MILLERHILL RECYCLING AND ENERGY RECOVERY CENTRE (RERC)

PROPOSED DEVELOPMENT OF AN INTEGRATED WASTE RECOVERY FACILITY ON LAND OFF AT THE FORMER MILLERHILL MARSHALLING YARDS, WHITEHALL ROAD, MILLERHILL, DALKEITH

ENVIRONMENTAL STATEMENT VOLUME 3: NON-TECHNICAL SUMMARY

MARCH 2015

This report is submitted in support of a detailed planning application for the above project. The application has been co-ordinated by AXIS with technical inputs from:

- AXIS – Project Management / Co-ordination, Planning Policy & Need, Traffic & Transportation, Landscape & Visual Effects, Surface Water & Flood Risk and General Environmental Matters
- Environmental Compliance – Air Quality, Human Health
- GSDA – Architectural Design
- NVC – Noise
- Argus – Ecology and Nature Conservation
- AOC – Archaeology and Heritage
- TerraConsult – geology, Hydrogeology and Ground Conditions

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ACRONYMS

ACC	Air Cooled Condenser
AD	Anaerobic Digestion
AOD	Above Ordnance Datum
APC	Air Pollution Control
C&I	Commercial and Industrial Waste
CCTV	Close Circuit Television Camera
CEMP	Construction Environmental Management Plan
CHP	Combined Heat and Power
CTMP	Construction Traffic Management Plan
ECC	Edinburgh City Council
EfW	Energy from Waste
EIA	Environmental Impact Assessment
EMS	Environmental Management Systems
ERC	Energy Recovery Centre
ES	Environmental Statement
FGT	Flue Gas Treatment
Ha	Hectare
HGV	Heavy Goods Vehicle
HPS	Health Protection Scotland
Hrs	Hour
IEEM	Institute of Ecology and Environmental Management
IEMA	Institution for Environmental Management & Assessment
Km	Kilometre
LVIA	Landscape and Visual Impact Assessment
M	Metre
MBT	Mechanical Biological Treatment
MLC	Midlothian Council
MSW	Municipal Solid Waste
MT	Mechanical Treatment
MW	Megawatt
NTS	Non-Technical Summary
PPiP	Planning Permission in Principle
RERC	Recycling and Energy Recovery Centre
SEPA	Scottish Environmental Protection Agency
SNCD	Shawfair New Community Development
SRF	Solid Recovered Fuel
TA	Transport Assessment
Tpa	Tonnes per Annum
ZWF	Zero Waste Facility

FOREWORD

This Environmental Statement (ES) supports and accompanies the planning application for the construction and operation of the Millerhill Recycling and Energy Recovery Centre; an integrated waste recovery facility, located on land at the former Millerhill Marshalling Yards, Whitehill Road, Millerhill, Dalkeith. The ES comprises the following documents.

- The Environmental Statement (ES) Main Report (Volume 1), which contains the detailed project description; an evaluation of the current environment in the area of the proposed development; the predicted environmental impacts of the scheme; and details of the proposed mitigation measures which would alleviate, compensate for, or remove those impacts identified in the study. Volume 1 also includes a summary of the overall environmental impacts of the proposed development and all relevant schematics, diagrams and illustrative figures;
- Technical Appendices (Volume 2), which include details of the methodology and information used in the assessment, detailed technical schedules and, where appropriate, raw data; and
- Non-Technical Summary (Volume 3), containing a brief description of the proposed development and a summary of the ES, expressed in non-technical language.

Copies of the documents, as a three volume set, are available at a cost of £250 from FCC Environment's planning agent by writing to the following address: AXIS, Camellia House, 76 Water Lane, Wilmslow, Cheshire, SK9 5BB. Cheques should be made payable to AXIS P.E.D. Ltd. Alternatively, the Non-Technical Summary can be purchased on its own from the same point of contact for £20. An electronic copy of the Non-Technical Summary is also available free of charge via email: fccenvironment@ppsgroup.co.uk. In addition, all of the planning application documentation, including the ES can be downloaded from http://www.fccenvironment.co.uk/edinburgh-mid-lothian-efw.html

1.0 INTRODUCTION AND BACKGROUND

1.1 The Proposal

1.1.1 This Environmental Statement (ES) has been submitted in support of the planning application for the construction and operation of the Millerhill Recycling and Energy Recovery Centre (hereafter referred to as the Millerhill RERC or Proposed Development). The RERC is an integrated waste management facility and would be located on land at the former Millerhill Marshalling Yards, Whitehill Road, Millerhill, Dalkeith.

1.1.2 The ES describes the proposal and provides an assessment of the likely significant environmental effects that may arise from the construction and operation of the Millerhill RERC.

