	1.2
R177	33.9	19.8	0.6	0.7	1.2
R178	31.3	18.4	0.6	0.7	1.2
R179	28.2	16.8	0.6	0.7	1.2
R180	26.3	15.8	0.6	0.7	1.1
R181	76.9	44.4	0.6	0.7	1.2
R182	64.2	37.1	0.6	0.7	1.2
R183	49.6	28.7	0.6	0.7	1.2
R184	43.4	25.1	0.6	0.7	1.2
R185	39.7	23.0	0.6	0.7	1.2
R186	35.6	20.6	0.6	0.7	1.2
R187	33.2	19.2	0.6	0.7	1.2
R188	80.5	37.5	0.5	0.7	1.5
R189	65.7	31.7	0.5	0.7	1.4
R190	52.3	26.4	0.5	0.7	1.4
R191	45.4	23.7	0.5	0.7	1.3
R192	40.1	21.1	0.5	0.7	1.3
R193	35.0	19.2	0.5	0.7	1.3
R194	32.1	18.0	0.6	0.7	1.2
R195	90.3	40.7	0.5	0.7	1.5
R196	81.4	37.2	0.5	0.7	1.5
R197	66.0	31.3	0.5	0.7	1.5

Receptor ID	Base 2015 NO _x	Projected Base NO _x	Projected Base NO _x / Base 2015 NO _x (Ratio A)	2022 Long Term Adjustment Factor / 2015 Long Term Adjustment Factor (Ratio B)	Gap Factor (Ratio B / Ratio A)
R198	52.5	26.0	0.5	0.7	1.4
R199	45.5	23.3	0.5	0.7	1.3
R200	41.0	21.6	0.5	0.7	1.3
R201	34.9	19.2	0.6	0.7	1.2
R202	31.5	17.9	0.6	0.7	1.2
R203	29.4	20.0	0.7	0.7	1.0
R204	21.9	15.2	0.7	0.7	1.0
R205	16.9	12.0	0.7	0.7	1.0
R206	14.6	10.6	0.7	0.7	1.0
R207	13.8	10.0	0.7	0.7	0.9
R208	13.3	9.7	0.7	0.7	0.9
R209	12.8	9.4	0.7	0.7	0.9
R210	12.6	9.3	0.7	0.7	0.9
R211	62.9	29.3	0.5	0.7	1.5
R212	48.1	23.4	0.5	0.7	1.4
R213	37.9	19.3	0.5	0.7	1.4
R214	32.4	17.1	0.5	0.7	1.3
R215	26.2	14.7	0.6	0.7	1.2
R216	23.0	13.4	0.6	0.7	1.2
R226	151.4	77.0	0.5	0.7	1.4
R227	96.1	50.4	0.5	0.7	1.3
R228	57.7	32.0	0.6	0.7	1.2
R229	38.9	23.0	0.6	0.7	1.2
R230	31.6	19.6	0.6	0.7	1.1

Receptor ID	Base 2015 NO _x	Projected Base NO _x	Projected Base NO _x / Base 2015 NO _x (Ratio A)	2022 Long Term Adjustment Factor / 2015 Long Term Adjustment Factor (Ratio B)	Gap Factor (Ratio B / Ratio A)
R231	27.8	17.7	0.6	0.7	1.1
R232	23.8	15.8	0.7	0.7	1.0
R233	21.6	14.8	0.7	0.7	1.0

5.7.1 Construction

Table 5.7.3: Estimated Annual Mean NO₂ concentrations (µg/m³) During Construction for Selected Human Health Receptors, LTTE6 method

Receptor ID	Background 2015 NO ₂	2015 Base NO ₂	Background 2022 NO ₂	2022 DM NO ₂	2022 With Construction NO ₂	2022 NO ₂ Change	2022 NO ₂ Change Criteria
R11	11.4	36.6	9.3	28.1	28.2	+0.1	Imperceptible
R12	11.4	35.5	9.3	27.4	27.4	<0.1	Imperceptible
R13	11.4	37.6	9.3	29.0	29.0	<0.1	Imperceptible
R14	10.3	32.2	8.4	24.9	24.9	<0.1	Imperceptible
R15	11.2	46.0	9.0	35.9	36.0	+0.1	Imperceptible
R16	11.0	34.7	8.9	27.1	27.1	<0.1	Imperceptible
R17	11.0	41.6	8.9	32.7	32.7	<0.1	Imperceptible
R18	9.1	39.1	7.4	30.8	30.8	<0.1	Imperceptible
R19	9.1	47.4	7.4	37.4	37.4	<0.1	Imperceptible
R25	8.5	20.3	6.8	15.3	15.3	<0.1	Imperceptible
R26	8.5	23.8	6.8	17.9	17.9	<0.1	Imperceptible
R27	8.5	15.5	6.9	11.6	11.6	<0.1	Imperceptible

Receptor ID	Background 2015 NO ₂	2015 Base NO ₂	Background 2022 NO ₂	2022 DM NO ₂	2022 With Construction NO ₂	2022 NO ₂ Change	2022 NO ₂ Change Criteria
R29	8.5	26.6	6.9	19.5	20.1	+0.6	Small Increase
R30	8.5	32.0	6.9	22.9	22.9	<0.1	Imperceptible
R31	8.5	15.5	6.9	11.5	11.6	+0.1	Imperceptible
R32	8.5	20.8	6.9	15.3	15.4	+0.1	Imperceptible
R40	8.0	35.6	6.4	25.4	25.7	+0.3	Imperceptible
R41	7.6	23.4	6.1	18.6	18.2	-0.4	Imperceptible
R42	7.7	29.2	6.2	22.2	22.4	+0.2	Imperceptible
R43	7.7	19.1	6.2	14.5	14.5	<0.0	Imperceptible
R44	7.7	16.7	6.1	12.7	12.6	-0.1	Imperceptible
R45	7.8	21.5	6.2	16.1	16.3	+0.2	Imperceptible
R57	8.0	26.2	6.4	20.6	20.8	+0.2	Imperceptible
R58	8.0	14.8	6.4	11.2	11.2	<0.1	Imperceptible
R234	12.1	30.2	9.6	23.3	23.9	+0.6	Small Increase
R235	11.0	33.3	8.8	27.0	27.4	+0.4	Imperceptible
R236	13.7	32.9	10.9	26.9	27.4	+0.5	Small Increase
R237	13.7	36.6	10.9	33.2	34.8	+1.6	Small Increase
R238	10.7	26.0	8.7	22.0	22.2	+0.2	Imperceptible
R239	9.7	37.6	8.0	29.7	30.1	+0.4	Imperceptible

Table 5.7.4: Estimated Annual Mean PM₁₀ concentrations (µg/m³) During Construction for Selected Human Health Receptors, Defra LAQM.TG(16) method

Receptor ID	Background 2015 PM ₁₀	2015 Base PM ₁₀	Background 2022 PM ₁₀	2022 DM PM ₁₀	2022 DS PM ₁₀	2022 PM ₁₀ Change	2022 PM ₁₀ Change Criteria
R11	16.0	18.8	15.6	17.2	17.2	<0.1	Imperceptible
R12	16.0	18.8	15.6	17.3	17.3	<0.1	Imperceptible

Receptor ID	Background 2015 PM ₁₀	2015 Base PM ₁₀	Background 2022 PM ₁₀	2022 DM PM ₁₀	2022 DS PM ₁₀	2022 PM ₁₀ Change	2022 PM ₁₀ Change Criteria
R13	16.0	19.1	15.6	17.5	17.5	<0.1	Imperceptible
R14	15.5	18.0	15.1	16.7	16.7	<0.1	Imperceptible
R15	16.3	20.9	15.9	18.9	18.9	<0.1	Imperceptible
R16	16.3	19.2	15.9	17.7	17.7	<0.1	Imperceptible
R17	16.3	20.2	15.9	18.3	18.4	<0.1	Imperceptible
R18	15.2	19.0	14.8	17.2	17.2	+0.1	Imperceptible
R19	15.2	20.3	14.8	18.0	18.0	<0.1	Imperceptible
R25	13.7	15.5	13.3	14.6	14.6	<0.1	Imperceptible
R26	13.7	16.2	13.3	15.1	15.1	+0.1	Imperceptible
R27	14.1	15.1	13.7	14.4	14.4	+0.1	Imperceptible
R29	14.1	17.0	13.7	16.0	16.0	+0.1	Imperceptible
R30	14.1	17.5	13.7	16.2	16.3	+0.1	Imperceptible
R31	14.1	15.1	13.7	14.4	14.4	<0.1	Imperceptible
R32	14.1	15.7	13.7	15.0	15.0	<0.1	Imperceptible
R40	14.0	16.5	13.6	15.2	15.3	<0.1	Imperceptible
R41	14.5	16.2	14.1	15.1	15.1	<0.1	Imperceptible
R42	15.0	17.4	14.6	16.1	16.1	<0.1	Imperceptible
R43	15.0	16.2	14.6	15.3	15.3	<0.1	Imperceptible
R44	12.6	13.6	12.1	12.7	12.7	<0.1	Imperceptible
R45	14.7	16.2	14.2	15.2	15.2	<0.1	Imperceptible
R57	14.1	16.0	13.7	14.9	15.0	+0.1	Imperceptible
R58	14.1	14.7	13.7	14.1	14.1	<0.1	Imperceptible
R234	14.4	16.6	13.9	15.7	15.7	<0.1	Imperceptible
R235	14.0	17.2	13.5	16.1	16.2	+0.1	Imperceptible

