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KILN PLACE, CAMDEN

PHASE I WASTE ASSESSMENT: EXISTING REFUSE AND RECYCLING USE AND CAPACITY STUDY

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1. INTRODUCTION

1.1.1. Ramboll has been commissioned on behalf of Camden Council (CC) to undertake a Phase I Waste Assessment for the proposed development at Kiln Place, Camden.

1.1.2. Kiln Place is an existing housing estate constructed in the 1960's. Strategic proposals have been drafted to consider necessary and desired improvements to the estate for new housing and improved landscaping. These strategic proposals have been informed by feasibility appraisals and to complement these, this Report assesses the existing refuse and recycling use. Thus, this Phase I Waste Assessment provides information on the waste capacity of the existing development and the potential need for further studies to support a planning application.

1.2. Report Objectives and Data Sources

1.2.1. The Phase I report seeks to provide an initial broad assessment of the findings of a waste survey conducted at Kiln Place (the site) and any relevant planning issues that may affect the development of the site and consequently, may require further study. The report identifies the locations and capacities of existing waste facilities on site and evaluates their adequacy. Recommendations for further assessments, surveys and mitigation have been made, where appropriate. These recommendations will assist Camden Council in their planning and execution of any site development proposals.

1.2.2. The recommendations of this report will be taken forward into the Phase II Waste Assessment, which will outline a temporary and permanent refuse strategy for the Kiln Place estate.

1.2.3. Data sources used within the report have been stated under each section.

1.3. Site Description

1.3.1. The site is located in Gospel Oak in the London Borough of Camden (LBC), at the edge of Kentish Town, and adjacent to Tufnell Park, near Grafton Road. A site location and environmental constraints plan can be found in Figure 1.1.

1.3.2. The Kiln Place Estate is bounded by Lamble Street to the north, Carlton Road Junction railway line to the south, Meru Close to the east, and Grafton Road to the west. Both Meru Close and Grafton Road lead on from Oak Village, which joins the B518 Mansfield Road/Gordon House Road to the north, the B518 running from north-west to north-east to the north of the site. In addition, Grafton Road also leads onto the Prince of Wales Road, which joins the A400 Kentish Town Road to the south-east of the site. To the east is another residential estate at Meru Close, and fronting Grafton Road to the west residential houses front Grafton Road. To the north are more residential units, the Gospel Oak Primary School and Parliament Hill Fields. To the west is Lismore Circus which contains an outdoor gym and nursery.

1.4. Initial Proposals

1.4.1. Kiln Place is an existing social housing estate constructed in the late 1960's. The strategic proposals have been drafted to consider necessary and desired improvements to the estate for new housing, and improved landscaping. New housing is proposed at six plots within the existing estate, as shown in Figure 1.2[1].

- **Site 1**: A row of six 3 bedroom houses with courtyards and lawned areas, following the curve of the street. Building heights alternate between one and four storeys high.
- **Site 2**: A row of two 2 bedroom houses with courtyards, following the curve of the street. Building heights alternate between one and two storeys.
- **Site 3**: Two 1 bedroom maisonettes proposed to complete the corner of existing buildings 65-80 and 81-96 Kiln Place. The building heights vary between one to four storeys, completing the new terrace elevation formed by the cottages of Plot 2.
- **Site 4**: One 3 bedroom house with a courtyard proposed to complete the corner of existing buildings 1-64 Kiln Place. The building height varies between one and three storeys.
- **Site 5**: One 2 bedroom upper maisonette, one 1 bedroom house and one 1 bedroom ground floor flat with a courtyard proposed to complete the corner of existing buildings 97-104 and 105-116 Kiln Place. Building heights vary between one and three storeys high.
- **Site 6**: One bedroom ground floor flat with a private courtyard to the front and back. Roof terrace is accessed through existing flats and provides two gardens for two existing flats of block 117-164.

[1] PBA (2013) Stage C Report: Kiln Place.

2. METHODOLOGY

2.1.1. This section of the report sets out the approach to undertaking the initial desk-based evaluation, the site survey and any constraints that should be recognised when considering the study's findings.

2.2. Desk Study

2.2.1. The initial assessment of the site and its environs took the form of a desk-based evaluation.

2.2.2. A full review of all relevant legislation and planning policy from the European through to the local level has been conducted, a summary of this is provided in Section 3 Waste Legislation and Policy, below.

2.2.3. Information was also obtained from LBC's website regarding the Council's recycling, rubbish and reuse collection procedures, including information on recycling, street cleaning, and waste education and policy.

2.2.4. The Council were also contacted to gather local and site-specific information relating to waste, including waste collection times, in preparation for the site survey (refer to Appendix A).

2.2.5. The results of the desk study specified the context of the site, informed the site visit and subsequent evaluation and recommendations.

2.3. Waste Survey

2.3.1. A Waste Survey was conducted on Tuesday, 14th January 2014 to determine the current waste capacity of the site. The survey was carried out by Ramboll surveyors (Environmental Consultants Astrid Tishler and Ceara Shields) who had full access to the site including both, the external waste areas and internal refuse stores.

2.3.2. Nine waste locations were surveyed based on information received from the Design Team and Architect and are shown on Figure 2.1. A photographic record and details of the manufacturer/make were noted for each bin type used on site, so that their total capacity could be confirmed. An estimate was then made regarding the total waste volume held by each bin. The capacity of each bin type located within the site and their approximate volume of waste held at the time of the survey are listed in Appendix B.

2.3.3. Moreover, the adequacy of existing waste facilities was evaluated on the basis of the assumed occupancy level of the estate and walking distance from building entrances.