1.1.3 In brief, the Proposed Development would manage waste delivered to the site and comprise four principal elements, all of which would be contained within a main building. These are:

- A waste reception hall;
- A Primary Treatment area (referred to as the Mechanical Treatment (MT) area) where material capable of being recycled would be extracted and the remaining waste prepared into what is known as a Solid Recovered Fuel (SRF);
- A Secondary Treatment area which would comprise an Energy from Waste (EfW) process (referred to as the Energy Recovery Centre – ERC). Here the SRF would be burnt to produce energy in the form of electricity and heat.
- Management of products and outputs from the Primary and Secondary Treatment processes.

1.1.4 The Proposed Development would receive up to 195,000 tonnes per annum (tpa) of residual waste, which is waste left over after all practicable efforts have been made to extract material that can be recycled. The residual waste material would primarily be that produced by households within Edinburgh and Midlothian, referred to as non-hazardous municipal solid waste (MSW). The facility would also have some capacity to treat similar commercial and

industrial (C&I) wastes sourced primarily from within Edinburgh, Midlothian and adjoining areas or MSW from adjoining areas.

1.1.5 The Proposed Development would be a combined heat and power (CHP) station. This means that through the combustion of the SRF, it would generate heat energy in the form of steam. A proportion of this steam would be used to generate electricity with the balance exported as heat in the form or either steam or, more likely, hot water. The maximum electricity generation capacity would be 13.45 Mega Watts (MW), a small portion (approximately 2.36MW) of which would be used to power the RERC itself, with the majority approximately 11.09MW exported to the local electricity grid. Based upon maximum electricity output, the Proposed Development would export approximately 87,012MW hours per annum. This is sufficient to meet the domestic electricity needs of over 26,000 homes.

1.1.6 Heat generated by the Proposed Development would be exported by underground insulated pipes direct to local users which could include nearby institutional, commercial and residential developments.

1.1.7 On the basis that the planning application is approved in mid-2015, the planned opening date for the Proposed Development is early 2018. The facility would have a design life of approximately 25 years although, in reality, many elements of the plant would last beyond this period.

1.2 The Site and Its Context

1.2.1 The Application Site is located on part of the former Millerhill Marshalling Yards, which were developed by British Rail during the 1950s. It is located approximately 6km south east of Edinburgh City Centre and circa 900m to the north of Millerhill village (see Figure 1). It is located entirely in the administrative area of Midlothian Council (MLC), but is also in close proximity to the administrative boundaries of the City of Edinburgh Council (ECC) and East Lothian Council.

1.2.2 The Application Site itself covers an area of approximately 5.7 hectares (ha), it is broadly rectangular in shape and generally flat, lying generally between 42.5m Above Ordnance Datum (AOD) and 43.5m AOD. It is predominantly

covered by vegetation comprising self-seeded trees (primarily Silver Birch) and shrubs. Those areas of the Application Site which remain bare comprise packed soil consistent with its historic use as a marshalling yard and railway sidings.

1.2.3 In terms of its immediate context, the Application Site is located to the west of the live railway lines, train maintenance and stabling yard which forms its eastern boundary. To the west, the site is bounded by derelict land formerly occupied by Monktonhall Colliery. To the south is more land associated with the former Millerhill marshalling yard and rail sidings, which also comprises a continuation of the low-level tree vegetation which subsists within the site itself. To the immediate north is the site of Alauna Renewable Energy's AD Facility, which is in the process of being constructed, together with an access road and bridge.

1.2.4 To the immediate west of the site is the land associated with the former Monktonhall Colliery, which has for some time been earmarked as the location for the development of a new community, known as Shawfair. The development is proposed to comprise over 3,500 homes with associated infrastructure, some industrial / commercial, community (new school and leisure centre) and amenity uses.

1.2.5 In addition to the Shawfair New Community Development (SNCD), and also to the immediate west of the site, is a section of the new Borders Railway line. This will re-establish passenger railway services between Edinburgh and Tweedbank and is due to be completed in the autumn of 2015.

1.2.6 In terms of the wider context:

- To the east of the site, beyond the train maintenance, cleaning and stabling depot, is a series of fields in agricultural use, but which are allocated for industrial and residential development in the emerging East Midlothian Local Development Plan. Further to the east (circa 1km from the nearest site boundary) is the minor settlement of Old Craighall, beyond this is the roundabout junction of the A1 and A720;
- To the south, beyond the site of the former Millerhill marshalling yard and rail sidings and circa 850m from the site boundary is the settlement

of Millerhill, beyond which (circa 1.7km from the site boundary) is the A720 City of Edinburgh By-pass and Dalkieth Country Park;

- To the west is the site of the former Monktonhall Colliery / SNCD and the route of the new Borders Railway, which is presently under construction. Beyond these and circa 1.6km from the nearest site boundary is the settlement of Danderhall; and
- To the north of the aforementioned Alauna AD Facility is Whitehill Road, beyond which is a narrow belt of plantation woodland and the A1 dual-carriageway. To the immediate north of the A1 and circa 750m from the nearest site boundary, is the settlement of Newgraighall. The Fort Kinnard Retail Park and commercial centre is located circa 1km to the north west and the Queen Margaret University campus is circa 750m to the north east (albeit on the opposite side of the A1).

