HIGH SPEED RAIL (LONDON - WEST MIDLANDS)

Supplementary Environmental Statement 3 and Additional Provision 4 Environmental Statement

Volume 5 | Technical appendices

Waste and material resources

(WM-001-000, WM-001-000 annex, WM-002-000)

October 2015

SES3 and AP4 ES 3.5.1.11

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Department for Transport

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Index

This table shows the topics covered by the technical appendices in this volume, and the reference codes for them.

Environmental topic:	Waste and material resources	WM
Appendix name:	Waste and material resources assessment	001
Community forum area:	Kilburn (Brent) to Old Oak Common area and Central Chilterns	004 and 009

Contents

List of tables

1 Introduction

1.1.1 This appendix provides an addendum to appendix WM-001-000 waste and material resources assessment from the main Environmental Statement (ES) published in November 2013. This appendix does not provide an update of the overall total quantities of waste per community forum area (CFA) that was provided within WM-001-000 of the main ES, but instead presents the increases or decreases in waste and material quantities, which were considered during scoping to be potentially significant, as a result of Supplementary Environmental Statement 3 (SES3) changes and Additional Provision 4 (AP4 ES) amendments.

1.1.2 However, for those CFAs, where changes to the waste and material quantities resulting from the AP4 revised scheme were considered to be non-significant, these are still included in the updated 'Annex 1 - CFA and regional waste and material resources reporting tables' attached to this appendix together with those design or construction changes and amendments considered to be potentially significant (see SES3 and AP4 ES Volume 5, Appendix WM-001-000 Annex 1).

1.1.3 As with the main ES, an assessment of the likely significant environmental effects associated with the off-site disposal to landfill of solid waste generated during the construction and operation of the scheme has not been undertaken on a CFA basis. Therefore no such details have been provided within this appendix and have been considered on a route-wide basis (see Volume 3, Section 19 of this SES3 and AP4 ES).

2 Kilburn (Brent) to Old Oak Common (CFA4)

2.1 Construction

Forecast of material and waste quanities

Excavated material quantities

2.1.1 A forecast of the excavated material quantities that will be produced during the construction of the AP4 revised scheme in the Kilburn to Old Oak Common area has been prepared and is presented in Table 1.

2.1.2 The quantity of surplus excavated material that will require off-site disposal to landfill of the original scheme compared to the AP4 revised scheme is also shown in Table 1.

2.1.3 The estimated quantity of surplus excavated material for disposal only includes the quantity of unacceptable material classes U1B and U2, which is unsuitable for reuse within the scheme. The overall balance of excavated material is presented in Volume 3 along with the total quantity of surplus excavated material requiring off-site disposal to landfill and therefore it is not included in Table 1.

Table 1: Forecast excavated material quantities (the original scheme compared to the AP4 revised scheme)

Excavated material types	Estimated quantity of excavated material (tonnes) (original scheme)	Estimated quantity of excavated material (tonnes) (AP4 revised scheme)	Estimated quantity of surplus excavated material for off-site disposal to landfill (tonnes) (original scheme)[1]	Estimated quantity of surplus excavated material for off-site disposal to landfill (tonnes) (AP4 revised scheme)
Selected fill	0	0	N/A	N/A
General engineering fill	0	0	N/A	N/A
Environmental mitigation earthworks fill	3,028,910	3,028,910	N/A	N/A
Topsoil	0	0	N/A	N/A
Agricultural subsoil	0	0	N/A	N/A
Unacceptable material Class U1A	848,820	848,820	N/A	N/A
Unacceptable material Class U1B	803,247	826,395	0	140,594
Unacceptable material Class U2	0	0	0	0
TOTAL	4,680,977	4,704,125	0	140,594

Demolition material and waste quantities

2.1.4 A forecast of the demolition material quantities that will be produced during the construction of the AP4 revised scheme in the Kilburn to Old Oak Common area has been prepared and is presented in Table 2.

2.1.5 The quantity of demolition waste that will require off-site disposal to landfill of the original scheme compared to the AP4 revised scheme is also shown in Table 2.

Table 2: Forecast demolition waste quantities to landfill (the original scheme compared to the AP4 revised scheme)

Type of structure	Estimated demolition material quantities (tonnes) (original scheme)	Estimated demolition material quantities (tonnes) (AP4 revised scheme)	Estimated demolition waste for off-site disposal to landfill (tonnes) (original scheme)	Estimated demolition waste for off-site disposal to landfill (tonnes) (AP4 revised scheme)
Utilities	6,728	6,880	673	688

[1] Only includes the quantity of unacceptable material classes U1B and U2, which is unsuitable for reuse with the scheme.

Type of structure	Estimated demolition material quantities (tonnes) (original scheme)	Estimated demolition material quantities (tonnes) (AP4 revised scheme)	Estimated demolition waste for off-site disposal to landfill (tonnes) (original scheme)	Estimated demolition waste for off-site disposal to landfill (tonnes) (AP4 revised scheme)
Industrial units	127,924	236,324	12,792	23,632
Commercial property	26,703	85,968	2,670	8,597
Residential property	1,072	0	107	0
Community amenities	28	0	3	0
Railways	81,890	5,710	8,189	571
Highways	0	815	0	82
TOTAL	244,345	335,697	24,434	33,570

Construction waste quantities

2.1.6 A forecast of the construction material quantities that will be produced during the construction of the AP4 revised scheme in the Kilburn to Old Oak Common area has been prepared and is presented in Table 3.

2.1.7 The quantity of construction waste that will require off-site disposal to landfill of the original scheme compared to the AP4 revised scheme is also shown in Table 3.

Table 3: Forecast construction waste quantities to landfill (the original scheme compared to the AP4 revised scheme)

Type of construction	Estimated construction waste quantities (tonnes) (original scheme)	Estimated construction waste quantities (tonnes) (AP4 revised scheme)	Estimated construction waste for disposal to landfill (tonnes) (original scheme)	Estimated construction waste for disposal to landfill (tonnes) (AP4 revised scheme)
Earthworks	0	0	0	0
Retaining walls	0	0	0	0
Bridges	8,731	134	873	13
Viaducts	0	0	0	0
Roadworks	0	0	0	0
Footpaths/tracks	0	0	0	0
Railworks	0	88	0	9

Type of construction	**Estimated construction waste quantities (tonnes) (original scheme)**	Estimated construction waste quantities (tonnes) (AP4 revised scheme)	**Estimated construction waste for disposal to landfill (tonnes) (original scheme)**	**Estimated construction waste for disposal to landfill (tonnes) (AP4 revised scheme)**
Watercourse diversions	0	0	0	0
Fencing	0	0	0	0
Drainage	0	0	0	0
Landscaping	0	0	0	0
Utilities	0	93	0	9
Construction compound	0	486,457	0	48,646
Tunnels	102,082	0	10,208	0
Ventilation shafts	7,173	0	717	0
Stations	215,328	0	21,533	0
Other structures	32,029	0	3,203	0
Railway systems waste	73,370	0	7,337	0
TOTAL	438,713	486,772	43,871	48,678

Worker accommodation site waste quantities

2.1.8 There will not be any worker accommodation sites in the Kilburn to Old Oak Common area and therefore no waste will be generated from this source.

2.2 Operation

Forecast of waste quantities

2.2.1 A forecast of the operational waste quantities that will be produced annually during the course of the operation of the AP4 revised scheme in the Kilburn to Old Oak Common area has been prepared and is shown in Table 4.

2.2.2 The quantity of operational waste that will require off-site disposal to landfill of the original scheme compared to the AP4 revised scheme is also shown in Table 4.

Table 4: Operational waste forecast (the original scheme compared to the AP4 revised scheme)

Waste source	Estimated quantity of waste per annum (tonnes) (original scheme)	Estimated quantity of waste per annum (tonnes) (AP4 revised scheme)	Estimated quantity of waste for off-site disposal to landfill per annum (tonnes) (original scheme)	Estimated quantity of waste for off-site disposal to landfill per annum (tonnes) (AP4 revised scheme)
Railway stations and trains	595	595	238	238
Rolling stock maintenance	0	0	0	0
Track maintenance	118	118	18	18
Ancillary infrastructure	10	10	4	4
TOTAL	723	723	260	260

3 Central Chilterns (CFA9)

3.1 Construction

Forecast of material and waste quantities

Excavated material quantities

3.1.1 A forecast of the excavated material quantities that will be produced during the construction of the AP4 revised scheme in the Central Chilterns area have been prepared and are presented in Table 5.

3.1.2 The quantity of surplus excavated material that will require off-site disposal to landfill of the original scheme compared to the AP4 revised scheme is also shown in Table 5.

3.1.3 The estimated quantity of surplus excavated material for disposal only includes the quantity of unacceptable material classes U1B and U2, which is unsuitable for reuse within the scheme. The overall balance of excavated material is presented in Volume 3 along with the total quantity of surplus excavated material requiring off-site disposal to landfill and therefore it is not included in Table 5.

Table 5: Forecast excavated material quantities (the original scheme compared to the AP4 revised scheme)

Excavated material types	**Estimated quantity of excavated material (tonnes) (original scheme)**	**Estimated quantity of excavated material (tonnes) (AP4 revised scheme)**	**Estimated quantity of surplus excavated material for off-site disposal to landfill (tonnes) (original scheme)[2]**	**Estimated quantity of surplus excavated material for off-site disposal to landfill (tonnes) (AP4 revised scheme)**
Selected fill	0	0	N/A	N/A
General engineering fill	4,518,158	3,208,180	N/A	N/A
Environmental mitigation earthworks fill	0	0	N/A	N/A
Topsoil	157,410	177,173	N/A	N/A
Agricultural subsoil	9,173	0	N/A	N/A
Unacceptable material Class U1A	0	1,405,767	N/A	N/A
Unacceptable material Class U1B	0	0	0	0
Unacceptable material Class U2	0	0	0	0
TOTAL	4,684,741	4,791,120	0	0

Demolition material and waste quantities

3.1.4 A forecast of the demolition material quantities that will be produced during the construction of the AP4 revised scheme in the Central Chilterns area has been prepared and is presented in Table 6.

3.1.5 The quantity of demolition waste that will require off-site disposal to landfill of the original scheme compared to the AP4 revised scheme is also shown in Table 6.

[2] Only includes the quantity of unacceptable material classes U1B and U2, which is unsuitable for reuse with the scheme.

Table 6: Forecast demolition waste quantities to landfill (the original scheme compared to the AP4 revised scheme)

Type of structure	Estimated demolition material quantities (tonnes) (original scheme)	Estimated demolition material quantities (tonnes) (AP4 revised scheme)	Estimated demolition waste for off-site disposal to landfill (tonnes) (original scheme)	Estimated demolition waste for off-site disposal to landfill (tonnes) (AP4 revised scheme)
Utilities	2,272	705	227	70
Industrial units	0	0	0	0
Commercial property	3,507	0	351	0
Residential property	3,451	1,009	345	101
Community amenities	0	0	0	0
Railways	0	0	0	0
Highways	0	0	0	0
TOTAL	9,229	1,714	923	171

Construction waste quantities

3.1.7 A forecast of the construction material quantities that will be produced during the construction of the AP4 revised scheme in the Central Chilterns area has been prepared and is presented in Table 7.

3.1.8 The quantity of construction waste that will require off-site disposal to landfill of the original scheme compared to the AP4 revised scheme is also shown in Table 7.

Table 7: Forecast construction waste quantities to landfill (the original scheme compared to the AP4 revised scheme)

Type of construction	Estimated construction waste quantities (tonnes) (original scheme)	Estimated construction waste quantities (tonnes) (AP4 revised scheme)	Estimated construction waste for disposal to landfill (tonnes) (original scheme)	Estimated construction waste for disposal to landfill (tonnes) (AP4 revised scheme)
Earthworks	0	5,304	0	530
Retaining walls	0	0	0	0
Bridges	2,617	1,701	262	170
Viaducts	0	0	0	0
Roadworks	946	0	95	0

Type of construction	Estimated construction waste quantities (tonnes) (original scheme)	Estimated construction waste quantities (tonnes) (AP4 revised scheme)	Estimated construction waste for disposal to landfill (tonnes) (original scheme)	Estimated construction waste for disposal to landfill (tonnes) (AP4 revised scheme)
Footpaths/tracks	1,454	0	145	0
Railworks	0	0	0	0
Watercourse diversions	0	0	0	0
Fencing	0	0	0	0
Drainage	273	0	27	0
Landscaping	0	0	0	0
Utilities	0	0	0	0
Construction compound	0	0	0	0
Tunnels	25,407	6,092	2,541	609
Ventilation shafts	3,002	6,852	300	685
Stations	0	0	0	0
Other structures	0	0	0	0
Railway systems waste	0	370	0	37
TOTAL	33,699	20,319	3,370	2,031

Worker accommodation site waste quantities

3.1.9 There will not be any worker accommodation sites in the Central Chilterns area and therefore no waste will be generated from this source.

3.2 Operation

Forecast of waste quantities

3.2.1 A forecast of the operational waste quantities that will be produced annually during the course of the operation of the AP4 revised scheme in the Central Chilterns area has been prepared and is shown in Table 8.

3.2.2 The quantity of operational waste that will require off-site disposal to landfill of the original scheme compared to the AP4 revised scheme is also shown in Table 8.

Table 8: Operational waste forecast (the original scheme compared to the AP4 revised scheme)

Waste source	**Estimated quantity of waste per annum (tonnes) (original scheme)**	**Estimated quantity of waste per annum (tonnes) (AP4 revised scheme)**	**Estimated quantity of waste for off-site disposal to landfill per annum (tonnes) (original scheme)**	**Estimated quantity of waste for off-site disposal to landfill per annum (tonnes) (AP4 revised scheme)**
Railway stations and trains	0	0	0	0
Rolling stock maintenance	0	0	0	0
Track maintenance	99	99	15	15
Ancillary infrastructure	8	8	3	3
TOTAL	107	107	18	18

WM-001-000 Annex 1 - Community forum area and regional waste and material resources reporting tables

Annex 1 Table 1 – Community forum area (CFA) waste and material resources[1]

Table 1a: Forecast excavated material quantities (CFAs 1 - 26 and Langley in Slough), 2017 - 2025

CFA		Forecast quantities of excavated material available before use (tonnes)									
No	**Name**	**Selected fill (CL6)**	**General railway fill (CL1/3)**	**General railway fill (CL2)**	**General highway fill (CL2)**	**Environmental mitigation earthworks fill (CL4)**	**Unacceptable material (U1A)**	**Unacceptable material (U1B)**	**Unacceptable material (U1B) for disposal as non-hazardous waste**	**Unacceptable material (U2) for disposal as hazardous waste**	**Total**
1	Euston – Station and Approach	0	0	0	2,201,767	198,009	0	73,797	0	724	2,474,296
2	Camden	0	0	0	0	0	0	0	0	0	0
3	Primrose Hill to Kilburn (Camden)	0	0	0	0	202,858	903,732	0	2,049	0	1,108,638
4	Kilburn (Brent) to Old Oak Common	0	0	0	0	3,028,910	848,820	685,801	140,594	0	4,704,125
5	Northolt Corridor	0	0	0	0	1,827,313	1,088,787	6,950	56,500	0	2,979,550

[1] Numbers may not sum to totals due to rounding.

CFA		Forecast quantities of excavated material available before use (tonnes)									
No	**Name**	**Selected fill (CL6)**	**General railway fill (CL1/3)**	**General railway fill (CL2)**	**General highway fill (CL2)**	**Environmental mitigation earthworks fill (CL4)**	**Unacceptable material (U1A)**	**Unacceptable material (U1B)**	**Unacceptable material (U1B) for disposal as non-hazardous waste**	**Unacceptable material (U2) for disposal as hazardous waste**	**Total**
6	South Ruislip to Ickenham	0	0	0	0	38,280	5,130,932	1,641	16,617	0	5,187,469
7	Colne Valley	182,234	1,002,717	0	707,716	0	0	0	0	0	1,892,666
8	The Chalfonts and Amersham	0	227,054	0	0	0	3,715,477	0	0	0	3,942,531
9	Central Chilterns	0	1,708,444	0	1,499,737	0	1,405,767	0	0	0	4,613,948
10	Dunsmore, Wendover and Halton	0	2,508,497	0	1,922,120	0	0	0	0	0	4,430,617
11	Stoke Mandeville and Aylesbury	156,366	0	0	1,787,998	0	0	0	0	22,162	1,966,526
12	Waddesdon and Quainton	0	0	0	2,398,426	0	0	0	0	0	2,398,426
13	Calvert, Steeple Claydon, Twyford and Chetwode	132,964	0	0	5,047,136	0	0	0	0	14,774	5,194,874

CFA		Forecast quantities of excavated material available before use (tonnes)									
No	**Name**	**Selected fill (CL6)**	**General railway fill (CL1/3)**	**General railway fill (CL2)**	**General highway fill (CL2)**	**Environmental mitigation earthworks fill (CL4)**	**Unacceptable material (U1A)**	**Unacceptable material (U1B)**	**Unacceptable material (U1B) for disposal as non-hazardous waste**	**Unacceptable material (U2) for disposal as hazardous waste**	**Total**
14	Newton Purcell to Brackley	6,174,723	0	0	2,410,833	0	0	0	0	152,628	8,738,184
15	Greatworth to Lower Boddington	3,820,098	0	0	9,136,230	1,322,235	0	0	0	0	14,278,563
16	Ladbroke and Southam	0	96,993	1,259,952	917,124	5,331,869	101,151	0	0	0	7,707,088
17	Offchurch and Cubbington	903,665	32,031	1,709,963	1,701,804	1,070,780	164,639	0	0	0	5,582,881
18	Stoneleigh, Kenilworth and Burton Green	290,248	5,233,893	1,043,890	346,826	297,236	107,088	0	0	0	7,319,181
19	Coleshill Junction	491,837	0	1,242,856	783,895	540,114	127,025	0	0	0	3,185,727
20	Curdworth to Middleton	1,788,983	0	3,141,412	2,039,384	1,962,681	37,607	0	0	0	8,970,067
21	Drayton Bassett, Hints and Weeford	820,631	2,292,307	1,526,196	1,173,638	95,727	29,201	0	0	0	5,937,699
22	Whittington to Handsacre	382,824	631,342	515,320	327,250	62,421	3,193	0	0	0	1,922,349

CFA		Forecast quantities of excavated material available before use (tonnes)									
No	**Name**	**Selected fill (CL6)**	**General railway fill (CL1/3)**	**General railway fill (CL2)**	**General highway fill (CL2)**	**Environmental mitigation earthworks fill (CL4)**	**Unacceptable material (U1A)**	**Unacceptable material (U1B)**	**Unacceptable material (U1B) for disposal as non-hazardous waste**	**Unacceptable material (U2) for disposal as hazardous waste**	**Total**
23	Balsall Common and Hampton-in-Arden	338,196	225,775	545,798	12,524	511,125	63,401	36,730	0	1,635	1,735,185
24	Birmingham Interchange and Chelmsley Wood	374,893	554,482	108,088	140,019	519,578	33,876	96,434	133,503	2,944	1,963,815
25	Castle Bromwich and Bromford	0	0	0	167,809	648,674	818,407	89,012	39,343	2,127	1,765,372
26	Washwood Heath to Curzon Street	0	0	0	849,986	780,724	192,985	1,805,581	28,254	108,445	3,765,975
Off-route	Langley	0	0	0	0	0	0	0	22,639	164,639	187,278
	Total	15,857,663	14,513,533	11,093,473	35,572,220	18,438,531	14,772,087	2,795,946	439,498	470,078	113,953,030

Table 1b: Forecast engineering and environmental mitigation earthworks fill requirements (CFAs 1 - 26 and Langley in Slough), 2017 - 2025

CFA		Forecast quantities of fill required (tonnes)[2]							
No	**Name**	**Backfill (CL1/3/6)**	**Selected fill (CL6)**	**General railway fill (CL1/3)**	**General railway fill (CL2)**	**General highway fill (CL2)**	**Environmental mitigation bund fill (CL2)**	**Environmental mitigation earthworks fill (CL4)**	**Total**
1	Euston – Station and Approach	0	0	0	0	0	0	0	0
2	Camden	0	0	0	0	0	0	0	0
3	Primrose Hill to Kilburn (Camden)	0	0	0	0	0	0	0	0
4	Kilburn (Brent) to Old Oak Common	0	0	23,778	0	0	0	0	23,778
5	Northolt Corridor	0	0	0	0	0	0	0	0
6	South Ruislip to Ickenham	0	0	697,662	0	8,232	0	0	705,894
7	Colne Valley	0	73,995	543,226	132,171	19,598	0	4,972,210	5,741,201

[2] The abbreviations for excavated material refer to soil classifications outlined in the Department for Transport 'Manual of Contract Documents for Highway Works, Volume 1 - Specification for Highway Works' (http://www.dft.gov.uk/ha/standards/mchw/vol1/pdfs/series_0600.pdf).

