

Sustainable Design and Construction Statement

Introduction

This statement outlines the potential implications of the proposed development on each of the Sustainable Design and Construction measures outlined within Policy 4A.3 of the London Plan.

Review Against Policy

1 “Make most effective use of land and existing buildings”.

The proposals involve the development of a brownfield site.

There were previously a small number of detached buildings on the site which supported the most recent mix of uses, including a British Telecom (BT) distribution warehouse, but these were in varying, but generally poor condition and were not suitable for use for / conversion to an IWMF. These premises have now been subject to demolition as part of a site remediation scheme approved by Southwark Council. The site has been identified by the Council as being suitable for the purpose of the proposed development and this forms part of the adopted Development Plan for the area.

The application area is part of a larger site which still holds some operational gas works. The application site was formerly mixed use with a number of varying businesses including a coach park and timber storage yard. It has been vacated following its compulsory purchase by Southwark Council, and has been identified as a 'Strategic Preferred Industrial Location' within the Southwark Plan (adopted July 2007) and is specifically identified as a 'Proposed Waste Management Site' on the Proposals Map within that Plan. The mixed use potential of the site will be maximised through the mix of waste uses on the same site.

The surrounding uses are predominantly industrial as described in detail in Chapter 2 of the Environmental Statement. As such the site can be considered compatible with the majority of land uses surrounding it.

Within a sustainable waste management context, the site brings together complementary activities under one roof within the Integrated Waste Management Facility (Mechanical Biological Treatment, Waste Transfer Station, Material Recycling Facility and a Household Waste Re-use and Recycling Centre), maximising the efficiency of waste collection and sorting. This is accompanied by a Resources Centre / Office Building and a Vehicle Maintenance Workshop for the collection vehicles which are linked to the delivery of waste and recyclables to the IWMF. The site represents the only identified opportunity within the Borough where sufficient land is available to accommodate such a development.

2 “Reduce carbon dioxide and other emissions that contribute to climate change”.

The development proposes to deliver major emissions reductions through funding a new community heating system that utilises the unused heat recovery from the nearby South East London Combined Heat and Power (SELCHP) facility to supply some of the existing housing estates in Southwark

and to the north of SELCHP.

In addition by processing residual waste within the MBT element of the IWMF, and then feeding some or all of the MBT outputs to an Energy Recovery Facility such as SELCHP, there are significant carbon (CO₂) benefits when compared with a base model that shows all waste being disposed of to landfill.

3 “Design new buildings for flexible use throughout their lifetime”.

The building has been designed solely for the purpose of the intended use as a waste management facility and with considerable investment in the operational plant, there is limited scope for change to meet the needs of non-waste related uses, although flexibility to cater for changes in waste streams and associated plant components into the future have been included. There is however, considerable flexibility in the internal arrangement of the Resources Centre, as an administration/amenity focal point, plus the main buildings have large clear structural spans and could conceivably be used for manufacture or storage (subject to planning), in the very unlikely event that the waste facility was no longer required.

4 “Avoid internal overheating and excessive heat generation”.

The ventilation system within the proposed IWMF is appropriate for the uses which are accommodated and although the IWMF represents development on a scale larger than the site has previously experienced, the utilisation of waste heat from SELCHP (as described in the variant energy strategy proposed as part of this development) would assist in reducing the heat island effect in the locality by removing the heat generation capacity associated with housing as identified in the Energy Strategy.

The Resources Centre has extensive Bris Soleil, providing passive control from solar gain, from the south, east and west orientations, with additional adjustable louvres, controlling the full height glass corner, associated with the double height exhibition area.

5. “Make most effective and sustainable use of water, aggregates and other resources”.

Water meter(s) for the mains water supply will be incorporated as appropriate, plus the provision for water recycling within the MBT and greywater recycling for toilet flushing in the Resources Centre and vehicle wash. It is also proposed to use greywater for the washing of HGVs delivering waste to the IWMF, plus mobile heavy plant e.g. bucket loaders.

Sanitary fittings will be specified to reduce consumption where practicable.

As referred to under item 20 below, Veolia is committed to the Protocol for Resource Efficiency in Construction, whereby the contractor will aim to re-use materials, where practical in the construction period.

6 “Minimise energy use, including by passive solar design, natural ventilation, and vegetation on buildings”.

The main building is of very deep plan with no glazed openings in the external

walls, and therefore with no requirement for solar control. Similarly, the ventilation system is designed for its appropriate waste related uses and natural ventilation is not therefore an option.

