

# LONDON BOROUGH OF BRENT

Executive - 12 September 2005

## Report from the Director of Environment and Culture

For information

Wards affected:

ALL

### Report Title: Brent Municipal Waste Strategy

Forward Plan Ref: E&C-05/06-014

#### 1.0 Summary

- 1.1 This report sets out the key proposals of Brent's Draft Municipal Waste Strategy and the information to be used by this authority in assessing the actions necessary to ensure that Brent is able to meet the demands of the European Union Landfill Directive using the best practicable environmental options without incurring excessive cost.
- 1.2 The Draft Strategy (see Appendix A) has been drafted in partnership with consultants SLR and DEFRA, who provided £20,000 support funding. The proposals set out in the strategy will influence the specification of Brent's waste contract, due for renewal in 2007 and has been developed in tandem with the Joint Municipal Waste Strategy being prepared by the West London Waste Authority and its constituent boroughs of Brent, Harrow, Hillingdon, Hounslow, Ealing and Richmond upon Thames.
- 1.3 Appendix B is a Baseline Report produced by consultants on behalf of the Council. It sets out a position statement on Brent's current position and known future plans, and also looks at other options for future waste management in Brent.
- 1.4 The Draft Strategy seeks to address the principal recommendations from other work carried out in Brent in recent years, including:
- Overview Committee – Waste Management & Recycling (2003)
  - Scrutiny Committee – The Onyx Contract (2004)

- Overview Committee – Improving Participation in Household Recycling (2004)

- 1.5 All relevant stakeholders will be consulted on the Draft Strategy.
- 1.6 The final adoption of this Strategy by the Executive later in the year will then allow the procurement process get fully underway. The key dates for the procurement process are:

Draft Waste Strategy to Executive	12 <sup>th</sup> September, 2005
Consultation Period closes	31 <sup>st</sup> October, 2005
Final Strategy to Executive for adoption	12 <sup>th</sup> December, 2005
Approval from Executive to commence the tendering process	16 <sup>th</sup> January, 2006

## 2.0 Recommendations

- 2.1 That the Executive approve the Draft Municipal Waste Strategy (see Appendix A) as the basis of further consultation.
- 2.2 That the Executive instructs officers to report back to the Executive on the results of the consultation process, and put forward a proposed final Strategy for Executive approval.
- 2.3 That the Executive note the content of the Baseline Assessment Report (Appendix B) and approve its availability to the consultation process.

## 3.0 Detail

- 3.1 The Draft Strategy provides a framework for decisions to be taken on the management of municipal solid waste (MSW) in Brent over the next 20 years. The strategy covers only municipal waste.
- 3.2 Targets set under the Government's Waste Strategy require Brent to improve its recycling rate from approximately 14% in 2004-05 to 33% by 2015/16. The recycling/composting rate at the end of July 2005 had reached 21%.
- 3.3 Interim targets include 18% by 2005/06 and 30% by 2010/11.
- 3.4 Improving Brent's performance is crucial to the Council's ambition to be an "excellent" Authority under the Government's Comprehensive Performance Assessment (CPA). In 2003 a Waste Management Inspection was carried out in Brent by the Audit Commission which resulted in a rating of One Star (a Fair Service), with promising prospects for improvement.
- 3.4 Other major drivers for improvement include the annual Landfill Tax increase set at £3 per tonne as from 2005-06, which will increase

Landfill Tax from its current level of £18 per tonne to at least £35 per tonne.