2.4. Constraints

2.4.1. It must be recognised that waste is temporally variable and the findings of this report are based on observations made, and data available, at the time of the survey.

2.4.2. In order to obtain effective results, LBC were consulted (telephone call, see Appendix A) and advised that rubbish and recycling are collected in the early morning on a bi-weekly

basis every Tuesday and Thursday. Tuesday morning was identified as an optimal time to collect results, as this would allow for the maximum amount of waste to have accumulated at the refuse stores, due to the weekend and five days in total having passed since the previous waste collection. Hence, it is assumed that the results of the site survey present a conservative estimate of the existing capacity of waste facilities.

2.4.3. In addition, holiday periods were avoided in the selection of the survey date to ensure a typical, representative sample that had not been affected by any unusual circumstances. 14th January was selected as the survey date, being sufficiently after the Christmas period for most households to have returned to typical day-to-day life.

2.4.4. If the development is significantly delayed or postponed, it may be necessary to re-visit the site to determine, if there have been any changes to the amount of waste produced by the residents, as a result of any changes in LBC's housing allocations (for example, more family households are allocated to the site as opposed to single occupants).

3. WASTE LEGISLATION AND POLICY

3.1. European Level

EU Revised Waste Framework Directive (2008/98/EC)

3.1.1. This directive establishes the legislative framework for the handling of waste in the Community, defining key concepts such as waste, recovery and disposal and puts in place the essential requirements for the management of waste. It also establishes major principles, such as an obligation to handle waste in a way that does not have a negative impact on the environment or human health and an encouragement to apply the waste hierarchy.

3.1.2. The waste hierarchy is applied as a priority order in waste prevention and management legislation and policy, as follows:

- Prevention;
- Preparing for re-use;
- Recycling;
- Other recovery, e.g. energy recovery; and
- Disposal.

3.1.3. When applying the waste hierarchy, measures should be taken in order to encourage the options that deliver the best overall environmental outcome. This would include taking measures to promote high quality recycling by, for example, setting up separate collections of waste where technically, environmentally and economically practicable and appropriate to meet the necessary quality standards.

3.1.4. The necessary measures carried out for waste management should ensure human health is not endangered, the environment is not harmed and, in particular that there is:

- No risk to water, air, soil, plants or animals;
- No noise or odour nuisance; and
- No adverse effect on the countryside or places of special interest.

3.2. National Level

The Waste (England and Wales) Regulations 2011 (amended 2012)

3.2.1. These regulations transpose the EU revised Waste Framework Directive into national law in England and Wales and implement the waste hierarchy. In addition, the regulations establish duties in relation to the collection of waste and set requirements for planning authorities.

3.2.2. From 1st January 2015, the Waste Regulations require for waste collection authorities to collect waste paper, metal, plastic and plastic separately for household, commercial and industrial waste.

3.2.3. In addition, Schedule 1 of the regulations states that measures must to be taken to ensure that by 2020:

- At least 50% by weight of waste from households is prepared for re-use or recycled.

- At least 70% by weight of construction and demolition waste is subjected to material recovery.

National Planning Policy Framework (2012)

3.2.4. The NPPF acts as guidance for local planning authorities and decision makers for drawing up plans and making decisions on planning applications. The NPPF does not contain specific policies for waste, as the national waste policy will be published as part of the National Waste Management Plan for England. However, the NPPF states that the Waste Planning Policy Statement will remain in place until the National Waste Management Plan is published.

Planning Policy Statement 10: Planning for Sustainable Waste Management (2011)

3.2.5. This statement recognises that waste management is fundamental to the delivery of sustainable communities. Planning for sustainable waste management requires integration with other areas of spatial planning. Waste should not be considered in isolation from other planning concerns.

3.2.6. The PPS10 states that:

3.2.7. 'In determining planning applications, all planning authorities should, where relevant, consider the likely impact of proposed, non-waste related, development on existing waste management facilities, and on sites and areas allocated for waste management. Where proposals would prejudice the implementation of the waste strategy in the development plan, consideration should be given to how they could be amended to make them acceptable or, where this is not practicable, to refusing planning permission.'

3.2.8. It also states that proposed new development should be supported by a site waste management plan and that good building design and layout of facilities can help to secure opportunities for sustainable waste management, including for kerbside collection and community recycling. New development should make sufficient provision for waste management and incorporate designs and layouts that secure the integration of waste management facilities without adverse impact on the street scene.

Consultation on the Updated National Waste Planning Policy: Planning for Sustainable Waste Management

3.2.9. A consultation on the updated National Waste Planning Policy[2], which aims to replace the current PPS10, was carried out in 2013. The consultation draft outlines a number of policy objectives to be reflected in local plans and provides guidance for determining planning applications. The draft policy states that when determining planning applications, all planning authorities should ensure that:

- *'New, non-waste development makes sufficient provision for waste management and promotes good design to secure the integration of waste management facilities with*

[2] DCLG (2013) Updated National Waste Planning Policy https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/225581/Updated_national_waste_planning_policy_-_Planning_for_sustainable_waste_management_-_Consultation.pdf [Accessed 23th January 2014]

the rest of the development, including provision of waste storage facilities at residential premises to facilitate a high quality household collection service, and, in less developed areas, with the local landscape;

- *The handling of waste arising from the construction and operation of development is handled to maximise reuse/recovery opportunities, and minimise off-site disposal.'*

Waste Management Plan for England (2013)

3.2.10. Defra published a new Waste Management Plan for England in December 2013. The plan provides an analysis of the current waste management situation in England and fulfils the requirements set under Article 28 of the revised Waste Framework Directive and Schedule 1 of Waste Regulations 2011. The plan does not introduce any new policies but aims to collate all current waste management policies into one national plan.