1.2.7 The Application Site would be accessed using the new access and bridge that has already been constructed to the north. This comprises a new junction off Whitehill Road and a bridge crossing of the new Borders Railway Line. Whitehill Road connects to Newcraighall Road in the Fort Kinnard commercial area, circa 1.2km to the northwest. This, in turn, provides a direct connection to the north and southbound carriageways of the A1.

1.2.8 The nearest existing residential properties to the site are Shawfair Farm and cottages (circa 350m to the west) and Whitehall Mains Farm (located circa 450m to the north-west of the site boundary and immediately adjacent to the site access and AD Facility). In addition, the approved masterplan for the SNCD proposes new residential development immediately adjacent to the site's western boundary. For the purposes of preparing the ES, it has been assumed that the SNCD has been completed and is therefore included in the assessment (although the reality is that the totality of the scheme will take in excess of 10 years to deliver). As such, the properties that are proposed to the west would comprise the nearest residential properties to the site.

1.3 Background to the Scheme and Compliance with the extant PPiP

1.3.1 In December 2014 FCC Environmental was awarded 'Preferred Bidder' status on a 25 year residual waste management contract with ECC and MLC. The main element of infrastructure the Company is proposing in order to

meet the contract requirements is the development of the Millerhill RERC on land at the former Millerhill Marshalling Yards.

1.3.2 The site of the proposed Millerhill RERC already benefits from Planning Permission in Principle (PPiP) for the development of an integrated waste recycling and treatment facility which was granted on 19th January 2012 (reference: 11/00174/PPP). The application was submitted by Zero Waste, which is a joint enterprise between MLC and ECC, to procure facilities for the treatment of residual waste in response to the Scottish Government's aim to make Scotland a zero waste society.

1.3.3 The existing PPiP is for a facility capable of processing 230,000tpa of predominantly, but not exclusively, household residual waste, comprising the following waste management facilities:

- Mechanical Biological Treatment (MBT);
- EfW including CHP Plant; and
- An AD Facility.

1.3.4 The approved development is collectively referred to as the 'Zero Waste Facility' and the development proposals for the site as a whole the 'Zero Waste Parc'.

1.3.5 The AD Facility is, as stated previously, already being built and the function provided by the remaining approved facilities will be delivered through the Millerhill RERC. However, as the precise nature and form of the RERC differs to that approved under the existing PPIP, FCC Environmental has undertaken to submit a wholly new detailed planning application for their Proposed Development. The details of these differences are set out in detail in the ES Main Report (Volume 1).

1.3.6 Regardless of the changes, the existing planning permission for the Zero Waste Facility remains 'live' and establishes the general acceptability of this site for a development of the type proposed. It is therefore a material consideration in the determination of the planning application and an important consideration when assessing the environmental effects of the proposed development.

1.4 This Document

1.4.1 This document is the Non-Technical Summary (NTS) of the detailed ES which has been prepared to accompany the planning application. It summaries the findings of the Environmental Impact Assessment (EIA) in non-technical language.

2.0 SCHEME DESCRIPTION AND ALTERNATIVES

2.1 Description of the Built Development

2.1.1 The Proposed Development would be based around a main building located centrally within the site on a broadly north to south axis with ancillary structures, e.g. air cooled condensers, ammonia store and water tanks to the to the east, an emergency generator, transformer and baled waste store to the west, an internal access road to the south of the main building and ancillary vehicle access to / from the building on both the east and west elevations, and the main vehicular access, manoeuvring area, gatehouse and car parking to the north of the site near the new site entrance. Provision is also made for the construction of surface water attenuation ponds to the south and west of the site. The development is illustrated in plan and elevation form on Figures 2, 3a and 3b.

2.1.2 The main building would contain the following areas:

- Waste Reception Hall;
- Waste Bunker;
- Mechanical Pre-treatment Hall;
- Boiler Hall;
- Flue Gas Treatment (FGT) facility;
- Flue stack (chimney);
- Turbine Hall;
- District Heating Centre; and
- Bottom Ash (Storage and Loading) Hall.

2.1.3 The main building would have a total length of circa 136.04m and range in width from circa 55m wide, through the main body of the building, to circa 72.65m wide where the Boiler Hall / Bottom Ash facility extends out of the main body of the building to the east.

2.1.4 The height of the main building would also vary reflecting the operational heights required for the various elements of process equipment housed within it. The highest part of the main building would house the Boiler Hall / FGT facility to the south where the roof (to the top of the parapet) would

measure circa 41.6m above ground level, down to circa 18.2m for the roof of the tipping hall and 12.3m for the bottom ash storage and collection hall.

2.1.5 The flue stack (chimney) would extend from within the main building envelope and would measure 75m in height.

2.1.6 In addition to the main building, the Proposed Development would also include a number of ancillary buildings. These would comprise a baled waste store, site office / visitor centre building, gatehouse and driver welfare facility. Each is described in detail with the ES Main Report: Volume 1.