- 3.5 In addition, the Government has introduced the Landfill Allowance Trading Scheme (LATS) which will significantly limit the amount of municipal waste that can be disposed of to landfill. Failure to reduce the landfilling of waste to a level within an agreed allocation could see the Waste Disposal Authority, West London Waste Authority, and in turn Brent Council, being subject to significant fines.
- 3.6 A separate Strategy for management of residual waste is currently being prepared by West London Waste Authority.
- 3.7 The national policy objectives for waste management, which are set out in the Government's waste strategy for England and Wales, "Waste Strategy 2000", (and the Waste Strategy Unit Report "Waste Not Want Not" that builds on Waste Strategy 2000) and "Guidance on Municipal Waste Management" (March 2001), set the following broad requirements:
  - (i) To reduce the amount of waste that society produces;
  - (ii) To make the best use of the waste that is produced, and
  - (iii) To choose waste management practices which minimise the risks of immediate and future environmental pollution and harm to human health.
- 3.8 During 2003/04 Brent residents generated 115,597 tonnes of household waste, of which 8.6% was recycled. The household recycling and composting (BVPI) target set by the Government for 2005/06 is 18%, indicating that the recycling of household waste within Brent has to more than double in the two years following 2004.
- 3.9 Historically, low levels of recycling have been achieved in Brent, with few materials being segregated for recycling, traditionally limited to glass and paper. The total tonnage of household waste recycled has increased from 2,925t in 1997 to 10,670t in 2004. Since the introduction of green waste collection and composting in 2004, the tonnage of household waste composted has increased from 1,084t during 2003/04 to 6,108t during 2004/05.
- 3.10 74% of household bin waste in Brent could, potentially, be recycled. With a current recycling rate of 14%, there is clearly a high proportion of recyclable material currently being disposed of as residual waste.
- 3.11 The Strategy has been written to determine how Brent Council might be able to achieve the various recycling and composting targets.
- 3.12 Twelve recycling options were modelled. The results of the modelling of those options that achieve the 2005 target are shown below.

Recycling Option	Materials				Participation & Capture				Options to meet targets		
	Current materials	100% household coverage	Additional materials - cardboard & plastic	Additional materials - kitchen waste	Average participation levels	Average material capture rate (50%)	Maximum participation levels (80%)	Maximum capture rate (80%)	2005	2010	2015
2b		★	★		★	★			★		
3				★	★	★			★		
4	★						★	★	★		
5			★				★	★	★		
6				★			★	★	★		
7a				★			★	★	★	★	
7b			★	★			★	★	★	★	★

3.13 The 2005 target (18%) could be achieved through a number of changes and enhancements to the recycling and composting schemes. However, in order to meet the 2010 and 2015 targets of 25% and 33% recycling the Council has two options:

(i) Brent should aim for a gradual increase in performance, utilising Options 2b or 3 to meet the 2005 targets, further developing kerbside collections in line with Option 7a to meet the 2010 target, then building on this in line with Option 7b so as to meet the 2015 target. To achieve this Brent will need to secure maximum public participation and capture rates (of around 80%) from the outset, whilst progressively introducing additional materials to the collection scheme; or

(ii) Expand materials collection at an earlier stage to include kitchen derived organic waste, plastic bottles, and cardboard and paper packaging, whilst securing maximum participation and capture rates (of around 80%) over a 10 year period.

3.14 All of the options identified have implications in terms of the need for collection vehicle modifications, additional collection crews or time spent sorting at the kerbside, and possible transport implications in delivering materials to different handling facilities; all of these will have the potential for additional costs, although these will be partially offset by savings made in diverting waste from landfill.

3.15 The results of the economic and environmental assessments set out in Sections 4 and 8 indicate that the preferred waste strategy for the Council to pursue is based on a combination of medium (25%) to high recycling (33%) with sufficient waste sent to residual treatment to achieve LATS targets.

- 3.16 Waste minimisation and awareness-raising are fundamental to the success of the waste strategy. It is anticipated that the quantity of waste generated in Brent will continue to rise over the next few years due to a range of socioeconomic factors.
- 3.17 Brent's recycling current performance is approximately 14% and therefore substantial improvements both in recycling and composting performance will be required to achieve these higher recycling/composting targets.

Householders are encouraged to recycle through a number of schemes as follows:

- (i) Bring Banks
- (ii) Kerbside Collection
- (iii) Estates Recycling
- (iv) Reuse and Recycling Centre

Moving forward, the Council will need to build and improve on these schemes and in some cases replace existing schemes with more efficient collection options. The strategy outlines the following improvements.

### 3.18 Bring Banks

The Council currently operates 116 Bring sites, equating to approximately 1 per 863 households. These sites are well used generating on average 21 tonnes per site each year. Bring sites provide an important route for recycling and in some areas they may be the only viable solution for recyclate collection. As such the Council should continue to identify suitable sites for location of bring banks and encourage provision of such sites in new developments.

### 3.19 Kerbside Collections

(i) Analysis presented in the Baseline Assessment Report (Table 8.2) identified the need for a doubling in kerbside performance to achieve the 33% recycling level. Achieving the 25% target would also require significant improvement in overall performance. A proportion of the required increase could be delivered through targeting additional materials. Brent should plan to collect cardboard and plastic and this will assist in raising recycling performance.