3.3. Regional Level

The Spatial Development Strategy for Greater London (The London Plan) (2009)

3.3.1. The London Plan outlines the overall strategy for London for the next 20 to 25 years.

3.3.2. Policy 5.16 of the London Plan on 'Waste Self-Sufficiency' sets the following aims for the management of waste in London:

- *'Managing as much of London's waste within its boundaries as practicable, while working towards managing the equivalent of 100% of London's waste within London by 2031;*
- *Creating positive environmental and economic impacts from waste processing; and*
- *Working towards zero biodegradable or recyclable waste to landfill by 2031.'*

3.3.3. For achieving these aims, Policy 5.16 sets a number of objectives and targets, including but not limited to the following:

- *'Minimising waste;*
- *Encouraging the reuse and reduction in the use of materials;*
- *Exceeding recycling/composting levels in municipal solid waste (MSW) of 45 per cent by 2015, 50 per cent by 2020 and aspiring to achieve 60 per cent by 2031;*
- *Exceeding recycling and reuse levels in construction, excavation and demolition (CE&D) waste of 95 per cent by 2020.'*

3.3.4. These targets are more challenging than the legal requirements set under the Waste Regulations 2011, described above.

3.3.5. Policy 5.17 'Waste Capacity' states that suitable waste and recycling storage facilities are required in all new developments.

London's Wasted Resource: The Mayor's Municipal Waste Management Strategy (2011)

3.3.6. The strategy outlines policies and proposals for reducing the amount of municipal waste, increasing the amount of waste reused, recycled or composted, and generating low carbon energy from the remaining waste. In addition, the strategy aims to stimulate the development of new municipal waste management infrastructure.

3.4. Local Level

North London Joint Waste Strategy (NLJWS) 2004-2020

3.4.1. This strategy provides the strategic framework for municipal waste management in seven boroughs in North London, including Camden, for the period 2004-2020. The NLJWS outlines options available for managing waste, identifies the best option for North London and sets guidance for its implementation. In addition, NLJWS outlines targets for reducing, reusing and recovering waste and for decreasing the amount of waste sent to landfill and emphasises the importance of partnership working.

North London Joint Waste Plan

3.4.2. The North London Joint Waste Plan is currently under development and is due for adoption in 2016. The Plan will outline a framework for the management of waste from seven North London boroughs, including Camden, up to 2027. The plan will identify sites for waste management use and set policies for determining waste planning applications.

Camden's Core Strategy 2010

3.4.3. Camden Council's local policy for waste management is set out within the Core Strategy Policy CS18 'Dealing with our waste and encouraging recycling'. The policy states that the council will seek to make Camden a low waste borough by aiming to reduce the amount of waste produced and to increase recycling and the re-use of materials to 40% of household waste recycled by 2010, 45% by 2015 and 50% by 2020. In addition, policy CS18 states that the Camden Council will ensure that developments include facilities for the storage and collection of waste and recycling.

3.4.4. Thus, the policy implements the targets set under the Waste Regulations 2011 for household waste recycling and re-use.

Camden Planning Guidance (CPG) 2013

3.4.5. Section 10 'Waste Recycling and Storage' in the CPG1 Design outlines requirements for the design of waste recycling and storage facilities in developments. In principle, CPG1 states that planning for waste recycling and storage should ensure that:

- There is adequate space for the storage of waste and recyclables;
- Waste is stored in a safe location which is accessible for all users and collectors and minimises nuisance, e.g. noise, obstruction, odours, pests, etc.;
- Developments allow refuse collection by any waste contractor;
- Containers have designated storage areas; and
- Storage areas are sensitively designed/ located.

3.4.6. Moreover, Section 10 of CPG1 provides detailed guidance on the space requirements for both internal and external storage features and a summary of locational requirements for refuse stores.

4. CURRENT STATE OF WASTE MANAGEMENT

4.1. Municipal Waste Management in Camden

4.1.1. Household waste is collected by Camden Council twice a week in partnership with Veolia Environmental Services and passed onto NWLA for disposal. Household waste is either sent for recycling, reuse, composting, incineration or to landfill.

4.1.2. Table 4.1 summarises Camden's municipal waste data for 2010-2013 published by Defra and NWLA.

Table 4.1: Camden's household waste recycling rates[3,4]

	2010/11	2011/12	2012/13
Population[3]	231,725	235,400	221,316
Dwelling stock[3]	102,634	103,070	103,560
Total amount of household waste collected by local authority (t) [4]	76,518	76,266	68,900
Total amount of household waste not sent for recycling (t) [4]	51,827	51,082	47,551
Total amount of household waste sent for re-use, recycling and composting (t)[4]	24,691	25,184	21,349
Total amount of household waste sent for re-use, recycling and composting per household (kg) [4]	240	244	206
Recycling rate by weight	32%	33%	31%

4.1.3. As can be evidenced from Table 4.1, the total amount of waste collected from households in Camden has decreased between 2010 and 2013. This can be explained by the decrease in population which in turn, has been attributed to the rise in housing costs.[3]

4.1.4. In 2012/13, Camden collected around 68,900 tonnes of household waste, meaning on average, each household threw away over 665kg of waste. Out of this, approximately 31% (approx. 206kg per household) was sent for re-use, recycling and composting.

4.1.5. Compared to previous years, there has been a slight decrease in the recycling rate (the rate was 32% in 2010/11 and 33% in 2011/12). The decrease is thought to be due to a reduction in the weight of packaging that manufacturers now use, which means that a lower weight is being separated for recycling. Thus, although the recycling rate has slightly fallen, the data are considered to demonstrate no real change in the proportion of waste sent for recycling over the past three years.