CL1 Class 1
CL2 Class 2
CL3 Class 3
CL4 Class 4
CL5 Class 5
CL6 Class 6
U1A Unacceptable Material Class U1A
U1B Unacceptable Material Class U1B
U2 Unacceptable Material Class U2

CFA		Forecast quantities of fill required (tonnes)[2]							
No	**Name**	**Backfill (CL1/3/6)**	**Selected fill (CL6)**	**General railway fill (CL1/3)**	**General railway fill (CL2)**	**General highway fill (CL2)**	**Environmental mitigation bund fill (CL2)**	**Environmental mitigation earthworks fill (CL4)**	**Total**
8	The Chalfonts and Amersham	0	0	0	0	5,343	0	130,119	135,462
9	Central Chilterns	0	53,341	0	0	62	0	224,592	277,995
10	Dunsmore, Wendover and Halton	23,338	577,639	498,639	249,849	209,050	189,280	3,088,024	4,835,819
11	Stoke Mandeville and Aylesbury	192,536	214,285	632,098	0	556,514	838,557	2,004,086	4,438,076
12	Waddesdon and Quainton	211,984	372,043	288,079	0	861,545	1,134,940	491,395	3,359,986
13	Calvert, Steeple Claydon, Twyford and Chetwode	255,377	248,713	513,687	0	2,312,509	386,846	1,578,506	5,295,639
14	Newton Purcell to Brackley	16,312	243,200	346,501	74,777	549,593	0	2,305,415	3,535,798
15	Greatworth to Lower Boddington	377,350	2,198,840	738,594	103,970	550,170	4,287,126	6,565,801	14,821,850
16	Ladbroke and Southam	434,396	131,502	687,584	316,170	368,947	2,907,355	3,792,200	8,638,154
17	Offchurch and Cubbington	377,046	63,662	539,678	237,074	59,840	1,398,347	1,823,931	4,499,579

CFA		Forecast quantities of fill required (tonnes)[2]							
No	**Name**	**Backfill (CL1/3/6)**	**Selected fill (CL6)**	**General railway fill (CL1/3)**	**General railway fill (CL2)**	**General highway fill (CL2)**	**Environmental mitigation bund fill (CL2)**	**Environmental mitigation earthworks fill (CL4)**	**Total**
18	Stoneleigh, Kenilworth and Burton Green	115,773	256,530	236,186	135,772	513,573	1,381,842	1,809,271	4,448,946
19	Coleshill Junction	401,711	60,493	2,953,184	3,021,838	137,552	1,530,582	1,996,411	10,101,772
20	Curdworth to Middleton	382,317	83,076	921,809	709,067	1,524,868	1,274,152	1,661,937	6,557,226
21	Drayton Bassett, Hints and Weeford	127,296	125,479	189,711	58,455	391,027	882,008	1,150,445	2,924,422
22	Whittington to Handsacre	53,197	134,297	1,614,218	833,254	302,309	936,369	1,223,383	5,097,028
23	Balsall Common and Hampton-in-Arden	134,517	195,243	614,922	194,082	1,407,146	475,746	1,093,698	4,115,354
24	Birmingham Interchange and Chelmsley Wood	221,377	275,964	830,901	377,311	2,005,245	226,499	503,821	4,441,118
25	Castle Bromwich and Bromford	42,527	27,437	93,557	0	74,909	0	0	238,430
26	Washwood Heath to Curzon Street	134,630	114,038	9,821	76,099	759,336	0	0	1,093,924
Off-route	Langley	0	0	360,973	0	0	0	0	360,973

CFA		Forecast quantities of fill required (tonnes)[2]							
No	**Name**	**Backfill (CL1/3/6)**	**Selected fill (CL6)**	**General railway fill (CL1/3)**	**General railway fill (CL2)**	**General highway fill (CL2)**	**Environmental mitigation bund fill (CL2)**	**Environmental mitigation earthworks fill (CL4)**	**Total**
	Total	3,501,684	5,449,779	13,334,808	6,519,890	12,617,367	17,849,650	36,415,245	95,688,423

Table 1c: Forecast topsoil and agricultural subsoil quantities available and required (CFAs 1 - 26 and Langley in Slough), 2017 - 2025

CFA		Topsoil and agricultural subsoil available (tonnes)			Topsoil and agricultural subsoil required (tonnes)		
No	**Name**	**Topsoil for engineering**	**Topsoil for environmental mitigation**	**Agricultural subsoil for environmental mitigation**	**Topsoil for engineering**	**Topsoil for environmental mitigation**	**Agricultural subsoil for environmental mitigation**
1	Euston – Station and Approach	0	0	0	0	0	0
2	Camden	0	0	0	0	0	0
3	Primrose Hill to Kilburn (Camden)	0	0	0	0	0	0
4	Kilburn (Brent) to Old Oak Common	0	0	0	0	0	0
5	Northolt Corridor	0	0	0	0	0	0
6	South Ruislip to Ickenham	185,220	0	0	0	0	0
7	Colne Valley	89,469	286,646	424,660	18,396	357,720	424,660
8	The Chalfonts and Amersham	0	0	0	0	0	0
9	Central Chilterns	111,050	66,124	0	32,185	50,263	0
10	Dunsmore, Wendover and Halton	212,900	303,355	489,127	74,504	405,568	489,230
11	Stoke Mandeville and Aylesbury	230,107	309,766	335,151	57,515	482,364	335,151
12	Waddesdon and Quainton	206,845	239,619	0	63,555	382,909	0

CFA		Topsoil and agricultural subsoil available (tonnes)			Topsoil and agricultural subsoil required (tonnes)		
No	**Name**	**Topsoil for engineering**	**Topsoil for environmental mitigation**	**Agricultural subsoil for environmental mitigation**	**Topsoil for engineering**	**Topsoil for environmental mitigation**	**Agricultural subsoil for environmental mitigation**
13	Calvert, Steeple Claydon, Twyford and Chetwode	649,569	290,328	237,543	403,216	536,681	237,543
14	Newton Purcell to Brackley	402,232	316,418	456,608	135,884	582,766	456,608
15	Greatworth to Lower Boddington	439,926	694,726	979,541	209,160	883,912	979,506
16	Ladbroke and Southam	338,203	593,854	950,310	143,606	586,593	938,549
17	Offchurch and Cubbington	202,368	304,015	486,425	95,099	300,947	481,514
18	Stoneleigh, Kenilworth and Burton Green	309,752	358,534	551,334	90,291	371,340	571,971
19	Coleshill Junction	94,062	200,208	320,333	88,220	190,640	305,024
20	Curdworth to Middleton	171,489	283,065	452,904	35,977	277,044	443,271
21	Drayton Bassett, Hints and Weeford	271,918	191,777	306,844	100,112	233,409	373,455
22	Whittington to Handsacre	135,941	241,405	386,248	55,709	238,333	213,898
23	Balsall Common and Hampton-in-Arden	380,402	115,281	120,595	130,518	106,761	120,595
24	Birmingham Interchange and	594,831	34,321	56,766	194,285	33,559	55,546

CFA		Topsoil and agricultural subsoil available (tonnes)			Topsoil and agricultural subsoil required (tonnes)		
No	**Name**	**Topsoil for engineering**	**Topsoil for environmental mitigation**	**Agricultural subsoil for environmental mitigation**	**Topsoil for engineering**	**Topsoil for environmental mitigation**	**Agricultural subsoil for environmental mitigation**
	Chelmsley Wood						
25	Castle Bromwich and Bromford	143,581	0	0	140,576	0	0
26	Washwood Heath to Curzon Street	31,889	0	0	33,943	0	0
Off-route	Langley	0	0	0	0	0	0
	Total	5,201,756	4,829,443	6,554,389	2,102,752	6,020,809	6,426,521

Table 1d: Balance of excavated material (CFAs 1 to 26 and Langley in Slough), 2017 to 2025

CFA		Balance of excavated material[3] (tonnes)							
No	**Name**	**Selected fill (CL6)**	**General railway fill (CL1/3)**	**General railway fill (CL2)**	**General highway fill (CL2)**	**Environmental mitigation earthworks fill (CL4) including 15% bulking**	**Topsoil**	**Agricultural subsoil**	**Total[4]**
1	Euston – Station and Approach	0	0	0	2,201,767	271,806	0	0	2,473,573
2	Camden	0	0	0	0	0	0	0	0
3	Primrose Hill to Kilburn (Camden)	0	0	0	0	1,106,589	0	0	1,106,589
4	Kilburn (Brent) to Old Oak Common	0	-23,778	0	0	4,563,531	0	0	4,539,753
5	Northolt Corridor	0	0	0	0	2,923,050	0	0	2,923,050
6	South Ruislip to Ickenham	0	-697,662	0	-8,232	5,170,852	185,220	0	4,650,178
7	Colne Valley	108,238	459,492	-132,171	688,117	-4,972,210	0	0	-3,848,534
8	The Chalfonts and Amersham	0	227,054	0	-5,343	3,585,358	0	0	3,807,069

[3] Positive numbers indicate a local excess of excavated material and negative numbers indicate a local shortfall of excavated material in a given community forum area.
[4] The total quantity presented here are not directly comparable with the quantities reported as surplus excavated material in the route-wide assessment in the SES3 and AP4 ES Volume 3, Section 19. In the route-wide assessment, it has been assumed that all excavated topsoil and agricultural subsoil will be reused, whilst it is included in the balance presented here. In addition, this balance does not include the quantities of U1B and U2 unacceptable material. However, these quantities have been included in the surplus excavated material calculations used in the route-wide assessment.

CFA		Balance of excavated material (tonnes)							
No	**Name**	**Selected fill (CL6)**	**General railway fill (CL1/3)**	**General railway fill (CL2)**	**General highway fill (CL2)**	**Environmental mitigation earthworks fill (CL4) including 15% bulking**	**Topsoil**	**Agricultural subsoil**	**Total**
9	Central Chilterns	-53,341	1,708,444	0	1,499,675	1,181,175	94,726	0	4,430,678
10	Dunsmore, Wendover and Halton	-600,977	2,009,858	-249,849	1,523,790	-3,741,869	36,184	-103	-1,022,967
11	Stoke Mandeville and Aylesbury	-250,455	-632,098	0	392,927	-2,004,086	-6	0	-2,493,718
12	Waddesdon and Quainton	-584,027	-288,079	0	401,942	-491,395	0	0	-961,559
13	Calvert, Steeple Claydon, Twyford and Chetwode	-371,126	-513,687	0	2,347,780	-1,578,506	0	0	-115,539
14	Newton Purcell to Brackley	5,915,212	-346,501	-74,777	1,861,240	-2,305,415	0	0	5,049,758
15	Greatworth to Lower Boddington	1,243,909	-738,594	-103,970	4,298,933	-5,243,566	41,580	36	-501,671
16	Ladbroke and Southam	-565,899	-590,591	943,782	-2,359,177	1,640,819	201,858	11,761	-717,447
17	Offchurch and Cubbington	462,957	-507,647	1,472,889	243,616	-588,513	110,338	4,910	1,198,550
18	Stoneleigh, Kenilworth and Burton Green	-82,054	4,997,707	908,118	-1,548,589	-1,404,947	206,655	-20,637	3,056,253

CFA		Balance of excavated material (tonnes)							
No	**Name**	**Selected fill (CL6)**	**General railway fill (CL1/3)**	**General railway fill (CL2)**	**General highway fill (CL2)**	**Environmental mitigation earthworks fill (CL4) including 15% bulking**	**Topsoil**	**Agricultural subsoil**	**Total**
19	Coleshill Junction	29,632	-2,953,184	-1,778,981	-884,239	-1,329,273	15,410	15,309	-6,885,326
20	Curdworth to Middleton	1,323,591	-921,809	2,432,345	-759,636	338,351	141,533	9,633	2,564,008
21	Drayton Bassett, Hints and Weeford	567,856	2,102,596	1,467,740	-99,397	-1,025,518	130,174	-66,611	3,076,840
22	Whittington to Handsacre	195,330	-982,876	-317,935	-911,429	-1,157,769	83,303	172,350	-2,919,026
23	Balsall Common and Hampton-in-Arden	8,435	-389,147	351,716	-1,870,367	-482,441	258,404	0	-2,123,400
24	Birmingham Interchange and Chelmsley Wood	-122,447	-276,420	-269,223	-2,091,726	146,067	401,309	1,220	-2,211,221
25	Castle Bromwich and Bromford	-69,964	-93,557	0	92,900	1,556,093	3,005	0	1,488,477
26	Washwood Heath to Curzon Street	-248,668	-9,821	-76,099	90,650	2,779,290	-2,054	0	2,533,298
Off-route	Langley	0	-360,973	0	0	0	0	0	-360,973
	Total	6,906,199	1,178,726	4,573,583	5,105,203	-1,062,527	1,907,638	127,868	18,736,691

Table 1e: Forecast demolition and construction material and waste quantities (CFAs 1 - 26 and Langley in Slough), 2017 - 2025

CFA		Demolition			Construction		
No	**Name**	**Estimated demolition material quantities (tonnes)**	**Estimated demolition waste for off-site disposal to landfill (tonnes)**	**Estimated demolition waste diverted from landfill (tonnes)**	**Estimated construction waste quantities (tonnes)**	**Estimated construction waste for off-site disposal to landfill (tonnes)**	**Estimated construction waste diverted from landfill (tonnes)**
1	Euston – Station and Approach	328,135	32,814	295,322	642,498	64,250	578,248
2	Camden	12,059	1,206	10,853	41,726	4,173	37,553
3	Primrose Hill to Kilburn (Camden)	3,310	331	2,979	72,091	7,209	64,882
4	Kilburn (Brent) to Old Oak Common	335,697	33,570	302,127	486,772	48,677	438,095
5	Northolt Corridor	13,986	1,399	12,587	120,809	12,081	108,728
6	South Ruislip to Ickenham	25,201	2,520	22,681	133,398	13,340	120,058
7	Colne Valley	8,132	813	7,319	54,614	5,461	49,153
8	The Chalfonts and Amersham	335	34	302	205,181	20,518	184,663
9	Central Chilterns	1,714	171	1,543	20,319	2,032	18,287
10	Dunsmore, Wendover and Halton	11,637	1,164	10,473	42,140	4,214	37,926
11	Stoke Mandeville and Aylesbury	3,128	313	2,815	34,075	3,408	30,668
12	Waddesdon and Quainton	11,689	1,169	10,520	49,498	4,950	44,548

CFA		Demolition			Construction		
No	**Name**	**Estimated demolition material quantities (tonnes)**	**Estimated demolition waste for off-site disposal to landfill (tonnes)**	**Estimated demolition waste diverted from landfill (tonnes)**	**Estimated construction waste quantities (tonnes)**	**Estimated construction waste for off-site disposal to landfill (tonnes)**	**Estimated construction waste diverted from landfill (tonnes)**
13	Calvert, Steeple Claydon, Twyford and Chetwode	26,560	2,656	23,904	101,102	10,110	90,992
14	Newton Purcell to Brackley	16,643	1,664	14,979	44,985	4,499	40,487
15	Greatworth to Lower Boddington	39,183	3,918	35,265	114,682	11,468	103,214
16	Ladbroke and Southam	16,892	1,689	15,203	58,749	5,875	52,874
17	Offchurch and Cubbington	0	0	0	28,094	2,809	25,285
18	Stoneleigh, Kenilworth and Burton Green	19,859	1,986	17,873	61,085	6,109	54,977
19	Coleshill Junction	49,331	4,933	44,398	108,569	10,857	97,712
20	Curdworth to Middleton	33,037	3,304	29,733	33,722	3,372	30,350
21	Drayton Bassett, Hints and Weeford	46,605	4,661	41,945	28,076	2,808	25,268
22	Whittington to Handsacre	5,956	596	5,360	65,833	6,583	59,250
23	Balsall Common and Hampton-in-Arden	6,405	641	5,765	41,381	4,138	37,242
24	Birmingham Interchange and	11,450	1,145	10,305	121,978	12,198	109,780

CFA		Demolition			Construction		
No	**Name**	**Estimated demolition material quantities (tonnes)**	**Estimated demolition waste for off-site disposal to landfill (tonnes)**	**Estimated demolition waste diverted from landfill (tonnes)**	**Estimated construction waste quantities (tonnes)**	**Estimated construction waste for off-site disposal to landfill (tonnes)**	**Estimated construction waste diverted from landfill (tonnes)**
	Chelmsley Wood						
25	Castle Bromwich and Bromford	67,552	6,755	60,797	40,318	4,032	36,286
26	Washwood Heath to Curzon Street	631,192	63,119	568,073	321,331	32,133	289,197
Off-route	Langley	2,188	219	1,969	11,924	1,192	10,732
	Total	1,727,876	172,788	1,555,088	3,084,948	308,495	2,776,453

Table 1f: Worker accommodation site waste quantities (CFAs 1 - 26 and Langley in Slough), 2017 to 2025

CFA		Worker accommodation site waste				
No	**Name**	**Average No of workers in accommodation site**	**Duration of accommodation site (months)[5]**	**Estimated worker accommodation site waste quantity (tonnes)**	**Estimated worker accommodation site waste for off-site disposal to landfill (tonnes)**	**Estimated worker accommodation site waste diverted from landfill (tonnes)**
1	Euston – Station and Approach	0	0	0	0	0
2	Camden	0	0	0	0	0
3	Primrose Hill to Kilburn (Camden)	0	0	0	0	0
4	Kilburn (Brent) to Old Oak Common	0	0	0	0	0
5	Northolt Corridor	0	0	0	0	0
6	South Ruislip to Ickenham	0	0	0	0	0
7	Colne Valley	135	118	245	123	123
8	The Chalfonts and Amersham	0	0	0	0	0
9	Central Chilterns	0	0	0	0	0
10	Dunsmore, Wendover and Halton	168	42	212	106	106

[5] Where there is more than one worker accommodation site in a CFA the durations have been totalled.