(ii) However, the 33% target and to a lesser extent, the 25% target will only be achieved through significant improvements in householder participation and material capture rates. Fundamental to this need is the question of whether the existing kerbside collection service is capable of delivering the required 80% participation and capture rates. Throughout the UK, kerbside sort systems provide a cost effective method of recovering recyclable materials. However, due to space and

time limitations it is unclear whether such collection systems can accommodate the significant improvements in performance required.

(iii) The alternative to a kerbside sort scheme is co-mingled collection, whereby dry recyclables are collected mixed at the kerbside and transferred to a materials recycling facility (MRF) for subsequent sorting.

(iv) It is important to note that the four highest performing Councils in England (St Edmundsbury, Eastleigh, Harborough and Daventry) all rely on co-mingled collections of recyclables.

(v) It would therefore appear that whilst improvements in the existing kerbside scheme can deliver improvements in performance, largely through the inclusion of additional materials, to achieve the targets in the medium to long term the existing scheme will need to be replaced by a co-mingled collection.

### 3.20 Estates Collections

(i) There are currently 250 Estates Recycling sites throughout the Borough providing a recycling resource for residents of high rise developments. Unfortunately, the sites do not appear to be well used, yielding an average of 7-8 kg per residence based on total number of high rise developments.

(ii) Approximately 27% of residences are high rise and although this is not a high proportion compared to other London Boroughs, low recycling performance from estates schemes can only be counteracted by improved performance elsewhere. This places additional pressures on the council's other recycling schemes.

There are three main collection options; door-to-door collections; chute recycling systems; and bring-banks. The Strategy concludes that door-to-door collection recycling and then bring sites is the optimum solution. Although cost per household can be relatively high compared to bring systems, average costs for a door-to-door collection system based on single use sacks are shown to be as low as £141 per tonne.

	Performance	
	Range kg/hh/yr	Mean kg/hh/yr
Door-to-door schemes		
Basket & Boxes	44-84	64
Carrier Bags (detail from 1 Authority)		128
Single Use sacks (data from 1 Authority)		236
Chute Systems		
Trisort (based on 3 Tokyo sites)		142
Bring Banks		
Separate	0-202	33
Co-mingled	14-221	58

(iv) The table clearly shows the improved performance that can be achieved from door-to-door collection schemes.

(v) The existing estates scheme is performing significantly below the mean performance identified in the table, indicating the potential for improving the current recycling performance. Options for improving performance include:

- Location of additional estates recycling sites;
- Better information to residences on the importance of recycling; and
- Involvement of caretakers and concierges to encourage residents to segregate materials.

(vi) In the short term Brent Council will introduce initiatives to improve the performance of the existing estates recycling scheme. However, in the longer term the Strategy suggests the Council should consider the replacement of the existing collection scheme with a door-to-door collection.

### 3.21 Composting Improvements

(i) The council currently collects green waste from households using wheeled bins or sacks. Whilst this collection scheme delivers high quantities of material, achieving the recycling and composting targets will require collection of kitchen waste also.

(ii) Some Councils in the UK have opted not to collect kitchen waste due to the relative complexity, the concerns of householders and the lack of markets for the resulting compost product. However, without this material it will be impossible to achieve recycling targets and as a result Brent has recently included kitchen waste in its organic waste collections.

### 3.22 Collection Frequency and Receptacle Volume

Traditional household waste has been collected on a weekly basis, However, with increasing costs of waste management, councils around the UK are looking carefully at collection frequencies for residual waste. This is particularly important in high performing areas where diversion of up to 50% of the waste stream to recycling and composting means that residual waste bins are rarely full on collection day. Moving to a fortnightly collection of residual waste leads to significant economic savings as fewer vehicles are required. Together with careful consideration of receptacle sizes, alternate weekly collections can encourage householders to recycle more of their waste. The issue of fortnightly (alternate weekly collections) is a difficult decision to make and it may not be feasible in many areas. However it is likely that delivering high recycling performance will only be possible if alternate weekly collections are introduced.