[3] NLWA (2013) North London Joint Waste Strategy Annual Monitoring Report 2012/13. http://www.nlwa.gov.uk/docs/nlwa-general-documents-and-plans/annual-monitoring-report-2013-final.pdf [Accessed 23th January 2014]
[4] Defra (2013) ENV18 - Local authority collected waste: annual results tables https://www.gov.uk/government/statistical-data-sets/env18-local-authority-collected-waste-annual-results-tables [Accessed 24th January]

4.1.6. The data also demonstrate that Camden has not met its target to increase the recycling and re-use rate of household waste to 40% by 2010 and, unless improvements in recycling efforts are made in the next two years, is not currently on track for meeting its target of recycling 45% of municipal waste by 2015.

4.2. Waste Collection Services in Camden

4.2.1. Camden Council provides a number of waste management services for households including:

- Door step rubbish collection for residential properties;
- Door step recycling services, including for paper, glass, plastic, aluminium, food waste and garden waste;
- On-street recycling services, including bottle banks, large communal recycling bins and smaller single recycling bins;
- Street cleansing, including graffiti removal, gritting streets in icy conditions, removal of abandoned vehicles and collection of cars for free disposal, removal of fly-tip, dead animals in the street, clinical waste (e.g. needles, syringes, injecting equipment, etc.);
- Organisation of waste clearances of bulky items and the collection of cookers and fridges from domestic premises;
- Free door step collection of furniture in good condition that is suitable for reuse;
- Educational materials for recycling and composting at home.

4.2.2. Information on these services is readily available on Camden Council's website at: www.camden.gov.uk/recycling.

4.2.3. In addition, Camden Council operates a one stop recycling and reuse centre at Regis Road in Kentish Town, approximately 300m from Kiln Place estate. The centre accepts all household waste, apart from asbestos and other hazardous materials. Bags of compost are available for buying from the centre. Under the terms of their Environmental Permit, the recycling and reuse centre does not accept any form of trade or business waste.

4.3. Waste Collection at the Site

4.3.1. Waste collection at Kiln Place estate is undertaken every Tuesday and Thursday from 7am – 1.30pm. The site has its own recycling point in-situ. All recycling, including paper, glass, plastic, aluminium and food waste, and general household waste is collected on the same day.

5. WASTE SURVEY RESULTS

5.1. Bin Locations and Types

5.1.1. Nine waste storage areas were identified during the site visit, out of which four were located in internal refuse stores and five were located outdoors immediately adjacent to buildings. All of the storage areas are easily accessible via road. The locations of existing waste storage areas at the site are shown in Figure 2.1.

5.1.2. Each location had varying numbers and types of bins. Table 5.1 below sets out the different bin types identified on site and the total counts of each, for each of the respective nine locations.

5.1.3. As summarised in Table 5.1, in total the waste storage areas at Kiln Place include general waste bins (20 Continental Trade 1,100l bins and one green 240l wheelie bin), mixed recycling (13 Continental Trade 1,280l bins) and food waste bins (3 Continental 500l bins). Hence, the total waste storage capacity of the site is 40.38m^3, out of which 55% is allocated for general waste and 45% is for recyclables (mixed recycling and food waste).

5.1.4. This is slightly below the recommendation outlined in BS 5906:2005 Waste Management in Buildings which suggest that the storage area to be allocated for recyclable waste should ideally be 50% by volume.

Table 5.1: Bin type count by location

Waste Location	Description	Bin Type Count			
		Continental Trade (general household waste, 1,100l)	Continental 1280 Recycling (mixed recycling, 1,280l)	Continental 500 Recycling (food waste, 500l)	Wheelie Bin (general household waste, 240l)
1	Located outdoors, to the north west of the Site, next to the building named the 'Shack'. Assumed to collect waste from 'Shack' only.	0	0	0	1
2	Located outdoors, to the north east of the site on Lamble Street. Assumed to be mainly used by the residents of 117-164 Kiln Place.	0	3	1	0
3	Internal refuse store to the north east of the Site at 117-164 Kiln Place. Assumed to be mainly used by the residents of 117-164 Kiln Place.	3	0	0	0
4	Internal refuse store to the east of the Site on the corner of 81-96 and 65-80 Kiln Place. Assumed to be mainly used by the residents of 81-96 and 65-80 Kiln Place.	2	5	1	0
5	Internal refuse store to the south east of the Site on the corner of 1-64 Kiln Place. Assumed to be mainly used by the residents of 1-64 and 65-80 Kiln Place.	4	0	0	0
6	Located outdoors, to the south of the Site opposite the playground. Assumed to be mainly used by 97-116 and 1-64 Kiln Place	0	5	1	0

Waste Location	Description	Bin Type Count			
	residents.				
7	Located within an open refuse store to the south west of the Site. Assumed to be mainly used by 97-116 and 1-64 Kiln Place residents.	5	0	0	0
8	Internal refuse store to the south west of the Site on the corner of 105-116 and 97-104 Kiln Place. Assumed to be mainly used by 97-116 and 1-64 Kiln Place residents.	3	0	0	0
9	Internal refuse store to the north west of the Site on the corner of 117-164 Kiln Place. Assumed to be mainly used by 117-164 Kiln Place residents.	3	0	0	0
Total Count		**20**	**13**	**3**	**1**

5.2. Waste Volume

5.2.1. As discussed under the methodology section, for each bin the volume of waste held at the time of the survey was estimated. Table 5.2 summarises the results and demonstrates the total level of utilisation of the bins at the site. A breakdown of volumes recorded at each waste storage area is provided in Appendix B.