CFA		Worker accommodation site waste				
No	**Name**	**Average No of workers in accommodation site**	**Duration of accommodation site (months)**	**Estimated worker accommodation site waste quantity (tonnes)**	**Estimated worker accommodation site waste for off-site disposal to landfill (tonnes)**	**Estimated worker accommodation site waste diverted from landfill (tonnes)**
11	Stoke Mandeville and Aylesbury	62	42	78	39	39
12	Waddesdon and Quainton	0	0	0	0	0
13	Calvert, Steeple Claydon, Twyford and Chetwode	65	76	148	74	74
14	Newton Purcell to Brackley	105	61	192	96	96
15	Greatworth to Lower Boddington	109	66	216	108	108
16	Ladbroke and Southam	63	108	103	52	52
17	Offchurch and Cubbington	23	62	43	22	22
18	Stoneleigh, Kenilworth and Burton Green	26	63	49	25	25
19	Coleshill Junction	40	61	73	37	37
20	Curdworth to Middleton	36	57	62	31	31
21	Drayton Bassett, Hints and Weeford	0	0	0	0	0

CFA		Worker accommodation site waste				
No	**Name**	**Average No of workers in accommodation site**	**Duration of accommodation site (months)**	**Estimated worker accommodation site waste quantity (tonnes)**	**Estimated worker accommodation site waste for off-site disposal to landfill (tonnes)**	**Estimated worker accommodation site waste diverted from landfill (tonnes)**
22	Whittington to Handsacre	59	124	110	55	55
23	Balsall Common and Hampton-in-Arden	68	52	92	46	46
24	Birmingham Interchange and Chelmsley Wood	109	50	169	84	84
25	Castle Bromwich and Bromford	0	0	0	0	0
26	Washwood Heath to Curzon Street	0	0	0	0	0
Off-route	Langley	0	0	0	0	0
	Total	1,068	982	1,792	896	896

Table 19: Railway station and train, and rolling stock maintenance waste (CFAs 1 - 26 and Langley in Slough), 2026

CFA		Railway stations and trains			Rolling stock maintenance		
No	**Name**	**Estimated quantity of waste per annum (tonnes)**	**Estimated waste for off-site disposal to landfill per annum (tonnes)**	**Estimated waste diverted from landfill per annum (tonnes)**	**Estimated quantity of waste per annum (tonnes)**	**Estimated waste for off-site disposal to landfill per annum (tonnes)**	**Estimated waste diverted from landfill per annum (tonnes)**
1	Euston – Station and Approach	1,193	477	716	0	0	0
2	Camden	0	0	0	0	0	0
3	Primrose Hill to Kilburn (Camden)	0	0	0	0	0	0
4	Kilburn (Brent) to Old Oak Common	595	238	357	0	0	0
5	Northolt Corridor	0	0	0	0	0	0
6	South Ruislip to Ickenham	0	0	0	0	0	0
7	Colne Valley	0	0	0	0	0	0
8	The Chalfonts and Amersham	0	0	0	0	0	0
9	Central Chilterns	0	0	0	0	0	0
10	Dunsmore, Wendover and Halton	0	0	0	0	0	0
11	Stoke Mandeville and Aylesbury	0	0	0	0	0	0
12	Waddesdon and Quainton	0	0	0	0	0	0

CFA		Railway stations and trains			Rolling stock maintenance		
No	**Name**	**Estimated quantity of waste per annum (tonnes)**	**Estimated waste for off-site disposal to landfill per annum (tonnes)**	**Estimated waste diverted from landfill per annum (tonnes)**	**Estimated quantity of waste per annum (tonnes)**	**Estimated waste for off-site disposal to landfill per annum (tonnes)**	**Estimated waste diverted from landfill per annum (tonnes)**
13	Calvert, Steeple Claydon, Twyford and Chetwode	0	0	0	0	0	0
14	Newton Purcell to Brackley	0	0	0	0	0	0
15	Greatworth to Lower Boddington	0	0	0	0	0	0
16	Ladbroke and Southam	0	0	0	0	0	0
17	Offchurch and Cubbington	0	0	0	0	0	0
18	Stoneleigh, Kenilworth and Burton Green	0	0	0	0	0	0
19	Coleshill Junction	0	0	0	0	0	0
20	Curdworth to Middleton	0	0	0	0	0	0
21	Drayton Bassett, Hints and Weeford	0	0	0	0	0	0
22	Whittington to Handsacre	0	0	0	0	0	0
23	Balsall Common and Hampton-in-Arden	0	0	0	0	0	0
24	Birmingham Interchange and Chelmsley Wood	660	264	396	675	135	540

CFA		Railway stations and trains			Rolling stock maintenance		
No	**Name**	**Estimated quantity of waste per annum (tonnes)**	**Estimated waste for off-site disposal to landfill per annum (tonnes)**	**Estimated waste diverted from landfill per annum (tonnes)**	**Estimated quantity of waste per annum (tonnes)**	**Estimated waste for off-site disposal to landfill per annum (tonnes)**	**Estimated waste diverted from landfill per annum (tonnes)**
25	Castle Bromwich and Bromford	0	0	0	0	0	0
26	Washwood Heath to Curzon Street	836	334	502	10,023	2,005	8,018
Off-route	Langley	0	0	0	0	0	0
	Total	3,284	1,314	1,970	10,698	2,140	8,558

Table 1h: Track maintenance and ancillary infrastructure waste quantities (CFAs 1 - 26 and Langley in Slough), 2026

CFA		Track maintenance			Ancillary infrastructure		
No	**Name**	**Estimated quantity of waste per annum (tonnes)**	**Estimated waste for off-site disposal to landfill per annum (tonnes)**	**Estimated waste diverted from landfill per annum (tonnes)**	**Estimated quantity of waste per annum (tonnes)**	**Estimated waste for off-site disposal to landfill per annum (tonnes)**	**Estimated waste diverted from landfill per annum (tonnes)**
1	Euston – Station and Approach	23	4	20	2	1	1
2	Camden	19	3	16	2	1	1
3	Primrose Hill to Kilburn (Camden)	83	13	71	7	3	4
4	Kilburn (Brent) to Old Oak Common	118	18	100	10	4	6
5	Northolt Corridor	143	22	122	12	5	7
6	South Ruislip to Ickenham	110	17	94	9	4	5
7	Colne Valley	92	14	78	8	3	5
8	The Chalfonts and Amersham	185	28	157	16	6	10
9	Central Chilterns	99	15	84	8	3	5
10	Dunsmore, Wendover and Halton	131	20	111	11	4	7
11	Stoke Mandeville and Aylesbury	173	26	147	15	6	9
12	Waddesdon and Quainton	166	25	141	14	6	8
13	Calvert, Steeple Claydon, Twyford and	167	25	142	14	6	8

CFA		Track maintenance			Ancillary infrastructure		
No	**Name**	**Estimated quantity of waste per annum (tonnes)**	**Estimated waste for off-site disposal to landfill per annum (tonnes)**	**Estimated waste diverted from landfill per annum (tonnes)**	**Estimated quantity of waste per annum (tonnes)**	**Estimated waste for off-site disposal to landfill per annum (tonnes)**	**Estimated waste diverted from landfill per annum (tonnes)**
	Chetwode						
14	Newton Purcell to Brackley	195	29	166	16	6	10
15	Greatworth to Lower Boddington	279	42	237	23	9	14
16	Ladbroke and Southam	223	34	190	19	8	11
17	Offchurch and Cubbington	123	19	105	10	4	6
18	Stoneleigh, Kenilworth and Burton Green	183	28	156	15	6	9
19	Coleshill Junction	305	46	259	26	10	16
20	Curdworth to Middleton	179	27	152	15	6	9
21	Drayton Bassett, Hints and Weeford	144	22	122	12	5	7
22	Whittington to Handsacre	244	37	207	20	8	12
23	Balsall Common and Hampton-in-Arden	128	19	109	11	4	7
24	Birmingham Interchange and Chelmsley Wood	72	11	61	6	2	4

CFA		Track maintenance			Ancillary infrastructure		
No	**Name**	**Estimated quantity of waste per annum (tonnes)**	**Estimated waste for off-site disposal to landfill per annum (tonnes)**	**Estimated waste diverted from landfill per annum (tonnes)**	**Estimated quantity of waste per annum (tonnes)**	**Estimated waste for off-site disposal to landfill per annum (tonnes)**	**Estimated waste diverted from landfill per annum (tonnes)**
25	Castle Bromwich and Bromford	84	13	71	7	3	4
26	Washwood Heath to Curzon Street	94	14	80	8	3	5
Off-route	Langley	0	0	0	0	0	0
	Total	3,762	565	3,197	316	126	190

Annex 1 Table 2 - Regional waste and material resources[6]

Table 2a: Forecast excavated material quantities (by region), 2017 - 2025

Former English planning regions[7]	Forecast quantities of excavated material available before use (tonnes)									
Name	**Selected fill (CL6)**	**General railway fill (CL1/3)**	**General railway fill (CL2)**	**General highway fill (CL2)**	**Environmental mitigation earthworks fill (CL4)**	**Unacceptable material (U1A)**	**Unacceptable material (U1B)**	**Unacceptable material (U1B) for disposal as non-hazardous waste**	**Unacceptable material (U2) for disposal as hazardous waste**	**Total**
Greater London	94,615	520,605	0	2,569,209	5,295,370	7,972,270	768,188	215,760	724	17,436,740
South East	4,560,583	4,652,704	0	14,455,563	0	5,121,245	0	22,639	306,215	29,118,948
East England	49,688	273,402	0	192,966	0	0	0	0	0	516,056
East Midlands	5,761,501	0	0	9,894,223	1,322,235	0	0	0	47,988	17,025,946
West Midlands	5,391,277	9,066,823	11,093,473	8,460,259	11,820,927	1,678,572	2,027,758	201,100	115,151	49,855,339
Total	15,857,663	14,513,533	11,093,474	35,572,220	18,438,531	14,772,087	2,795,947	439,498	470,078	113,953,030

[6] Numbers may not sum to totals due to rounding.
[7] Details of the former planning regions can be found at the Local Government Boundary Commission (see https://www.lgbce.org.uk/).

Table 2b: Forecast engineering and environmental mitigation earthworks fill requirements (by region), 2017 - 2025

Former English planning regions	Forecast quantities of fill required (tonnes)							
Name	**Backfill (CL1/3/6)**	**Selected fill (CL6)**	**General railway fill (CL1/3)**	**General railway fill (CL2)**	**General highway fill (CL2)**	**Environmental mitigation bund fill (CL2)**	**Environmental mitigation earthworks fill (CL4)**	**Total**
Greater London	0	38,418	1,003,480	68,622	18,407	0	2,581,543	3,710,471
South East	694,419	1,648,159	2,644,103	328,627	4,325,895	2,549,623	10,132,227	22,323,054
East England	0	20,176	148,116	36,038	5,344	0	1,355,727	1,565,401
East Midlands	382,478	2,275,305	847,537	127,481	722,968	4,287,126	7,290,649	15,933,545
West Midlands	2,424,787	1,467,721	8,691,571	5,959,122	7,544,753	11,012,900	15,055,098	52,155,952
Total	3,501,684	5,449,779	13,334,808	6,519,890	12,617,367	17,849,650	36,415,245	95,688,423

Table 2c: Forecast topsoil and agricultural subsoil quantities available and required (by region), 2017 - 2025

Former English planning regions	Topsoil and agricultural subsoil available (tonnes)			Topsoil and agricultural subsoil required (tonnes)		
Name	**Topsoil for engineering**	**Topsoil for environmental mitigation**	**Agricultural subsoil for environmental mitigation**	**Topsoil for engineering**	**Topsoil for environmental mitigation**	**Agricultural subsoil for environmental mitigation**
Greater London	231,672	148,825	220,481	9,551	185,726	220,481
South East	1,704,859	1,485,789	1,463,257	727,964	2,331,781	1,463,360
East England	24,395	78,157	115,788	5,016	97,536	115,788
East Midlands	566,392	794,211	1,123,104	251,883	1,067,140	1,123,069
West Midlands	2,674,438	2,322,461	3,631,758	1,108,337	2,338,626	3,503,823
Total	5,201,756	4,829,443	6,554,389	2,102,752	6,020,809	6,426,521

Table 2d: Balance of excavated material (by region), 2017 - 2025

Former English planning regions	Balance of excavated material (tonnes)[8]							
Name	**Selected fill (CL6)**	**General railway fill (CL1/3)**	**General railway fill (CL2)**	**General highway fill (CL2)**	**Environmental mitigation earthworks fill (CL4) including 15% bulking**	**Topsoil**	**Agricultural subsoil**	**Total**
Greater London	56,197	-482,875	-68,622	2,550,801	11,454,285	185,220	0	13,695,006
South East	2,218,005	2,008,601	-328,627	7,580,044	-5,664,829	130,903	-103	5,943,995
East England	29,512	125,285	-36,038	187,623	-1,355,727	0	0	-1,049,345
East Midlands	3,103,718	-847,537	-127,481	4,884,128	-5,968,414	41,580	36	1,086,029
West Midlands	1,498,768	375,252	5,134,351	-10,097,394	472,159	1,549,935	127,935	-938,994
Total	6,906,199	1,178,726	4,573,584	5,105,203	-1,062,527	1,907,639	127,868	18,736,691

[8] Positive numbers indicate a local excess of excavated material and negative numbers indicate a local shortfall of excavated material.

Table 2e: Forecast demolition and construction (by region), 2017 - 2025

Former English planning regions	Demolition waste			Construction waste		
Name	**Estimated demolition material quantities (tonnes)**	**Estimated demolition waste for off-site disposal to landfill (tonnes)**	**Estimated demolition waste diverted from landfill (tonnes)**	**Estimated construction waste quantities (tonnes)**	**Estimated construction waste for off-site disposal to landfill (tonnes)**	**Estimated construction waste diverted from landfill (tonnes)**
Greater London	722,610	72,261	650,349	1,525,649	152,565	1,373,085
South East	70,354	7,035	63,319	506,448	50,645	455,803
East England	2,217	222	1,996	14,891	1,489	13,402
East Midlands	44,416	4,442	39,974	128,825	12,883	115,943
West Midlands	888,279	88,828	799,451	909,134	90,913	818,221
Total	1,727,876	172,788	1,555,088	3,084,948	308,495	2,776,453

Table 2f: Forecast worker accommodation site waste (by region), 2017 - 2025

Former English planning regions	**Worker accommodation site waste**		
Name	**Estimated worker accommodation site waste quantity (tonnes)**	**Estimated worker accommodation site waste for off-site disposal to landfill (tonnes)**	**Estimated worker accommodation site waste diverted from landfill (tonnes)**
Greater London	127	64	64
South East	621	310	310
East England	67	33	33
East Midlands	276	138	138
West Midlands	701	350	350
Total	1,792	896	896

Table 2g: Forecast railway station, train and rolling stock maintenance waste quantities (by region), 2026

Former English planning regions	Railway stations and trains			Rolling stock maintenance		
Name	**Estimated quantity of waste per annum (tonnes)**	**Estimated waste for off-site disposal to landfill per annum (tonnes)**	**Estimated waste quantity diverted from landfill per annum (tonnes)**	**Estimated quantity of waste per annum (tonnes)**	**Estimated waste for off-site disposal to landfill per annum (tonnes)**	**Estimated waste quantity diverted from landfill per annum (tonnes)**
Greater London	1,788	715	1,073	0	0	0
South East	0	0	0	0	0	0
East England	0	0	0	0	0	0
East Midlands	0	0	0	0	0	0
West Midlands	1,496	598	898	10,698	2,140	8,558
Total	3,284	1,314	1,970	10,698	2,140	8,558

Table 2h: Forecast track maintenance and ancillary infrastructure waste quantities (by region), 2026

Former English planning regions	Track maintenance			Ancillary infrastructure		
Name	**Estimated quantity of waste per annum (tonnes)**	**Estimated waste for off-site disposal to landfill per annum (tonnes)**	**Estimated waste quantity diverted from landfill per annum (tonnes)**	**Estimated quantity of waste per annum (tonnes)**	**Estimated waste for off-site disposal to landfill per annum (tonnes)**	**Estimated waste quantity diverted from landfill per annum (tonnes)**
Greater London	544	81	463	46	19	27
South East	1,074	161	913	91	36	55
East England	25	4	21	2	1	1
East Midlands	340	51	289	28	11	17
West Midlands	1,779	264	1,515	149	59	90
Total	3,762	561	3,201	316	126	190

Environmental topic:	Waste and material resources	WM
Appendix name:	Volume 3 supporting information	002
Community forum area:	Route-wide	000

Contents

List of tables

1 Introduction

1.1.1 The purpose of this waste and material resources appendix is to provide information to support the route-wide waste and material resources assessment in SES3 and AP4 ES Volume 3, Section 19.

1.1.2 Section 2 of this appendix provides a description of the local policy framework applicable to the waste generation and management associated with the SES3 scheme and AP4 revised scheme. Local policy is defined as that which has been adopted by London borough councils and county councils along the route of the SES3 scheme and AP4 revised scheme. This information supports the national and regional policy framework summaries provided in SES3 and AP4 ES Volume 3, Section 19.

1.1.3 Section 3 of this appendix provides detailed information concerning the environmental baseline, namely:

- the types, quantities and management routes of waste generated in London boroughs and in counties along the route of the SES3 scheme and AP4 revised scheme;
- waste infrastructure capacity data for London boroughs and counties along the route of the SES3 scheme and AP4 revised scheme; and
- source data, which has been used to inform the future baseline with respect to the quantity of landfill capacity projected to be available during the period 2017 to 2025 (construction period) and the year 2026 (first year of operation).

1.1.4 Section 4 of this appendix provides a schedule of developments that have been included in the cumulative effects assessment detailed in SES3 and AP4 ES Volume 3, Section 19.

2 Local policy framework

2.1 Overview

2.1.1 The local policy framework in the boroughs and counties through which the SES3 scheme and AP4 revised scheme will pass are materially unchanged.

2.2 Greater London

General

2.2.1 The SES3 scheme and AP4 revised scheme will be subject to policy provisions applicable to the City of Westminster, the Royal Borough of Kensington and Chelsea, and the London boroughs of Camden, Brent, Hammersmith & Fulham, Ealing and Hillingdon.

2.2.2 Applicable policy provisions are not discussed at length as part of the introduction to this assessment is in SES3 and AP4 ES Volume 3, Section 19. This is due to the existence of overarching regional policy for Greater London and the requirement for local development framework documents to be in general conformity with the London Plan and other statutory Mayoral strategies.

London Borough of Camden

2.2.3 The policy framework remains unchanged from that described in the AP2 ES, as set out in Appendix WM-002-000 (Volume 5).

City of Westminster

2.2.4 The policy framework remains unchanged from that described in the AP2 ES, as set out in Appendix WM-002-000 (Volume 5).

Royal Borough of Kensington and Chelsea

2.2.5 Policy CE3 of the Consolidated Local Plan for the Royal Borough of Kensington and Chelsea, Adopted July 2015[1] sets out provisions to ensure that waste is managed in accordance with the waste hierarchy. This includes use of rail and waterways for the transport of construction waste and a requirement for major developments to prepare and implement a Site Waste Management Plan.

London Borough of Hammersmith & Fulham

2.2.6 Strategic Policy CC5 (Strategic Waste Management) and CC6 (On-site Waste Management) of the Hammersmith and Fulham Draft Local Plan 2015, January 2015[2] will supersede Strategic Policy CC3 of the Core Strategy, October 2011[3]. CC5 and CC6 provide overarching waste planning policy for the borough, including aims to promote sustainable waste behaviour, including on-site treatment in new developments, and the transport of waste using existing waterways.

[1] Kensington and Chelsea Borough Council (2015), *The RBKC Consolidated Local Plan 2015, Adopted July 2015*.
[2] Hammersmith and Fulham Council (2015), Draft Local Plan, January 2015
[3] Hammersmith and Fulham Council (2011), *Hammersmith and Fulham Core Strategy: Local Development Strategy, October 2011*.

London Borough of Brent

2.2.7 The policy framework remains unchanged from that described in the AP2 ES, as set out in Appendix WM-002-000 (Volume 5).

London Borough of Ealing

2.2.8 The policy framework remains unchanged from that described in the AP2 ES, as set out in Appendix WM-002-000 (Volume 5).

London Borough of Hillingdon

2.2.9 The policy framework remains unchanged from that described in the AP2 ES, as set out in Appendix WM-002-000 (Volume 5).