Receptor ID	Background 2015 PM ₁₀	2015 Base PM ₁₀	Background 2022 PM ₁₀	2022 DM PM ₁₀	2022 DS PM ₁₀	2022 PM ₁₀ Change	2022 PM ₁₀ Change Criteria
R236	15.1	17.2	14.4	16.3	16.3	<0.1	Imperceptible
R237	15.1	18.4	14.4	17.4	17.4	<0.1	Imperceptible
R238	13.5	16.0	13.0	15.1	15.2	+0.1	Imperceptible
R239	12.7	16.7	12.3	15.5	15.6	+0.1	Imperceptible

Table 5.7.5: Estimated Annual Mean NO_x concentrations (µg/m³) During Construction for Ecological Transect Points

Receptor ID	2015 Base NO _x	2022 DM NO _x	2022 DS NO _x	2022 NO _x Change	2022 NO _x Change Criteria
R126	105.1	80.9	82.0	+1.1	Small Increase
R127	92.4	71.0	71.9	+0.9	Small Increase
R128	57.5	43.3	43.8	+0.5	Small Increase
R129	40.2	29.4	29.6	+0.2	Imperceptible
R130	33.3	23.8	24.0	+0.2	Imperceptible
R131	29.5	20.8	20.9	+0.1	Imperceptible
R132	25.5	17.6	17.7	+0.1	Imperceptible
R133	23.4	16.0	16.1	+0.1	Imperceptible
R134	109.5	91.1	92.6	+1.5	Small Increase
R135	69.9	55.2	55.9	+0.7	Small Increase
R136	48.4	36.6	37.0	+0.4	Imperceptible
R137	39.5	29.1	29.4	+0.3	Imperceptible

Receptor ID	2015 Base NO _x	2022 DM NO _x	2022 DS NO _x	2022 NO _x Change	2022 NO _x Change Criteria
R138	34.4	24.9	25.1	+0.2	Imperceptible
R139	28.7	20.3	20.5	+0.2	Imperceptible
R140	25.5	17.8	17.9	+0.1	Imperceptible
R141	91.1	64.6	65.3	+0.7	Small Increase
R142	81.6	56.1	56.7	+0.6	Small Increase
R143	58.4	39.2	39.5	+0.3	Imperceptible
R144	45.0	30.1	30.3	+0.2	Imperceptible
R145	39.0	26.1	26.3	+0.2	Imperceptible
R146	36.1	24.2	24.4	+0.2	Imperceptible
R147	32.2	21.8	21.9	+0.1	Imperceptible
R148	30.2	20.5	20.6	+0.1	Imperceptible
R149	164.8	88.0	89.0	+1.0	Small Increase
R150	126.3	72.5	73.3	+0.8	Small Increase
R151	83.6	50.2	50.6	+0.4	Imperceptible
R152	59.6	37.2	37.5	+0.3	Imperceptible
R153	49.1	31.2	31.5	+0.3	Imperceptible
R154	42.4	27.3	27.5	+0.2	Imperceptible
R155	35.6	23.2	23.4	+0.2	Imperceptible

Receptor ID	2015 Base NO _x	2022 DM NO _x	2022 DS NO _x	2022 NO _x Change	2022 NO _x Change Criteria
R156	31.8	21.0	21.1	+0.1	Imperceptible
R157	94.5	68.5	68.8	+0.3	Imperceptible
R158	84.1	60.8	61.0	+0.2	Imperceptible
R159	65.6	47.1	47.2	+0.1	Imperceptible
R160	51.1	36.3	36.4	+0.1	Imperceptible
R161	43.6	30.7	30.8	+0.1	Imperceptible
R162	38.9	27.3	27.3	<0.1	Imperceptible
R163	33.4	23.2	23.2	<0.1	Imperceptible
R164	30.2	20.8	20.9	+0.1	Imperceptible
R165	85.1	63.8	64.1	+0.3	Imperceptible
R166	77.4	57.5	57.7	+0.2	Imperceptible
R167	62.1	45.1	45.3	+0.2	Imperceptible
R168	49.0	34.9	35.0	+0.1	Imperceptible
R169	41.9	29.4	29.5	+0.1	Imperceptible
R170	37.3	26.0	26.1	+0.1	Imperceptible
R171	31.7	21.8	21.9	+0.1	Imperceptible
R172	28.4	19.4	19.5	+0.1	Imperceptible
R173	71.9	53.1	53.2	+0.1	Imperceptible

Receptor ID	2015 Base NO _x	2022 DM NO _x	2022 DS NO _x	2022 NO _x Change	2022 NO _x Change Criteria
R174	60.5	43.6	43.8	+0.2	Imperceptible
R175	46.9	32.9	33.0	+0.1	Imperceptible
R176	38.2	26.3	26.4	+0.1	Imperceptible
R177	33.9	23.1	23.2	+0.1	Imperceptible
R178	31.3	21.3	21.4	+0.1	Imperceptible
R179	28.2	19.1	19.1	<0.1	Imperceptible
R180	26.3	17.8	17.8	<0.1	Imperceptible
R181	76.9	50.6	50.8	+0.2	Imperceptible
R182	64.2	42.8	43.0	+0.2	Imperceptible
R183	49.6	33.4	33.5	+0.1	Imperceptible
R184	43.4	29.2	29.3	+0.1	Imperceptible
R185	39.7	26.7	26.8	+0.1	Imperceptible
R186	35.6	23.8	23.9	+0.1	Imperceptible
R187	33.2	22.2	22.3	+0.1	Imperceptible
R188	80.5	54.8	55.1	+0.3	Imperceptible
R189	65.7	44.5	44.7	+0.2	Imperceptible
R190	52.3	35.3	35.4	+0.1	Imperceptible
R191	45.4	30.5	30.7	+0.2	Imperceptible

Receptor ID	2015 Base NO _x	2022 DM NO _x	2022 DS NO _x	2022 NO _x Change	2022 NO _x Change Criteria
R192	40.1	26.8	27.0	+0.2	Imperceptible
R193	35.0	23.4	23.5	+0.1	Imperceptible
R194	32.1	21.4	21.5	+0.1	Imperceptible
R195	90.3	62.1	62.4	+0.3	Imperceptible
R196	81.4	55.8	56.1	+0.3	Imperceptible
R197	66.0	45.0	45.2	+0.2	Imperceptible
R198	52.5	35.6	35.7	+0.1	Imperceptible
R199	45.5	30.7	30.8	+0.1	Imperceptible
R200	41.0	27.6	27.7	+0.1	Imperceptible
R201	34.9	23.5	23.5	<0.1	Imperceptible
R202	31.5	21.2	21.3	+0.1	Imperceptible
R226	151.4	106.0	108.4	+2.4	Medium Increase
R227	96.1	67.8	69.2	+1.4	Small Increase
R228	57.7	41.3	42.0	+0.7	Small Increase
R229	38.9	28.2	28.6	+0.4	Small Increase
R230	31.6	23.1	23.4	+0.3	Imperceptible
R231	27.8	20.4	20.6	+0.2	Imperceptible
R232	23.8	17.5	17.7	+0.2	Imperceptible

Receptor ID	2015 Base NO _x	2022 DM NO _x	2022 DS NO _x	2022 NO _x Change	2022 NO _x Change Criteria
R233	21.6	16.0	16.1	+0.1	Imperceptible