## 4.0 Financial Implications

- 4.1 There are no direct or immediate financial implications arising from this report.
- 4.2 However, any failure by Brent to provide adequate services to collect waste for recycling or composting will result in a need to either purchase disposal permits or to pay penalty charges. Choosing the right strategy will be critical for our costs both in the short term and the longer term.
- 4.3 The probable cost cannot be quantified but permits are expected to be available at between £90 and £160 per tonne. The penalty charge will be £200 per tonne. At the lowest rate, that is twice the current cost, at worst the WLWA could face increased costs of up to £160 million, an additional £24m p.a. to the Brent levy, which currently stands at £5.8m with an additional £0.828m disposal costs budgeted for.
- 4.4 In order to identify Brent's preferred waste strategy it was important to consider the costs of managing waste in the future. The Strategy identifies that substantial improvements and enhancements of Brent's recycling and composting schemes will be required if the Council is to achieve future recycling and composting targets. However, there are other potential solutions open to the Council that could be more cost effective than enhanced recycling and composting levels. To understand the future costs of waste management, an economic assessment of a range of future waste options was carried out.

The following options were considered:

- Option 1: Maintenance of current schemes, all residual waste to landfill. Payment of LATS fines for failure to meet targets
- Option 2: Maintenance of current schemes, sufficient residual waste to alternative treatment to meet LATS allowances. Remaining waste to landfill.
- Option 3a: Enhanced recycling by extending and modifying existing collection schemes to achieve 25% target. Sufficient residual waste to alternative treatment to meet LATS allowances. Remaining waste to landfill.
- Option 3b: Enhanced recycling based on an alternative kerbside collection scheme to achieve 25% target. Sufficient residual waste to alternative treatment to meet LATS allowances. Remaining waste to landfill.
- Option 4a: Enhanced recycling based on an alternative kerbside collection scheme to achieve 33% target. Sufficient residual waste to alternative treatment to meet LATS allowances. Remaining waste to landfill.
- Option 5a: No recycling or composting with all waste sent to alternative residual treatment.



Option 5b: No recycling or composting with sufficient waste sent to alternative residual treatment to meet LATS allowances. Remaining waste to landfill.

Set out in Table 1 (below) are the predicted costs for each of the future waste options for the year 2010. It should be noted that these figures are for comparative purposes and do not represent actual contract costs.

	Waste Management Options 2010						
	1	2	3a	3b	4a	5a	5b
<b>1. Overall Tonnage Performance</b>							
Annual Tonnage	129,644	129,644	129,644	129,644	129,644	129,644	129,644
Recycling tonnage	11,444	11,444	19,447	19,447	28,003	0	0
Composting tonnage	6,903	6,903	12,964	12,964	14,779	0	0
Residual treatment tonnage <sup>1</sup>	0	30,439	13,465	13,465	2,607	129,644	51,953
Landfill tonnage	111,298	80,858	83,768	83,768	84,254	0	77,691
BMW Diversion requirement	33,250	33,250	33,250	33,250	33,250	33,250	33,250
BMW penalty tonnage	19,481	0	0	0	0	-49,722	0
<b>2. Individual Scheme Tonnages</b>							
Bring sites	2,775	2,775	2,775	2,775	2,775	0	0
HWRC sites	3,229	3,229	3,229	3,229	3,229	0	0
Kerbside dry	6,698	6,698	13,244	13,244	21,800	0	0
Kerbside Putresible	5,445	5,445	12,964	12,964	14,779	0	0
Flats recycling <sup>2</sup>	199	199	199	199	199	0	0
<b>3. Scheme Costs</b>							
Bring sites <sup>3</sup>	£13,873	£13,873	£13,873	£13,873	£13,873	£0	£0
HWRC sites <sup>3</sup>	£16,147	£16,147	£16,147	£16,147	£16,147	£0	£0
Kerbside dry	£1,434,542	£1,434,542	£2,019,613	£1,709,383	£2,287,522	£0	£0
Kerbside Putresible	£977,607	£977,607	£1,719,818	£1,719,818	£1,792,429	£0	£0
Flats recycling <sup>4</sup>	£99,367	£99,367	£99,367	£99,367	£99,367	£0	£0
Residual collection <sup>5</sup>	£3,116,332	£3,116,332	£2,722,524	£2,722,524	£2,432,121	£3,630,032	£3,630,032
Landfill	£6,455,258	£4,689,787	£4,858,540	£4,858,540	£4,886,738	£0	£4,506,071
Residual Treatment <sup>6</sup>	£0	£2,587,328	£1,144,530	£1,144,530	£221,627	£11,019,740	£4,416,016
LATS income <sup>7</sup>	£0	£0	£0	£0	£0	£-3,977,773	£0
LATS penalties <sup>8</sup>	£2,922,159	£0	£0	£0	£0	£0	£0
<b>Total</b>	<b>£15,035,285</b>	<b>£12,934,983</b>	<b>£12,594,412</b>	<b>£12,284,182</b>	<b>£11,749,824</b>	<b>£10,671,999</b>	<b>£12,552,118</b>
Collection costs	£5,657,867	£5,657,867	£6,591,342	£6,281,112	£6,641,459	£3,630,032	£3,630,032
Residual treatment costs	£0	£2,587,328	£1,144,530	£1,144,530	£221,627	£11,019,740	£4,416,016
Landfill costs	£6,455,258	£4,689,787	£4,858,540	£4,858,540	£4,886,738	£0	£4,506,071
LATS costs	£2,922,159	£0	£0	£0	£0	£-3,977,773	£0