2.3 Buckinghamshire

2.3.1 The policy framework remains unchanged from that described in the AP2 ES, as set out in Appendix WM-002-000 (Volume 5).

2.4 Oxfordshire

2.4.1 The Oxfordshire Minerals and Waste Plan: Part 1 - Core Strategy[4] is due to be adopted in July 2016, and sets out the waste planning strategy for the period to 2031. The policy framework remains unchanged from that described in the AP2 ES, as set out in Appendix WM-002-000 (Volume 5).

2.5 Hertfordshire

2.5.1 The policy framework remains unchanged from that described in the AP2 ES, as set out in Appendix WM-002-000 (Volume 5).

2.6 Northamptonshire

2.6.1 The policy framework remains unchanged from that described in the AP2 ES, as set out in Appendix WM-002-000 (Volume 5).

2.7 Warwickshire

2.7.1 The policy framework remains unchanged from that described in the AP2 ES, as set out in Appendix WM-002-000 (Volume 5).

West Midlands metropolitan area

2.7.2 Within the West Midlands metropolitan area, Solihull Metropolitan Borough Council and Birmingham City Council provide the strategic planning framework for the SES3 scheme and AP4 revised scheme.

Solihull metropolitan area

2.7.3 The policy framework remains unchanged from that described in the AP2 ES, as set out in Appendix WM-002-000 (Volume 5).

[4] Oxfordshire County Council (2014), *Oxfordshire Minerals and Waste Local Plan: Part 1 - Core Strategy, Proposed Submission Document August 2015.*

Birmingham

2.7.4 The Birmingham Plan: Birmingham Unitary Development Plan, Adopted 11 October 2005[5] is the current statutory development plan for Birmingham. The Unitary Development Plan will be largely replaced by the Birmingham Development Plan when it is adopted. The policy framework remains unchanged from that described in the AP2 ES, as set out in Appendix WM-002-000 (Volume 5).

2.8 Staffordshire

2.8.1 The policy framework remains unchanged from that described in the AP2 ES, as set out in Appendix WM-002-000 (Volume 5).

[5] Birmingham City Council (2005), *The Birmingham Plan: Birmingham Unitary Development Plan, Adopted 11 October 2005*.

3 Environmental baseline

3.1 Local waste arisings and management

Construction, demolition and excavation waste

3.1.1 Construction, demolition and excavation waste (CDEW) arisings and waste management methods for the local areas within the defined study area are shown in Table 1 for the year 2015 (baseline) and in Table 2 for the period 2017 to 2025 (future baseline).

3.1.2 Future baseline arisings for CDEW shown in Table 2 are shown as the sum of annual projections for each year within the proposed construction period of 2017 to 2025. This presentation method allows for direct comparison of the total quantity of CDEW that will be generated by the SES3 scheme and AP4 revised scheme during this period.

3.1.3 Waste management performance (shown as overall diversion from landfill and disposal to landfill) is also based on data for each year within the period 2017 to 2025 (future baseline).

3.1.4 Latest available information published by waste planning authorities has been used to inform the local baseline and future baseline for CDEW arisings at local level. Details of the sources of information used are provided further within this section.

Table 1: Baseline (2015) CDEW arisings and management methods by local area

Regional area	Local area	Total arisings (tonnes)	Overall diversion from landfill		Disposal to landfill	
			Tonnes	Proportion	Tonnes	Proportion
Greater London	London Borough of Camden	270,000	241,875	90%	28,125	10%
	London Borough of Brent	372,000	333,250	90%	38,750	10%
	London Borough of Hammersmith & Fulham	235,000	210,521	90%	24,479	10%
	Royal Borough of Kensington and Chelsea	223,000	199,771	90%	23,229	10%
	City of Westminster	277,000	248,146	90%	28,854	10%
	London Borough of Ealing	411,000	368,188	90%	42,813	10%
	London Borough of Hillingdon	328,000	293,833	90%	34,167	10%

Regional area	Local area	Total arisings (tonnes)	Overall diversion from landfill		Disposal to landfill	
			Tonnes	Proportion	Tonnes	Proportion
	Total	*2,116,000*	*1,895,584*	*90%*	*220,417*	*10%*
South East	Buckinghamshire	1,032,000	619,200	60%	412,800	40%
	Oxfordshire	1,082,750	588,500	54%	494,250	46%
	Total	*2,114,750*	*1,207,700*	*58%*	*907,050*	*42%*
East of England	Hertfordshire	2,029,000	1,538,918	76%	490,082	24%
East Midlands	Northamptonshire	1,500,000	1,000,000	67%	500,000	33%
West Midlands	Warwickshire	1,334,491	934,144	70%	400,347	30%
	Solihull metropolitan area	287,691	201,384	70%	86,307	30%
	Birmingham metropolitan area	1,664,380	1,348,895	81%	315,485	19%
	Staffordshire	1,369,700	959,250	70%	410,450	30%
	Total	4,656,262	3,443,673	74%	1,212,589	26%

Table 2: Future baseline (2017 to 2025) CDEW arisings and management methods by local area

Regional area	Local area	Total arisings (tonnes)	Overall diversion from landfill		Disposal to landfill	
			Tonnes	Proportion	Tonnes	Proportion
Greater London	London Borough of Camden	2,529,000	2,384,718	94%	144,282	6%
	London Borough of Brent	3,433,000	3,236,856	94%	196,144	6%
	London Borough of Hammersmith and Fulham	2,199,000	2,073,493	94%	125,507	6%
	Royal Borough of Kensington and	2,035,000	1,918,658	94%	116,343	6%

Regional area	Local area	Total arisings (tonnes)	Overall diversion from landfill		Disposal to landfill	
			Tonnes	Proportion	Tonnes	Proportion
	Chelsea					
	City of Westminster	2,542,000	2,396,722	94%	145,278	6%
	London Borough of Ealing	3,762,000	3,546,947	94%	215,053	6%
	London Borough of Hillingdon	3,052,000	2,877,668	94%	174,332	6%
	Total	*19,552,000*	*18,435,062*	*94%*	*1,116,938*	*6%*
South East	Buckinghamshire	9,288,000	6,377,760	69%	2,910,240	31%
	Oxfordshire	11,919,000	7,035,000	59%	4,884,000	41%
	Total	21,207,000	13,412,760	64%	7,794,240	36%
East of England	Hertfordshire	20,261,000	16,461,644	81%	3,799,359	19%
East Midlands	Northamptonshire	13,500,000	9,000,000	67%	4,500,000	33%
West Midlands	Warwickshire	11,853,993	8,297,795	70%	3,556,198	30%
	Solihull metropolitan area	2,555,493	1,788,845	70%	766,648	30%
	Birmingham metropolitan area	16,518,800	13,375,025	81%	3,143,775	19%
	Staffordshire	11,958,000	8,372,400	70%	3,585,600	30%
	Total	*42,886,286*	*31,834,065*	*74%*	*11,052,221*	*26%*

Greater London

3.1.5 Table 1 and Table 2 present baseline and future baseline CDEW arisings and management methods for the Royal Borough of Kensington and Chelsea, City of Westminster and London boroughs of Camden, Brent, Hammersmith & Fulham, Ealing and Hillingdon.

3.1.6 Total CDEW arisings are projections for the year 2015 (baseline) and the period 2017 to 2025 (future baseline) as taken from information presented in Future Waste Arisings in London 2010-2031: A Summary Note[6].

3.1.7 Waste management performance information (shown as overall diversion from landfill) for the year 2015 (baseline) and for each year within the period 2017 to 2025 (future baseline) has been extrapolated linearly between the estimated CDEW landfill diversion performance for Greater London in 2008 (82%) and CDEW landfill diversion targets for 2020 and beyond (95%) as reported by Making Sense of Business Waste: The Mayor's Business Waste Management Strategy for London[7].

Buckinghamshire

3.1.8 Total CDEW arisings for Buckinghamshire are projections for the year 2015 (baseline) and the period 2017 to 2025 (future baseline) as described in Pre-Submission Advice on Minerals and Waste Core Strategy Preferred Options: Task B Verification of the Plan Provision[8] and confirmed within Buckinghamshire County Council's Minerals and Waste Development Framework Annual Monitoring Report 2010/11[9].

3.1.9 According to the Pre-Submission Advice on Minerals and Waste Core Strategy Preferred Options: Task B Verification of the Plan Provision, no increase in CDEW arisings in Buckinghamshire is predicted between 2015 and the end of the construction period in 2025.

3.1.10 Waste management performance for the year 2015 (baseline) and for each year within the period 2017 to 2025 (future baseline) has been extrapolated linearly between the estimated CDEW landfill diversion performance for Buckinghamshire in 2010 (50%) and CDEW landfill diversion targets for 2020 and beyond (70%) in line with the EU Waste Framework Directive target as reported in the Buckinghamshire Minerals and Waste Local Development Framework: Core Strategy Development Plan Document, Adopted November 2012[10].

Oxfordshire

3.1.11 Total CDEW waste arisings for Oxfordshire of approximately 1,083,000 tonnes for the year 2015 (baseline) are based on projections taken from the Oxfordshire Minerals and Waste Local Plan: Core Strategy, Proposed Submission Document August 2015[11].

3.1.12 Waste management performance for Oxfordshire in the year 2015 (baseline) is based on Oxfordshire County Council's waste management targets of 55% recycling and 45% landfill or landfill restoration for 2015, and 60% recycling and 40% landfill or landfill restoration for 2021 and beyond. Total CDEW waste arisings for Oxfordshire of approximately 11,919,000 tonnes for the period 2017 to 2025 (future baseline) is based on the sum of annual projections for each year within this period of approximately 1,324,000

[6] Greater London Authority (2010), *Future Waste Arisings in London 2010-2031: A Summary Note, March 2010*.
[7] Greater London Authority (2011), *Making Business Sense of Waste: The Mayor's Business Waste Strategy for London, November 2011*.
[8] Jacobs (2009), *Buckinghamshire County Council - Pre-Submission Advice on Minerals and Waste Core Strategy Preferred Options: Task B Verification of the Plan Provision (Overall Report, Final November 2009)*. Buckinghamshire County Council, Buckinghamshire.
[9] Buckinghamshire County Council (2011), *Minerals and Waste Development Framework Annual Monitoring Report 2010/11*.
[10] Buckinghamshire County Council (2012), *Buckinghamshire Minerals and Waste Local Development Framework: Core Strategy Development Plan Document, Adopted November 2012*.
[11] Oxfordshire County Council (2015), *Oxfordshire Minerals and Waste Local Plan: Proposed Submission Document August 2015*.

tonnes per annum. This is reported by the Oxfordshire Minerals and Waste Local Plan: Core Strategy, which states that projections of CDEW arisings are based on expected future rates of house building; and policy, legislation and standards pushing the sector to more sustainable approaches.

3.1.13 Waste management performance for Oxfordshire in the period 2017 to 2025 (future baseline) is based on an overall recycling target of 60% and an overall landfill or landfill restoration target of 40%. These targets have been calculated based on Oxfordshire County Council's waste management targets of 55% recycling and 45% landfill or landfill restoration for 2015, and 60% recycling and 40% landfill or landfill restoration for 2021 and beyond. Recycling targets and landfill or landfill restoration targets have been linearly extrapolated for the intervening years.

Hertfordshire

3.1.14 Total CDEW arisings data for Hertfordshire are projections for the year 2015 (baseline) and the period 2017 to 2025 (future baseline) as described in Hertfordshire's Establishment of Waste Forecasts and Targets at 2026, October 2010[12].

3.1.15 The quantities of CDEW projected by Hertfordshire County Council to be diverted from landfill via recycling, composting and recovery in the year 2015 (baseline) and for each year during the period 2017 to 2025 (future baseline) have been used to inform CDEW waste management performance. This is equivalent to an overall landfill diversion rate of 76% for the year 2015 (baseline) and of 81% for the period 2017 to 2025.

Northamptonshire

3.1.16 Annual CDEW arisings for Northamptonshire are projected to remain constant at 1,500,000 tonnes for the period 2011 to 2031 by the Northamptonshire Minerals and Waste Local Plan, Plan for Adoption September 2014[13]. Economic and population growth will tend to lead to increases in waste arisings, as increased activity will produce wastes. However, Northamptonshire County Council believe that increases in landfill tax, Aggregates Levy and producer responsibility measures such as the Packaging, End of Life Vehicles and Batteries Directives, as well as changes to the Landfill Regulations, will break the link between growth and waste arisings.

3.1.17 Total CDEW arisings for Northamptonshire of approximately 13,500,000 tonnes for the period 2017 to 2025 (future baseline) are based on the sum of annual projections for each year within this period.

3.1.18 Waste management performance for Northamptonshire is projected by the Northamptonshire Minerals and Waste Local Plan to remain constant for the period 2011 to 2031 with 65% of annual CDEW arisings diverted from landfill via reuse, recycling or recovery. Total diversion of CDEW arisings in 2015 (baseline) would amount to 1,000,000 tonnes and total diversion of CDEW arisings for the period 2017 to 2025 (future baseline) would amount to 9,000,000 tonnes.

[12] SLR Global Environmental Solutions (2010), *Hertfordshire's Establishment of Waste Forecasts and Targets at 2026, October 2010 (Rev 1)*. Hertfordshire County Council, Hertfordshire.
[13] Northamptonshire County Council (2014), *Northamptonshire Minerals and Waste Local Plan, Plan for Adoption September 2014*.

Warwickshire

3.1.19 Total CDEW arisings for Warwickshire are projections for the year 2015 (baseline) and the period 2017 to 2025 (future baseline) taken from the West Midlands Landfill Capacity Study 2009 Update[14]. The projections used include Scenario 1 datasets for both Warwickshire and Coventry in order to provide a full picture of CDEW arisings for the County.

3.1.20 Scenario 1 datasets, which provide the same projections as Scenario 2 and Scenario 3, have been used since this is the preferred approach used by Warwickshire County Council to make CDEW projections in its Waste Background Technical Document[15]. Warwickshire County Council considers Scenario 1 to provide the most robust methodology and up-to-date baseline data on which to make projections.

3.1.21 Warwickshire County Council's Waste Core Strategy, Adopted July 2013[16] provides limited information in relation to management of CDEW but does make reference to meeting the EU Waste Framework Directive target to reuse, recycle and recover 70% of non-hazardous construction and demolition waste by 2020. A landfill diversion rate of 70% has thus been assumed to apply to projected CDEW arisings for each year within the future baseline period 2017 to 2025. This has also been assumed for the year 2015 (baseline) in the absence of other data.

Solihull metropolitan area

3.1.22 Total CDEW arisings for the Solihull metropolitan area are projections for the year 2015 (baseline) and the period 2017 to 2025 (future baseline) taken from the West Midlands Landfill Capacity Study 2009 Update[17], which has been used by Solihull Metropolitan Borough Council as part of its Local Development Framework Evidence Base[18].

3.1.23 The projections used are taken from the Scenario 1 dataset following the approach used by Warwickshire County Council. Annual projections are greater than the annual CDEW arisings estimate provided by Solihull Metropolitan Borough Council (approximately 180,000 tonnes per year)[19] but supporting information for this figure is limited and so has not been used.

3.1.24 Waste management performance for the year 2015 (baseline) and the period 2017 to 2025 (future baseline) has been assumed as for Warwickshire on account on the evidence base used for projected CDEW arisings and reference to EU Waste Framework Directive targets.

Birmingham metropolitan area

3.1.25 Total CDEW arisings for the Birmingham metropolitan area are projections for the year 2015 (baseline) and the period 2017 to 2025 (future baseline) based on latest available information taken from the Birmingham City Council Update to Waste Capacity Study

[14] Scott Wilson (2009), *West Midlands Landfill Capacity Study Update 2009, Study Report June 2009.* West Midlands Regional Assembly.
[15] Warwickshire County Council (Undated), *Waste Core Strategy: Waste Background Technical Document*.
[16] Warwickshire County Council (2013), *Waste Core Strategy Adopted Version July 2013*.
[17] Scott Wilson (2009), *West Midlands Landfill Capacity Study Update 2009, Study Report June 2009.* West Midlands Regional Assembly.
[18] Solihull Metropolitan Borough Council; *The LDF Evidence Base*; http://www.solihull.gov.uk/ldf/15498.htm; Accessed 12 September 2013.
[19] Solihull Metropolitan Borough Council (2010), *One Planet - Our Future: Waste Management Strategy for Solihull 2010-2020*.

(Addendum), June 2014[20]. The projections used are taken from the high growth projection scenario.

3.1.26 Annual projections have been extrapolated using estimated CDEW arisings for 2014/15 (1,641,400 tonnes), 2019/20 (1,794,600 tonnes), 2025/26 (1,943,000 tonnes) and 2030/31 (2,042,100) to provide arisings data for the year 2015 (baseline) and the period 2017 to 2025 (future baseline).

3.1.27 The arisings projections used are less than those reported for the Birmingham metropolitan area by the West Midlands Landfill Capacity Study 2009 Update[21]. For comparison, the latter provides estimates of approximately 1,835,485 tonnes for the year 2015 (baseline) and a total of approximately 16,304,217 tonnes for the period 2017 to 2025 (future baseline). However, the evidence base used to inform the Birmingham City Council Update to Waste Capacity Study (Addendum) was commissioned by Birmingham City Council to inform its emerging Birmingham Development Plan and provides more recent information than the West Midlands Landfill Capacity Study 2009 Update.

3.1.28 Waste management performance information for the year 2015 (baseline) and for the period 2017 to 2025 (future baseline) has been extrapolated linearly between the projected CDEW landfill diversion performance for the maximum landfill scenario in 2014/15 (47%), 2019/20 (46%), 2025/26 (45%) and 2030/31 (43%).

Staffordshire

3.1.29 Total CDEW waste arisings for Staffordshire for the year 2015 (baseline) and the period 2017 to 2025 (future baseline) are based on information taken from the Staffordshire and Stoke-on-Trent Joint Waste Local Plan 2010-2026 - Appendix 6: Waste Data Tables, Adopted March 2013[22].

3.1.30 Annual projections have been extrapolated using published CDEW arisings for 2010/11 (1,839,000 tonnes) and projections for 2015/16 (1,345,000 tonnes), 2020/21 (1,330,000tonnes) and 2025/26 (1,318,000 tonnes) to provide arisings data for the year 2015 (baseline) and the period 2017 to 2025 (future baseline). Estimated CDEW arisings provided by the Staffordshire and Stoke-on-Trent Joint Waste Local Plan 2010-2026 are broadly consistent with the combined dataset projections (Scenario 1) for Staffordshire and Stoke-on-Trent as reported by the West Midlands Landfill Capacity Study 2009 Update[23], i.e. approximately 1.3 million tonnes per annum.

3.1.31 Waste management performance for Staffordshire in the year 2015 (baseline) and the period 2017 to 2025 (future baseline) is based on Staffordshire County Council's application of the European Waste Framework Directive (2008/98/EC) target to reuse, recycle and recover 70% of non-hazardous construction and demolition waste by 2020. This target applies across the Staffordshire and Stoke-on-Trent Joint Waste Local Plan period of 2010 to 2026.

[20] Jacobs (2014), *Update to Waste Capacity Study (Final Addendum), 25 June 2014*. Birmingham City Council.
[21] Scott Wilson (2009), *West Midlands Landfill Capacity Study Update 2009, Study Report June 2009.* West Midlands Regional Assembly.
[22] Staffordshire County Council (2013), *Staffordshire and Stoke-on-Trent Joint Waste Local Plan 2010-2026 - Appendix 6: Waste Data Tables, Adopted March 2013*.
[23] Scott Wilson (2009), *West Midlands Landfill Capacity Study Update 2009, Study Report June 2009.* West Midlands Regional Assembly.