The Resources Centre, as a showcase building within the site, incorporates a range of sustainable features, including a proprietary 'extensive' sedum mat 'Green Roof', set in the context of cedar clad facades. The perimeter overhang of the colonnaded roof, plus passive solar control aerofoil blades, offset at high level from the face of the building, provides significant solar shading to office windows at first floor level, with additional localised solar control to the full height windows on to the presentation suite and depot office at ground floor level. Opening vents, utilising a passive, natural ventilation system, to the perimeter offices at first floor level, and a contribution to mixed mode fresh air supply, with high level perimeter vents, to the changing rooms and shower facilities in part of the accommodation at ground floor level. The building fabric will be designed with high thermal insulation and thermal mass, so as to maintain consistent environmental conditions. *Air to air heat pumps in place of boilers* for space heating in the Resources Centre, as a low carbon technology, will further reduce energy demand.

7 “Supply energy efficiently and incorporate decentralised energy systems (Policy 4A.6), and use renewable energy where feasible (Policy 4A.7)”.

Energy efficiency has been incorporated through the specification of energy efficient building services, where possible and practicable, including energy efficient lighting throughout the development and heat pumps within the Resources Centre.

The need for heating and cooling systems, as specifically required within the Resources Centre, has been reduced as far as possible, with the introduction of extensive solar control, thermal mass, green roof and passive ventilation to the majority of the building accommodation.

The proposed installation of a series of roof mounted PV Cells will contribute renewable energy to the Resources Centre.

8 “Minimise light lost to the sky, particularly from street lights”.

Outdoor lighting will be energy efficient and controlled for the presence of daylight. Lighting will also be designed so as to ensure that light sources are shrouded in order to minimise light pollution and impacts on sensitive receptors. Full details and specification will be agreed with the Local Planning Authority prior to installation. The external lighting strategy at present does not include solar powered lights and any further consideration of this issue would need to take account of Health and Safety requirements.

9 “Procure materials sustainably using local suppliers wherever possible”

This is not normally a commitment which would be made until a post planning stage. However, where this is economically and commercially viable this will be considered as part of the materials procurement strategy.

10 “Ensure designs make the most of natural systems both within and around the building”

The main IWMF operational building makes use of natural systems where practical and feasible. The nature of the development requires a controlled environment within the majority of the IWMF facility in order that dust and odours are controlled and as such natural ventilation is not suitable for large parts of the development.

For the Resources Centre, which will accommodate offices, staff and visitors facilities, sunlight penetration will be maximised, however, direct sunlight penetration will be minimised. The building will also have roof mounted PV cells as part of the variant energy strategy. The design attempts not to compromise winter sun. The ecology of the site has been assessed as part of the Environmental Impact Assessment and appropriate improvements employed including a number of additions to the range of floral species present and provision for stag beetles, house sparrows, and bats.

11 “Reduce air and water pollution”.

The proposed development is predicted to be compliant with BREEAM credit P08 'Minimising Watercourse Pollution'. A hydrology and flood risk assessment has been completed as part of the Environmental Impact Assessment process and proposes a number of prevention and mitigation measures including interceptors, bunding, storage and treatment areas, and management processes. The principal conclusion of the assessment is that no degradation of the surface water features can reasonably be expected to occur.

An air quality assessment has been undertaken as part of the Environmental Impact Assessment process. The main potential health pollutant is bioaerosols from the waste sorting process and the impact of emissions from traffic. Appropriate mitigation measures are in place for bioaerosols which include the total enclosure of relevant buildings with automatically closing doors. The MBT element of the IWMF will include extraction systems to maintain negative pressure inside the building which prevents uncontrolled egress of odour and bioaerosols, and extracted air being passed through an acidic scrubber and an enclosed biofilter which significantly reduce bioaerosols in the air. This has been designed to meet the requirements of the Environment Agency and will be maintained in accordance with the provisions of the sites Environmental Permit. Appropriate mitigation measures have been recommended for both construction and operational traffic emissions and the assessment concludes that the potential air quality impact from the proposed development on the surroundings is not significant.

12 “Manage flood risk, including through sustainable drainage systems (SUDS) and flood resilient design for infrastructure and property”.

A flood risk assessment has been undertaken as part of the Environmental Impact Assessment process and a strategic flood risk assessment has been undertaken for the Southwark Borough. The study indicates that the development site is protected by the River Thames flood defenses for design events up to and including the 1000 year flood event. However, in the unlikely event that a breach of the defenses does occur, the development vulnerability is considered as being 'less vulnerable' with no habitable components. The development has been shown, through this assessment, to satisfy the Veolia

ES Southwark IWMF – Sustainability Appraisal Sequential and Exception Tests as outlined in PPS25 and development at this location is considered satisfactory. The modeling has included an appropriate allowance for the effect of climate change on flooding patterns within the area.