4.5 The costs show a difference of almost £5 million ranging from £10.67 million for the cheapest option, Option 5a, to over £15 million for the most expensive, Option 1. All options are shown to be more cost effective than current waste management practices (Option 1). Option 5a, the no recycling option is significantly cheaper than the high recycling options, although this is largely due to the expected income from sale of excess LATS allowances. Without this income, despite lower collection costs, Option 5a is more expensive than the high recycling options.

4.6 The overall costs are highly sensitive to the unit costs assumed for the individual waste treatment technologies particularly for Options 5a and

5b where the majority of waste is treated through a residual treatment facility. A conservative figure of £85 per tonne for treatment has been assumed, however treatment costs for the modelled technology, autoclaving, could be as low as £65 per tonne in which case the overall costs for Option 5a would fall to £8.1 million (£11.7 million excluding LATS income). Similarly the cost for Option 5b falls to £11.5 million making it cheaper than the high recycling options, options 3 and 4.

- 4.7 Comparison of options 3a and 3b indicates that a cost saving could be realised if the kerbside collection system was switched from sort at kerbside to a co-mingled collection. In order to achieve the higher recycling targets, a change in collection system is likely to be required anyway.
- 4.8 It can, therefore, be concluded, from the options considered that the most cost efficient collection system is likely to be a combination of medium to high recycling with sufficient waste sent to residual treatment to achieve LATS targets. Although, not considered, there may be added economic advantage, particularly from the generation of excess LATS allowances, by treating all remaining residual waste through a residual treatment facility.

## **5.0 Legal Implications**

- 5.1 There are a number of pieces of legislation that impact on the way waste is managed. In particular, the Landfill Regulations and Waste Strategy 2000 set targets for waste management. This strategy document acknowledges these pieces of legislation, with further detail provided in the Baseline Assessment Report.
- 5.2 The Environmental Protection Act (EPA) 1990 is designed to implement an integrated approach to environmental regulation and protection, and is the principal piece of legislation dealing with the duties and responsibilities in relation to waste management.
- 5.3 The Landfill (England and Wales) Regulations 2002 implement the requirements of the EU Landfill Directive (1999/31/EC). Key Directive provisions for local authorities relate to the gradual reduction of biodegradable municipal waste (BMW) going to landfill and the promotion of alternatives such as recycling, composting, and energy from waste (EfW). This has implications for Brent in terms of the separate collection of materials for recycling or recovery as they are required to contribute toward the WLWA meeting their targets. Targets include:
- (i) Reduce the amount of BMW landfilled to 75% of that produced in 1995 by 2010;
  - (ii) Reduce the amount of BMW landfilled to 50% of that produced in 1995 by 2013;
  - (iii) Reduce the amount of BMW landfilled to 35% of that produced in 1995 by 2020.

- 5.4 A series of recycling and recovery targets for household and municipal waste have been established in the Government's 'Waste Strategy 2000' in order to comply with the Landfill Directive BMW diversion targets. An essential part of achieving these targets is the drive towards greater household recycling and composting. Key targets for Brent are as follows:

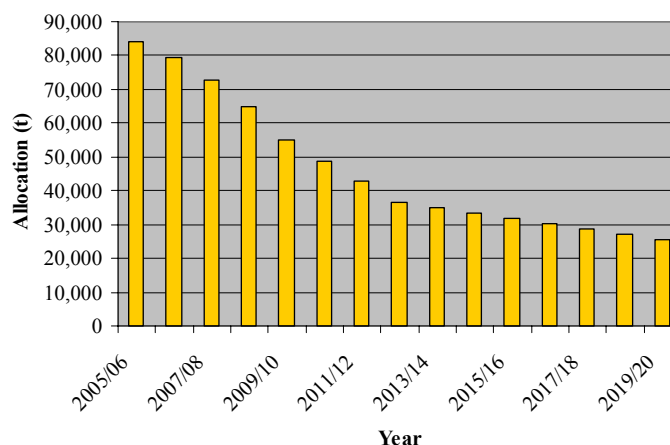
**Table 2: London Borough of Brent Recycling and Composting Targets**