Table 5.7.6: Estimated Nitrogen Deposition Results (kg/N/ha/yr) During Construction for Ecological Transect Points

Receptor ID	Description	2015 Base	2022 DM	2022 DS	2022 Change	Change as % of Lowest Range of Critical Load
R126	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – West of A3 8m	18.27	15.60	15.65	+0.05	+0.5
R127	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – West of A3 10m	17.79	15.20	15.24	+0.04	+0.4
R128	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – West of A3 25m	16.34	13.95	13.97	+0.02	+0.2
R129	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – West of A3 50m	15.54	13.24	13.25	+0.01	+0.1
R130	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – West of A3 75m	15.20	12.93	12.94	+0.01	+0.1
R131	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – West of A3 100m	15.01	12.77	12.77	<0.01	<0.1
R132	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – West of A3 150m	14.80	12.59	12.59	<0.01	<0.1
R133	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – West of A3 200m	14.69	12.50	12.50	<0.01	<0.1
R134	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – East of A3 10m	18.43	16.02	16.08	+0.06	+0.6
R135	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – East of A3 25m	18.43	14.51	14.55	+0.04	+0.4

Receptor ID	Description	2015 Base	2022 DM	2022 DS	2022 Change	Change as % of Lowest Range of Critical Load
R136	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – East of A3 50m	16.88	13.61	13.63	+0.02	+0.2
R137	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – East of A3 75m	15.92	13.22	13.24	+0.02	+0.2
R138	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – East of A3 100m	15.50	12.99	13.01	+0.02	+0.2
R139	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – East of A3 150m	15.25	12.74	12.75	+0.01	+0.1
R140	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – East of A3 200m	14.97	12.59	12.60	+0.01	+0.1
R141	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – West of A3 (south of junction 10) 7m	17.74	14.91	14.94	+0.03	+0.3
R142	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – West of A3 (south of junction 10) 10m	17.36	14.54	14.56	+0.02	+0.2
R143	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – West of A3 (south of junction 10) 25m	16.38	13.74	13.76	+0.02	+0.2
R144	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – West of A3 (south of junction 10) 50m	15.77	13.27	13.28	+0.01	+0.1
R145	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – West of A3 (south of junction 10) 75m	15.48	13.06	13.07	+0.01	+0.1
R146	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – West of A3 (south of junction 10) 100m	15.34	12.96	12.97	+0.01	+0.1
R147	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – West of A3 (south of junction 10) 150m	15.15	12.83	12.83	<0.01	<0.1
R148	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – West of A3 (south of junction 10) 200m	15.05	12.76	12.76	<0.01	<0.1

Receptor ID	Description	2015 Base	2022 DM	2022 DS	2022 Change	Change as % of Lowest Range of Critical Load
R149	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – East of A3 (south of junction 10) 5m	20.31	15.78	15.82	+0.04	+0.4
R150	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – East of A3 (south of junction 10) 10m	19.03	15.19	15.23	+0.04	+0.4
R151	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – East of A3 (south of junction 10) 25m	17.44	14.24	14.27	+0.03	+0.3
R152	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – East of A3 (south of junction 10) 50m	16.43	13.63	13.65	+0.02	+0.2
R153	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – East of A3 (south of junction 10) 75m	15.96	13.33	13.34	+0.01	+0.1
R154	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – East of A3 (south of junction 10) 100m	15.63	13.11	13.12	+0.01	+0.1
R155	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – East of A3 (south of junction 10) 150m	15.30	12.89	12.90	+0.01	+0.1
R156	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – East of A3 (south of junction 10) 200m	15.11	12.77	12.77	<0.01	<0.1
R226	Horsell Common (SSSI/SPA) 5m	19.06	15.90	16.00	+0.10	+1.0
R227	Horsell Common (SSSI/SPA) 10m	17.15	14.46	14.52	+0.06	+0.6
R228	Horsell Common (SSSI/SPA) 25m	15.60	13.27	13.31	+0.04	+0.4
R229	Horsell Common (SSSI/SPA) 50m	14.73	12.61	12.63	+0.02	+0.2
R230	Horsell Common (SSSI/SPA) 75m	14.37	12.33	12.35	+0.02	+0.2
R231	Horsell Common (SSSI/SPA) 100m	14.18	12.18	12.19	+0.01	+0.1

5.7.2 Operation

Table 5.7.7: Estimated Annual Mean NO₂ concentrations (µg/m³) for Human Health Receptors, Defra LAQM.TG(16) method

Receptor ID	Background 2015 NO ₂	2015 Base NO ₂	Background 2022 NO ₂	2022 DM NO ₂	2022 DS NO ₂	2022 NO ₂ Change	2022 NO ₂ Change Criteria
R1	14.6	49.7	12.0	31.3	31.3	<0.1	Imperceptible
R2	14.6	38.4	12.0	24.3	24.4	+0.1	Imperceptible
R3	14.6	48.4	12.0	30.2	30.3	+0.1	Imperceptible
R4	11.3	41.9	9.3	26.3	26.4	+0.1	Imperceptible
R5	11.3	48.5	9.3	26.4	26.4	<0.1	Imperceptible
R6	10.2	31.5	8.2	21.2	21.0	-0.2	Imperceptible
R7	9.7	29.9	7.9	22.1	22.1	<0.1	Imperceptible
R8	9.2	33.2	7.5	21.0	20.9	-0.1	Imperceptible
R9	11.4	47.5	9.4	30.3	30.2	-0.1	Imperceptible
R10	10.7	29.9	8.8	17.5	17.7	+0.2	Imperceptible
R11	11.4	36.6	9.3	25.0	25.1	+0.1	Imperceptible
R12	11.4	35.5	9.3	21.6	21.8	+0.2	Imperceptible
R13	11.4	37.6	9.3	22.5	22.7	+0.2	Imperceptible
R14	10.3	32.2	8.4	19.4	19.5	+0.1	Imperceptible
R15	11.2	46.0	9.0	27.2	27.4	+0.2	Imperceptible
R16	11.0	34.7	8.9	20.7	20.8	+0.1	Imperceptible
R17	11.0	41.6	8.9	24.5	24.6	+0.1	Imperceptible
R18	9.1	39.1	7.4	22.6	22.8	+0.2	Imperceptible
R19	9.1	47.4	7.4	27.1	27.3	+0.2	Imperceptible
R20	10.5	17.5	8.5	12.8	12.9	+0.1	Imperceptible

Receptor ID	Background 2015 NO ₂	2015 Base NO ₂	Background 2022 NO ₂	2022 DM NO ₂	2022 DS NO ₂	2022 NO ₂ Change	2022 NO ₂ Change Criteria
R21	14.1	35.8	11.4	26.1	25.4	-0.7	Small decrease
R22	11.4	46.5	9.3	33.8	32.8	-1.0	Small decrease
R23	11.4	40.7	9.3	29.8	29.1	-0.7	Small decrease
R24	8.3	20.6	6.7	13.9	14.1	+0.2	Imperceptible
R25	8.5	20.3	6.8	13.9	14.2	+0.3	Imperceptible
R26	8.5	23.8	6.8	16.2	16.7	+0.5	Small increase
R27	8.5	15.5	6.9	11.0	11.2	+0.2	Imperceptible
R28	8.5	26.8	6.9	17.9	18.2	+0.3	Imperceptible
R29	8.5	26.6	6.9	17.9	18.5	+0.6	Small increase
R30	8.5	32.0	6.9	21.4	20.3	-1.1	Small decrease
R31	8.5	15.5	6.9	11.1	11.1	<0.1	Imperceptible
R32	8.5	20.8	6.9	14.3	14.4	+0.1	Imperceptible
R33	10.4	19.4	8.4	14.0	14.1	+0.1	Imperceptible
R34	9.4	20.2	7.6	14.4	14.6	+0.2	Imperceptible
R35	9.4	18.5	7.6	13.5	13.5	<0.1	Imperceptible
R36	9.6	21.3	7.7	15.7	15.4	-0.3	Imperceptible
R37	12.4	19.7	9.8	14.5	14.6	+0.1	Imperceptible
R38	12.3	28.3	9.8	20.2	20.5	+0.3	Imperceptible
R39	14.3	34.6	11.2	24.8	25.0	+0.2	Imperceptible
R40	8.0	35.6	6.4	21.2	20.4	-0.8	Small decrease
R41	7.6	23.4	6.1	13.5	13.6	+0.1	Imperceptible
R42	7.7	29.2	6.2	16.4	16.4	<0.1	Imperceptible
R43	7.7	19.1	6.2	11.5	11.6	+0.1	Imperceptible
R44	7.7	16.7	6.1	10.5	10.5	<0.1	Imperceptible