Commercial and industrial waste arisings and management

3.1.32 C&I waste arisings and waste management methods for the local areas within the defined study area are shown in Table 3 for the year 2015 (baseline), Table 4 for the period 2017 to 2025 (future baseline for worker accommodation site waste during construction) and Table 5 for the year 2026 (future baseline for operation). Future baseline arisings for C&I waste shown in Table 5 are shown as the sum of annual projections for each year within the proposed construction period of 2017 to 2025. This presentation method allows for direct comparison of the total quantity of C&I waste that will be generated by the SES3 scheme and AP4 revised scheme during this period. Waste management performance (shown as recycling and composting, other diversion from landfill and disposal to landfill) is also based on data for each year within the period 2017 to 2025 (future baseline).

3.1.33 Latest available information published by the waste planning authorities has been used to inform the local baseline and future baseline for C&I waste arisings. Details of the sources of information used are provided further within this section.

Table 3: Baseline (2015) C&I waste arisings and management methods by local area

Regional area	Local area	Total arisings (tonnes)	Recycling and composting		Other diversion from landfill[24]		Disposal to landfill	
			Tonnes	Proportion	Tonnes	Proportion	Tonnes	Proportion
Greater London	London Borough of Camden	405,000	253,125	60%	121,500	30%	28,350	10%
	London Borough of Brent	200,000	125,000	60%	60,000	30%	14,000	10%
	London Borough of Hammersmith and Fulham	185,000	115,625	60%	55,500	30%	12,950	10%
	Royal Borough of Kensington and Chelsea	151,000	94,375	60%	45,300	30%	10,570	10%
	City of Westminster	745,000	465,625	60%	223,500	30%	52,150	10%
	London Borough of Ealing	221,000	138,125	60%	66,300	30%	15,470	10%
	London Borough of Hillingdon	335,000	209,375	60%	100,500	30%	23,450	10%
	Total	2,242,000	1,401,250	60%	672,600	30%	156,940	10%

[24] Through other waste recovery methods such as thermal treatment.

Regional area	Local area	Total arisings (tonnes)	Recycling and composting		Other diversion from landfill[24]		Disposal to landfill	
			Tonnes	Proportion	Tonnes	Proportion	Tonnes	Proportion
South East	Buckinghamshire	795,824	435,216	55%	47,447	6%	313,161	39%
	Oxfordshire	730,000	438,000	60%	109,500	15%	182,500	25%
	Total	*1,525,824*	*873,216*	*57%*	*156,947*	*10%*	*495,661*	*32%*
East of England	Hertfordshire	1,051,833	535,333	51%	59,833	6%	456,667	43%
East Midlands	Northamptonshire	1,178,000	210,000	18%	550,000	47%	418,000	35%
West Midlands	Warwickshire	590,796	418,264	71%	-	-	172,532	29%
	Solihull metropolitan area	176,818	125,181	71%	-	-	51,637	29%
	Birmingham metropolitan area	945,920	417,680	44%	113,530	12%	414,710	44%
	Staffordshire	1,743,150	1,640,813	94%	-	-	102,338	6%
	Total	3,456,684	2,601,938	75%	113,530	3%	741,217	22%

Table 4: Future baseline (2017 to 2025) C&I waste arisings and management methods by local area

Regional area	Local area	Total arisings (tonnes)	Recycling and composting		Other diversion from landfill[25]		Disposal to landfill	
			Tonnes	Proportion	Tonnes	Proportion	Tonnes	Proportion
Greater London	London Borough of Camden	3,690,000	2,550,550	69%	1,107,000	30%	32,450	1%
	London Borough of Brent	1,787,000	1,234,900	69%	536,100	30%	16,000	1%
	London Borough of Hammersmith and Fulham	1,705,000	1,178,580	69%	511,500	30%	14,920	1%

[25] Through other waste recovery methods such as thermal treatment.

Regional area	Local area	Total arisings (tonnes)	Recycling and composting		Other diversion from landfill[25]		Disposal to landfill	
			Tonnes	Proportion	Tonnes	Proportion	Tonnes	Proportion
	Royal Borough of Kensington and Chelsea	1,391,000	961,490	69%	417,300	30%	12,210	1%
	City of Westminster	6,804,000	4,702,860	69%	2,041,200	30%	59,940	1%
	London Borough of Ealing	1,909,000	1,319,030	69%	572,700	30%	17,270	1%
	London Borough of Hillingdon	3,041,000	2,101,850	69%	912,300	30%	26,850	1%
	Total	*20,327,000*	*14,049,260*	*69%*	*6,098,100*	*30%*	*179,640*	*1%*
South East	Buckinghamshire	7,835,824	4,732,996	60%	1,036,691	13%	2,066,136	27%
	Oxfordshire	6,756,000	4,460,560	66%	1,600,120	24%	695,320	10%
	Total	*14,591,824*	*9,193,556*	*63%*	*2,636,811*	*18%*	*2,761,456*	*19%*
East of England	Hertfordshire	9,572,000	5,050,000	53%	1,664,	17%	2,858,000	30%
East Midlands	Northamptonshire	10,850,000	1,960,000	18%	5,130,000	47%	3,760,000	35%
West Midlands	Warwickshire	5,807,065	4,333,389	75%	-	-	1,473,677	25%
	Solihull metropolitan area	2,083,932	1,555,723	75%	-	-	528,209	25%
	Birmingham metropolitan area	9,082,675	4,148,750	46%	1,089,250	12%	3,844,675	42%
	Staffordshire	19,225,000	19,049,500	99%	-	-	175,500	1%
	Total	*36,198,672*	*29,087,362*	*80%*	*1,089,250*	*3%*	*6,022,061*	*17%*

Table 5: Future baseline (2026) C&I waste arisings and management methods by local area

Regional area	Local area	Total arisings (tonnes)	Recycling and composting		Other diversion from landfill[26]		Disposal to landfill	
			Tonnes	Proportion	Tonnes	Proportion	Tonnes	Proportion
Greater London	London Borough of Camden	417,000	291,900	70%	125,100	30%	-	0%
	London Borough of Brent	196,000	137,200	70%	58,800	30%	-	0%
	London Borough of Hammersmith and Fulham	195,000	136,500	70%	58,500	30%	-	0%
	Royal Borough of Kensington and Chelsea	155,000	108,500	70%	46,500	30%	-	0%
	City of Westminster	767,000	536,900	70%	230,100	30%	-	0%
	London Borough of Ealing	209,000	146,300	70%	62,700	30%	-	0%
	London Borough of Hillingdon	341,000	238,700	70%	102,300	30%	-	0%
	Total	2,280,000	1,596,000	70%	684,000	30%	-	0%
South East	Buckinghamshire	933,000	606,450	65%	178,000	19%	148,550	16%
	Oxfordshire	762,000	533,400	70%	190,500	25%	38,100	5%
	Total	1,695,000	1,139,850	67%	368,500	22%	186,650	11%
East of England	Hertfordshire	1,062,000	578,000	54%	303,000	29%	181,000	17%
East Midlands	Northamptonshire	1,220,000	220,000	18%	580,000	48%	420,000	34%
West Midlands	Warwickshire	695,560	521,670	75%	-	-	173,890	25%
	Solihull metropolitan area	243,694	182,771	75%	-	-	60,923	25%

[26] Through other waste recovery methods such as thermal treatment.

Regional area	Local area	Total arisings (tonnes)	Recycling and composting		Other diversion from landfill[26]		Disposal to landfill	
			Tonnes	Proportion	Tonnes	Proportion	Tonnes	Proportion
	Birmingham metropolitan area	1,061,790	502,335	47%	127,360	12%	432,095	41%
	Staffordshire	2,245,000	2,245,000	100%	-	-	-	0%
	Total	4,246,044	3,451,776	81%	127,360	3%	666,908	16%

Greater London

3.1.34 Table 3, Table 4 and Table 5 present baseline C&I waste arisings and management methods for the Royal Borough of Kensington and Chelsea, City of Westminster and London boroughs of Camden, Brent, Hammersmith & Fulham, Ealing and Hillingdon. Total C&I waste arisings data relates to projections for the year 2015 (baseline), the period 2017 to 2025 (future baseline for worker accommodation site waste during construction)[27] and the year 2026 (future baseline for operation) as taken from information presented in Future Waste Arisings in London 2010-2031: A Summary Note[28].

3.1.35 C&I waste management performance data (shown as recycling and composting and other diversion from landfill) for the year 2015 (baseline), the period 2017 to 2025 (future baseline for worker accommodation site waste during construction) and the year 2026 (future baseline for operation) has been extrapolated linearly between the estimated C&I waste landfill diversion performance for Greater London in 2008 (52% recycling and composting, 6% incineration and 24% other treatment) and C&I recycling and composting targets for 2020 and beyond (70%) as reported by Making Sense of Business Waste: The Mayor's Business Waste Management Strategy for London[29].

3.1.36 It has been assumed, as part of this extrapolation, that increases in recycling and composting result in a corresponding reduction in landfill (i.e. incineration and other treatment rates remain constant in the absence of any projected data for these waste management methods).

Buckinghamshire

3.1.37 Total C&I waste arisings data for Buckinghamshire are projections for the year 2015 (baseline), the period 2017 to 2025 (future baseline for worker accommodation site waste during construction) and the year 2026 (future baseline for operation) as described in the Buckinghamshire Minerals and Waste Core Strategy Development Plan Document, Adopted November 2012[30].

[27] Based on the sum of annual projections of C&I waste arisings for each year during the period 2017 to 2025.
[28] Greater London Authority (2010), *Future Waste Arisings in London 2010-2031: A Summary Note, March 2010*.
[29] Greater London Authority (2011), *Making Business Sense of Waste: The Mayor's Business Waste Strategy for London, November 2011*.
[30] Buckinghamshire County Council (2012), *Buckinghamshire Minerals and Waste Core Strategy Development Plan Document, Adopted November 2012*. Buckinghamshire County Council.

3.1.38 Waste management performance for Buckinghamshire in the year 2015 (baseline) has been extrapolated linearly between the estimated C&I waste landfill diversion performance in 2010 (50% recycling and composting; and 0% energy recovery in the absence of information) and C&I waste landfill diversion targets for 2020 (65% recycling and composting; and 19% energy recovery) as reported by the Buckinghamshire Minerals and Waste Core Strategy Development Plan Document.

3.1.39 For the period 2017 to 2025 (future baseline for worker accommodation site waste during construction) and the year 2026 (future baseline for operation), it has been assumed that the waste management performance targets for 2020 will apply through to the future baseline year of 2026 in the absence of any target-specific data for subsequent years.

Oxfordshire

3.1.40 Total C&I waste arisings for Oxfordshire are projections for the year 2015 (baseline), the period 2017 to 2025 (future baseline for worker accommodation site waste during construction) and the year 2026 (future baseline for operation) as described in the Oxfordshire Minerals and Waste Local Plan: Core Strategy, Proposed Submission Document August 2015[31].

3.1.41 Oxfordshire County Council's arisings are based on projections for the year 2015 (730,000 tonnes), 2020 (750,000 tonnes), 2025 (760,000 tonnes) and 2030 (770,000 tonnes). Waste arisings for each year in between have been linearly extrapolated.

3.1.42 Waste management performance for Oxfordshire in the year 2015 (baseline) is based on Oxfordshire County Council's waste management targets of 60% recycling and composting, 15% recovery and 25% landfill for the year 2015.

3.1.43 Waste management performance for each year within the period 2017 to 2025 (future baseline for worker accommodation site waste during construction) has been extrapolated using Oxfordshire County Council's published waste management targets of:

- 65% recycling and composting, 25% recovery and 10% landfill for the year 2020; and
- 70% recycling and composting, 25% recovery and 5% landfill for the year 2025.

3.1.44 For the year 2026 (future baseline for operation), it has been assumed that the waste management performance targets for 2025 will apply.

Hertfordshire

3.1.45 Total C&I waste arisings data for Hertfordshire are projections for the year 2015 (baseline), the period 2017 to 2025 (future baseline for worker accommodation site waste during construction) and the year 2026 (future baseline for operation) as described in Hertfordshire Waste Development Framework: Waste Core Strategy & Development Management Policies - Development Plan Document 2011-2026[32].

[31] Oxfordshire County Council (2014), *Oxfordshire Minerals and Waste Local Plan: Core Strategy, Proposed Submission Document August 2015.* Oxfordshire County Council.
[32] Hertfordshire County Council (2012), *Hertfordshire Waste Development Framework: Waste Core Strategy & Development Management Policies - Development Plan Document 2011-2026, Adopted November 2012*.

3.1.46 Hertfordshire County Council's arisings are based on 2010 data (1,016,000 tonnes) and projections for the year 2016 (1,059,000 tonnes), 2021 (1,066,000 tonnes) and 2026 (1,062,000 tonnes). Waste arisings for each year in between have been linearly extrapolated.

3.1.47 Waste management performance targets for the year 2015 (baseline), for each year within the period 2017 to 2025 (future baseline for worker accommodation site waste during construction) and the year 2026 (future baseline for operation) have been extrapolated based on Hertfordshire County Council's minimum landfill diversion rates in order to achieve their zero to landfill target by 2031.

Northamptonshire

3.1.48 Total C&I waste arisings for Northamptonshire of approximately 1,178,000 tonnes for the year 2015 (baseline) are based on projections taken from the Northamptonshire Minerals and Waste Local Plan, Plan for Adoption September 2014[33]. The figure has been calculated as a linear extrapolation between estimated C&I waste arisings for 2011 (1,170,000 tonnes) and projected C&I waste arisings for 2016 (1,180,000 tonnes).

3.1.49 Waste management performance for Northamptonshire in the year 2015 (baseline) is based on an extrapolated projection for the total quantity of C&I waste to be recycled and treated by biological processes such as composting and anaerobic digestion. This figure of approximately 210,000 tonnes is equivalent to 18% of total C&I waste arisings. An additional quantity of approximately 550,000 tonnes is projected to be recovered by advanced treatment processes equivalent to a further 47% of total waste arisings.

3.1.50 Total C&I waste arisings for Northamptonshire of approximately 10,850,000 tonnes for the period 2017 to 2025 (future baseline for worker accommodation site waste during construction) and approximately 1,220,000 tonnes for the year 2026 (future baseline) are based on the sum of annual projections for each year within this period. Annual projections have been extrapolated using the estimated C&I waste arisings for 2016 (1,180,000 tonnes), 2021 (1,210,000 tonnes) and 2026 (1,220,000 tonnes) as reported by the Northamptonshire Minerals and Waste Local Plan, Plan for Adoption September 2014.

3.1.51 Waste management performance for each year within the period 2017 to 2025 (future baseline for worker accommodation site waste during construction) has been extrapolated based on projected landfill diversion performance information published by Northamptonshire County Council for the years 2016, 2021 and 2026. The landfill diversion performance remains relatively constant at 65% for the period 2015 to 2026.

Warwickshire

3.1.52 Total C&I waste arisings for Warwickshire of approximately 590,796 tonnes for the year 2015 (baseline), approximately 5,807,065 tonnes for the period 2017 to 2025 (future baseline for worker accommodation site waste during construction) and approximately 695,560 tonnes for the year 2026 (future baseline for operation) are based on information taken from Waste Core Strategy, Adopted Version July 2013[34]. These figures have been extrapolated from Warwickshire County Council's projections for the years 2014/15

[33] Northamptonshire County Council (2014), *Northamptonshire Minerals and Waste Local Plan, Plan for Adoption September 2014*.
[34] Warwickshire County Council (2013), *Waste Core Strategy, Adopted Version July 2013*.

(584,323 tonnes), 2019/20 (627,477 tonnes), 2024/25 (676,540 tonnes) and 2027/28 (709,146 tonnes).

3.1.53 Information from the Waste Core Strategy Adopted Version July 2013 provides more recent data than the West Midlands Landfill Capacity Study 2009 Update[35] and hence has been used to inform C&I waste arisings for Warwickshire for this assessment.

3.1.54 Waste management performance targets for the year 2015 (baseline), for each year within the period 2017 to 2025 (future baseline for worker accommodation site waste during construction) and the year 2026 (future baseline for operation) have been extrapolated based on Warwickshire County Council's minimum landfill diversion targets of 70% for 2014/15 and 75% for 2019/20, 2024/25 and 2027/28 as reported by the Waste Core Strategy, Adopted Version July 2013.

Solihull metropolitan area

3.1.55 Total C&I waste arisings for the Solihull metropolitan area are projections for the year 2015 (baseline), the period 2017 to 2025 (future baseline for worker accommodation site waste during construction) and the year 2026 (future baseline for operation) taken from the West Midlands Landfill Capacity Study 2009 Update[36]. This has been used by Solihull Metropolitan Borough Council as part of its Local Development Framework Evidence Base[37].

3.1.56 The projections used are taken from the Scenario 1 dataset following the approach used in this assessment to derive baseline and future baseline CDEW arisings for the Solihull metropolitan area. The Scenario 1 dataset figure of approximately 176,818 tonnes for the year 2015 (baseline) is also consistent with the approximate annual C&I waste arisings figure of 160,000 tonnes reported by Solihull Metropolitan Borough Council in the document titled One Planet - Our Future: Waste Management Strategy for Solihull 2010-2020[38].

3.1.57 One Planet - Our Future: Waste Management Strategy for Solihull 2010-2020 is focused primarily on municipal solid waste management and contains little information with respect to management of C&I waste. Waste management performance for the year 2013 (baseline), the period 2017 to 2025 (future baseline for worker accommodation site waste during construction) and the year 2026 (future baseline for operation), therefore, has been assumed as for the neighbouring county of Warwickshire following the approach adopted to estimate CDEW waste management performance.

Birmingham metropolitan area

3.1.58 Total C&I waste arisings for the Birmingham metropolitan area are projections for the year 2015 (baseline), the period 2017 to 2025 (future baseline for worker accommodation site waste during construction) and the year 2026 (future baseline for operation) based on

[35] Scott Wilson (2009), *West Midlands Landfill Capacity Study Update 2009, Study Report June 2009.* West Midlands Regional Assembly.
[36] Scott Wilson (2009), West Midlands Landfill Capacity Study Update 2009, Study Report June 2009. West Midlands Regional Assembly.
[37] Solihull Metropolitan Borough Council; *The LDF Evidence Base*; http://www.solihull.gov.uk/Resident/Planning/appealsenforcement/planmaking/ldf/evidencebase; Accessed 30 April 2013.
[38] Solihull Metropolitan Borough Council (2010), *One Planet - Our Future: Waste Management Strategy for Solihull 2010-2020*.

latest available information taken from the Birmingham City Council Update to Waste Capacity Study, Addendum June 2014[39].

3.1.59 The projections used - approximately 945,920 tonnes for the year 2015 (baseline), approximately 9,082,675 tonnes in total for the period 2017 to 2025 (future baseline for worker accommodation site waste during construction) and approximately 1,061,790 tonnes for the year 2026 (future baseline for operation) - are broadly consistent with the lower C&I waste projections (Scenarios 1, 2 and 3) reported by the West Midlands Landfill Capacity Study 2009 Update[40] and the ADAS Study into Commercial and Industrial Waste Arisings41.Waste management performance targets for the year 2015 (baseline), for each year within the period 2017 to 2025 (future baseline for worker accommodation site waste during construction) and the year 2026 (future baseline for operation) have been extrapolated based on Birmingham City Council's minimum landfill diversion rates of 56% for 2014/15, 57% for 2019/20, 59% for 2025/26 and 61% for 2030/31.

Staffordshire

3.1.60 Total C&I waste arisings for Staffordshire for the year 2015 (baseline), the period 2017 to 2025 (future baseline for worker accommodation site waste during construction) and the year 2026 (future baseline for operation) are based on information taken from the Staffordshire and Stoke-on-Trent Joint Waste Local Plan 2010-2026 - Appendix 6: Waste Data Tables, Adopted March 2013[42].