Target Year	% Recycled / Composted	Target Source	Recycling and Composting Tonnage
2005	18	BVPI	21,559
2010	30	Waste Strategy 2000	39,671
2015	33	Waste Strategy 2000	48,180

- 5.5 The Waste and Emissions Trading (WET) Act 2003 provides a framework for the Landfill Allowance Trading Scheme (LATS), whereby tradable landfill allowances will be allocated to WDAs each year. As a Waste Collection Authority Brent Council does not have a direct Allowance under LATS.

- 5.6 However, as a constituent of the West London Waste Authority (the relevant Waste Disposal Authority) it is expected to contribute to meeting the Allowances set for the WDA. The West London Waste Authority (WLWA), along with the six collection authorities, has agreed to split the landfill allowances equally. Thus Brent is responsible for ensuring that sufficient municipal waste is delivered to the appropriate recycling, composting and residual treatment facilities to meet one sixth of the total landfill allowances allocated to WLWA.

**Brent's LATS Allocations**



## **6.0 Diversity Implications**

- 6.1 The Council's present policy in respect of waste management is to follow the established waste hierarchy. Officers have screened this Report and consider that there are no diversity implications arising from it.
- 6.2 An Equalities Impact Assessment will be conducted as part of the Strategy development programme.

## **7.0 Staffing/Accommodation Implications**

- 7.1 The process of consultation and then implementation will require significant and sustained input from Brent's waste officers.

## **8.0 Environmental Implications**

- 8.1 These proposals will directly address the Council's Environmental Policy.
- 8.2 Adopting a Waste Strategy for the collection and disposal of the Borough's domestic waste will not only secure a sustainable disposal route for this waste, but also help the Council deliver its wider environmental objectives.
- 8.3 Sustainable management of waste reduces the Borough's Climate Change contribution, and helps close the materials loop. Landfill waste releases CO<sub>2</sub> and methane, both powerful "greenhouse gases". Adopting sustainable waste treatment processes other than landfill, such as composting and anaerobic digestion, reduces gas emissions and saves raw materials thus avoiding all accompanying environmental impacts.
- 8.4 The adoption of a Waste Strategy will, perhaps most importantly, help reduce the amount of household waste being sent to landfill.
- 8.5 The Options were modelled using the Environment Agency's WISARD Life Cycle Assessment tool. This ensured a 'cradle-to-grave' approach rather than just an environmental outcome assessment.
- 8.6 There is a possibility that the Strategy will need a Strategic Environmental Assessment and advice on this will be sought from Brent's internal Environmental Strategy Team and Planning Policy team.

## **Background Papers**

Brent Council have published a Baseline Assessment Report with Technical Appendices to which the Draft Municipal Waste Strategy document gives regard. Both papers may be accessed to provide additional and more detailed information on the status of waste management and options for dealing with the Brent's municipal waste.

Additionally, the following papers are of relevance:

1. Waste Strategy 2000 (website: [www.defra.gov.uk](http://www.defra.gov.uk))
2. The Mayor's Draft Municipal Waste Management Strategy - Assembly and Functional Bodies Consultation (website: [www.gla.gov.uk](http://www.gla.gov.uk))
3. Draft London Plan – Spatial Development Strategy (website: [www.gla.gov.uk](http://www.gla.gov.uk))
4. WLWA Best Value Performance Plan 2002-2003 (website: [www.westlondonwaste.gov.uk](http://www.westlondonwaste.gov.uk))
5. Waste Strategy Development File – StreetCare Unit
6. Draft West London Joint Municipal waste Strategy 2005

## **Contact Officers**

Any person wishing to inspect the above papers should contact Chris Whyte Head of Environmental Management, StreetCare, 1<sup>st</sup> Floor – West, Brent House, 349-357 High Road, Wembley, Middlesex, HA9 6BZ on 0208 937 5342.

<b>Richard Saunders</b> <b>Director of Environment and Culture</b>	
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