Receptor ID	Background 2015 NO ₂	2015 Base NO ₂	Background 2022 NO ₂	2022 DM NO ₂	2022 DS NO ₂	2022 NO ₂ Change	2022 NO ₂ Change Criteria
R45	7.8	21.5	6.2	12.8	12.9	+0.1	Imperceptible
R46	8.2	21.1	6.6	12.8	12.8	<0.1	Imperceptible
R47	9.7	26.5	7.7	16.0	16.1	+0.1	Imperceptible
R48	10.2	25.9	8.1	15.9	15.9	<0.1	Imperceptible
R49	10.1	44.0	8.0	25.1	25.1	<0.1	Imperceptible
R50	8.5	44.1	6.8	24.3	24.4	+0.1	Imperceptible
R51	8.5	24.9	6.8	14.5	14.5	<0.1	Imperceptible
R52	8.6	36.1	6.8	20.1	20.1	<0.1	Imperceptible
R53	7.9	28.4	6.3	15.9	16.0	+0.1	Imperceptible
R54	8.1	25.5	6.5	14.6	14.7	+0.1	Imperceptible
R55	8.1	43.5	6.5	24.7	24.8	+0.1	Imperceptible
R56	8.5	28.8	6.9	16.5	16.5	<0.1	Imperceptible
R57	8.0	26.2	6.4	18.1	18.2	+0.1	Imperceptible
R58	8.0	14.8	6.4	11.4	11.6	+0.2	Imperceptible
R59	8.4	16.7	6.7	12.6	13.0	+0.4	Small increase
R60	8.5	13.5	6.8	10.1	10.4	+0.3	Imperceptible
R61	7.9	16.6	6.3	11.5	11.6	+0.1	Imperceptible
R62	7.9	14.0	6.3	10.3	10.6	+0.3	Imperceptible
R63	8.5	40.2	6.9	27.1	27.6	+0.5	Small increase
R64	9.3	28.7	7.5	19.7	20.0	+0.3	Imperceptible
R65	9.3	25.5	7.5	17.6	17.8	+0.2	Imperceptible
R66	9.3	23.9	7.5	16.5	16.7	+0.2	Imperceptible
R67	9.3	17.8	7.5	12.9	13.3	+0.4	Imperceptible
R68	10.0	23.0	8.0	16.6	16.9	+0.3	Imperceptible

Receptor ID	Background 2015 NO ₂	2015 Base NO ₂	Background 2022 NO ₂	2022 DM NO ₂	2022 DS NO ₂	2022 NO ₂ Change	2022 NO ₂ Change Criteria
R69	12.4	32.9	9.9	23.2	23.5	+0.3	Imperceptible
R70	12.4	23.9	9.9	17.0	17.3	+0.3	Imperceptible
R71	14.1	55.2	11.3	37.8	38.1	+0.3	Imperceptible
R72	14.1	49.2	11.3	33.9	35.5	+1.6	Small increase
R73	11.5	41.8	9.2	28.6	28.8	+0.2	Imperceptible
R74	8.9	36.8	7.1	25.5	25.7	+0.2	Imperceptible
R75	8.9	26.0	7.1	17.7	17.8	+0.1	Imperceptible
R76	8.9	31.9	7.1	21.6	21.7	+0.1	Imperceptible
R77	8.2	33.6	6.5	22.6	22.8	+0.2	Imperceptible
R78	7.9	35.4	6.3	23.6	23.7	+0.1	Imperceptible
R79	7.9	30.2	6.3	20.3	20.4	+0.1	Imperceptible
R80	7.6	14.1	6.1	10.3	10.2	-0.1	Imperceptible
R81	8.8	13.4	7.0	10.1	9.8	-0.3	Imperceptible
R82	9.9	26.9	8.1	17.1	17.1	<0.1	Imperceptible
R83	9.1	31.6	7.3	22.1	23.1	+1.0	Small increase
R84	14.1	30.7	11.4	22.4	22.0	-0.4	Small decrease
R85	7.4	12.7	6.0	9.6	9.4	-0.2	Imperceptible
R86	7.6	15.1	6.1	11.5	11.2	-0.3	Imperceptible
R87	7.3	12.0	5.9	9.2	9.0	-0.2	Imperceptible
R88	13.8	27.0	10.9	19.0	19.3	+0.3	Imperceptible
R89	10.9	28.4	9.0	18.3	18.3	<0.1	Imperceptible

Table 5.7.8: Estimated Annual Mean PM₁₀ concentrations (µg/m³) for Human Health Receptors

Receptor ID	Background 2015 PM ₁₀	2015 Base PM ₁₀	Background 2022 PM ₁₀	2022 DM PM ₁₀	2022 DS PM ₁₀	2022 PM ₁₀ Change	2022 PM ₁₀ Change Criteria
R1	16.9	21.6	16.4	20.7	20.7	<0.1	Imperceptible
R2	16.9	19.8	16.4	18.9	18.9	<0.1	Imperceptible
R3	16.9	21.3	16.4	20.2	20.2	<0.1	Imperceptible
R4	15.4	19.4	15.0	18.6	18.6	<0.1	Imperceptible
R5	15.4	19.4	15.0	18.4	18.4	<0.1	Imperceptible
R6	13.2	16.0	12.8	15.0	15.0	<0.1	Imperceptible
R7	15.2	17.2	14.8	16.5	16.5	<0.1	Imperceptible
R8	13.1	15.9	12.7	14.6	14.6	<0.1	Imperceptible
R9	15.2	19.7	14.8	18.0	18.0	<0.1	Imperceptible
R10	15.7	17.9	15.3	17.0	17.0	<0.1	Imperceptible
R11	16.0	18.8	15.6	17.8	17.9	+0.1	Imperceptible
R12	16.0	18.8	15.6	17.9	17.9	<0.1	Imperceptible
R13	16.0	19.1	15.6	18.2	18.2	<0.1	Imperceptible
R14	15.5	18.0	15.1	17.2	17.2	<0.1	Imperceptible
R15	16.3	20.9	15.9	19.7	19.8	+0.1	Imperceptible
R16	16.3	19.2	15.9	18.2	18.2	<0.1	Imperceptible
R17	16.3	20.2	15.9	19.1	19.1	<0.1	Imperceptible
R18	15.2	19.0	14.8	17.9	18.0	+0.1	Imperceptible
R19	15.2	20.3	14.8	19.0	19.0	<0.1	Imperceptible
R20	12.8	13.9	12.4	13.3	13.3	<0.1	Imperceptible
R21	14.5	18.3	13.9	17.8	17.6	-0.2	Imperceptible
R22	13.8	20.4	13.3	19.9	19.6	-0.3	Imperceptible

Receptor ID	Background 2015 PM ₁₀	2015 Base PM ₁₀	Background 2022 PM ₁₀	2022 DM PM ₁₀	2022 DS PM ₁₀	2022 PM ₁₀ Change	2022 PM ₁₀ Change Criteria
R23	13.8	18.3	13.3	17.8	17.6	-0.2	Imperceptible
R24	15.4	17.0	15.0	16.4	16.5	+0.1	Imperceptible
R25	13.7	15.5	13.3	14.8	14.9	+0.1	Imperceptible
R26	13.7	16.2	13.3	15.4	15.5	+0.1	Imperceptible
R27	14.1	15.1	13.7	14.6	14.6	<0.1	Imperceptible
R28	14.1	16.4	13.7	15.8	15.8	<0.1	Imperceptible
R29	14.1	17.0	13.7	16.3	16.4	+0.1	Imperceptible
R30	14.1	17.5	13.7	16.6	16.6	<0.1	Imperceptible
R31	14.1	15.1	13.7	14.6	14.6	<0.1	Imperceptible
R32	14.1	15.7	13.7	15.2	15.2	<0.1	Imperceptible
R33	14.3	15.7	13.8	15.1	15.1	<0.1	Imperceptible
R34	13.4	15.2	13.0	14.6	14.7	+0.1	Imperceptible
R35	13.7	15.1	13.2	14.5	14.5	<0.1	Imperceptible
R36	12.9	14.6	12.4	14.1	14.0	-0.1	Imperceptible
R37	14.9	16.1	14.4	15.5	15.5	<0.1	Imperceptible
R38	14.9	17.7	14.4	16.9	17.0	+0.1	Imperceptible
R39	16.3	19.8	15.8	19.1	19.1	<0.1	Imperceptible
R40	14.0	16.5	13.6	15.5	15.6	+0.1	Imperceptible
R41	14.5	16.2	14.1	15.5	15.5	<0.1	Imperceptible
R42	15.0	17.4	14.6	16.6	16.6	<0.1	Imperceptible
R43	15.0	16.2	14.6	15.6	15.6	<0.1	Imperceptible
R44	12.6	13.6	12.1	13.0	13.0	<0.1	Imperceptible
R45	14.7	16.2	14.2	15.5	15.6	+0.1	Imperceptible
R46	14.8	16.3	14.4	15.7	15.7	<0.1	Imperceptible