2.1.7 In addition to the aforementioned buildings there would also be a number ancillary structures and plant associated with the Proposed Development, these comprise:

- Air Cooled Condensers (ACC);
- Step up transformer and emergency generator;
- Ammonia store;
- Electrical sub-station;
- Bin-store / smoking shelter and cycle store; and
- Fuel oil tanks.

2.1.8 The Proposed Development would also include the following ancillary infrastructure, the layout and design of which is described in detail with the ES Main Report: Volume 1:

- Vehicle Access and Site Circulation;
- Parking Provision;
- Drainage;
- Utilities and Service Connections;
- Fire Break Water Tank and Pumping Facilities;
- Lighting and CCTV;
- Security Fencing and Gates; and
- Landscaping.

2.1.9 As stated in the Introduction, the Millerhill RERC would have a design life of approximately 25 years, although, in reality, many elements of the plant would last beyond this period. Planning permission is being sought for a

permanent development and therefore as elements of the facility require repair / refurbishment / replacement this would be carried out as necessary.

2.2 Operation of the Development

2.2.1 A schematic diagram is shown on Figure 4 that illustrates the processes involved with the Millerhill RERC. The processes undertaken are described below.

Waste Reception and Handling

2.2.2 Incoming waste delivery vehicles would enter the site from the internal access road that provides access from Whitehill Road. Having entered the site vehicles would proceed to the enclosed waste reception / tipping hall via the site weighbridge and empty their waste into a large bunker.

2.2.3 The bunker would be split into two distinct areas, one area for the receipt of contract waste and another for the receipt of direct delivered SRF. Upon delivery to the site the contract waste would be directed to the MT facility where further recycling would be carried out, reject material would be removed and the waste formed into an SRF. Once formed into an SRF, the waste material would be returned to the bunker with the direct-delivered SRF material. The MT process is described in more detail below.

2.2.4 Cranes would be used to mix and stack the waste into the feed chutes of the furnaces. Odour and dust in the tipping hall and MT facility would be controlled by fans located above the waste bunkers. These would suck air from the tipping hall and MT facility into the furnace to feed the combustion process and prevent odours, dust or litter escaping from the building.

Mechanical Treatment Process

2.2.5 The MT facility would have a dual function by recovering recyclable materials (specifically metals) from the incoming waste and the preparation of the waste as a SRF for use in the ERC.

2.2.6 The MT process has been specifically designed to recover ferrous and non-ferrous metals from the incoming waste, sort them into their separate fractions and remove any reject materials that are unsuitable for either recycling or use in the ERC. Following the MT process the recyclable elements would be sent to reprocessing facilities, the reject materials sent to a suitable disposal facility and the remaining material forming an SRF which would be conveyed back into the waste bunker prior to transfer into the ERC.

2.2.7 The process would comprise a series of conveyors with mechanical sorting equipment, such as screens and automatic sorters. A description of the typical components of the MT facility and likely process line is provided in the ES Main Report: Volume 1.

Combustion Process

2.2.8 The proposed ERC element of the scheme is where the SRF would be combusted to generate energy. The actual combustion would take place on a grate which turns and mixes the waste to ensure that all waste is exposed to the combustion process.

2.2.9 The combustion control system regulates combustion conditions (and thereby minimises the levels of pollutants and particulates in the flue gas before flue treatment) and controls the boiler.

Flue Gas Treatment

2.2.10 Gases generated during the combustion process would be cleaned before being released into the atmosphere. The treatment plant works by using a number of filters and chemicals to remove pollutants from the gases. This process ensures that the ERC operates within the emission limits set out in the Industrial Emissions Directive.

Stack

2.2.11 Following cleaning, the combustion gases would be released into the atmosphere via the stack. Emission from the stack would be monitored continuously by an automatic computerised system and reported in

accordance with the SEPA's requirements for the operation of the facility. The proposed stack would be integrated within the structure of the main building and would be 75m high from ground level.

By-Product Handling and Disposal

2.2.12 Two types of solid by-products would be produced from the operation of the ERC, bottom ash, which is the material remaining from the combustion of the SRF, and Air Pollution Control (APC) residues, which are produced from the treatment of the gases generated from the combustion of the waste. Each of which would have separate handling and disposal arrangements as described in full within the ES Main Report: Volume 1.

Employment

2.2.13 The plant would provide permanent employment for up to 39 people, working in shifts to maintain 24-hour / 7-day per week cover. The majority of employees would be skilled operatives (electricians / fitters / crane operatives) or technical engineers (control and plant).

Hours of Operation

2.2.14 It is proposed that the proposed ERC element of the Proposed Development would operate on a 24 hour, 7 days a week basis. Waste would be brought onto the site between the hours of 08:00 – 20:00 seven days a week. However the majority of waste is expected to be brought onto the site on Mondays to Fridays.