Table 5.2: Monitored waste volumes

Bin Type	Total Available Capacity (l)	Volume held (l)	Utilisation Level (%)
General waste (Continental Trade)	22,000	18,975	86
General waste (Wheelie Bin)	240	180	75
Total for general waste	**22,240**	**19,155**	**86.12**
Mixed Recycling (Continental 1280)	16,640	8,320	50
Food waste (Continental 500)	1,500	1,125	75
Total for recyclables	**18,140**	**9,445**	**52**
Total for site	**40,380**	**28,600**	**71**

5.2.2. It can be seen from the table above that no bin type is fully utilised; there is capacity within each type. The general waste bins have the highest utilisation rate at 86% in total, while the mixed recycling bins have the lowest at 50%. The site generated over twice as much general waste compared to recyclables, as can be evidenced from the high utilisation rate and the highest number of bins at the site.

5.2.3. It is also worth noting that there were no bin bags left lying around the waste storage areas. The majority of the waste had been deposited inside the bins. This would have been partly due to the tenant signs which tried to encourage the residents to do so (please see Appendix B). On the other hand, the majority of the waste storage areas had sufficient capacity left inside the bins, as none of the bins were overflowing, although some were near full capacity.

6. EVALUATION

6.1. Bin Locations

6.1.1. As previously mentioned the nine waste storage areas are generally spread out around the site and are easily accessible via road for waste collectors. In addition, the existing waste storage areas are well aerated, lit and do not immediately face any ground floor windows.

6.1.2. The Building Research Establishment's Environmental Assessment Method (BREEAM) for multi-residential buildings defines "accessible reach" of a waste storage area for residents as within 20m of a building entrance. According to BS 5906:2005, waste storage areas should be located within 30m of an entrance to a dwelling to limit the distance that an occupier would need to carry the waste. Figures 6.1 and 6.2 show 20m and 30m buffers from the surveyed waste storage areas respectively.

6.1.3. Table 6.1 summarises the percentages of building façades with dwelling entrances within the accessible reach of a waste storage area, as defined by both BREEAM and BS 5906:2005. This provides an indication of whether the existing waste storage locations are generally within an accessible reach to the residents of the estate.

6.1.4. On the basis of the 30m requirement, nearly all of the building entrances are within an accessible reach of the existing waste storage areas, while only 63% are within 20m.

6.1.5. However, only 49% of façades with entrances are within a 30m radius of recycling collection points (26% within a 20m radius). This suggests that the existing locations of recycling collection points are likely to be somewhat distant to some residents and if these were re-located to an optimum reach for a higher number of residents, the recycling rates from the site might be improved due to increased convenience.

Table 6.1: Façades with entrances within the optimum distance from waste collection points

	Percentage of building facades with entrances	
	Within 20m	Within 30m
Any waste collection point	63%	97%
General waste and recycling collection points	22%	45%
General waste collection points only	37%	48%
Recycling collection points only	4%	4%

6.1.6. For any future waste storage areas, it should be made sure that these are at reasonable distances from the residents and that these locations are easily accessible at any time of the day, specifically the locations of recycling collection points, so that recycling at the site could be encouraged.

6.2. Waste Volume

6.2.1. Currently, the total waste collection capacity of the site is considered to be sufficient for the present number of residents, as neither the general waste nor recycling bins were recorded to be exceeding their capacity. The current level of occupancy at the estate is unknown, however the estate comprises 164 residential units and assuming no overcrowding, can accommodate up to 421 people. Seventy-six per cent of the residential units are social housing and the remaining 24% are privately owned, indicating that the actual level of occupancy may exceed the total capacity of the estate, as overcrowding is more common in social housing.

6.2.2. Despite the fact that overall, the site had spare waste storage capacity, several individual waste storage areas were recorded to be full or near full. Presumably, this is caused by the fact that some of the sites serve a higher number of residents than others due to their location.

6.2.3. Table 6.2 summarises the utilisation level of each of the waste storage areas and estimates the number of households served by each collection point, on the basis of their distance from building entrances (refer to Table 5.1 for the buildings assumed to be served by each collection point).

6.2.4. Waste storage locations 7 and 8 are the two bin locations which are the closest together and are assumed to serve the greatest number of households. Both of these locations comprised general waste bins only, which were all full at the time of the survey. Waste storage location 6 is assumed to cater for the recycling needs of the households in this part of the estate, with a 58% utilisation rate being relatively high for a recycling only facility within the site context.

6.2.5. Therefore, it can be assumed that these three locations cater to the most residents, meaning these areas need to be acutely considered within the design of the proposed development. In addition, as the proposed development will involve an increase in the number of residents, it should be made sure that the waste capacity is increased accordingly in order to avoid strain on waste facilities.

Table 6.2: Number of households served and utilisation level of each waste storage area

Site no.	Type	No. of bins	No. of households assumed to be served by the collection point*	Utilisation level	Volume of waste collected (l)
1	General waste	1	1	75% utilised	180
2	Recycling	4	48	50% utilised	2,170
3	General waste	3	24	67% utilised	2,200
4	General and recycling	8	32	60% utilised	5,455
5	General waste	4	32	56% utilised	2,475
6	Recycling	6	52	58% utilised	4,020
7	General waste	5	52	100% utilised	5,500

Site no.	Type	No. of bins	No. of households assumed to be served by the collection point*	Utilisation level	Volume of waste collected (l)
8	General waste	3	52	100% utilised	3,300
9	General waste	3	24	100% utilised	3,300

* The number of households in this column does not add up to the total number of residential units, due to double counting where several waste collection points are at equal distance from building entrances.