Receptor ID	Background 2015 PM ₁₀	2015 Base PM ₁₀	Background 2022 PM ₁₀	2022 DM PM ₁₀	2022 DS PM ₁₀	2022 PM ₁₀ Change	2022 PM ₁₀ Change Criteria
R47	15.4	17.4	15.0	16.7	16.7	<0.1	Imperceptible
R48	15.3	17.1	14.9	16.4	16.4	<0.1	Imperceptible
R49	15.3	19.7	14.9	18.5	18.5	<0.1	Imperceptible
R50	13.7	18.2	13.3	17.0	17.0	<0.1	Imperceptible
R51	13.7	15.5	13.3	14.8	14.8	<0.1	Imperceptible
R52	14.9	18.2	14.5	17.2	17.2	<0.1	Imperceptible
R53	15.3	17.6	14.9	16.9	16.9	<0.1	Imperceptible
R54	15.2	17.1	14.8	16.4	16.4	<0.1	Imperceptible
R55	15.2	19.7	14.8	18.6	18.6	<0.1	Imperceptible
R56	15.8	18.1	15.4	17.3	17.3	<0.1	Imperceptible
R57	14.1	16.0	13.7	15.2	15.2	<0.1	Imperceptible
R58	14.1	14.7	13.7	14.3	14.4	+0.1	Imperceptible
R59	13.9	14.9	13.5	14.4	14.4	<0.1	Imperceptible
R60	13.2	13.8	12.8	13.3	13.3	<0.1	Imperceptible
R61	13.9	14.8	13.4	14.1	14.1	<0.1	Imperceptible
R62	14.0	14.7	13.6	14.2	14.2	<0.1	Imperceptible
R63	13.5	17.1	13.1	15.8	15.9	+0.1	Imperceptible
R64	14.7	16.9	14.4	16.0	16.1	+0.1	Imperceptible
R65	14.7	16.5	14.4	15.7	15.8	+0.1	Imperceptible
R66	14.7	16.3	14.4	15.6	15.6	<0.1	Imperceptible
R67	14.7	15.8	14.4	15.3	15.4	+0.1	Imperceptible
R68	13.6	15.5	13.2	15.0	15.1	+0.1	Imperceptible
R69	15.1	17.6	14.7	16.9	16.9	<0.1	Imperceptible
R70	15.1	17.0	14.7	16.4	16.5	+0.1	Imperceptible

Receptor ID	Background 2015 PM ₁₀	2015 Base PM ₁₀	Background 2022 PM ₁₀	2022 DM PM ₁₀	2022 DS PM ₁₀	2022 PM ₁₀ Change	2022 PM ₁₀ Change Criteria
R71	15.6	21.5	15.0	19.9	19.9	<0.1	Imperceptible
R72	15.6	19.8	15.0	18.2	18.2	<0.1	Imperceptible
R73	13.1	16.6	12.6	15.3	15.3	<0.1	Imperceptible
R74	14.2	17.4	13.8	16.2	16.2	<0.1	Imperceptible
R75	14.2	16.0	13.8	15.2	15.2	<0.1	Imperceptible
R76	14.2	16.7	13.8	15.7	15.7	<0.1	Imperceptible
R77	13.1	15.9	12.7	14.8	14.8	<0.1	Imperceptible
R78	13.9	17.0	13.6	15.8	15.8	<0.1	Imperceptible
R79	13.9	16.5	13.6	15.6	15.6	<0.1	Imperceptible
R80	12.7	13.7	12.3	13.1	13.1	<0.1	Imperceptible
R81	12.8	13.5	12.3	13.0	12.9	-0.1	Imperceptible
R82	14.1	15.9	13.7	14.9	14.9	<0.1	Imperceptible
R83	12.7	16.6	12.2	15.7	15.9	+0.2	Imperceptible
R84	14.5	17.1	13.9	16.5	16.4	-0.1	Imperceptible
R85	12.1	12.7	11.6	12.2	12.1	-0.1	Imperceptible
R86	12.4	13.3	11.9	12.8	12.7	-0.1	Imperceptible
R87	12.1	12.7	11.7	12.2	12.2	<0.1	Imperceptible
R88	13.8	15.8	13.3	15.1	15.1	<0.1	Imperceptible
R89	15.9	17.9	15.5	17.2	17.2	<0.1	Imperceptible

Table 5.7.9: Estimated Annual Mean NO₂ concentrations (µg/m³) for Human Health Receptors, LTTE6

Receptor ID	Background 2015 NO ₂	2015 Base NO ₂	Background 2022 NO ₂	2022 DM NO ₂	2022 DS NO ₂	2022 NO ₂ Change	2022 NO ₂ Change Criteria
R1	14.6	49.7	12.0	40.7	40.8	+0.1	Imperceptible
R2	14.6	38.4	12.0	31.1	31.1	<0.1	Imperceptible
R3	14.6	48.4	12.0	40.4	40.4	<0.1	Imperceptible
R4	11.3	41.9	9.3	35.8	35.9	+0.1	Imperceptible
R5	11.3	48.5	9.3	36.0	36.1	+0.1	Imperceptible
R6	10.2	31.5	8.2	23.6	23.5	-0.1	Imperceptible
R7	9.7	29.9	7.9	26.4	26.4	<0.1	Imperceptible
R8	9.2	33.2	7.5	25.7	25.6	-0.1	Imperceptible
R9	11.4	47.5	9.4	36.9	36.8	-0.1	Imperceptible
R10	10.7	29.9	8.8	23.6	23.9	+0.3	Imperceptible
R11	11.4	36.6	9.3	34.4	34.6	+0.2	Imperceptible
R12	11.4	35.5	9.3	29.6	29.9	+0.3	Imperceptible
R13	11.4	37.6	9.3	31.3	31.5	+0.2	Imperceptible
R14	10.3	32.2	8.4	26.7	26.9	+0.2	Imperceptible
R15	11.2	46.0	9.0	38.0	38.3	+0.3	Imperceptible
R16	11.0	34.7	8.9	28.5	28.7	+0.2	Imperceptible
R17	11.0	41.6	8.9	34.4	34.6	+0.2	Imperceptible
R18	9.1	39.1	7.4	32.6	32.8	+0.2	Imperceptible
R19	9.1	47.4	7.4	39.6	39.9	+0.3	Imperceptible
R20	10.5	17.5	8.5	13.8	13.9	+0.1	Imperceptible
R21	14.1	35.8	11.4	29.4	28.7	-0.7	Small decrease