13 “Ensure developments are comfortable and secure for users”.

The proposals incorporate amenity landscape areas, for staff and visitors, adjacent to and linked by footways along the Green Corridor access up to the Resources Centre. The footway will allow easy and safe pedestrian movement within a site with generally low traffic flows, albeit predominantly by goods vehicles.

Provisions for HGV, car, pedestrian, cycle and bus/coach access have all been accommodated within the design, with appropriate measures to protect any traffic conflicts together with specific needs for disabled access and use and on going compliance with all health and safety requirements.

The site will be staffed to assist elderly, infirm or disabled members of the public. The Resources Centre will be fully accessible for disabled users and will incorporate provisions that fully meet building regulations and other legislative requirements for disabled access.

A dedicated CCTV security system will be provided which is to include the following; site perimeter detection with sensors, day/night CCTV cameras with PIR sensors and IR floodlights, and internal cameras in the MBT Facility / Transfer Station and the MRF Facility. The development is anticipated to meet BREEAM Credit HW5 'Internal and External Lighting Levels'. The development is designed to meet the objectives of Secured by Design

14 “Conserve and enhance the natural environment, particularly in relation to biodiversity, and enable easy access to open spaces”.

There will be considerable ecological enhancement of the value of the site, including planting of native species trees, shrubs and wildflowers.

Measures will be incorporated to encourage bats and stag beetles (despite there being no previous evidence). Bird boxes are also to be provided, which are anticipated to significantly increase the potential for house sparrows, as noted in the ecology chapter of the ES.

There is currently no formalised access to nature at the development site and therefore no loss of this aspect resulting from the development.

The site is identified as being in an area deficient in access to nature by the London Borough of Southwark. As described in the ecological chapter of the Environmental Statement and the Sustainability Appraisal a number of ecological enhancements are being undertaken as part of the proposals. There is no public access to the site at present and public access will be increased as part of the proposals in that the site will be brought into a use where the public will use the IWMF facilities. Direct access to the ecological enhancements on site, is, however, a potential security and public risk issue. Visitors will have access to the Resources Centre which may act as a tool to impart knowledge about the ecology on site. Any further access is a management issue which cannot be determined fully at this stage but which in any extent needs to be

restricted / managed to prevent damage to these areas or risk to the health and safety of the public.

15 “Avoid creation of adverse local climatic conditions”.

The development is not anticipated to generate adverse local climatic conditions. The impact of the ecological enhancement measures will, given time to mature, potentially have a beneficial effect on local climatic conditions including the following; provision of shelter from wind, and the provision of shade. There are no structures proposed as part of the new development which are likely to result in local wind / turbulence at ground level. The emissions control installations have been designed so as to ensure that local climatic conditions are not adversely affected.

16 “Promote sustainable waste behaviour in new and existing developments, including support for local integrated recycling schemes, CHP and CCHP schemes and other treatment options”.

The development will act as a crucial hub for sustainable waste management within Southwark. The development maximises its efficiency through the co-location of collection and sorting of waste, the optimisation of recycling and recovery. The IWWMF forms an important part of the waste hierarchy at its relevant point of intervention. The development aims to divert as much waste away from landfill as possible. Waste could be seen as the principal 'currency' of the development, at each stage its value is maximised as it separated and sorted for use within further markets.

Recyclable materials generated from a variety of collection schemes within Southwark will be processed within the proposed Materials Recycling Facility (MRF), allowing the sorting of material for onward transport to appropriate markets for recycling or other material reuse.

The HWRRRC will enable members of the public to deliver and deposit a wide variety of materials and items prior to transfer off-site to further recycling facilities, composting sites, recovery or other appropriate facilities.

The residual waste, that remains after the recycling collections and reuse schemes provided, is delivered by various waste collection and street cleansing vehicles to the MBT facility. The residues from the MBT process or Refuse Derived Fuel (also known as Solid Recovered Fuel) is sent to the nearby SELCHP facility in New Cross, Lewisham. The use of this fuel at a nearby location supports the proximity principle.

Residents of Southwark currently produce around 139,000 tonnes of waste each year, managed by Veolia via the PFI waste management contract. Although waste growth per head is slowing there is still anticipated to be an increase in the volume of waste to 160,000 tonnes in the next five years. The existing waste management facility at Manor Place is not suitable or adequate to deal with the key targets as identified by the Southwark Waste Management Strategy. The key targets are summarised in Chapter 1 of the Environmental Statement but include targets for minimising waste growth, recycling and composting and recovering value from waste. The proposed development is the preferred solution for creating an IWWMF which has the overriding imperative of supporting Southwark Council in achieving these targets.