2.2.15 It is anticipated that the mechanical treatment facility would operate between the hours of 05:00 and 23:00.

Vehicle Numbers

2.2.16 On the basis of the predicted amount of waste that would be accepted at the Proposed Development it is anticipated that approximately 64 Heavy Goods Vehicles (HGV's) would enter and exit the site each day. This includes all

HGV movements associated with the delivery of waste, consumables and the removal of residues and recyclables from the site.

2.3 Energy Recovery

2.3.1 One of the major benefits of the ERC would be the ability to recover energy from the combustion of the SRF by way of electricity and heat production. A proportion (55%) of this energy is classified as being renewable energy.

2.3.2 The energy generation process is based upon hot gases from the combustion chamber passing to a boiler which converts the energy from the gases into steam.

2.3.3 The ERC would include a steam turbine that would have a generation capacity of up to 13.45MW of electricity. Some of this electricity would be used in the operation of the facility with the remainder, 11.09MW, being exported to the local electricity distribution network. The ERC would also have the capability to export heat in the form of hot water or steam to local heat users.

2.4 Operational Environmental Management

2.4.1 The potential effects of waste management developments can be the subject of public concern (i.e. nuisance caused by litter and odour), or through the attraction of vermin or other pests. However, a modern, well run facility, such as the Millerhill RERC, should not give rise to such issues. An Environmental Management System (EMS) would be operated at the site which would include measures to manage and monitor the following potential public amenity issues:

- Vermin and other pests;
- Dust and odour;
- Fire; and
- Litter.

2.5 Alternatives Considered

2.5.1 There is no formal requirement for applicants to consider alternatives, rather the imperative is to outline any main alternatives where (i.e. if) they have been considered. Consideration of alternatives is contained within Chapter 3.0 of the ES Main Report: Volume 1 under the following headings:

- Alternative Sites;
- Alternative Technologies; and
- Alternative Designs.

2.6 Construction Methods

Programme

2.6.1 The construction period is anticipated to take approximately 28 months. The main construction works including clearing the site, ground excavations and erection of the buildings, this is likely to occur within the first 22 months. The remainder of the construction period will involve installation of equipment into the buildings and laying of roads and car parking areas.

Construction Hours

2.6.2 Construction operations would generally be limited to 07.00 to 19.00hrs Monday to Friday and 07.00 to 12.00hrs Saturday. It is possible that some construction activities would be undertaken outside these hours e.g. installation of equipment into buildings. HGV movements would not be permitted outside these hours without prior agreement from the Council.

Site Compound and Operative Facilities

2.6.3 A site compound for the storage of building materials and equipment will be located within the site boundary.

Construction Environmental Management Plan (CEMP)

2.6.4 A CEMP would be developed for the project, the purpose of which would be to manage and report environmental effects of the project during construction.

2.6.5 A CEMP for a project of this nature would typically cover the following key elements:

- Drainage, water quality and hydrology;
- Dust, emissions and odours;
- Health and safety / site management;
- Waste management;
- Traffic management;
- Wildlife and natural features;
- Cultural heritage; and
- Contaminated material.

3.0 SUMMARY OF EFFECTS

3.1 Introduction

3.1.1 The following sections provide a summary of the environmental assessments undertaken for the Proposed Development.

3.2 Traffic and Transportation

3.2.1 The assessment relies on the findings of the formal Transport Assessment (TA) that has been submitted in support of the Planning Application.

3.2.2 The potential highways and transport related environmental impact of the operation of the proposed facility has been assessed via reference to the methodology set out in the Institution for Environmental Management & Assessment (IEMA) document: Guidelines for the Environmental Assessment of Road Traffic.

Construction Impacts

3.2.3 Traffic impacts associated with the construction of the site would be temporary in nature and are likely to vary over the course of the construction period dependent upon the nature of activities taking place. It is proposed that a Construction Traffic Management Plan (CTMP) should be prepared and this would form part of the CEMP.

3.2.4 HGV traffic during the construction of the Proposed Development would be less than those associated with its day to day operation or indeed, the number of HGVs that were expected to visit the Zero Waste Facility (ZWF).

3.2.5 Appropriate levels of staff parking would be provided on site to avoid any potential issues of overspill off-site parking on local routes, with the levels of staff vehicle demand to be controlled by travel management initiatives such as car sharing and off-site bus transfer where practical.

3.2.6 Traffic associated with staff and HGV's during the construction of the Proposed Development would be less than the levels where it would be

necessary to assess traffic related environmental effects and as such, the traffic and transport related environmental effects associated with the construction of the Proposed Development would not be significant**.**

Operational Impacts

3.2.7 The traffic levels associated with the ZWF have been found to be at acceptable level which would not give rise to discernible changes in traffic flows over the immediate local road network or traffic related environmental concerns.