Receptor ID	Background 2015 NO ₂	2015 Base NO ₂	Background 2022 NO ₂	2022 DM NO ₂	2022 DS NO ₂	2022 NO ₂ Change	2022 NO ₂ Change Criteria
R22	11.4	46.5	9.3	38.8	37.6	-1.2	Small decrease
R23	11.4	40.7	9.3	34.1	33.2	-0.9	Small decrease
R24	8.3	20.6	6.7	16.4	16.6	+0.2	Imperceptible
R25	8.5	20.3	6.8	16.0	16.4	+0.4	Imperceptible
R26	8.5	23.8	6.8	18.7	19.4	+0.7	Small increase
R27	8.5	15.5	6.9	12.2	12.4	+0.2	Imperceptible
R28	8.5	26.8	6.9	21.1	21.5	+0.4	Imperceptible
R29	8.5	26.6	6.9	21.1	21.8	+0.7	Small increase
R30	8.5	32.0	6.9	24.9	23.5	-1.4	Small decrease
R31	8.5	15.5	6.9	12.2	12.3	+0.1	Imperceptible
R32	8.5	20.8	6.9	16.5	16.5	<0.1	Imperceptible
R33	10.4	19.4	8.4	15.3	15.4	+0.1	Imperceptible
R34	9.4	20.2	7.6	16.0	16.2	+0.2	Imperceptible
R35	9.4	18.5	7.6	14.8	14.8	<0.1	Imperceptible
R36	9.6	21.3	7.7	17.4	17.2	-0.2	Imperceptible
R37	12.4	19.7	9.8	15.5	15.7	+0.2	Imperceptible
R38	12.3	28.3	9.8	22.6	22.9	+0.3	Imperceptible
R39	14.3	34.6	11.2	27.8	28.0	+0.2	Imperceptible
R40	8.0	35.6	6.4	26.3	25.4	-0.9	Small decrease
R41	7.6	23.4	6.1	18.9	19.0	+0.1	Imperceptible
R42	7.7	29.2	6.2	24.0	24.1	+0.1	Imperceptible
R43	7.7	19.1	6.2	15.4	15.5	+0.1	Imperceptible
R44	7.7	16.7	6.1	13.4	13.5	+0.1	Imperceptible
R45	7.8	21.5	6.2	17.4	17.5	+0.1	Imperceptible

Receptor ID	Background 2015 NO ₂	2015 Base NO ₂	Background 2022 NO ₂	2022 DM NO ₂	2022 DS NO ₂	2022 NO ₂ Change	2022 NO ₂ Change Criteria
R46	8.2	21.1	6.6	17.1	17.1	<0.1	Imperceptible
R47	9.7	26.5	7.7	21.6	21.7	+0.1	Imperceptible
R48	10.2	25.9	8.1	21.1	21.2	+0.1	Imperceptible
R49	10.1	44.0	8.0	36.5	36.6	+0.1	Imperceptible
R50	8.5	44.1	6.8	36.8	36.9	+0.1	Imperceptible
R51	8.5	24.9	6.8	20.4	20.4	<0.1	Imperceptible
R52	8.6	36.1	6.8	30.0	30.0	<0.1	Imperceptible
R53	7.9	28.4	6.3	23.4	23.5	+0.1	Imperceptible
R54	8.1	25.5	6.5	21.0	21.0	<0.1	Imperceptible
R55	8.1	43.5	6.5	36.6	36.7	+0.1	Imperceptible
R56	8.5	28.8	6.9	23.9	23.9	<0.1	Imperceptible
R57	8.0	26.2	6.4	21.2	21.2	<0.1	Imperceptible
R58	8.0	14.8	6.4	12.5	12.8	+0.3	Imperceptible
R59	8.4	16.7	6.7	13.6	14.0	+0.4	Imperceptible
R60	8.5	13.5	6.8	10.7	11.0	+0.3	Imperceptible
R61	7.9	16.6	6.3	12.9	13.0	+0.1	Imperceptible
R62	7.9	14.0	6.3	11.0	11.3	+0.3	Imperceptible
R63	8.5	40.2	6.9	31.9	32.5	+0.6	Small increase
R64	9.3	28.7	7.5	22.6	22.9	+0.3	Imperceptible
R65	9.3	25.5	7.5	20.1	20.3	+0.2	Imperceptible
R66	9.3	23.9	7.5	18.8	19.0	+0.2	Imperceptible
R67	9.3	17.8	7.5	14.2	14.6	+0.4	Imperceptible
R68	10.0	23.0	8.0	18.7	19.0	+0.3	Imperceptible
R69	12.4	32.9	9.9	26.4	26.7	+0.3	Imperceptible

Receptor ID	Background 2015 NO ₂	2015 Base NO ₂	Background 2022 NO ₂	2022 DM NO ₂	2022 DS NO ₂	2022 NO ₂ Change	2022 NO ₂ Change Criteria
R70	12.4	23.9	9.9	18.8	19.0	+0.2	Imperceptible
R71	14.1	55.2	11.3	43.3	43.6	+0.3	Imperceptible
R72	14.1	49.2	11.3	38.3	40.1	+1.8	Small increase
R73	11.5	41.8	9.2	32.6	32.9	+0.3	Imperceptible
R74	8.9	36.8	7.1	29.2	29.5	+0.3	Imperceptible
R75	8.9	26.0	7.1	20.1	20.3	+0.2	Imperceptible
R76	8.9	31.9	7.1	24.7	24.9	+0.2	Imperceptible
R77	8.2	33.6	6.5	26.0	26.2	+0.2	Imperceptible
R78	7.9	35.4	6.3	27.4	27.6	+0.2	Imperceptible
R79	7.9	30.2	6.3	23.6	23.7	+0.1	Imperceptible
R80	7.6	14.1	6.1	11.2	11.1	-0.1	Imperceptible
R81	8.8	13.4	7.0	10.7	10.4	-0.3	Imperceptible
R82	9.9	26.9	8.1	20.6	20.6	<0.1	Imperceptible
R83	9.1	31.6	7.3	24.6	25.8	+1.2	Small increase
R84	14.1	30.7	11.4	25.0	24.6	-0.4	Imperceptible
R85	7.4	12.7	6.0	10.1	9.9	-0.2	Imperceptible
R86	7.6	15.1	6.1	12.2	11.9	-0.3	Imperceptible
R87	7.3	12.0	5.9	9.6	9.4	-0.2	Imperceptible
R88	13.8	27.0	10.9	21.2	21.5	+0.3	Imperceptible
R89	10.9	28.4	9.0	24.1	24.1	<0.1	Imperceptible

Table 5.7.10: Estimated Annual Mean NO_x concentrations (µg/m³) for Ecological Transect Points

Receptor ID	2015 Base NO _x	2022 DM NO _x	2022 DS NO _x	2022 NO _x Change	2022 NO _x Change Criteria
R90	89.9	66.3	66.1	-0.2	Imperceptible
R91	81.8	60.5	60.3	-0.2	Imperceptible
R92	61.3	45.4	45.3	-0.1	Imperceptible
R93	46.3	34.0	33.9	-0.1	Imperceptible
R94	38.6	28.2	28.2	<0.1	Imperceptible
R95	33.8	24.5	24.5	<0.1	Imperceptible
R96	27.9	20.1	20.1	<0.1	Imperceptible
R97	24.6	17.6	17.5	-0.1	Imperceptible
R98	176.8	119.8	119.2	-0.6	Small decrease
R99	120.5	82.2	81.8	-0.4	Imperceptible
R100	71.5	49.2	49.0	-0.2	Imperceptible
R101	47.7	32.9	32.8	-0.1	Imperceptible
R102	38.3	26.5	26.4	-0.1	Imperceptible
R103	33.2	23.0	22.9	-0.1	Imperceptible
R104	27.9	19.3	19.2	-0.1	Imperceptible
R105	25.8	17.8	17.7	-0.1	Imperceptible
R106	141.3	99.4	98.9	-0.5	Small decrease
R107	86.9	60.9	60.7	-0.2	Imperceptible
R108	58.0	40.6	40.4	-0.2	Imperceptible
R109	45.9	32.1	32.0	-0.1	Imperceptible
R110	39.2	27.4	27.3	-0.1	Imperceptible
R111	31.8	22.2	22.1	-0.1	Imperceptible

Receptor ID	2015 Base NO _x	2022 DM NO _x	2022 DS NO _x	2022 NO _x Change	2022 NO _x Change Criteria
R112	27.8	19.4	19.3	-0.1	Imperceptible
R113	33.5	24.3	24.6	+0.3	Imperceptible
R114	28.1	20.2	20.4	+0.2	Imperceptible
R115	24.2	17.3	17.5	+0.2	Imperceptible
R116	22.1	15.8	15.9	+0.1	Imperceptible
R117	19.9	14.1	14.2	+0.1	Imperceptible
R118	18.7	13.2	13.3	+0.1	Imperceptible
R119	51.9	37.5	38.3	+0.8	Small increase
R120	43.1	31.1	31.7	+0.6	Small increase
R121	31.8	22.9	23.1	+0.2	Imperceptible
R122	27.4	19.6	19.8	+0.2	Imperceptible
R123	24.7	17.7	17.8	+0.1	Imperceptible
R124	21.9	15.6	15.7	+0.1	Imperceptible
R125	20.3	14.4	14.5	+0.1	Imperceptible
R126	105.1	84.5	79.5	-5.0	Large decrease
R127	92.4	74.4	70.0	-4.4	Large decrease
R128	57.5	45.8	43.4	-2.4	Medium decrease
R129	40.2	31.2	29.9	-1.3	Small decrease
R130	33.3	25.3	24.4	-0.9	Small decrease
R131	29.5	22.1	21.5	-0.6	Small decrease
R132	25.5	18.8	18.4	-0.4	Small decrease
R133	23.4	17.1	16.8	-0.3	Imperceptible
R134	109.5	101.3	91.3	-10.0	Large decrease
R135	69.9	60.1	55.6	-4.5	Large decrease