7. CONCLUSIONS AND RECOMMENDATIONS

7.1. Conclusions

7.1.1. This report summarises the existing refuse and recycling use and capacity of the Kiln Place estate and identifies a number of matters with regard to waste management that would need to be addressed during the development of the site.

7.1.2. In summary, Camden Council has a number of challenging recycling targets to meet within the coming years, including increasing the recycling rate of household waste to 45% by 2015 and to 50% by 2020, as outlined in the Core Strategy. The latter target is also a legal obligation under the Waste Regulations 2011 (as amended). The current recycling rate across the borough is 31% and thus, improvements in recycling are required to meet the set targets.

7.1.3. Kiln Place estate has currently nine waste storage areas located across the site in either internal refuse stores or in open air. The storage areas collect mixed recycling, food waste and general municipal waste. Camden Council organises waste collection from the estate twice a week. The total waste storage capacity of the site is 40.38m^3, out of which 55% is allocated for general waste and 45% is for recyclables (mixed recycling and food waste). This is slightly below the BS 5906:2005 recommendations, which suggest that 50% of waste collection capacity is allocated for recycling at a residential site.

7.1.4. At the time of the survey, the recorded utilisation rate of general waste bins was 86% while the utilisation rate of recycling bins was 52% by volume. This equated to 19.15 m^3 of general waste and 9.45 m^3 of recyclables having been stored since the last collection by the council five days prior to the survey. The results indicated that overall, there is spare capacity for waste storage at the site. Assuming a maximum occupancy of the estate with no overcrowding, the current waste generation could be attributed to 421 residents.

7.1.5. In general, the nine waste storage areas were spread out around the site and easily accessible via road for waste collectors. The storage areas were well aerated, lit and did not immediately face any ground floor windows. Approximately 97% of building facades with dwelling entrances were within 30m of a waste storage area, however only 49% were within 30m radius of recycling collection points. This suggested that improvements in the locations of recycling collection points could be made, which could encourage recycling as a result of increased convenience.

7.1.6. Despite the spare capacity for waste storage overall, a number of waste collection points were recorded to be more heavily utilised than others, due to their proximity to a higher number of residential units. Storage sites 6, 7 and 8 as shown on Figure 2.1 were assumed to be the most heavily utilised.

7.2. Recommendations

7.2.1. Plans for the development of the Kiln Place estate would need to ensure that the existing waste storage capacity on the site is maintained and/ or the storage capacity for recycling is increased to meet the 50% requirement of BS 5906:2005. For example, this would be the equivalent of replacing two general waste bins with mixed recycling at the

site. The waste capacity of the site should also cater for the future increase in the number of residents.

7.2.2. Waste storage areas should be located in a convenient location for both residents and waste collectors. Specific emphasis should be given to the location of recycling collection points to maximise their use by the residents of the estate as a result of increased convenience. Waste storage areas should be well lit, not placed immediately opposite ground floor windows, and, not pose a fire hazard.

7.2.3. In addition to the waste storage areas remaining in convenient locations for the residents, it should be made sure that waste vehicle access is available for any temporary and permanent arrangements. Therefore, an auto-tracking exercise is recommended in order to determine the accessibility for waste collection.

7.2.4. It is recommended that further consultation with Camden Street Environment Services is carried out in order to determine the best means of waste storage and collection for the development. Specific design and locational requirements are also set out in Camden Planning Guidance 2013 and BS5906:2005 Waste Management in Buildings.

7.2.5. These recommendations should be considered for the development of design solutions for Stage D and the planning submission.

7.2.6. Prior to the planning submission, a Phase II Waste Assessment will be carried out for the site, comprising the following:

- Temporary Refuse Strategy up to 2017, outlining an interim waste strategy before an underground SULO system is introduced;
- Permanent Refuse Strategy, outlining a waste strategy once the SULO system is operational.

7.2.7. Overall, the waste strategies would need to be in line with the proposed development to ensure that waste does not have a negative impact on the environment or the site setting.

8. FIGURES

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Legend

- Site Boundary
- Listed Building
- Metropolitan Open Land
- Conservation Area
- Strategic Landmark Viewing Corridor

Project Title

Kiln Place, Camden

Figure Title

Environmental Constraints

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Date	Prepared By
16/09/2013	CS
Figure No. Figure 1.1	Revision -