3.2.8 The combined operation of the Proposed Development and the currently under-construction AD Facility would result in substantially less traffic than the ZWF, both in terms of overall vehicle numbers and, importantly, HGV trips. As such, the Proposed Development would result in an overall 'net benefit' in traffic and transport effects when compared against the levels that would be generated by the ZWF. In light of this, there can be a high degree of confidence that the day-to-day operation of the Proposed Development would also not give rise to a material change in traffic related environmental conditions.

3.2.9 It is concluded that the traffic related environmental effects of the day to day operation of the Proposed Development would not be significant.

3.3 Landscape and Visual Impact

3.3.1 The methodology used to carry out the assessment is based upon the Guidelines for Landscape and Visual Impact Assessment.

Construction Impacts

3.3.2 In overall terms, whilst there would undoubtedly be short term visual effects during the construction phase, their temporary nature would not result in any significant effect given the context of existing development associated with the Borders Railway, AD Facility and the SNCD and current construction activity in several sites within the wider area. As such, whilst the Proposed Development would introduce new construction activity, is not unusual in the

wider area and in that context; the temporary and localised effects of the proposed development would not be significant.

Operational Impacts

3.3.3 The Proposed Development would be introduced into an urban fringe landscape where the presence of built development, including electricity pylons and road corridors is already strong, and will be even more so with the addition of the new Borders railway, AD Facility and SNCD (all of which form part of the LVIA baseline). Whilst the Proposed Development would be larger and more visually apparent than other existing features the influence of the development upon the wider character would nonetheless be limited, due to the very strong influence of built features in the landscape.

3.3.4 Significant visual effects (in EIA terms) would only be experienced from one of the viewpoints included in the assessment including views from around thirty individual residential properties. All viewpoints experiencing significant visual effects would be within circa 1.5km of the Application Site. It should be noted that the ES for the consented ZWF development also found that there would be significant effects from this location. Visual effects from all other viewpoints have not been assessed as being significant.

Comparison with the Zero Waste Facility

3.3.5 When contrasted with the landscape and visual effects identified for the consented ZWF development, the significant effects of the Proposed Development would be less extensive, due to the spread of built development in the surrounding area, including the AD Facility, Borders Railway and SNCD. Therefore, whilst the Proposed Development would be a larger structure than the ZWF development, it would have less effect upon its surroundings.

3.4 Ecology and Nature Conservation

3.4.1 The ecological assessment is based on evaluation of local nature conservation records and the results of field survey work that was either

carried out previously on the site, or undertaken specifically for the Proposed Development.

3.4.2 The impact assessment follows the methodology set out by the Institute of Ecology and Environmental Management (IEEM 2006).

Construction Impacts

3.4.3 Construction works would result in loss of habitats on the site. The assessments have shown that through the implementation of ecological improvement measures proposed as part of the landscaping scheme, (including planting of trees and species that would encourage wildlife to the site and the creation of wetland habitats) no protected species or habitats would be harmed during the construction of the Proposed Development.

Operational Impacts

3.4.4 No significant ecological impacts were identified as a result of the operation of the Proposed Development.

3.4.5 The Air Quality Assessment has demonstrated that there would be no significant indirect effects on important wildlife site as a consequence of emissions associated with the combustion process.

Comparison with the Zero Waste Facility

3.4.6 The ecological assessment for the ZWF reached similar conclusions to the ES for the Proposed Development in terms of ecological effects during its construction and operation. However, on the basis that the impacts of the ZWF development covered a much larger area, they could be regarded as being slightly more significant than those associated with the Proposed Development.

3.5 Geology and Hydrogeology

3.5.1 The assessment has been based upon information gathered from a number of desk study and ground investigation reports undertaken at the Application Site and on adjacent areas.

3.5.2 The results of the investigations indicate that the soils and groundwater beneath the site contain relatively low levels of contaminants and those which are present are assessed as being of a low level of risk. The assessment considered the potential effects of the proposed development on groundwater, construction materials and human health.

Construction Impacts

3.5.3 No significant impacts were identified by the assessment. However, there remains the potential for some contamination to be present. As such, it is recommended that standard best practice construction methods are employed to ensure that site operatives are not exposed to contaminants that may remain at the Application Site.

3.5.4 Measures to prevent the contamination of soils or groundwater during the construction phase are recommended e.g. procedures for dealing with accidental oil and fuel spillage and dust suppression. These measures would be fully detailed within the CEMP.

Operational Impacts

3.5.5 No significant operational impacts have been identified by the assessment. Once built the Proposed Development would operate on sealed concrete areas ensuring any pollutants are not able to penetrate into the underlying ground. Additionally, systems would be in place to ensure all potential contamination issues associated with the operation of the Proposed Development would be controlled. As such, no significant on-going effects are predicted.

Comparison with the Zero Waste Facility

3.5.6 There is no additional impact or risks associated with the Proposed Development when compared to those identified in the ZWF development.