Receptor ID	2015 Base NO _x	2022 DM NO _x	2022 DS NO _x	2022 NO _x Change	2022 NO _x Change Criteria
R136	48.4	39.4	37.2	-2.2	Medium decrease
R137	39.5	31.2	29.7	-1.5	Small decrease
R138	34.4	26.6	25.6	-1.0	Small decrease
R139	28.7	21.6	21.0	-0.6	Small decrease
R140	25.5	18.9	18.5	-0.4	Small decrease
R141	91.1	67.7	69.9	+2.2	Medium increase
R142	81.6	58.1	59.6	+1.5	Small increase
R143	58.4	40.8	41.1	+0.3	Imperceptible
R144	45.0	31.7	31.5	-0.2	Imperceptible
R145	39.0	27.7	27.5	-0.2	Imperceptible
R146	36.1	25.8	25.5	-0.3	Imperceptible
R147	32.2	23.3	23.1	-0.2	Imperceptible
R148	30.2	21.9	21.8	-0.1	Imperceptible
R149	164.8	94.8	98.9	+4.1	Large increase
R150	126.3	79.8	82.7	+2.9	Medium increase
R151	83.6	53.6	54.5	+0.9	Small increase
R152	59.6	39.5	39.6	+0.1	Imperceptible
R153	49.1	33.2	33.1	-0.1	Imperceptible
R154	42.4	29.1	28.9	-0.2	Imperceptible
R155	35.6	24.8	24.6	-0.2	Imperceptible
R156	31.8	22.4	22.2	-0.2	Imperceptible
R157	94.5	85.5	84.2	-1.3	Small decrease
R158	84.1	69.7	70.6	+0.9	Small increase
R159	65.6	51.5	52.6	+1.1	Small increase

Receptor ID	2015 Base NO _x	2022 DM NO _x	2022 DS NO _x	2022 NO _x Change	2022 NO _x Change Criteria
R160	51.1	39.1	39.8	+0.7	Small increase
R161	43.6	32.9	33.4	+0.5	Small increase
R162	38.9	29.2	29.5	+0.3	Imperceptible
R163	33.4	24.8	24.9	+0.1	Imperceptible
R164	30.2	22.3	22.3	<0.1	Imperceptible
R165	85.1	71.1	90.6	+19.5	Large increase
R166	77.4	63.4	75.8	+12.4	Large increase
R167	62.1	49.1	54.4	+5.3	Large increase
R168	49.0	37.7	40.0	+2.3	Medium increase
R169	41.9	31.7	33.0	+1.3	Small increase
R170	37.3	28.0	28.8	+0.8	Small increase
R171	31.7	23.5	23.9	+0.4	Small increase
R172	28.4	20.8	21.0	+0.2	Imperceptible
R173	71.9	53.8	55.2	+1.4	Small increase
R174	60.5	44.5	45.4	+0.9	Small increase
R175	46.9	34.1	34.6	+0.5	Small increase
R176	38.2	27.6	27.8	+0.2	Imperceptible
R177	33.9	24.5	24.7	+0.2	Imperceptible
R178	31.3	22.7	22.8	+0.1	Imperceptible
R179	28.2	20.4	20.5	+0.1	Imperceptible
R180	26.3	19.0	19.1	+0.1	Imperceptible
R181	76.9	54.3	56.4	+2.1	Medium increase
R182	64.2	45.7	47.0	+1.3	Small increase
R183	49.6	35.6	36.1	+0.5	Small increase

Receptor ID	2015 Base NO _x	2022 DM NO _x	2022 DS NO _x	2022 NO _x Change	2022 NO _x Change Criteria
R184	43.4	31.3	31.5	+0.2	Imperceptible
R185	39.7	28.6	28.7	+0.1	Imperceptible
R186	35.6	25.7	25.7	<0.1	Imperceptible
R187	33.2	24.0	23.9	-0.1	Imperceptible
R188	80.5	60.8	61.1	+0.3	Imperceptible
R189	65.7	48.9	48.7	-0.2	Imperceptible
R190	52.3	38.6	38.2	-0.4	Small decrease
R191	45.4	33.3	33.0	-0.3	Imperceptible
R192	40.1	29.3	29.0	-0.3	Imperceptible
R193	35.0	25.4	25.1	-0.3	Imperceptible
R194	32.1	23.1	22.9	-0.2	Imperceptible
R195	90.3	69.8	74.2	+4.4	Large increase
R196	81.4	62.4	64.2	+1.8	Small increase
R197	66.0	49.9	50.1	+0.2	Imperceptible
R198	52.5	39.1	38.9	-0.2	Imperceptible
R199	45.5	33.6	33.4	-0.2	Imperceptible
R200	41.0	30.1	29.9	-0.2	Imperceptible
R201	34.9	25.4	25.3	-0.1	Imperceptible
R202	31.5	22.9	22.8	-0.1	Imperceptible
R203	29.4	21.9	21.1	-0.8	Small decrease
R204	21.9	16.1	15.6	-0.5	Small decrease
R205	16.9	12.2	12.0	-0.2	Imperceptible
R206	14.6	10.4	10.3	-0.1	Imperceptible
R207	13.8	9.7	9.7	<0.1	Imperceptible

Receptor ID	2015 Base NO _x	2022 DM NO _x	2022 DS NO _x	2022 NO _x Change	2022 NO _x Change Criteria
R208	13.3	9.4	9.3	-0.1	Imperceptible
R209	12.8	9.0	9.0	<0.1	Imperceptible
R210	12.6	8.8	8.8	<0.1	Imperceptible
R211	62.9	48.2	48.4	+0.2	Imperceptible
R212	48.1	36.5	36.6	+0.1	Imperceptible
R213	37.9	28.5	28.5	<0.1	Imperceptible
R214	32.4	24.1	24.1	<0.1	Imperceptible
R215	26.2	19.3	19.3	<0.1	Imperceptible
R216	23.0	16.7	16.8	+0.1	Imperceptible

Table 5.7.11: Background Nitrogen Deposition Rates Used in the Assessment for each Ecologically Designated Site

Ecologically Designated Site	Most Sensitive Habitat Type to Nitrogen Deposition*	Critical Load (kg/N/ha/yr)*	Max Background Nitrogen Deposition (kg/N/ha/yr) Base Year*	Background Nitrogen Deposition (kg/N/ha/yr) Opening Year 2022
Colony Bog and Bagshot Heath SSSI	Fen, marsh and swamp	10 - 15	13.6	11.7
Chobham Common SSSI, Thursley, Ash, Pirbright & Cobham SAC, Thames Basin Heaths SPA.	Fen, marsh and Swamp	10 - 15	13.6	11.7
Esher Commons SSSI	Vascular plant assemblage	No comparable habitat with established critical load estimate available. Assumed 10 – 20 in line with dwarf shrub heath	11.3	9.8
Okham & Wisley Commons SSSI, Thames Basin Heaths SPA	Fen, marsh and Swamp	10 – 15	14.0	12.0

Ecologically Designated Site	Most Sensitive Habitat Type to Nitrogen Deposition*	Critical Load (kg/N/ha/yr)*	Max Background Nitrogen Deposition (kg/N/ha/yr) Base Year*	Background Nitrogen Deposition (kg/N/ha/yr) Opening Year 2022
Sheepheas SSSI	Broad-leaved, mixed and yew woodland	10 – 20	23.2	20.0
Mole Gap to Reigate Escarpment SSSI, SAC	Broad-leaved, mixed and yew woodland	5 – 15	28.6	24.6
Horsell Common SSSI, Thames Basin Heaths SPA	Dwarf shrub heath	10 - 20	13.4	11.6
*taken from APIS website				

Table 5.7.12: Estimated Nitrogen Deposition Results (kg/N/ha/yr) for Ecological Transect Points