3.1.61 The annual projection (approximately 1,743,150 tonnes) for the year 2015 (baseline) has been extrapolated between estimated C&I waste arisings reported for 2010/11 (1,518,000 tonnes) and 2015/16 (1,755,000 tonnes). An overall landfill diversion rate of 94% has been applied equivalent to approximately 1,640,813 tonnes, based on extrapolation between Staffordshire County Council's reported minimum landfill diversion rates of 75% for 2010/11 and 95% for 2015/16.

3.1.62 Total C&I waste arisings for the period 2017 to 2025 (future baseline for worker accommodation site waste during construction) are based on annual projections for each year within that period. These projections have been extrapolated using reported C&I waste arisings for the years 2010/11 (1,518,000 tonnes), 2015/16 (1,755,000 tonnes), 2020/21 (2,245,000 tonnes) and 2025/26 (2,245,000 tonnes). Waste management performance for each year has been extrapolated in the same way based on published minimum landfill diversion targets of 75% for 2010/11, 95% for 2025/16 and 100% for both 2020/21 and 2025/26.

3.1.63 The annual projection (approximately 2,245,000 tonnes) for the year 2026 (future baseline for operation) has been taken directly from the Staffordshire and Stoke-on-Trent Joint Waste Local Plan 2010-2026 - Appendix 6: Waste Data Tables, Adopted March 2013 for the year 2025/26 (assumed to apply to the 2026/27 reporting year in the absence of published, projected arisings data beyond 2025/26). Staffordshire County Council assumes a minimum 100% landfill diversion by 2026.

[39] Jacobs (2014), Update to *Waste Capacity Study, Addendum June 2014*, Birmingham City Council, Birmingham.
[40] Scott Wilson (2009), West Midlands Landfill Capacity Study Update 2009, Study Report June 2009. West Midlands Regional Assembly.
[41] ADAS (2009), *Study into Commercial and Industrial Waste Arisings, April 2009*. East of England Regional Assembly.
[42] Staffordshire County Council (2013), *Staffordshire and Stoke-on-Trent Joint Waste Local Plan 2010-2026, Adopted March 2013*.

3.2 Baseline waste infrastructure capacity

Greater London

3.2.1 Table 6 provides baseline waste infrastructure capacity data for Greater London and the sub-regional areas through which the SES3 scheme and AP4 revised scheme will pass. These sub-regional areas are referred to as:

- North West London Waste Authority (in relation to London Borough of Camden);
- Central London (in relation to the City of Westminster);
- Western Riverside (in relation to the London Borough of Hammersmith & Fulham and the Royal Borough of Kensington and Chelsea); and
- West London Waste Authority (in relation to the London boroughs of Brent, Ealing and Hillingdon).

Table 6: Baseline waste infrastructure capacity by sub-regional area and region in 2013 (Greater London)[43]

Facility type	**North London Waste Authority**	**Central London**	**Western Riverside**	**West London Waste Authority**	**Sub-regional total**	**Greater London**
	Capacity (tonnes)	**Capacity (tonnes)**	**Capacity (tonnes)**	**Capacity (tonnes)**	**Capacity (tonnes)**	**Capacity (tonnes)**
Inert waste landfill	0	0	0	788,595	788,595	2,413,137
Non-hazardous waste landfill	0	0	0	0	0	4,360,857
Hazardous waste landfill	0	0	0	0	0	325,734
Total landfill	*0*	*0*	*0*	*788,595*	*788,595*	*7,099,728*
Municipal solid waste, C&I waste incineration	675,000	0	0	0	675,000	1,863,000
Other incineration	75,000	0	0	8,000	83,000	227,000
Total incineration	*750,000*	*0*	*0*	*8,000*	*758,000*	*2,090,000*
Waste transfer	1,307,134	187,741	581,783	1,759,921	3,836,579	7,325,907
Waste treatment	526,428	920	508,038	805,736	1,841,122	4,783,250

[43] Environment Agency; *Waste Management for England 2013 - Waste Management 2013 in London: data tables*; https://www.gov.uk/government/statistics/waste-management-for-england-2013; Accessed 29 April 2015.

Facility type	North London Waste Authority	Central London	Western Riverside	West London Waste Authority	Sub-regional total	Greater London
	Capacity (tonnes)	Capacity (tonnes)	Capacity (tonnes)	Capacity (tonnes)	Capacity (tonnes)	Capacity (tonnes)
Metal recycling	299,248	0	163,880	166,686	629,814	1,102,782
Total treatment and waste transfer	*2,132,810*	*188,661*	*1,253,702*	*2,732,343*	*6,307,515*	*13,211,938*
Total	2,882,810	188,661	1,253,702	3,528,938	7,854,110	22,401,665

South East

3.2.2 Table 7 provides baseline waste infrastructure capacity data for Buckinghamshire, Oxfordshire and overall for the South East region.

Table 7: Baseline waste infrastructure capacity by county and region in 2013 (South East)[44]

Facility type	Buckinghamshire	Oxfordshire	Sub-regional total	South East
	Capacity (tonnes)	Capacity (tonnes)	Capacity (tonnes)	Capacity (tonnes)
Inert waste landfill	270,000	5,361,524	5,631,524	28,503,510
Non-hazardous waste landfill	29,679,435	6,593,531	36,272,966	47,164,513
Hazardous waste landfill	0	0	0	1,297,680
Total landfill	*29,949,435*	*11,955,054*	*41,904,490*	*76,965,703*
Municipal solid waste, C&I waste incineration	0	0	0	1,762,350
Other incineration	0	0	0	668,590
Total incineration	*0*	*0*	*0*	*2,430,940*
Waste transfer	382,897	320,090	720,987	6,803,958

[44] Environment Agency; *Waste Management for England 2013 - Waste Management 2013 in south east England: data tables*; https://www.gov.uk/government/statistics/waste-management-for-england-2013; Accessed 29 April 2015.

Facility type	Buckinghamshire	Oxfordshire	Sub-regional total	South East
	Capacity (tonnes)	Capacity (tonnes)	Capacity (tonnes)	Capacity (tonnes)
Waste treatment	528,408	1,084,843	1,613,251	7,505,492
Metal recycling	140,603	38,678	179,281	1,948,759
Total treatment and waste transfer	*1,051,908*	*1,443,610*	*2,495,519*	*16,258,208*
Total	31,001,344	13,398,665	44,400,009	95,654,851

East of England

3.2.3 Table 8 provides baseline waste infrastructure capacity data for Hertfordshire and overall for the East of England region. The sub-regional data shown relates solely to Hertfordshire but is duplicated within Table 8 for ease of comparison with other data tables.

Table 8: Baseline waste infrastructure capacity by county and region in 2013 (East of England)[45]

Facility type	Hertfordshire	Sub-regional total	East of England
	Capacity (tonnes)	Capacity (tonnes)	Capacity (tonnes)
Inert waste landfill	12,683,457	12,683,457	24,161,018
Non-hazardous waste landfill	2,702,480	2,702,480	38,276,158
Hazardous waste landfill	0	0	0
Total landfill	*15,385,955*	*15,385,955*	*62,437,175*
Municipal solid waste, C&I waste incineration	0	0	0
Other incineration	0	0	1,061,000
Total incineration	*0*	*0*	1,061,000
Waste transfer	562,322	562,322	4,562,872

[45] Environment Agency; *Waste Management for England 2013 - Waste Management 2013 in east of England: data tables*; https://www.gov.uk/government/statistics/waste-management-for-england-2013; Accessed 29 April 2015.

Facility type	Hertfordshire	Sub-regional total	East of England
	Capacity (tonnes)	Capacity (tonnes)	Capacity (tonnes)
Waste treatment	731,118	731,118	5,136,981
Metal recycling	330,483	330,483	2,176,072
Total treatment and waste transfer	*1,623,923*	*1,623,923*	*11,875,924*
Total	17,009,878	17,009,878	75,374,099

East Midlands

3.2.4 Table 9 provides baseline waste infrastructure capacity data for Northamptonshire and overall for the East Midlands region. The sub-regional data shown relates solely to Northamptonshire but is duplicated within Table 9 for ease of comparison with other data tables.

Table 9: Baseline waste infrastructure capacity by county and region in 2013 (East Midlands)[46]

Facility type	Northamptonshire	Sub-regional total	East Midlands
	Capacity (tonnes)	Capacity (tonnes)	Capacity (tonnes)
Inert waste landfill	2,924,720	2,924,720	40,026,045
Non-hazardous waste landfill	3,647,184	3,647,184	39,375,422
Hazardous waste landfill	374,505	374,505	385,176
Total landfill	*6,946,408*	*6,946,408*	*79,786,643*
Municipal solid waste, C&I waste incineration	0	0	414,000
Other incineration	0	0	723,443
Total incineration	*0*	*0*	*1,137,443*

[46] Environment Agency; *Waste Management for England 2013 - Waste Management 2013 in east Midlands: data tables*; https://www.gov.uk/government/statistics/waste-management-for-england-2013; Accessed 29 April 2015.

Facility type	Northamptonshire	Sub-regional total	East Midlands
	Capacity (tonnes)	Capacity (tonnes)	Capacity (tonnes)
Waste transfer	700,201	700,201	3,285,232
Waste treatment	906,393	906,393	4,637,407
Metal recycling	46,924	46,924	1,118,150
Total treatment and waste transfer	*1,653,518*	*1,653,518*	*9,040,789*
Total	8,599,926	8,599,926	89,964,875

West Midlands

3.2.5 Table 10 provides baseline waste infrastructure capacity data for Warwickshire, the West Midlands Metropolitan District (including the Solihull and Birmingham metropolitan areas), Staffordshire and overall for the West Midlands region.

Table 10: Baseline waste infrastructure capacity county and region in 2013 (West Midlands)[47]

Facility type	Warwickshire	West Midlands and Metropolitan District	Staffordshire	Sub-regional total	West Midlands
	Capacity (tonnes)	Capacity (tonnes)	Capacity (tonnes)	Capacity (tonnes)	Capacity (tonnes)
Inert waste landfill	9,693,176	3,881,892	4,339,359	17,914,427	23,922,977
Non-hazardous waste landfill	9,056,641	14,039,750	9,333,688	32,430,079	40,313,994
Hazardous waste landfill	510,000	292,572	195,000	997,572	997,572
Total landfill	*19,259,817*	*18,214,214*	*13,868,047*	*51,342,077*	*65,234,542*
Municipal solid waste, C&I waste incineration	0	930,000	510,000	1,440,000	1,440,000
Other incineration	289,080	6,880	120,000	415,960	425,960
Total incineration	*289,080*	*936,880*	*630,000*	*1,855,960*	*1,865,960*

[47] Environment Agency; *Waste Management for England 2013 - Waste Management 2013 in west Midlands: data tables*; https://www.gov.uk/government/statistics/waste-management-for-england-2013; Accessed 29 April 2015.

Facility type	Warwickshire	West Midlands and Metropolitan District	Staffordshire	Sub-regional total	West Midlands
	Capacity (tonnes)	Capacity (tonnes)	Capacity (tonnes)	Capacity (tonnes)	Capacity (tonnes)
Waste transfer	276,405	2,232,478	548,753	3,057,636	3,992,592
Waste treatment	771,678	1,395,379	896,490	3,063,547	3,837,934
Metal recycling	106,012	1,208,186	46,705	1,360,903	1,585,624
Total treatment and waste transfer	*1,154,095*	*4,836,043*	*1,491,948*	*7,482,086*	*9,416,150*
Total	20,702,992	23,987,137	15,989,995	60,680,123	76,516,652

3.2.6 In relation to the information presented in Table 6 through to Table 10, landfill capacity information is provided by the Environment Agency as cubic metres but has been converted to tonnes using the following volume to mass density conversion factors:

- 1.5 tonnes per cubic metre for hazardous waste landfill;
- 0.83 tonnes per cubic metre for non-hazardous waste landfill; and
- 1.5 tonnes per cubic metre for inert waste landfill[48].

3.2.7 In relation to the information presented in Table 6 through to Table 10, the capacity of waste transfer, waste treatment and metal recycling facilities is based on the annual input rates provided by the Environment Agency as separate capacity information is not provided (i.e. capacity assumed to be at least equivalent to the input rates specified by the Environment Agency).

3.3 Future baseline waste infrastructure capacity

General

3.3.1 This section presents the source data that has been used to inform the future baseline with respect to the quantity of landfill capacity projected to be available during the period 2017 to 2025 and the year 2026.

3.3.2 Permitted capacity data published by the Environment Agency has been used to provide data for each class of landfill as defined by Council Directive 1999/31/EC (the 'Landfill Directive'[49]), i.e. for inert, non-hazardous and hazardous waste landfills.

[48] As used to inform significance criteria for this assessment.

3.3.3 Projected landfill capacity is based on the average percentage change in permitted landfill capacity for the years 2004 to 2013 (for inert and non-hazardous waste landfill)50 and for the years 2006 to 2013 (for hazardous waste landfill)[51] as reported by the Environment Agency[52]. The average percentage change has then been applied to the reported 2013 permitted landfill capacity and projected forward to 2026.

3.3.4 This method assumes that the average percentage change in permitted capacity for each class of landfill remains constant. Use of an average value taken from historical data also provides a reasonable allowance for potential future increases in permitted capacity for each class of landfill.

3.3.5 This approach is considered to provide a reasonable scenario with respect to future landfill capacity within the aggregated five regions and which takes into account future draw-down and increases in permitted capacity, as well as government policy measures to divert waste from landfill and the requirement for waste planning authorities to provide for future landfill capacity needs.

Inert waste landfill capacity

Historic landfill capacity trend data

3.3.6 Table 11 presents permitted inert waste landfill capacity data published by the Environment Agency for the period 2004 to 2013 (latest available published data).

3.3.7 Inert waste landfill capacity is shown in thousands of cubic metres as published by the Environment Agency. Data for 'national' inert waste landfill capacity relates to England only.

Table 11: National and regional inert waste landfill capacity trends, 2004 to 2013 ('000 cubic metres)

Regional area	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Greater London	1,986	1,322	1,125	403	471	289	1,109	749	1,267	1,609
South East	24,275	13,812	15,026	23,034	28,378	29,077	29,228	27,888	22,200	19,002
East of England	5,586	5,542	9,954	10,879	10,342	8,204	7,155	7,670	6,482	16,107
East Midlands	13,023	10,675	10,037	34,467	19,510	24,357	22,671	22,754	21,166	26,684
West Midlands	15,219	15,064	13,756	11,673	11,241	12,888	11,550	10,431	10,012	15,949

[49] Official Journal of the European Communities (1999), Council Directive 1999/31/EC on the landfill of waste.
[50] Based on latest available historic datasets published by the Environment Agency.
[51] Due to changes in legislation concerning hazardous waste landfill in 2005, historic data for permitted hazardous landfill capacity pre-2006 has not been used (i.e. it is not comparable to that published since 2006).
[52] Environment Agency; *Waste Data and Information*; http://www.environment-agency.gov.uk/research/library/data/34169.aspx; Accessed 12 August 2013.

Regional area	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Total of five regions	*60,089*	*46,413*	*49,899*	*80,455*	*69,942*	*74,814*	*71,712*	*69,492*	*61,127*	*79,352*
England	96,772	79,445	95,730	119,512	109,069	123,700	117,828	121,316	111,412	131,060

3.3.8 Table 12 presents the annual percentage change in inert waste landfill capacity and the average percentage change for the period 2004 to 2013.

Table 12: National and regional inert waste landfill capacity trends, 2004 to 2013 (% change)

Regional area	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Average capacity change, 2004 to 2013
Greater London	-	-50%	-18%	-179%	14%	-63%	74%	-48%	41%	21%	-23%
South East	-	-76%	8%	35%	19%	2%	1%	-5%	-26%	-17%	-6%
East of England	-	-1%	44%	8%	-5%	-26%	-15%	7%	-18%	60%	6%
East Midlands	-	-22%	-6%	71%	-77%	20%	-7%	0%	-8%	21%	-1%
West Midlands	-	-1%	-10%	-18%	-4%	13%	-12%	-11%	-4%	37%	-1%
Total of five regions	-	*-29%*	*7%*	*38%*	*-15%*	*7%*	*-4%*	*-3%*	*-14%*	*23%*	*1%*
England	-	-22%	17%	20%	-10%	12%	-5%	3%	-9%	15%	2%

Landfill capacity projections

3.3.9 Table 13 presents permitted inert waste landfill capacity projections to 2026 based on latest available published data for 2013.

3.3.10 Projections have been derived by applying the average capacity change 2004 to 2013 (shown in Table 12) to the published inert waste landfill capacity for 2013 and for each year beyond to 2026.

3.3.11 In Table 13, the published inert waste landfill capacity for 2013 has been converted to tonnes using an inert waste landfill density conversion factor of 1.5 tonnes per cubic metre.[53] The purpose of this is to provide comparable information for use in this assessment (i.e. landfill void space and quantity of waste requiring off-site disposal to landfill are both expressed in tonnes).

3.3.12 For ease of reference, inert waste landfill capacity projections are shown for:

- 2013 (latest available published data converted to tonnes);
- 2015, 2020 and 2025 (five year intervals and end of construction in 2025);
- 2017 (start of construction); and
- 2026 (first year of operation).

Table 13: National and regional inert waste landfill capacity projections to 2026 (tonnes)

Regional area	2013	2015	2017	2020	2025	2026
Greater London	2,413,137	1,428,979	846,193	385,599	104,051	80,069
South East	28,503,510	24,923,630	21,793,363	17,819,425	12,740,195	11,913,313
East of England	24,161,018	27,161,899	30,535,501	36,397,573	48,773,589	51,713,886
East Midlands	40,026,045	39,306,136	38,599,175	37,562,503	35,896,219	35,571,939
West Midlands	23,922,977	23,461,688	23,009,294	22,347,007	21,285,285	21,079,072
Total of five regions	119,026,686	116,282,332	114,783,527	114,512,107	118,799,339	120,358,280
England	196,589,835	206,026,470	215,916,078	231,647,665	260,455,080	266,632,948

Non-hazardous waste landfill capacity

Historic landfill capacity trend data

3.3.13 Table 14 presents permitted non-hazardous waste landfill capacity data published by the Environment Agency for the period 2004 to 2013 (latest available published data).

3.3.14 Non-hazardous waste landfill capacity is shown in thousands of cubic metres as published by the Environment Agency. Data for 'national' non-hazardous waste landfill capacity relates to England only.

[53] As used to inform significance criteria for this assessment set out in Section 16 and supporting annexes of the Scope and Methodology Report (SMR) Addendum (Volume 5: Appendix CT-001-00/2).

Table 14: National and regional non-hazardous waste landfill capacity trends, 2004 to 2013 ('000 cubic metres)

Regional area	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
Greater London	11,627	9,896	8,580	8,258	5,525	4,152	7,994	8,775	5,878	5,254
South East	96,787	95,221	79,962	76,771	77,297	63,611	72,041	66,892	62,020	56,825
East of England	61,734	59,629	60,373	56,550	64,083	59,220	55,195	51,154	48,679	46,116
East Midlands	56,189	57,685	55,527	52,225	49,313	42,631	45,733	41,888	39,410	47,440
West Midlands	61,607	66,957	70,510	71,644	67,483	55,237	53,682	50,696	49,147	48,571
Total of five regions	*287,944*	*289,387*	*274,951*	*265,448*	*263,700*	*224,852*	*234,646*	*219,404*	*205,134*	*204,206*
England	528,956	549,895	544,361	504,928	484,812	431,108	429,143	407,667	376,266	361,040

3.3.15 Table 15 presents the annual percentage change in non-hazardous waste landfill capacity and the average percentage change for the period 2004 to 2013.