The development is to be co-located with a Resources Centre which will be a focus for visitors to learn about the facility and the processes which it houses. It will also provide a useful resource for disseminating information about current and future sustainable waste management initiatives. The integrated nature of the development helps the public identify the steps which are taken to raise the treatment of waste up the waste hierarchy.

17 “Encourage major developments to incorporate living roofs and walls where feasible (Policy 4A.11)”.

The use of green roofs has been evaluated for the development. As a result, the provision of a proprietary ‘extensive’ sedum green roof on the Resources Centre has been incorporated within the proposals.

Proposals for a green roof on the main building have been assessed, but since 45m clear structural spans are required, to accommodate the specific requirements and flexibility of the plant below, it has not been considered a sustainable solution, since even the lightest of Sedum Roof, that could be guaranteed to survive, without a permanent watering supply, would add a 40% additional load on the structural frame and foundations, throughout this building. The additional volume of steel and concrete, as well as the associated additional carbon emissions, required to support such a green roof, plus the potential for additional height of the building is not therefore considered justifiable.

18 “Reduce adverse noise impacts”.

A noise assessment has been undertaken as part of the Environmental Impact Assessment process, and updated in response to queries raised during consultation. The assessment includes adequate mitigation measures for both the construction and operational phases. The assessment is predicted to be compliant with BREEAM scheme credit P13 'Noise attenuation'. Both the ‘baseline’ and ‘with development’ scenarios take into account noise character such as traffic noise and operational noise. The overall conclusion of the assessment is that normal operation of the proposed development will not result in significant effects on the surrounding community.

The development itself is not a noise sensitive use, primarily due to its industrial and commercial nature. Existing activities surrounding the site are also predominantly industrial. However, the noise assessment has identified a number of potential sensitive receptors and assessed the impact upon these. The overall conclusion of the assessment is that normal operation of the proposed development will not result in significant effects on the surrounding community.

In addition to the measures outlined in the previous section, the following references address the additional issues of demolition, construction and long-term management.

19 “Minimise the use of new aggregates and do not use insulating and other materials containing substances which contribute to climate change through ozone depletion.”

Measures will be identified to minimise the use of new aggregates and

maximise the use of materials from sustainable sources, with an inherently low impact on the environment. This includes the sourcing of timber from environmental certification schemes (such as the Forest Stewardship Council), sourcing materials locally where possible and avoiding insulation materials which contain substances known to contribute to stratospheric ozone depletion, or with the potential to contribute to global warming.

20 “Use of best practice and appropriate mitigation measures to reduce the environmental impact of demolition and construction”.

Starting with this project, Veolia is the first UK waste management company, committed to a Protocol for Resource Efficiency in Construction, whereby the contractor will endeavor to re-use materials, where practical, in the construction period and reflecting good practice by identifying the most significant opportunities to increase recycled content. Contractors will be committed to develop and implement a Site Waste Management Plan (SWMP) at the earliest stage, developing strategies that will demonstrate achievement of good to best practice in Waste Minimisation and Management (WMM) on construction sites, in line with industry guidance such as that produced by the Waste & Resources Action Programme (WRAP) and DEFRA. The contractor is committed at this early stage, to a minimum 10% reuse or recycling content, on both the preparatory demolition / remediation contract, plus the main building contract, thereby encouraging the diversion of material from disposal avenues such as landfill, and reducing the demand for finite natural resources.

Under Policy 4A.4, the Energy Statement, summarised below, forms an additional part of the wider Sustainable Design and Construction Statement:

The Energy Strategy uses a ‘variant’ Energy Strategy which has followed the GLA energy hierarchy; *reduce energy use, use energy efficiently, on-site renewable generation.*

The ‘Energy Statement’ highlights under section 6.1, ‘Energy Strategy Options’, that the Energy Strategy explores a number of options which are compliant with the policy framework together with an alternative strategy which is in line with the spirit of policy, but which achieves significantly greater CO2 reduction than the compliant options.

Energy demand is minimised, where possible, throughout the development, although the ability to reduce energy demand in the waste treatment process is limited, as Veolia have already paid particular attention to efficient process management within the PFI proposal to Southwark Council. The renewables strategy is put forward as the most appropriate for the site. The remaining energy demand is supplied efficiently considering practicality and cost.

Conclusion

The development proposals have been reviewed against each of the Sustainable Design and Construction measures outlined within Policy 4A.3 of the London Plan and it is concluded that the proposals are in general conformity with the relevant measures.