Receptor ID	Description	Base	2022 DM	2022 DS	Change	Change as % of Lower Range of Critical Load
R119	Esher Commons SSSI – South 17m	13.22	11.28	11.32	+0.04	+0.4
R120	Esher Commons SSSI – South 25m	12.81	10.96	10.99	+0.03	+0.3
R121	Esher Commons SSSI – South 50m	12.26	10.51	10.53	+0.02	+0.2
R122	Esher Commons SSSI – South 75m	12.04	10.34	10.35	+0.01	+0.1
R123	Esher Commons SSSI – South 100m	11.91	10.23	10.24	+0.01	+0.1
R124	Esher Commons SSSI – South 150m	11.76	10.11	10.11	<0.01	<0.1
R125	Esher Commons SSSI – South 200m	11.67	10.04	10.05	+0.01	+0.1
R141	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – West of A3 (south of junction 10) 7m	17.74	15.05	15.16	+0.11	+1.1
R142	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – West of A3 (south of junction 10) 10m	17.36	14.63	14.70	+0.07	+0.7
R143	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – West of A3 (south of junction 10) 25m	16.38	13.82	13.83	+0.01	+0.1
R144	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – West of A3 (south of junction 10) 50m	15.77	13.36	13.35	-0.01	-0.1

Receptor ID	Description	Base	2022 DM	2022 DS	Change	Change as % of Lower Range of Critical Load
R145	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – West of A3 (south of junction 10) 75m	15.48	13.14	13.13	-0.01	-0.1
R146	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – West of A3 (south of junction 10) 100m	15.34	13.05	13.03	-0.02	-0.2
R147	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – West of A3 (south of junction 10) 150m	15.15	12.91	12.90	-0.01	-0.1
R148	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – West of A3 (south of junction 10) 200m	15.05	12.83	12.83	<0.01	<0.1
R149	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – East of A3 (south of junction 10) 5m	20.31	16.06	16.22	+0.16	+1.6
R150	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – East of A3 (south of junction 10) 10m	19.03	15.51	15.63	+0.12	+1.2
R151	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – East of A3 (south of junction 10) 25m	17.44	14.41	14.45	+0.04	+0.4
R152	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – East of A3 (south of junction 10) 50m	16.43	13.75	13.76	+0.01	+0.1
R153	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – East of A3 (south of junction 10) 75m	15.96	13.43	13.43	<0.01	<0.1
R154	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – East of A3 (south of junction 10) 100m	15.63	13.21	13.20	-0.01	-0.1
R155	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – East of A3 (south of junction 10) 150m	15.30	12.98	12.97	-0.01	-0.1
R156	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – East of A3 (south of junction 10) 200m	15.11	12.85	12.84	-0.01	-0.1
R157	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – South of M25 (west of junction 10) 5m	17.88	15.85	15.79	-0.06	-0.6
R158	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – South of M25 (west of junction 10) 10m	17.47	15.18	15.21	+0.03	+0.3

Receptor ID	Description	Base	2022 DM	2022 DS	Change	Change as % of Lower Range of Critical Load
R159	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – South of M25 (west of junction 10) 25m	16.70	14.35	14.40	+0.05	+0.5
R160	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – South of M25 (west of junction 10) 50m	16.06	13.75	13.78	+0.03	+0.3
R161	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – South of M25 (west of junction 10) 75m	15.71	13.43	13.45	+0.02	+0.2
R162	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – South of M25 (west of junction 10) 100m	15.48	13.23	13.25	+0.02	+0.2
R163	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – South of M25 (west of junction 10) 150m	15.21	13.00	13.00	<0.01	<0.1
R164	Ockham & Wisley Commons SSSI/ Thames Basin Heaths SPA – South of M25 (west of junction 10) 200m	15.05	12.86	12.86	<0.01	<0.1
R165	Ockham & Wisley Commons SSSI – North of M25 (west of junction 10) 5m	17.51	15.24	16.11	+0.87	+8.7
R166	Ockham & Wisley Commons SSSI – North of M25 (west of junction 10) 10m	17.20	14.90	15.47	+0.57	+5.7
R167	Ockham & Wisley Commons SSSI – North of M25 (west of junction 10) 25m	16.55	14.24	14.50	+0.26	+2.6
R168	Ockham & Wisley Commons SSSI – North of M25 (west of junction 10) 50m	15.96	13.68	13.80	+0.12	+1.2
R169	Ockham & Wisley Commons SSSI – North of M25 (west of junction 10) 75m	15.63	13.37	13.43	+0.06	+0.6
R170	Ockham & Wisley Commons SSSI – North of M25 (west of junction 10) 100m	15.40	13.17	13.21	+0.04	+0.4
R171	Ockham & Wisley Commons SSSI – North of M25 (west of junction 10) 150m	15.13	12.92	12.94	+0.02	+0.2
R172	Ockham & Wisley Commons SSSI – North of M25 (west of junction 10) 200m	14.96	12.77	12.79	+0.02	+0.2

Receptor ID	Description	Base	2022 DM	2022 DS	Change	Change as % of Lower Range of Critical Load
R173	Ockham & Wisley Commons SSSI – West of A3 (north of junction 10) 5m	16.97	14.45	14.52	+0.07	+0.7
R174	Ockham & Wisley Commons SSSI – West of A3 (north of junction 10) 10m	16.48	14.01	14.05	+0.04	+0.4
R175	Ockham & Wisley Commons SSSI – West of A3 (north of junction 10) 25m	15.87	13.49	13.51	+0.02	+0.2
R176	Ockham & Wisley Commons SSSI – West of A3 (north of junction 10) 50m	15.45	13.15	13.16	+0.01	+0.1
R177	Ockham & Wisley Commons SSSI – West of A3 (north of junction 10) 75m	15.24	12.98	12.99	+0.01	+0.1
R178	Ockham & Wisley Commons SSSI – West of A3 (north of junction 10) 100m	15.11	12.88	12.88	<0.01	<0.1
R179	Ockham & Wisley Commons SSSI – West of A3 (north of junction 10) 150m	14.95	12.75	12.76	+0.01	+0.1
R180	Ockham & Wisley Commons SSSI – West of A3 (north of junction 10) 200m	14.85	12.67	12.68	+0.01	+0.1
R181	Ockham & Wisley Commons SSSI – East of A3 (north of junction 10) 15m	17.18	14.46	14.56	+0.10	+1.0
R182	Ockham & Wisley Commons SSSI – East of A3 (north of junction 10) 25m	16.64	14.06	14.13	+0.07	+0.7
R183	Ockham & Wisley Commons SSSI – East of A3 (north of junction 10) 50m	15.99	13.57	13.59	+0.02	+0.2
R184	Ockham & Wisley Commons SSSI – East of A3 (north of junction 10) 75m	15.70	13.34	13.35	+0.01	+0.1
R185	Ockham & Wisley Commons SSSI – East of A3 (north of junction 10) 100m	15.52	13.20	13.21	+0.01	+0.1
R186	Ockham & Wisley Commons SSSI – East of A3 (north of junction 10) 150m	15.32	13.04	13.04	<0.01	<0.1

Receptor ID	Description	Base	2022 DM	2022 DS	Change	Change as % of Lower Range of Critical Load
R187	Ockham & Wisley Commons SSSI – East of A3 (north of junction 10) 200m	15.19	12.94	12.94	<0.01	<0.1
R195	Ockham & Wisley Commons SSSI – North of M25 (east of junction 10) 5m	17.67	15.12	15.31	+0.19	+1.9
R196	Ockham & Wisley Commons SSSI – North of M25 (east of junction 10) 10m	17.32	14.80	14.89	+0.09	+0.9
R197	Ockham & Wisley Commons SSSI – North of M25 (east of junction 10) 25m	16.69	14.24	14.25	+0.01	+0.1
R198	Ockham & Wisley Commons SSSI – North of M25 (east of junction 10) 50m	16.10	13.73	13.72	-0.01	-0.1
R199	Ockham & Wisley Commons SSSI – North of M25 (east of junction 10) 75m	15.78	13.45	13.44	-0.01	-0.1
R200	Ockham & Wisley Commons SSSI – North of M25 (east of junction 10) 100m	15.57	13.27	13.26	-0.01	-0.1
R201	Ockham & Wisley Commons SSSI – North of M25 (east of junction 10) 150m	15.27	13.02	13.01	-0.01	-0.1
R202	Ockham & Wisley Commons SSSI – North of M25 (east of junction 10) 200m	15.11	12.88	12.88	<0.01	<0.1

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