Table 15: National and regional non-hazardous waste landfill capacity trends, 2004 to 2013 (% change)

Regional area	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**Average capacity change, 2004 to 2013**
Greater London	-	-17%	-15%	-4%	-49%	-33%	48%	9%	-49%	-12%	-14%
South East	-	-2%	-19%	-4%	1%	-22%	12%	-8%	-8%	-9%	-7%
East of England	-	-4%	1%	-7%	12%	-8%	-7%	-8%	-5%	-6%	-3%
East Midlands	-	3%	-4%	-6%	-6%	-16%	7%	-9%	-6%	17%	-2%
West Midlands	-	8%	5%	2%	-6%	-22%	-3%	-6%	-3%	-1%	-3%

Regional area	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Average capacity change, 2004 to 2013
Total of five regions	-	*0%*	*-5%*	*-4%*	*-1%*	*-17%*	*4%*	*-7%*	*-7%*	*0%*	*-4%*
England	-	4%	-1%	-8%	-4%	-12%	0%	-5%	-8%	-4%	-4%

Landfill capacity projections

3.3.16 Table 16 presents non-hazardous waste landfill capacity projections to 2026 based on latest available published data for 2013.

3.3.17 Projections have been derived by applying the average capacity change 2004 to 2013 (shown in Table 15) to the published non-hazardous waste landfill capacity for 2013 and for each year beyond to 2026.

3.3.18 In Table 16, the published non-hazardous waste landfill capacity for 2013 has been converted to tonnes using a non-hazardous waste landfill density conversion factor of 0.83 tonnes per cubic metre[54]. The purpose of this is to provide comparable information for use in this assessment (i.e. landfill void space and quantity of waste requiring off-site disposal to landfill are both expressed in tonnes).

3.3.19 For ease of reference, non-hazardous landfill capacity projections are shown for:

- 2013 (latest available published data converted to tonnes);
- 2015, 2020 and 2025 (five year intervals and end of construction in 2025);
- 2017 (start of construction); and
- 2026 (first year of operation).

Table 16: National and regional non-hazardous waste landfill capacity projections to 2026 (tonnes)

Regional area	2013	2015	2017	2020	2025	2026
Greater London	4,360,857	3,246,526	2,416,941	1,552,519	742,429	640,587
South East	47,164,513	41,211,593	36,010,027	29,412,336	20,991,315	19,621,928
East of England	38,276,158	35,656,082	33,215,355	29,863,920	25,012,667	24,141,411
East Midlands	39,375,422	37,563,465	35,834,889	33,390,022	29,680,265	28,989,317

[54] As used to inform significance criteria for this assessment set out in Section 16 and supporting annexes of the SMR Addendum (Volume 5: Appendix CT-001-00/2).

Regional area	2013	2015	2017	2020	2025	2026
West Midlands	40,313,994	37,944,655	35,714,567	32,612,760	28,030,091	27,193,925
Total of five regions	169,490,943	155,622,320	143,191,779	126,831,557	104,456,766	100,587,167
England	299,662,826	273,673,034	249,937,339	218,137,256	173,871,213	166,160,294

Hazardous waste landfill capacity

Historic landfill capacity trend data

3.3.20 Table 17 presents national permitted hazardous waste landfill capacity data published by the Environment Agency[55] for the period 2006 to 2013 (latest available published data).

Table 17: National and regional hazardous waste landfill capacity trends, 2006 to 2013 ('000 cubic metres)

Regional area	2006	2007	2008	2009	2010	2011	2012	2013
Greater London	350	325	290	242	227	217	216	217
South East	1,018	712	632	561	774	1,253	893	865
East of England	0	0	0	0	0	0	0	0
East Midlands	801	702	693	693	494	241	342	257
West Midlands	337	327	130	470	470	470	665	665
Total of five regions	*2,506*	*2,065*	*1,745*	*1,966*	*1,965*	*2,179*	*2,116*	*2,004*
England	15,656	18,752	18,929	18,128	17,398	17,823	17,760	19,031

[55] Hazardous waste landfill capacity is shown in thousands of cubic metres as published by the Environment Agency. Data for 'national' hazardous waste landfill capacity relates to England only.

3.3.21 Table 18 presents the annual percentage change in hazardous waste landfill capacity and the average percentage change for the period 2006 to 2013.

Table 18: National and regional non-hazardous waste landfill capacity trends, 2006 to 2013 (% change)

Regional area	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**Average capacity change, 2004 to 2013**
Greater London	-	-8%	-12%	-20%	-7%	-5%	0%	1%	-7%
South East	-	-43%	-13%	-13%	28%	38%	-40%	-3%	-7%
East of England	-	0%	0%	0%	0%	0%	0%	0%	0%
East Midlands	-	-14%	-1%	0%	-40%	-105%	30%	-33%	-24%
West Midlands	-	-3%	-152%	72%	0%	0%	29%	0%	-8%
Total of five regions	-	*-21%*	*-18%*	*11%*	*0%*	*10%*	*-3%*	*-6%*	*-4%*
England	-	17%	1%	-4%	-4%	2%	0%	7%	3%

Landfill capacity projections

3.3.22 Table 19 presents hazardous waste landfill capacity projections to 2026 based on latest available published data for 2013.

3.3.23 Projections have been derived by applying the average capacity change 2006 to 2013 (shown in Table 18) to the published hazardous waste landfill capacity for 2013 and for each year beyond to 2026.

3.3.24 In Table 19, the published hazardous waste landfill capacity for 2013 has been converted to tonnes using a hazardous waste landfill density conversion factor of 1.5 tonnes per cubic metre[56]. The purpose of this is to provide comparable information for use in this assessment (i.e. landfill void space and quantity of waste requiring off-site disposal to landfill are both expressed in tonnes).

[56] As used to inform significance criteria for this assessment set out in Section 16 and supporting annexes of the SMR Addendum (Volume 5: Appendix CT-001-00/2).

3.3.25 For ease of reference, hazardous waste landfill capacity projections are shown for:

- 2013 (latest available published data converted to tonnes);
- 2015, 2020 and 2025 (five year intervals and end of construction in 2025);
- 2017 (start of construction); and
- 2026 (first year of operation).

Table 19: National and regional hazardous waste landfill capacity projections to 2026 (tonnes)

Regional area	**2013**	**2015**	**2017**	**2020**	**2025**	**2026**
Greater London	325,734	280,220	241,066	192,349	132,033	122,462
South East	1,297,680	1,132,557	988,446	805,920	573,487	535,759
East of England	0	0	0	0	0	0
East Midlands	385,176	225,348	131,841	58,999	15,447	11,815
West Midlands	997,572	852,426	728,398	575,357	388,345	358,983
Total of five regions	3,006,162	2,490,552	2,089,751	1,632,625	1,109,312	1,029,019
England	28,546,125	29,994,451	31,516,260	33,944,961	38,415,784	39,378,266

4 Schedule of developments

4.1.1 A qualitative assessment has been undertaken to establish the cumulative effects associated with the off-site disposal to landfill of solid waste that will be generated by construction and operation of the SES3 scheme and AP4 revised scheme and other developments along its route.

4.1.2 The cumulative effects assessment takes into account:

- developments that are likely to be under construction (in whole or in part for phased development) at the same time as the SES3 scheme and AP4 revised scheme (2017 to 2025) and will thus have a simultaneous requirement for landfill of any CDEW generated during this timeframe; and
- developments that are assumed to become operational at the same time as the SES3 scheme and AP4 revised scheme (i.e. in the year 2026) and will thus have a simultaneous requirement for landfill of any operational waste generated during that year.

4.1.3 Table 20 provides a schedule of developments that have been included in the cumulative effects assessment in accordance with the aforementioned criteria.

4.1.4 The variety of schemes presented in Table 20 includes residential, mixed use, industrial and commercial development.

4.1.5 Construction and operation of these developments will produce CDEW, C&I waste and municipal solid waste, a proportion of which will require disposal to landfill.

4.1.6 All the developments identified for consideration within the cumulative effects assessment lay within the Greater London or South East region.

Table 20: Schedule of developments included in cumulative assessment

Regional area	Type of development	Location	Local planning authority and/or reference
Greater London	Change of use of existing offices to residential and construction of an additional two storeys to create 33 self-contained flats and associated landscaping and external alterations.	All Units, Queens Studio, 117-121 Salusbury Road, London, NW6 6RG	London Borough of Brent 14/4719
	Retention of three self-contained flats with proposed alterations, as well as change of use of basement and ground floor from a retail shop to dental surgery and creation of a car parking space to the rear.	47 and 47A Kilburn High Road, London, NW6 5SB	London Borough of Brent 15/0289
	Enlargement of existing retail unit and conversion of the upper floors into two self-contained flats (1x studio and 1x 3bed).	49 and 49A Salusbury Road, London, NW6 6NJ	London Borough of Brent 15/0451

Regional area	Type of development	Location	Local planning authority and/or reference
	Thames Tideway Tunnel Wastewater storage and transfer tunnel between the operational Thames Water sites at Acton Storm Tanks and Abbey Mills Pumping Station. The project will control combined sewage flows from 34 combined sewer overflows identified as unsatisfactory by the Environment Agency. During and following storm events a series of interception structures will divert the flow into the tunnel system, where it will be stored and transferred to Abbey Mills Pumping Station, and then to Beckton Sewage Treatment Works via the Lee Tunnel.	Runs through multiple locations.	London Boroughs of Ealing, Hounslow, Hammersmith and Fulham, Richmond Upon Thames, Wandsworth, Kensington and Chelsea, City of Westminster, Lambeth, City of London, Southwark, Tower Hamlets, Lewisham, Greenwich, Newham
	Proposed London Underground Northern Line Extension Order Scheme for a 3.2km extension of the Charing Cross Branch of the Northern Line from Kennington to a new station at the site of the disused Battersea Power Station, with an intermediate station at Nine Elms. Up to 28 trains per hour will run to/from Battersea on the Charing Cross branch and will serve the 16,000 new homes and 25,000 new jobs that are planned over the next 20 years within the Vauxhall Nine Elms Battersea (VNEB) Opportunity Area.	Main work sites include Battersea Power Station, Nine Elms adjacent to Wandsworth Road and Pascal Street, Kennington Green, and Kennington Park.	Transport for London TWA 3/1/415
	Lengthening of the existing 4-car (80m) Class 378 fleet to five-cars (100m) on the North, West and East London Lines. Platform lengthening will also take place at stations across the Overground network as required (and utilise 8-car platform lengthening on the WLL). Modifications to depots and stabling sites will also be required and additional stabling locations are being identified.	Euston, Camden Carriage Sidings, West Hampstead Station, Willesden Traction Maintenance Depot as well as railway land in the Willesden area for additional stabling – most likely to be Willesden South West Sidings.	Transport for London
	Docklands Light Railway (DLR) North Route Double tracking (works associated with Crossrail funding to be delivered by 2019) to increase reliability, frequency and capacity of line.	Stratford to Bow Church	Transport for London

Regional area	Type of development	Location	Local planning authority and/or reference
	Works to allow 12-car running on Sidcup Bexleyheath, Greenwich, Woolwich, Dartford, Rochester, Hayes and Sevenoaks routes and redevelopment work at Victoria and Charing Cross.	Victoria and Charing Cross Stations	Transport for London
	Single storey rear extension and creation of roof terrace at first floor level to rear of dwelling house.	836 Harrow Road, London, NW10 5JU	London Borough of Brent 13/1064
	Change of use of ground floor non-residential to fitness studio/gymnasium.	Lower ground unit, Ebbett Court, Victoria Road, Acton, W3 6BW	London Borough of Ealing PP/2013/0826
	Housing renewal site.	Tollgate Gardens Estate, Oxford Road, London, NW6 5SG	City of Westminster Site 33 Related applications: 13/05695/COFUL
	Erection of a two storey building to include nursery classrooms, assembly hall and external rooftop multi-use games area (facing Minet Avenue) plus single storey extension to main school.	Harlesden Primary School, Acton Lane, London, NW10 8UT	London Borough of Brent 13/2829
	Change of use of existing information technology centre for adult education to single dwelling.	111 Oliphant Street, London, W10 4EE	City of Westminster 14/02180/COFUL
	Demolition of existing garages and erection of four two-storey dwellings.	Garages adjacent to 6A Munro Mews, London	Royal Borough of Kensington and Chelsea PP/14/01279
	Use of area of land at junction of Harrow Road, Elgin Avenue, Walterton Road and Fernhead Road as a street market and to hold community events .	Open space at junction of Harrow Road and Elgin Avenue, London, W9	City of Westminster 13/05069/COFUL
	New housing development must include a significant landscaped zone to Western Avenue and more substantial flatted development may be acceptable on the two sites closest to the railway.	Western Avenue sites south of Great Western Rail Line.	London Borough of Ealing OIS4 (Development sites DPD)
	Demolition of all existing buildings on site and redevelopment to provide a terrace of 20 townhouses fronting	Jubilee Sports Centre, Caird Street, London	City of Westminster 13/12250/COFUL

Regional area	Type of development	Location	Local planning authority and/or reference
	Caird Street and two corner buildings.		
	Change of use from offices to 15 residential units.	61 Gorst Road, Park Royal, NW10 6LS	London Borough of Ealing PAN/2014/3571
	Redevelopment of the site to provide a double height industrial building following the demolition of three existing warehouses buildings.	49 53, Gorst Road, Park Royal, London, NW10 6LS	London Borough of Ealing PP/2014/4363
	Change of use of a five storey building from an office use to 38 self-contained residential units (comprising 12 studio flats, two one-bedroom flats and 24 two-bedroom flats).	Chandelier Building, 8 Scrubs Lane, London, NW10 6RB	London Borough of Hammersmith and Fulham 2014/05825/PD56
	Change of use of first floor unit in rear block of NOKO Building from Work/Live unit to self-contained two bedroomed residential flat.	21 Noko, 3-6 Banister Road, London, W10 4AR	London Borough of Brent 12/2160
	Demolition of existing petrol filling station and construction of three to four storey building comprising 20 residential units.	904 Harrow Road, London, NW10 5JU	London Borough of Brent 13/0224
	Demolition of all existing buildings and erection of a Sports and Leisure Centre and 56 flats.	Moberly Sports and Education Centre, Kilburn Lane, North Kensington, London, W10 4AH	London Borough of Brent 13/3682
	Conversion of single family dwelling into four self-contained flats; erection of part single and part two storey rear and side extension and single storey outbuilding.	18 Bispham Road, Park Royal, NW107HB	London Borough of Ealing PP/2015/1878
	Change of use from offices to residential to accommodate seven residential units.	15 Wadsworth Road, Perivale, UB6 7JD	London Borough of Ealing PAN/2015/0380
	Redevelopment of the site to provide an aggregate recycling and processing plant, asphalt plant and storage facility, gully waste recycling plant, aggregate storage facility, and term maintenance depot, with ancillary offices, structures and facilities, car and lorry parking, regarding, and landscaping.	Former Powergen Site, North Hyde Gardens, Hayes UB3 4QR	London Borough of Hillingdon 13226/APP/2012/2185

Regional area	Type of development	Location	Local planning authority and/or reference
	Redevelopment of site to provide a 171 bedroom hotel, following part demolition of and extensions to locally listed building.	Park Royal Hotel Site, Hanger Green/ Connell Crescent, Ealing W5 3BQ	London Borough of Ealing PP/2012/3475 Related applications: PP/2012/3477 PP/2014/5918
	Change of use from retail to mixed use, food and drink and hot food take away.	12 Wadsworth Road, Perivale, UB6 7JD	London Borough of Ealing PP/2013/1008
	Hybrid application for the conversion and extension of the existing farmhouse and conversion of the existing stable buildings on the site to provide eight flats and outline planning permission for the demolition of other buildings on the site and redevelopment to provide up to an additional 56 flats in three detached blocks.	Smiths Farm, Kensington Road, Northolt, UB5 6AH	London Borough of Ealing PP/2012/4910
	Demolition of existing building and erection of a waste transfer and management station with ancillary offices, staff facilities, car and lorry parking, weighbridges and alteration to existing vehicular access.	McGee Yard, Alperton Lane, Wembley, HA0	London Borough of Brent 13/3413
	A phased planning application comprising: Hybrid (part outline and part detail) planning application for the phased redevelopment of the site and provision of up to 593 homes comprising 98 houses and 495 flats and provision of 2806m^2 of retail , 656m^2 of restaurant, 245m^2 of community and 3100m^2 of Cinema.	Former GSK Site, Greenford Road, Greenford, UB6 0HE	London Borough of Ealing PP/2013/5186
	Commercial allocation.	Acton Western Avenue, south of Park View to the north of the Acton-Northolt railway line	London Borough of Ealing OIS3 (Development sites DPD) Related Applications: P/2003/2959 P/2010/3670 P/2004/4242 P/2003/5189 P/2004/0883

Regional area	Type of development	Location	Local planning authority and/or reference
	Residential new development must include a significant landscaped zone to Western Avenue that makes a clear contribution to achieving the objectives of the green corridor.	Western Avenue, Park View	London Borough of Ealing OIS2 (Development sites DPD)
	Consolidation of industrial, aggregates and waste facilities to the north of Great Western Main Line railway, safeguarding of the rail sidings, and introduction of commercial and residential (potential for student accommodation) uses south of the railway, compatible with the functioning of the Acton Mainline Station.	Acton Goods Yard off Horn Lane, Noel Road Bridge and railway land either side of Noel Road, Acton, London, W3 0BP	London Borough of Ealing ACT6 (development sites DPD) Related applications: P/2012/1933
	Mixed use development including residential, work/live, managed affordable workspace and amenity/open space. Proposals should seek to introduce active frontages along Mount Pleasant as well as improve canal side access for pedestrians, with moorings for Grand Union Canal users as well as conserve and enhance the canal's Site of Metropolitan Nature Conservation Importance designation. Improvements will be sought to public transport as part of any proposal to develop the site.	Mount Pleasant/Beresford Avenue, Alperton, HA0	London Borough of Brent A7
	Redevelopment with a mix use development to include community uses with sports and recreation, residential, local needs retail and hotel uses. The re-provision of a sports centre will be sought if a development would result in the loss of the existing provision. Any residential development within 30m of the North Circular Road will require mitigation from noise pollution.	North Circular Road, NW10	London Borough of Brent 20
	Redevelopment of site should retain the office use of the building and develop part of the site, for residential and other uses which are complementary to the mixed office/residential development and to the functioning and role of adjacent Monks Park neighbourhood centre. Proposals should deliver an improved pedestrian experience and linkages to	Harrow Road, HA9	London Borough of Brent 24

Regional area	Type of development	Location	Local planning authority and/or reference
	Stonebridge Park station and improved pedestrian access across the North Circular Road.		
	Change of use from offices to 10 residential units.	Unit 9, Manhattan Business Park, West Gate, Ealing	London Borough of Ealing PAN/2014/2624
	Construction of a single-storey drive-thru restaurant and single-storey detached coffee shop with access fronting onto Alperton Lane and provision of refuse and cycle storage and 33 car parking spaces and associated landscaping.	Land at former Nuffield Arms, corner of Alperton Land and Western Avenue, Perivale	London Borough of Ealing P/2013/5028
	Change of use of 15 floors of a 21 storey office building (sixth to 20th floors) to a 306 bed hotel including a 53 m^2 gymnasium and alterations to the parking layout to create coach parking and vehicle drop offs for the hotel and resulting in the reduction on the number of car parking spaces from 295 to 156.	Wembley Point, 1 Harrow Road, Wembley	London Borough of Brent 12/2686 Related applications 13/2605 14/2372
	Prior approval for change of use of office to 10 residential units including two studio flats, five one-bedroom flats and three two-bedroom flats.	Mercury House, Heather Park Drive, Wembley	London Borough of Brent 14/2732
	Construction of a four storey residential building providing seven self-contained flats (six one-bed and one two-bed) with associated cycle storage, bin storage and landscaping.	Land adjacent to 400 Western Avenue, Acton, W3 0PL	London Borough of Ealing PP/2014/4427
	Redevelopment of the site to construct a part two, part three storey building comprising nine self-contained flats (two one bed, seven two bed) and three townhouses (three bed); a ground floor commercial unit (379m^2) with associated landscaping; on site car and cycle parking and refuse storage.	The Plough Inn, Mandeville Road, Northolt, UB5 5HG	London Borough of Ealing PP/2014/4407
	Conversion of house into two self-contained units (one, two bedroom flat and one three bedroom flat) including single storey rear extension.	362 Western Avenue, Acton, W3 0PL	London Borough of Ealing PP/2013/1673