3.6 Surface Waters and Flood Risk

3.6.1 An assessment of the surface water and flooding impacts of the Proposed Development has been undertaken, including a Flood Risk Assessment. The assessments were based on information gathered from the ground investigation desk study, topographic survey, the SEPA data and previous flood risk assessments undertaken at the Application Site.

Construction Impacts

3.6.2 The existing flood risk to the site is low. Standard best practice construction methods would be implemented at site to ensure that no water quality impacts result from the construction works. These would be documented in the CEMP and would include measures such as storage of fuel, oils and chemicals in bunded areas and the use of settlement lagoons.

Operational Impacts

3.6.3 The proposed development does not lie within an identified area of flood plain and the assessment has shown that there is 'low risk' of flooding from surrounding watercourses or groundwater.

3.6.4 Surface water drainage ponds have been included in the design to manage surface water flows from the site. This will ensure that the development does not increase the risk of flooding in the local area.

3.6.5 Appropriately designed storage areas for fuels, chemicals and oils and provision of pollution control measures within the surface water drainage system would ensure that the Proposed Development does not affect the water quality of the surrounding area.

Comparison with the Zero Waste Facility

3.6.6 When assessed against the ZWF, it is evident that there would be very little difference between the construction practises that would be employed and the drainage infrastructure that would be installed to serve each development scenario. As a consequence, it is considered that the Proposed Development would have a neutral effect in terms of flood risk and surface water impacts.

3.7 Noise and Vibration

3.7.1 To establish any likely impact from noise a noise survey was undertaken to determine existing noise levels in the local area. Appropriate noise guidance and standards have been used to determine the potential noise impact from the Proposed Development. Impacts from both the plant operations and vehicle movements have been assessed.

Construction Impacts

3.7.2 The assessment has shown that through the use of suitable construction mitigation measures and good site practice there would be no significant residual noise or vibration impacts at any of the nearby sensitive receptors.

Operational Impacts

3.7.3 During the operation of the site, it is concluded that with the implementation of appropriate measures within the design of the Proposed Development, it would adhere to Local Authority requirements and would not give rise to significant effects.

3.7.4 The assessment of noise change due to variation in traffic flows on the local road network has also shown that the noise levels would not result in a significant impact.

Comparison with the Zero Waste Facility

3.7.5 The Proposed Development would give rise to similar noise impacts as the ZWF development. As such, it can be concluded that the Proposed Development would not give rise to any greater impacts than the ZWF.

3.8 Air Quality and Human Health

3.8.1 The assessment has identified that the operation of the Proposed Development would give rise to a number of substances that would be emitted to the atmosphere. As a result, the potential environmental effects of these emissions have been assessed using detailed air quality model. The results of the modelling have been assessed against relevant air quality objectives and guidelines identified from national legislation and the SEPA's guidance documents.

Construction Impacts

3.8.2 During the construction there would be the potential for short-term effects to occur, mainly in the form of dust emissions generated by earthmoving activities.

3.8.3 Standard best practice construction methods would be implemented at site to reduce emissions to the air. These would be documented in the CEMP and would include measures such as use of water mists during dry periods, closed sheeting of vehicles and washing of road surfaces leading to the construction site. With the implementation of these measures no significant construction impacts are anticipated.

Operational Impacts

3.8.4 The results of the modelling have indicated that the proposed chimney stack would provide more than adequate dispersion to the atmosphere and that the operation of the facility is predicted to have a negligible impact on local air quality or sensitive habitats. As a result, no significant effects on air quality are predicted.

Comparison with the Zero Waste Facility

3.8.5 The results of the air quality assessment for the Proposed Development have been compared against the results of the assessment for the ZWF development. This concluded that the Proposed Development would not give rise to any additional impacts during either its construction or operation.

3.9 Cultural Heritage

3.9.1 An assessment on cultural heritage features at the site and in the surrounding area was undertaken.

Construction Impacts

3.9.2 Due to past development of the Application Site from the mid-20th Century onwards, it is likely that any archaeological remains are present. As such, it is considered that the construction of the Proposed Development would have no direct or indirect impact on archaeology at the Application Site

Operational Impacts

3.9.3 A number of cultural heritage receptors were identified in the surrounding landscape, these included Grade 'A' listed buildings and Scheduled Monuments. The operation of the facility would not result in any direct impacts on the identified cultural heritage receptors, but the facility does give rise to potential indirect impacts on setting.

3.9.4 The assessment has concluded that the facility would result in minor-moderate residual impacts on the setting of seven cultural heritage receptors in the area surrounding the site and minor residual impacts on the setting of twenty-one cultural heritage receptors, these impacts are not considered to be significant.

Comparison with the Zero Waste Facility

3.9.5 There would be no material difference between the residual effects of the ZWF development and the Proposed Development.

3.10 Socio-Economic Effects

3.10.1 The socio-economic and community effects of the Proposed Development have been assessed. This involved identified background information from Edinburgh, Midlothian and its districts and wards, in particular Dalkieth Ward, within which the Application Site is located. It then identified the main socio-economic and community effects of the Proposed Development.