Reproduced from Peter Barber Architects Design & Access Statement

Client

Camden Council

Project Title

Kiln Place, Camden

Project Number

61031879

Figure Title

Proposed Development

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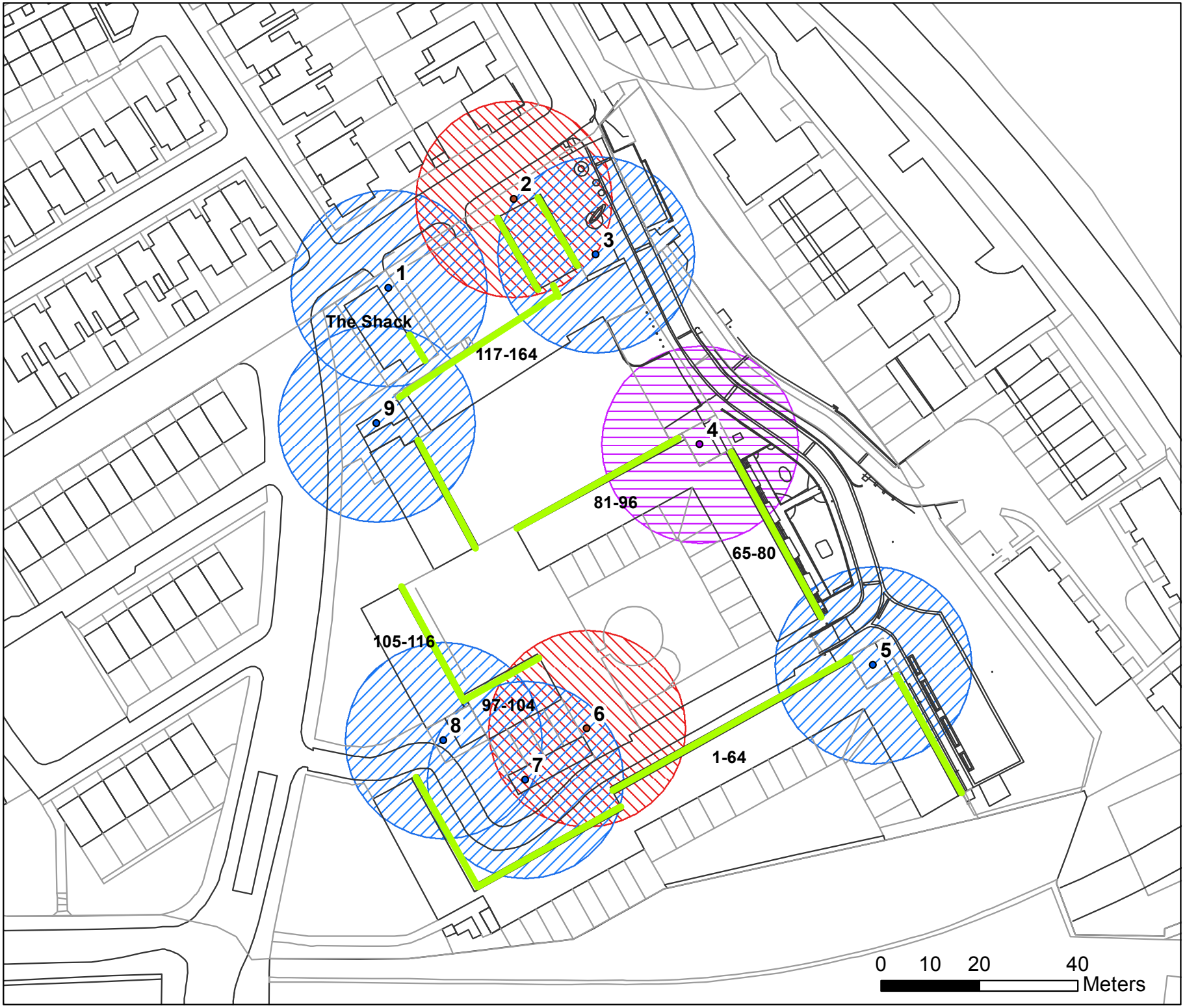
Date	Prepared By
06/10/2014	CS
Figure No.	**Revision**
1.2	-


01
02
03
04
05
06
07
08
09
Lamble St
Grafton Rd
Meru Close
Kiln Pl
Waste Survey Locations



Key

Indicative Building Entrances

Waste Collection Points

- General & recycling
- General waste
- Recycling

20m Buffer from Collection Points

- General & recycling
- General waste
- Recycling

N

Client

Camden Council

Project Title

Kiln Place, Camden

Project Number

61031879

Figure Title

Waste Assessment with 20m Buffer

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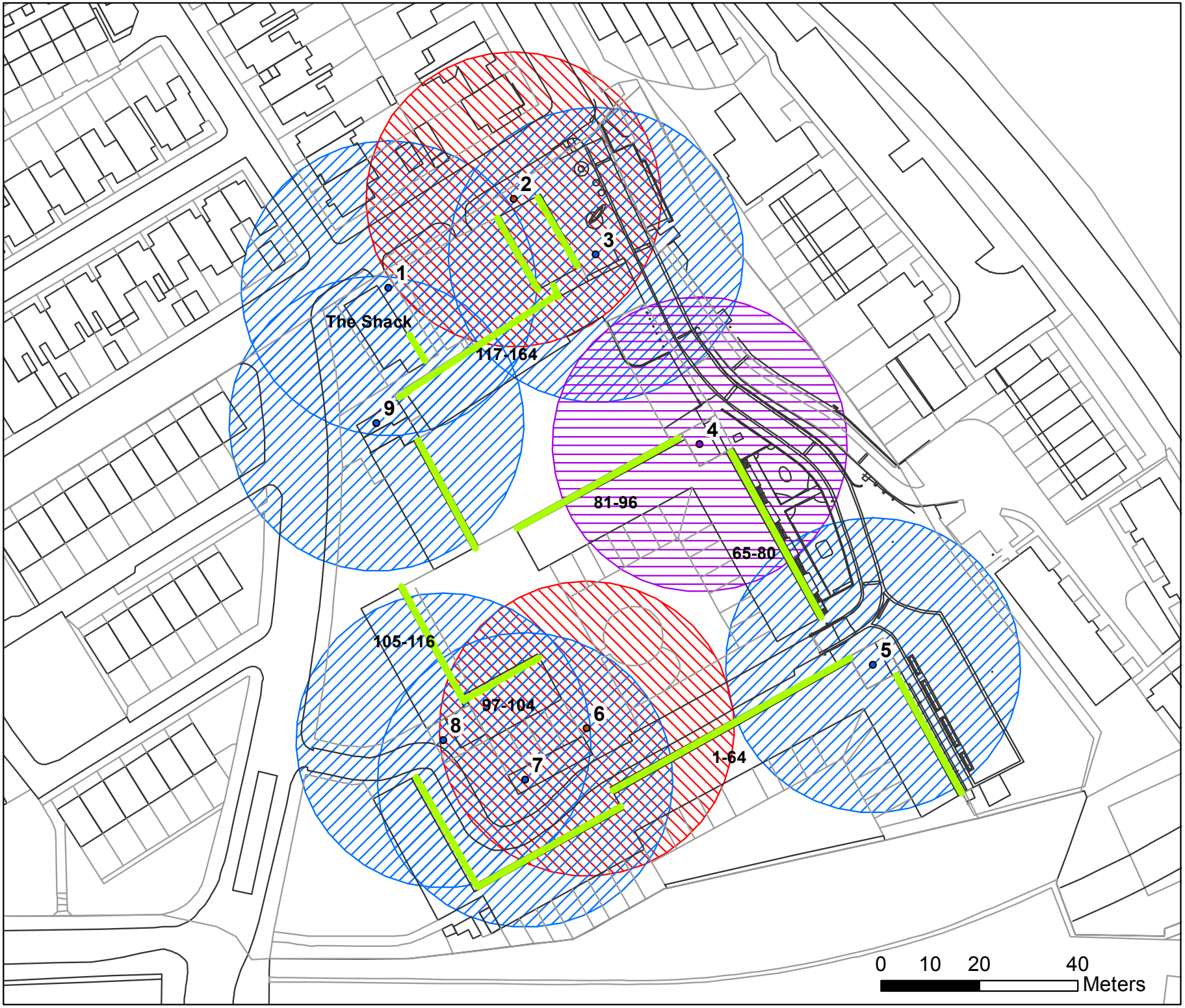
Date	Prepared By
24/01/14	AT
Figure No.	**Revision**
6.1	-