Regional area	Type of development	Location	Local planning authority and/or reference
	Approval of details of work to parapets of Noel Road Bridge and above ground works to Acton Drive under either side of Noel Road and Acton Goods Yard.	Acton Goods Yard off Horn Lane, Noel Road Bridge and railway land either side of Noel Road, Acton, London, W3 0BP	London Borough of Ealing P/2012/1933
	Erection of an 11 storey building with basement level to provide a 229 bed hotel including function/event space, conference, bar and dining facilities together with associated car parking, cycle parking, servicing, drop-off and coach parking area and retail kiosk.	Land at Coronation Road, Park Royal, NW10	London Borough of Ealing PP/2012/4545 Related applications: 12/2861
	Erection of partially roofed single tier stand for spectator seating with ancillary accommodation below, a low level standing terrace and an artificial-surfaced training/warm-up area with demountable enclosure. Creation of new perimeter access track and extension of car park from 92 to 136 spaces. Ancillary works include new irrigation (groundwater abstraction borehole), drainage and storm water attenuation works; erection of 15mhigh ball catch netting, retractable netting, fencing, turnstiles and gates; replacement scoreboard; and, associated works including landscaping.	Gaelic Athletic Association, West End Road, Ruislip, HA4 6QX	London Borough of Hillingdon 24373/APP/2014/1946
	The Croxley Rail Link is the proposed extension of the London Underground Metropolitan line from Croxley, to Watford Junction via Watford High Street via the disused Croxley Green Branch. The proposals include the construction of a 400 m viaduct to connect the existing Metropolitan line to the currently disused Croxley Green Branch Line, with the provision of two new stations. Ascot Road station will serve the local community and provide a valuable new transport link for businesses in the area. A second station will be sited to serve the existing Watford Hospital, the football ground and the planned Health Campus. The existing Watford Metropolitan line station will be closed.	Croxley, to Watford Junction via Watford High Street via the disused Croxley Green Branch.	Department for Transport (DfT) TWA/12/APP/01

Regional area	Type of development	Location	Local planning authority and/or reference
	Change of use from office to a community or adult education facility, place of worship, play centre or community centre. Application form states change of use with internal remodelling.	Astral House, The Runway, Ruislip	London Borough of Hillingdon 42570/APP/2012/2734
	55 tailored care living units (extra care accommodation) with communal facilities (variation of 38402/APP/2008/2733) and 25 retirement living sheltered apartments with communal facilities including basement car parking.	Former Royal Air Force (RAF) West Ruislip High Road, Ickenham	London Borough of Hillingdon 38402/APP/2013/2685
	Redevelopment of the site to provide a residential block containing 28 units for social and supported housing including parking and ancillary works (involving demolition of existing buildings).	Formerly The Bridge and Early Years Centres, Acol Crescent, Ruislip, HA4 6QP	London Borough of Hillingdon 65847/APP/2014/427
	Prior approval for change of use to 18 studio flats.	Great Central House, Great Central Avenue, HA4 6TT	London Borough of Hillingdon 3969/APP/2014/384
	Prior approval for change of use of office building to 22 residential apartments.	Eagle House, The Runway, Ruislip	London Borough of Hillingdon 2342/APP/2014/3625
	Prior approval for change of use to one self-contained studio flat.	439 Victoria Road Ruislip, HA4 0EG	London Borough of Hillingdon 67990/APP/2014/3376
	Change of use of office building to 13 residential apartments.	Astral House, The Runway, Ruislip	London Borough of Hillingdon 42570/APP/2014/4341
	Demolition of existing buildings, and redevelopment of the site to provide a food store with ancillary café and ancillary petrol filling station, cinema five x restaurant units and residential development consisting of 132 units together with new vehicular and pedestrian accesses, car parking, servicing areas, landscaping arrangements and other associated works.	Former Arla Dairy, Victoria Road, South Ruislip, HA4 0HF	London Borough of Hillingdon 66819/APP/2014/1600
	Two storey, five-bed, detached dwelling with detached garage involving demolition of existing	78 The Drive, Ickenham, UB10 8AQ	London Borough of Hillingdon

Regional area	Type of development	Location	Local planning authority and/or reference
	dwelling.		10935/APP/2015/726
	Capacity and access upgrade to deep level platforms serving Northern and DLR platforms. Forms part of a wider Bank station upgrade programme including a new Waterloo and City line station.	Bank Station, City of London	City of London TWA/14/APP/05
	Improvement of 32 miles of M4 Motorway from Junction 3 in Borough of Hounslow, London to Junction 12 in West Berkshire. The proposed smart motorway scheme will enable proactive management of the M4 carriageway, including slip roads and motorway to motorway intersections between junctions 3 (Hayes) and 12 (Theale) on this major section of motorway.	Boroughs of Hounslow, Hillingdon, South Bucks, Slough, Windsor and Maidenhead, Bracknell Forest and Wokingham.	Department for Transport
	Crossrail 2 (formerly Chelsea Hackney line) proposed rail route running between Surrey and Hertfordshire providing a new rail link across London on the Crossrail network. In central London, it will pass through Angel, Tottenham Court Road and Victoria linked with walkways to connect Euston, King's Cross and St Pancras stations.	Runs from Hertford East to Shepperton.	Transport for London
	Rear ground floor extensions in connection with the use of ground floor of 302-310 Kilburn Lane as five flats and erection of two new houses to rear.	302-310 Kilburn Lane, London, W9 3EF	City of Westminster 14/10452/FULL
	This is an existing waste site with potential for redevelopment for future waste purposes, including alternative forms of waste management that could result in waste moving up the hierarchy.	Quattro Ltd, Park Royal, Regency Street (off Victoria Road), Park Royal, NW10 6NR	London Borough of Hillingdon
	Erection of seven storey 102-bedroom hotel and two residential blocks (four to seven storeys in height) comprising 72 one, two, and three-bedroom units with associated access from park view, basement car parking, coach parking, servicing, landscaping and a green corridor to Western Avenue and Horn	Land Junction Of Horn Lane / Western Avenue (A40), Opposite No 328 Horn Lane, Acton, W3 6TH	London Borough of Ealing P/2014/4968

Regional area	Type of development	Location	Local planning authority and/or reference
	Lane.		
	Creation of additional 3rd storey to create an additional three residential units.	The Courtyard, Park Royal Road, Acton, W3 6XA	London Borough of Ealing PP/2015/1389
	Demolition of existing buildings on site and redevelopment of the site to provide a two storey terrace building comprising of six dwelling houses and two flats and a detached two storey dwelling house.,	Perivale Methodist Church Site, May Garden, HA0 1DT	London Borough of Ealing PP/2015/1629
	Extension and conversion of the property into a two bedroom flat and a three bedroom flat.	21 Bennetts Avenue, Greensford, UB6 8AU	London Borough of Ealing PP/2015/1982
	Twyford Waste and Recycling Centre has the potential for redevelopment for future waste purposes, including alternative forms of waste management that could result in waste moving up the hierarchy.	Twyford Waste and Recycling Centre, Abbey Road, Brent, NW10 7TJ	London Borough of Hillingdon Site 352 (West London Waste Plan, Proposed Submission Version July 2014)
	Veolia Waste Transfer Station has potential for redevelopment for future waste purposes, including alternative forms of waste management that could result in waste moving up the hierarchy.	Veolia Waste Transfer Station, Marsh Road, Wembley, HA0 1ES	London Borough of Hillingdon Site 1261 (West London Waste Plan, Proposed Submission Version July 2014)
	Split into two sites (A and B) with Site A considered to be able to provide 125 – 205 housing units and Site B able to provide 125 – 184 housing units. Alongside improved public access to open space areas and leisure/social/community facilities with a mix of offices and retail.	Former Master Brewer Site, Freezeland Way, Hillingdon	London Borough of Hillingdon Local Plan Part 2 Site Allocations and Designations (Proposed Submission Version September 2014) Master Brewer and Hillingdon Circus Saved PR23 and Proposed SA 24 Related applications: 4266/APP/2012/1544 4266/APP/2014/519 4266/APP/2014/518
	Residential allocation for between 30 and 44 residential units.	West End Road, South Ruislip	London Borough of Hillingdon Local Plan Part 2 Site Allocations and Designations (Proposed Submission Version September 2014)

Regional area	Type of development	Location	Local planning authority and/or reference
			West End Road, South Ruislip Policy SA 16
	Allocation supports residential redevelopment proposals that contribute to the existing residential character of the surrounding area for around 29 residential units.	Odyssey Business Park (part), South Ruislip	London Borough of Hillingdon Local Plan Part 2 Site Allocations and Designations (Proposed Submission Version September 2014) Odyssey Business Park, South Ruislip Policy SA 31
	Mixed use redevelopment comprising the erection of a food store, measuring 3,543 sqm (Gross Internal Area) (Use Class A1) (inclusive of delivery and back of house areas) with 179 car parking spaces and 32 cycle spaces; 3 retail units totalling 1,037 sqm (Gross Internal Area) (Use Class A1 to A5); a 6 storey (plus plant level) 70 bed hotel (Use Class C1), with associated car parking and cycle spaces; together with highways alterations and landscape improvements. (Additional information relating to Transportation, Ecology, Energy and Landscaping).	Former Master Brewer Site, Freezeland Way, Hillingdon	London Borough of Hillingdon 4266/APP/2014/518 Related to Policy SA 24 - SITE B Uxbridge North (CFA6/P/8) in this annex.
	Erection of 125 residential units (Use Class C3) with 100 car parking spaces and 138 cycle parking spaces and associated highways alterations together with landscape improvements (Outline Application with details of appearance reserved).(Additional information relating to Transportation, Ecology, Energy and Landscaping).	Former Master Brewer Site, Freezeland Way, Hillingdon	London Borough of Hillingdon 4266/APP/2014/519 Related to Policy SA 24 SITE A Hillingdon East (CFA6/P/8) in this annex.
South East	Extension into Field Cottage buffer area for the extraction of sand and gravel reserves and restoration to land using quarry overburden and recovery materials (to be referred to as 'Phase 4C')	New Denham Quarry, Denham Road, Denham, BuckinghamshireUB9 4EH	Buckinghamshire County Council CM/32/14 Related Applications: AOC/71/14 AOC/11/01460/CM(2) AOC/11/01460/CM

Regional area	Type of development	Location	Local planning authority and/or reference
	Extraction of mineral, mineral processing including bagging, infilling with construction and demolition waste together with restoration to agriculture and nature conservation uses	Land adjacent to Uxbridge Road, George Green, Slough	Buckinghamshire County Council 13/00575/CC Related Applications: AOC/58/14 AOC/03/15 AOC/55/14
	Commercial reconfiguration of Coppermill Court Distribution depot comprising: the demolition of existing storage buildings; the refurbishment of existing office/administration building; re-roofing and cladding of existing warehouse; erection of a new warehouse and upgrading of hard standings.	SAE Logistics Coppermill Court, Coppermill Lane, West Hyde, Hertfordshire, WD3 9XS	Three Rivers District Council 13/0351/FUL
	Proposed remediation and restoration of a former landfill to agriculture using imported, suitable engineering materials for recovery, leachate and landfill gas monitoring and treatment facilities, recycling plant, improvements to the site access and location of an ancillary porta cabin and weighbridge.	Land adjacent to Hollybush Lane, Tatling End, Denham, Buckinghamshire	Buckinghamshire County Council CM/43/14 Related Applications: AOC/04/15 AOC/05/15
	Preferred site for a secondary school in the west of the district.	Frognall Farm and adjoining land proposed	Three Rivers District Council SA3 Site S(a)
	Employment	Land north of Maple Lodge Farm	Three Rivers District Council SA2 Site E(d)
	Proposals for infilling or redevelopment	Maple Lodge Wastewater Treatment Works	Three Rivers District Council SA8
	Change of use from office to a residential dwelling and external alterations.	119 High Street, Amersham, Buckingham-shire, HP7 0EA	Chiltern District Council CH/2014/2199/FA

Regional area	Type of development	Location	Local planning authority and/or reference
	Change of use of building from financial and professional services to a residential dwelling.	Lychgate Offices, High Street, Chalfont St Giles, Buckingham-shire, HP8 4QH	Chiltern District Council CH/2015/0254/FA
	Redevelopment of site to provide a 64 bed care home with associated landscaping	Eleanor House and Hampshire House National Society For Epilepsy Chesham Lane, Chalfont St Peter, Buckinghamshire	Chiltern District Council CH/2013/1172/FA
	Erection of 16 retirement apartments. Internal and external alterations and reinstatement works to the main listed building and conversion to provide five age exclusive apartments. Associated communal facilities, car parking, boundary treatment, landscaping and creation of pedestrian link.	Winterton House, 8 Hale Road, Wendover, Buckinghamshire, HP22 6NE	Aylesbury Vale District Council 13/02899/APP
	Outline application with access and layout to be considered and all other matters reserved for the erection of 11 dwellings with the formation of a new access.	Land to the rear of 34 Oxford Road, Stone, Buckingham-shire, HP17 8PB	Aylesbury Vale District Council 14/01431/AOP
	Extension to Westside Land Ltd waste and recycling transfer station	Chiltern View Nurseries, Wendover Road, Stoke Mandeville, Aylesbury, BuckinghamshireHP22 5GX	Aylesbury Vale District Council 13/20003/AWD
	Residential development of no more than 24 residential units, provision of open space and associated landscaping and new access from Oat Close/Isis Close	Land off Isis Close and Oat Close, Aylesbury, Buckinghamshire	Aylesbury Vale District Council 12/01394/AOP
	Erection of four Industrial units (amendment to planning approval ref 13/01281/APP).	Manor Farm, Lower Road, Stoke Mandeville ,Buckinghamshire, HP22 5XB	Aylesbury Vale District Council 13/01281/APP Related Applications: 15/00148/APP
	Demolition of redundant agricultural buildings and dilapidated farmhouses, residential development comprising two replacement dwellings and conversion of three barns to provide two new dwellings with associated garages, car parking, access roads and landscaping.	Littleton Manor Farm, Bicester Road, Waddesdon, Buckinghamshire	Aylesbury Vale District Council 13/01840/APP

Regional area	Type of development	Location	Local planning authority and/or reference
	Application for extension of time limit for extant planning permission 10/00810/APP - Erection of 11 sheltered flats.	Land rear of 23 Anstey Close, Waddesdon, Buckinghamshire	Aylesbury Vale District Council 13/01866/APP
	Erection of general purpose agricultural building. Improvements to existing access track.	Fuzz Field, Finmere	Cherwell District Council 15/00478/F
	Erection of four rows of solar panels.	Oatleys Farm, Oatleys Road, Turweston, Buckinghamshire	Aylesbury Vale District Council 14/00266/APP
	Demolition of existing pavilion and erection of new village hall.	Westbury Sports and Community Association, The Pavillion, Brackley Road Westbury, Buckinghamshire, NN13 5JN	Aylesbury Vale District Council 14/01570/APP
	Outline planning application for up to 45 residential units, the demolition of existing structures and new access road off Radstone Road.	Former Bronnley Soap Works, Radstone Road, Brackley	South Northamptonshire District Council S/2013/1263/MAO
	Residential development consisting of 10 affordable dwellings.	Land adjacent to Westhorp Greatworth	South Northamptonshire District Council S/2015/0635/MAF
	Residential development of 49 dwellings with new access and associated infrastructure and landscaping.	Land at The Old Glebe, Radstone Road, Brackley	South Northamptonshire District Council S/2013/1506/MAF
	Redevelopment of site to provide 309 dwellings, including new build, conversion of existing student housing blocks, Grade II listed manor house and associated buildings, erection of new fitness centre, sports facilities building, sports pitches and associated landscaping.	Newland Park, Gorelands Lane, Chalfont St Giles, HP8 4AB	Chiltern District Council CH/2014/1964/FA Related application: CH/2014/1965/HB
	Proposed development of a Waste Transfer Station (WTS) at London Road East, including a new WTS for the reception, bulking and loading of waste and ancillary development including weighbridges, weighbridge office, access and internal roads and parking facilities, amenity / welfare building. Requires re-alignment and widening of the HWRC and site access road, provision of acoustic bunds (and	London Road, East Amersham, Buckinghamshire HP7 9DT	Buckinghamshire County Council CM/59/14

Regional area	Type of development	Location	Local planning authority and/or reference
	fence) and security fencing.		
	Re-development of site to provide three residential units served by new access drive and change of use of existing access drive to garden land.	Hill Farm Industrial Estate, Hill Farm Lane, Chalfont St Giles, Buckinghamshire HP8 4NT	Chiltern District Council CH/2015/0587/FA
	New purpose built modular building to provide office space and welfare needs of the depot.	Amersham Highway's Depot, London Road, East Amersham, BuckinghamshireHP7 9DT	Buckinghamshire County Council CM/35/15
	Change of use from agricultural to equestrian purposes, erection of building incorporating stables and tack/feed/hay store, laying of hardstanding and access track.	Land To The Rear Of Chiltern Road, Ballinger, Buckinghamshire	Chiltern District Council CH/2015/0478/FA
	Application for certificate of appropriate alternative development for residential purposes comprising seven detached dwellings.	Land adjacent to Whitethorn Farm, Old Risborough Road, Stoke Mandeville, BuckinghamshireHP22 5XJ	Aylesbury Vale District Council 15/00668/A17
	Outline permission with access to be considered and all other matters reserved for a residential development of up to 190 dwellings with associated access.	Land At Lower Road, Stoke Mandeville, BuckinghamshireHP17 8ST	Aylesbury Vale District Council 15/01619/AOP
	Application for outline planning permission (with access to be considered) for a residential development of 24 apartments with associated access, parking and landscaping.	Brunel Road, Aylesbury, Buckinghamshire HP19 8SS	Aylesbury Vale District Council 15/01030/AOP
	Proposed new block between existing school buildings (infant and junior) containing admin, studio, hall with dining facilities and year six classroom; additional parking and drop off/pick up to the front; new tarmac social and PE areas to the rear of the junior school nursery building with playground area; and additional parking spaces.	William Harding Combined School, Hazlehurst Drive, Aylesbury, Buckinghamshire HP21 9TJ	Buckinghamshire County Council CC/31/15
	Redevelopment to provide 75 residential dwellings, new allotment land, car parking, highway works, landscaping, new public rights of way and the demolition of outbuildings to 1 High Street to provide new access	Allotments, Baker Street, land rear of 1 High Street and land to west of Warmstone Lane, Waddesdon, Buckinghamshire HP18 0JB	Aylesbury Vale District Council 15/01165/APP

Regional area	Type of development	Location	Local planning authority and/or reference
	from the highway.		
	A new build two form entry primary and nursery school to include associated playgrounds, playing fields, car park and service/delivery yard and ancillary sports changing building.	Land at Radstone Fields, Brackley	South Northamptonshire District Council 14/00070/CCDFUL
	Erection of 50 dwellings together with access, associated infrastructure and public open space.	Land to the north of the old Banbury Road and west of Chinalls Close, Finmere, Oxfordshire	Cherwell District Council 15/00552/OUT

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Z72