Construction Impacts

3.10.2 The construction of the facility would take circa 28 months to complete and would provide up to 300 temporary jobs. It is expected that a large proportion of these temporary jobs would be locally sourced.

3.10.3 The assessment also estimates there could also be further benefits locally for some businesses (food and drink, accommodation providers) that may ultimately benefit as a result of any temporary visiting workforce.

3.10.4 The socio-economic effects of the construction phase of the Proposed Development would have a beneficial effect on the area.

Operational Impacts

3.10.5 During the operational phase the Proposed Development would create 39 new permanent jobs. The majority of the employees would be skilled operatives (electricians / fitters / crane operatives) or technical engineers (control and plant), with a small number of low skilled jobs also created. It is anticipated that a new apprenticeships would be provided through FCC's apprenticeship scheme. The Proposed Development would also offer local supply chain opportunities for local businesses.

3.10.6 Community benefit would also be provided as a result of the integrated visitor and education centre within the Proposed Development. The centre would be a valuable education resource and would provide local residents with information on the operation of the Millerhill RERC and educate school children on sustainable waste management and taking responsibility for their own waste. The visitor centre would also available for use by other local groups as a meeting space.

3.10.7 In addition the Proposed Development would provide a local sustainable renewable source of energy that would meet the domestic needs of circa 26,000 homes and produce saleable by-products, in the form of recycled metals and ash, which would be re-processed (off-site) as a secondary aggregate. It would also offer the potential to provide heat to a district heating network.

3.10.8 The proposal would not have any significant adverse impact further to the existing situation. The proposal would in fact create a number of social and economic benefits for Edinburgh and Midlothian and its residents.

Comparison with the Zero Waste Facility

3.10.9 The ES prepared in support of the ZWF development concludes that it would give rise to a number of beneficial socio-economic effects. The anticipated residual socio-economic effects associated with the Proposed Development have also been assessed as being of beneficial significance. Accordingly, when compared to the future baseline scenario, the Proposed Development, as a minimum, result in a neutral impact.

3.11 Cumulative Effects

3.11.1 Two projects were identified that could have the potential to result in material cumulative effects with the proposed development. The assessments undertaken conclude that significant cumulative environmental effects are unlikely to result from the Proposed Development.

3.12 Energy Export Connection

3.12.1 As described above the Proposed Development would generate electricity for export to the local electricity distribution network and it would also have the potential to distribute heat to a district heating network. Neither the grid connection works, nor heat distribution network form part of the Planning Application. However, on the basis that export of both electricity and heat is an integral part of the scheme, it is considered appropriate that the potential environmental impacts associated with the connection to the local electricity grid and district heating network are assessed.

3.12.2 A potential grid connection route has been identified following consultation with Scottish Power and potential route has also been identified for the distribution of heat. The assessment concludes that no significant residual adverse impacts are likely to arise from the construction or operation of either option. Some very minor adverse impacts have been identified and mitigation measures have been proposed to avoid or reduce these impacts. The development of these energy export connections is not considered to give rise to significant effects.

3.13 Human Health

3.13.1 A detailed health risk assessment has been carried out using recognised health assessment methods

Operational Impacts

3.13.2 Advice from human health specialists such as the Health Protection Scotland (HPS) is that there is lack of a consistent or conclusive evidence of an association between (non-occupational) human health effects and waste incineration. However HPS do note that there will remain a need to take account of background ambient air quality in assessing the potential impact of a new facility.

3.13.3 The results of the modelling have indicated that the emissions from the facility would not have any significant effect on human health, soils or watercourses.

3.13.4 It is recognised that there is the potential for the proposal result in anxiety and concern in the local population due to the perception of health effects from emissions. However, on the basis of the health assessment there is no evidence to suggest that the health of the local population would be at risk and consultation activities have been undertaken in order to keep local residents informed of the project and its potential effects.

Comparison with the Zero Waste Facility

3.13.5 The human health risk assessment carried out in support of the ZWF development concluded that the emissions from the facility would not have any significant effect on human health, soils or watercourses, as is the case with the Proposed Development. However it was noted that the release of some emissions that could affect human health from the Proposed Development would be less than the ZWF. As a consequence, it has been concluded that the effects of the Proposed Development on human health would be less than the ZWF development.

3.14 Summary

3.14.1 In considering the results of the ES, which reports the EIA process, it can be concluded that the Proposed Development would provide a sustainable waste management solution. The proposal would assist in diverting waste from landfill, maximising recycling, provide renewable energy, create local job opportunities and provide a local community resource in terms of a visitor centre.

3.14.2 The assessments contained in this ES have demonstrated that the only potentially significant effects relate to visual impacts on limited number of properties located approximately 1km to the east of the site. The assessments have shown that the proposal would not result in a significant impact on local landscape character. No other significant residual adverse environmental impacts have been identified

FIGURES