Key

Indicative Building Entrances

Waste Collection Points

- General & recycling
- General waste
- Recycling

30m Buffer from Collection Points

- General & recycling
- General waste
- Recycling

N

Client

Camden Council

Project Title

Kiln Place, Camden

Project Number

61031879

Figure Title

Waste Assessment with 30m Buffer

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Date	Prepared By
27/01/14	AT
Figure No.	**Revision**
6.2	-

9. APPENDICES

APPENDIX A CAMDEN COUNCIL CONSULTATION RECORD

APPENDIX B WASTE SURVEY RESULTS

RECORD OF VERBAL COMMUNICATION

job title	**Camden Development Sites – Kiln Place**	job no.	**61031879**
date	**13.01.2014**	file ref.	
to	**Environmental Services**	by	**C Shields**
company	**Camden Council (CC)**	circulation	**A Tishler**
tel no.	**020 7974 4444**		

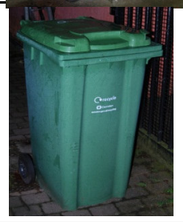
Record of Communication	action
CS contacted CC's Environmental Services Department regarding information on waste collection the Site. CS explained that a waste assessment was to be carried out at the Site. Even though the collection days were on the website (Tuesday and Thursday), there was no indication of the time the refuse vehicles would pick up the rubbish. The assessment was dependant on the waste being present; therefore confirmation of the collection times was requested. The Environmental Services explained that for the Site collection times were between 7am to 1.30pm. However, they could not make a specific indication of the exact time for the Site. In addition, the Environmental Services explained that the refuse vehicles collected both municipal and recycling waste on both Tuesday and Thursday; collection is not separate. EOR	CS and AT to carry out waste assessment at the Site arriving at 6.30am, in order to be there before the refuse vehicles arrive to pick up the waste.

Appendix B Waste Survey Results

Date: 14/01/2014
Site: Kiln Place, Camden
Job number: 61031879
Surveyors: C. Shields, A. Tishler

Site no.	Continental Trade 1,100l (general waste)	Total Volume (l)	% utilised	Volume utilised	Continental 1,280l (mixed recycling)	Total Volume (l)	% utilised	Volume utilised	Continental 500l (food waste)	Total Volume (l)	% utilised	Volume utilised	Wheelie Bin (240l)	Total Volume (l)	% utilised	Volume utilised
1	0	0	0.00%	0	0	0	0.00%	0	0	0	0.00%	0	1	240	75.00%	180
2	0	0	0.00%	0	3	3840	50.00%	1920	1	500	50.00%	250	0	0	0.00%	0
3	3	3300	66.67%	2200	0	0	0.00%	0	0	0	0.00%	0	0	0	0.00%	0
4	2	2200	100.00%	2200	5	6400	45.00%	2880	1	500	75.00%	375	0	0	0.00%	0
5	4	4400	56.25%	2475	0	0	0.00%	0	0	0	0.00%	0	0	0	0.00%	0
6	0	0	0.00%	0	5	6400	55.00%	3520	1	500	100.00%	500	0	0	0.00%	0
7	5	5500	100.00%	5500	0	0	0.00%	0	0	0	0.00%	0	0	0	0.00%	0
8	3	3300	100.00%	3300	0	0	0.00%	0	0	0	0.00%	0	0	0	0.00%	0
9	3	3300	100.00%	3300	0	0	0.00%	0	0	0	0.00%	0	0	0	0.00%	0
Total	**20**	**22000**	**n/a**	**18975**	**13**	**16640**	**n/a**	**8320**	**3**	**1500**	**n/a**	**1125**	**1**	**240**	**n/a**	**180**

Overall Utilisation

Bin Type	Utilisation (%)	Size (l)	Quantity	Capacity Utilisation (l)	Picture
Continental Trade	86.25	1100	20	18975	
Continental 1280 Recycling	50	1280	13	8320	
Continental 500 Recycling	75	500	3	1125	
Wheelie Bin	75	240	1	180	
Total	**71.5625**	**3120**	**37**	**28600**	

Notice on site: