Medworth Energy from Waste
Combined Heat and Power Facility

PINS ref. EN010110
Document Reference: Vol 6.1
Revision 1.0
June 2022

Environmental Statement

Non-Technical Summary

Regulation reference: The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 Regulation 5(2)(a)

We inspire with energy.

Contents

1. Introduction 5
1.1 Purpose of this Non-Technical Summary 5
1.2 Who are MVV and Medworth CHP Ltd? 5
1.3 Consenting process 5

2. The Proposed Development (Overview) 7
2.1 The EfW CHP Facility Site 7
2.2 Combined Heat and Power Connection 11
2.3 Access Improvements 12
2.4 Water Connections 13
2.5 Grid Connection 13
2.6 Construction and the Temporary Construction Compound 13
2.7 Operation 14

3. Environmental assessment and the identification of significant effects 15
3.1 The process of environmental assessment 15
3.2 How the Proposed Development has been designed to reduce significant environmental effects 15
3.3 The identification of likely significant effects and mitigation measures 16

4. Traffic and Transport 17
4.1 How traffic and transport effects have been assessed 17
4.2 Baseline assessment 17
4.3 Embedded environmental measures 17
4.4 Likely significant effects 18

5. Noise and Vibration 20
5.1 How noise and vibration effects have been assessed 20
5.2 Baseline assessment 20
5.3 Embedded environmental measures 20
5.4 Likely significant effects 21

6. Air Quality 22

6.1 How air quality effects have been assessed 22
6.2 Baseline assessment 22
6.3 Embedded environmental measures 22
6.4 Likely significant effects 23

7. Landscape and Visual 24
7.1 How landscape and visual effects have been assessed 24
7.2 Baseline assessment 24
7.3 Embedded environmental measures 25
7.4 Likely significant effects 25

8. Historic Environment 27
8.1 How historic environment effects have been assessed 27
8.2 Baseline assessment 27
8.3 Embedded environmental measures 28
8.4 Likely significant effects 28

9. Biodiversity 29
9.1 How biodiversity effects have been assessed 29
9.2 Baseline assessment 29
9.3 Embedded environmental measures 30
9.4 Likely significant effects 30

10. Hydrology 32
10.1 How hydrology effects have been assessed 32
10.2 Baseline assessment 32
10.3 Embedded environmental measures 32
10.4 Likely significant effects 33

11. Geology, Hydrogeology and Contaminated Land 34
11.1 How soils, geology, hydrogeology and contaminated land effects have been assessed 34
11.2 Baseline assessment 34
11.3 Embedded environmental measures 35
11.4 Likely significant effects 35

12. Climate Change 36
12.1 How climate change effects have been assessed 36

12.2 Baseline assessment 36
12.3 Embedded environmental measures 37
12.4 Likely significant effects 37

13. Socio-economics, Tourism, Recreation and Land use 39
13.1 How socio-economic, tourism, recreation and land use effects have been assessed 39
13.2 Baseline assessment 39
13.3 Embedded environmental measures 40
13.4 Likely significant effects 40

14. Health 41
14.1 How health effects have been assessed 41
14.2 Baseline assessment 41
14.3 Embedded environmental measures 41
14.4 Likely significant effects 42

15. Major Accidents & Disasters 43
15.1 How major accident and disaster effects have been assessed 43
15.2 Embedded environmental measures 43
15.3 Likely significant effects 43

16. Cumulative Effects 44
16.1 How cumulative effects have been assessed 44
16.2 Baseline assessment 44
16.3 Embedded environmental measures 44
16.4 Likely significant effects 44

17. Alternatives Considered 46
17.1 Introduction 46
17.2 The Site 46
17.3 Design 46
17.4 CHP Connection 47
17.5 Grid Connection 47

18. Conclusion 49
18.1 What happens next? 49

Figure 2.1 Project Components After Page 14
Figure 2.2 Medworth EfW CHP Facility Site Layout After Page 14

Graphic 2.1 Overview of the process at the Medworth EfW CHP Facility 9
Graphic 2.2: Medworth EfW CHP Facility External Eastern Elevation 10
Graphic 2.3 Administration building elevations. 11
Graphic 2.4 CHP Connection pipe includingexpansion loop and expansion bellows 12
Graphic 2.5 Illustrative CHP Connection and future railway track 12
Graphic 2.6: Operational HGV routing restrictions 18

1. Introduction

1.1 Purpose of this Non-Technical Summary

1.1.1 This document provides a non-technical summary of the environmental impact assessment prepared for the proposed Medworth Energy from Waste Combined Heat and Power (EfW CHP) Facility and its associated infrastructure, collectively referred to as the 'Proposed Development'.

1.1.2 The environmental impact assessment was carried out to assess the likely significant effects of the Proposed Development and how they would be mitigated and present these findings to the local community and consultees.

1.1.3 This document summarises who the Applicant is, the consenting process that the Proposed Development is required to follow, a description of the Proposed Development, the findings of the environmental impact assessment and the alternatives considered.

1.2 Who are MVV and Medworth CHP Ltd?

1.2.1 The Applicant, Medworth CHP Limited, is a subsidiary of MVV Environment Limited (MVV) and part of the MVV Energie AG group of companies. MVV provides sustainable and efficient solutions for waste-fired energy generation to publicly and privately-owned waste management companies, as well as local authorities.

1.2.2 MVV's UK business retains the overall group ethos of 'belonging' to the communities it serves whilst benefitting from over 50-years' experience gained by its German sister companies. MVV Energie has a growth strategy to be carbon neutral by 2040 and thereafter carbon negative, i.e., climate positive.

1.2.3 MVV operate EfW facilities in Plymouth and Dundee, as well as a biomass facility at Ridham. Medworth CHP Limited has been established for the purposes of consenting, constructing and operating the Proposed Development.

1.3 Consenting process

1.3.1 The Proposed Development would have the capacity to generate over 50 megawatts of electricity and therefore, unlike regular planning applications submitted to local authorities, it is defined as a Nationally Significant Infrastructure Project. This means that the Applicant is required to apply to the Secretary of State for planning permission, but in this instance, it is called a Development Consent Order (DCO).

1.3.2 Before applying for a DCO, an applicant must consult interested parties on its preliminary assessment of likely environmental impacts (the Preliminary Environmental Information Report, the PEIR). These interested parties include a range of organisations, such as, local authorities, the Environment Agency and Natural England, as well as affected landowners, tenants and occupiers and members of the public. This process is known as statutory consultation and it took

place between 28 June and 13 August 2021. Following statutory consultation and before finalising its proposals and applying for a DCO, the Applicant reviewed the comments received, having regard to the representations made. A record of the comments received as well as the Applicant's responses can be found within the **Consultation Report (Volume 5.1).**

1.3.3 The DCO application is submitted to the Planning Inspectorate who oversee the administrative process on behalf of the Secretary of State. The Secretary of State's first task is to determine whether to accept the application for examination i.e., does it contain sufficient information to formally assess the proposals. If accepted, the Secretary of State will appoint an independent examiner or panel of examiners (known as the Examining Authority) to consider the application on their behalf. The examination is a public process, in which interested parties are able to participate.

1.3.4 Following the examination, the Examining Authority will make a recommendation to the Secretary of State. The Secretary of State determines the application in accordance with the relevant National Policy Statements for Nationally Significant Infrastructure Projects and may take account of other important and relevant planning policy and environmental considerations.

1.3.5 Relevant National Policy Statements for the Proposed Development are:

- Overarching National Policy Statement for Energy (EN-1); this document sets out the national policy for energy infrastructure;
- National Policy Statement for Renewable Energy Infrastructure (EN-3); this document sets out the national policy in relation to electricity generation from renewable sources of energy, including energy from waste; and
- National Policy Statement for Electricity Networks Infrastructure (EN-5) this provides the national policy in relation to electricity networks infrastructure.

1.3.6 In September 2021, the Department of Business, Energy and Industrial Strategy published draft revised national policy statements for energy infrastructure. The Secretary of State may also consider these to be important and relevant to the consideration of the application.

2. The Proposed Development (Overview)

2.1.1 The Medworth EfW CHP Facility will recover useful energy in the form of electricity and steam from over half a million tonnes of non-recyclable (residual), non-hazardous municipal, and commercial and industrial waste, each year. The Medworth EfW CHP Facility will generate 55 megawatts net and the electricity will be exported to the national grid. Based on current domestic consumption, the amount of electricity generated for export is equivalent to the amount used in almost 119,000 homes. In addition, the EfW CHP Facility will also be capable of supplying steam and electricity to potential customers on the surrounding industrial estate.

2.1.2 The Proposed Development comprises the following key elements, these can be seen in **Figure 2.1: Project Components** at the end of this section:

- The EfW CHP Facility;
- Combined Heat and Power (CHP) Connection;
- Access Improvements;
- Water Connections;
- Grid Connection; and
- Temporary Construction Compound (TCC).

2.1.3 The location of the Proposed Development's key elements can be seen in **Figure 2.1: Project Components** and are summarised below.

2.1 The EfW CHP Facility Site

2.1.1 The EfW CHP Facility Site is approximately 5.3 hectares (13 acres) in size, it is located south-west of Wisbech and currently accessed via Algores Way. The site is within the administrative areas of Fenland District Council and Cambridgeshire County Council. It is located predominantly on land currently occupied by a waste transfer station. However, the south-east section of the site is undeveloped scrubland allocated in the Fenland Local Plan for development.

2.1.2 The southern side of the EfW CHP Facility Site is bounded by New Bridge Lane which connects to Cromwell Road to the west and provides direct access to the A47. The closest residential properties are located along New Bridge Lane. Immediately to the west of the site is the disused March to Wisbech Railway.

2.1.3 The EfW CHP Facility Site comprises the buildings and equipment that are required to receive and process the waste. The waste is delivered by lorry into a reception hall, where it is tipped into a storage bunker prior to being lifted by crane into chutes that feed two furnaces. Here the waste is combusted under controlled, and continuously monitored conditions, generating heat and power for export.

2.1.4 The composition of residual waste received by the EfW CHP Facility and consequently the energy generated will vary. However, there is a design limit on the amount of waste that could be processed; this is 625,600 tonnes per year.

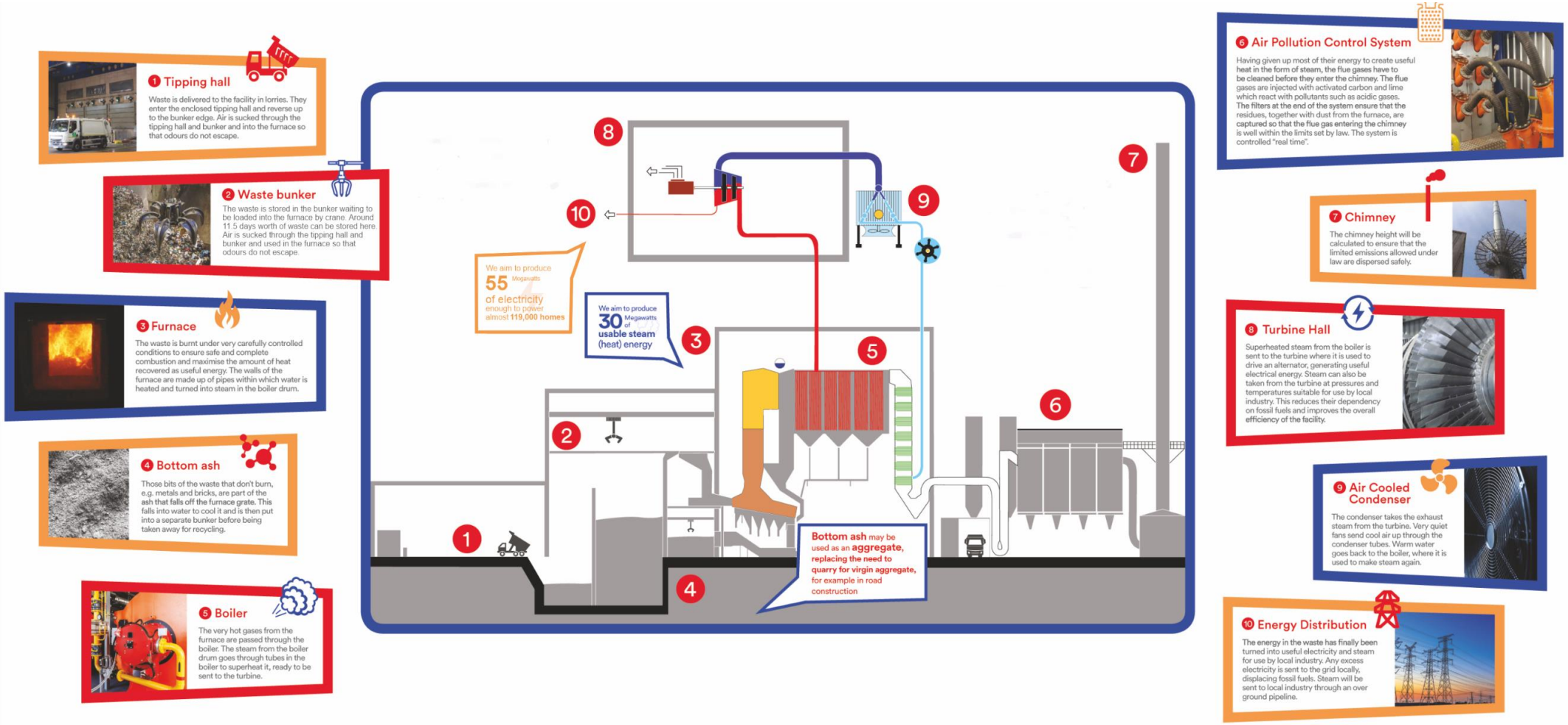
2.1.5 Once operational, the EfW CHP Facility would be capable of processing waste 24-hours a day, up to 365-days a year. However, operational hours for the delivery of waste to the EfW CHP Facility would be limited to 7am to 8pm each day. Outside of these hours, to ensure the EfW CHP Facility's continued operation and for security purposes, a shift team would be present.

2.1.6 There may be some occasions when waste deliveries are accepted outside the normal opening hours, for example, in the case of an emergency, to accommodate the delivery of waste where vehicles have been unavoidably delayed or in other similar circumstances.

2.1.7 Burning the waste produces two types of ash. The ash which falls off the grate, Incinerator Bottom Ash (IBA), contains waste that does not combust, such as stones and steel. This will be exported from the EfW CHP Facility, recycled, and used by the construction industry. The second, smaller, fraction of ash is called Air Pollution Control residues (APCr) or 'fly ash'. This ash consists of small particles that have been captured by the air pollution control system's filters. This ash will be exported in sealed tankers and safely disposed of at a suitably licenced facility.

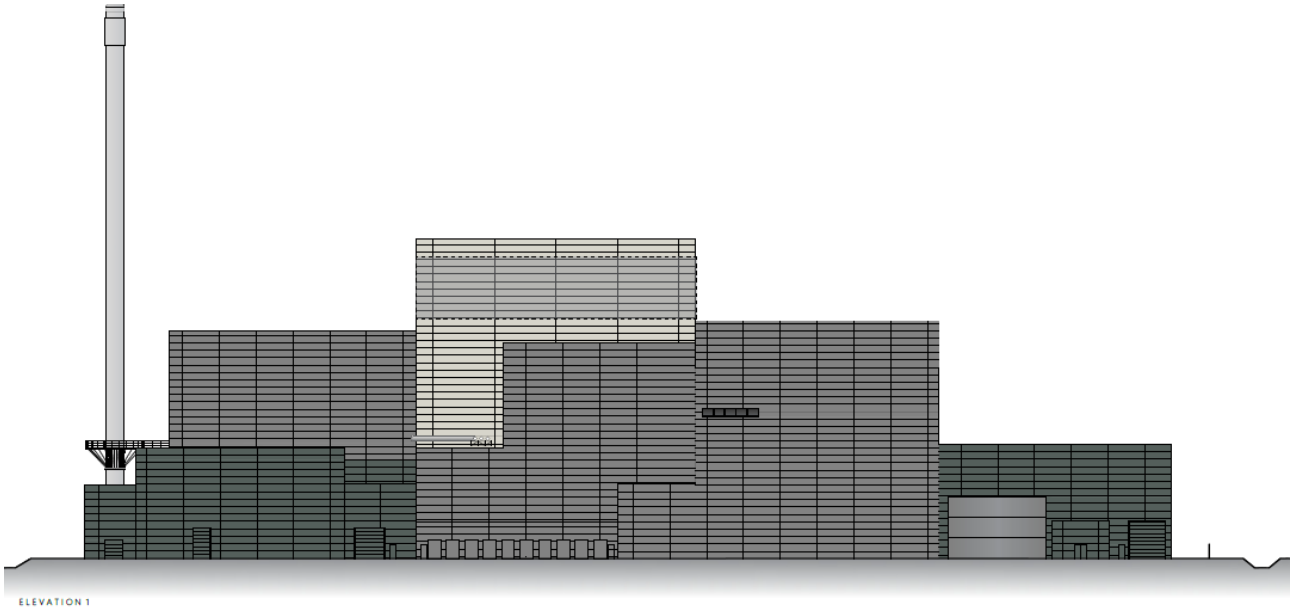
2.1.8 **Graphic 2.1: Overview of the process at the Medworth EfW CHP Facility** below provides an overview of the processes involved at the Medworth EfW CHP Facility. Further details about these processes can be found in **Chapter 3 (Description of the Proposed Development**, **Volume 6.2**) of the accompanying Environmental Statement (ES).

Graphic 2.1 Overview of the process at the Medworth EfW CHP Facility



2.1.9 The EfW CHP Facility includes several ancillary processes and buildings, such as weighbridges, a water treatment plant and an administration building. An overview of the site's layout is illustrated in **Figure 2.2: Medworth EfW CHP Facility Site Layout** at the end of this section and the eastern elevation in **Graphic 2.2: Medworth EfW CHP Facility External Eastern Elevation.**

Graphic 2.2: Medworth EfW CHP Facility External Eastern Elevation



2.1.10 Once operational, up to 40 staff would be employed in a range of skills including, electrical and mechanical engineers and skilled shift teams overseeing the safe operation of the facility. A Community Liaison Manager will be employed by the Applicant to oversee local educational, skills and environmental projects.

2.1.11 An administration building would be located in the north-east corner of the EfW CHP Facility Site, adjacent to the Algores Way entrance. The administration building would contain staff welfare facilities, offices and meeting rooms. A dedicated visitor area would be provided within the administration building. The visitor area would be used to accommodate visiting education and community groups. A selection of elevations of the administration building are illustrated in **Graphic 2.3 Administration building elevations**.

Graphic 2.3 Administration building elevations.

2.1.12 For the purpose of the environmental impact assessment, a working assumption has been made that the Proposed Development has an operational lifespan of approximately 40 years, however it should be noted that it is common for such developments to be operational for longer periods. At the end of its operational life the Proposed Development will be decommissioned and the environmental effects associated with the decommissioning phase are expected to be of a similar or lower level to those reported for the construction phase works, albeit with a lesser duration of one year. The likely significance of effects relating to the construction phase assessment reported in the topic chapters are therefore applicable to the decommissioning phase, unless otherwise indicated in the individual environmental topic chapters in this ES (**Chapters 6 to 18 (Volume 6.2)**).

2.2 Combined Heat and Power Connection

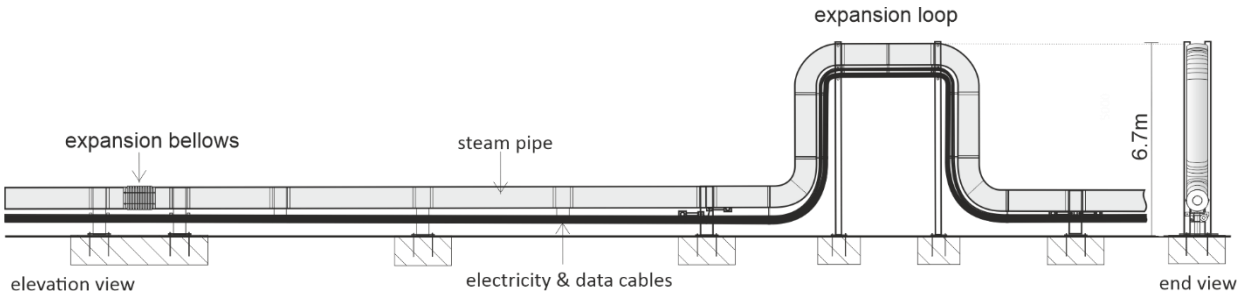
2.2.1 To enable the EfW CHP Facility to export steam and/or electricity to users on the surrounding industrial estate, a CHP Connection forms part of the Proposed Development. The CHP Connection would be located within the CHP Connection Corridor which runs along the eastern edge of the disused March to Wisbech Railway to Weasenham Lane with a spur enabling a CHP Connection to potential customers south of Weasenham Lane, including Lamb Weston. A pipe bridge would then take the CHP Connection over Weasenham Lane and the CHP Connection Corridor then continues until it reaches the Nestlé Purina site. The CHP Connection provides opportunities for the industrial businesses to access the renewable heat and power generated by the EfW CHP Facility.

2.2.2 The CHP Connection consists of a pipe to export steam and one to return the condensate (water) to the EfW CHP Facility, electrical and data cables can also be accommodated. The steam pipe would be located on a steel structure approximately 1.6m to 1.7m in height. At the point at which it would cross Weasenham Lane it would be fixed to a pipe bridge measuring approximately 25m in length. The pipe bridge would have an approximate height of 7m, with a 5.5m clearance from the highway.

2.2.3 To allow for expansion and contraction, approximately every 50-60 metres an expansion loop is located along the pipeline. **Graphic 2.4: CHP Connection Pipe**

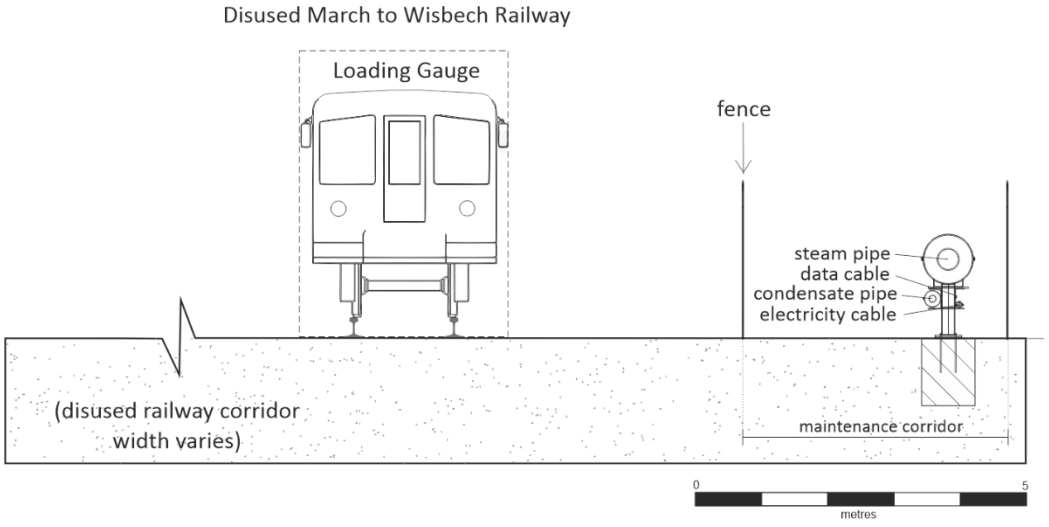
and Expansion Loop shows the CHP pipe and an expansion loop. At a point south of the rear of properties fronting Victory Road, expansion bellows would be used instead of expansion loops. These perform a similar function to the expansion loops but consist of a section of corrugated pipe in the same alignment and at the same height as the rest of the pipeline.

Graphic 2.4 CHP Connection pipe includingexpansion loop and expansion bellows



2.2.4 The Applicant supports the reopening of the March to Wisbech Railway and the wider benefits this would bring to the local community, therefore the Applicant has designed the CHP Connection to run alongside a future operational railway track. **Graphic 2.5: Illustrative CHP Connection and future railway track** provides an illustrative cross section of how the CHP connection could run alongside a reintroduced rail line.

Graphic 2.5 Illustrative CHP Connection and future railway track



2.3 Access Improvements

2.3.1 Rather than accessing the EfW CHP Facility Site via Algores Way/Weasenham Lane, (the current access arrangements to the waste transfer station) after construction, waste lorries will access the site via New Bridge Lane only. Only staff and visitors will use the Algores Way entrance.

2.3.2 To accommodate the new waste lorry access, which will also be used in part for construction, a section of New Bridge Lane will be widened and extended over the disused March to Wisbech Railway. The improvements along New Bridge Lane

include a pedestrian footpath with dropped kerb crossings, street lighting and a reduced speed limit of 30mph. The existing Internal Drainage Board culvert under New Bridge Lane will be replaced/extended, a UKPN Compact Substation will be moved and, to prevent 'rat running' and lorries turning left out of the EfW CHP Facility Site, a chicane and removable bollard (if required) is proposed[1].

Operational access into the EfW CHP Facility Site for staff and visitors will be from a new access located 20m to the south of the existing site access off Algores Way.

2.4 Water Connections

2.4.1 A new water main will be required to connect the EfW CHP Facility into the local network. The pipe to carry the water would run from the southern boundary of the site, under New Bridge Lane and the A47, to join an existing Anglian Water, water main. There are two options to pass the pipe under the A47. One option involves an open cut excavation across the carriageway whilst the second would use a horizontal directional drill the location for which would be within the existing orchard located immediately to the north of New Bridge Lane and west of the A47.

2.5 Grid Connection

2.5.1 To enable the exportation of power (electricity) it is necessary to connect the EfW CHP Facility to the national grid. Two options for this connection were presented at statutory consultation and following a review the Applicant has chosen to take forward the option to connect to UKPNs existing substation at Walsoken (the Walsoken DNO Substation).

2.5.2 The Grid Connection to the Walsoken DNO Substation would consist of a 132kV underground cable (UGC) comprising three insulated single core cables. In addition, a fibre optic cable would be laid for telemetry purposes. The UGC would be located within the highway of New Bridge Lane and highway verge which runs alongside the A47. At the junction of the A47 with Broadend Road, the cable would run under Broadend Road and connect into a new Walsoken Substation. This substation would be constructed and operated by the Applicant on land immediately to the south of the Walsoken DNO Substation, on land owned by UKPN. From here it would run underground to the above ground substation infrastructure at the Walsoken DNO Substation.

2.5.3 The cables would be laid in an open cut excavation up to 2000mm deep. To join the sections of cable, up to seven joint bays would be located along the Grid Connection Corridor. One joint bay would be required along New Bridge Lane with six in the western highway verge of the A47. The bays would be approximately 10m in length and 2.5m in width with a depth of up to 2000mm.

2.6 Construction and the Temporary Construction Compound

2.6.1 The Applicant's current programme assumes construction starting in late 2023 and running for three years with completion in 2026. The core working hours would be

[1] Access to route east along New Bridge Lane will be retained for the occupants of 10 New Bridge Lane.

7a.m. to 7p.m. Monday to Friday, 8a.m. to 4p.m. on Saturdays, and no work on Sundays, Public Holidays or outside these core hours would take place without prior approval from the relevant local authority. One hour either side of these core hours will allow the construction workforce to arrive, mobilise and then leave site at the end of the working day.

2.6.2 An exception to the working hours set out above is the Grid Connection. In discussions with National Highways, the body responsible for the A47, the Applicant has agreed to undertake the construction of the Grid Connection at night between 8p.m. and 6a.m., a time during which traffic levels are lower. Each night an area approximately 300m in length would be closed off on the northbound carriageway of the A47 and a 200m length of trench excavated in the verge. During the day, all traffic management measures would be removed and the carriageway reopened.

2.6.3 Construction of the EFW CHP Facility, Access Improvements, CHP Connection and Grid Connection, will be organised from a Temporary Construction Compound (TCC) located adjacent to the EfW CHP Facility Site. It is here that all the staff welfare buildings will be located, vehicles parked, and the project managed. All staff and visitors during construction would access this compound via Algores Way. Lorry access during construction will use New Bridge Lane and, to a lesser extent, Algores Way.

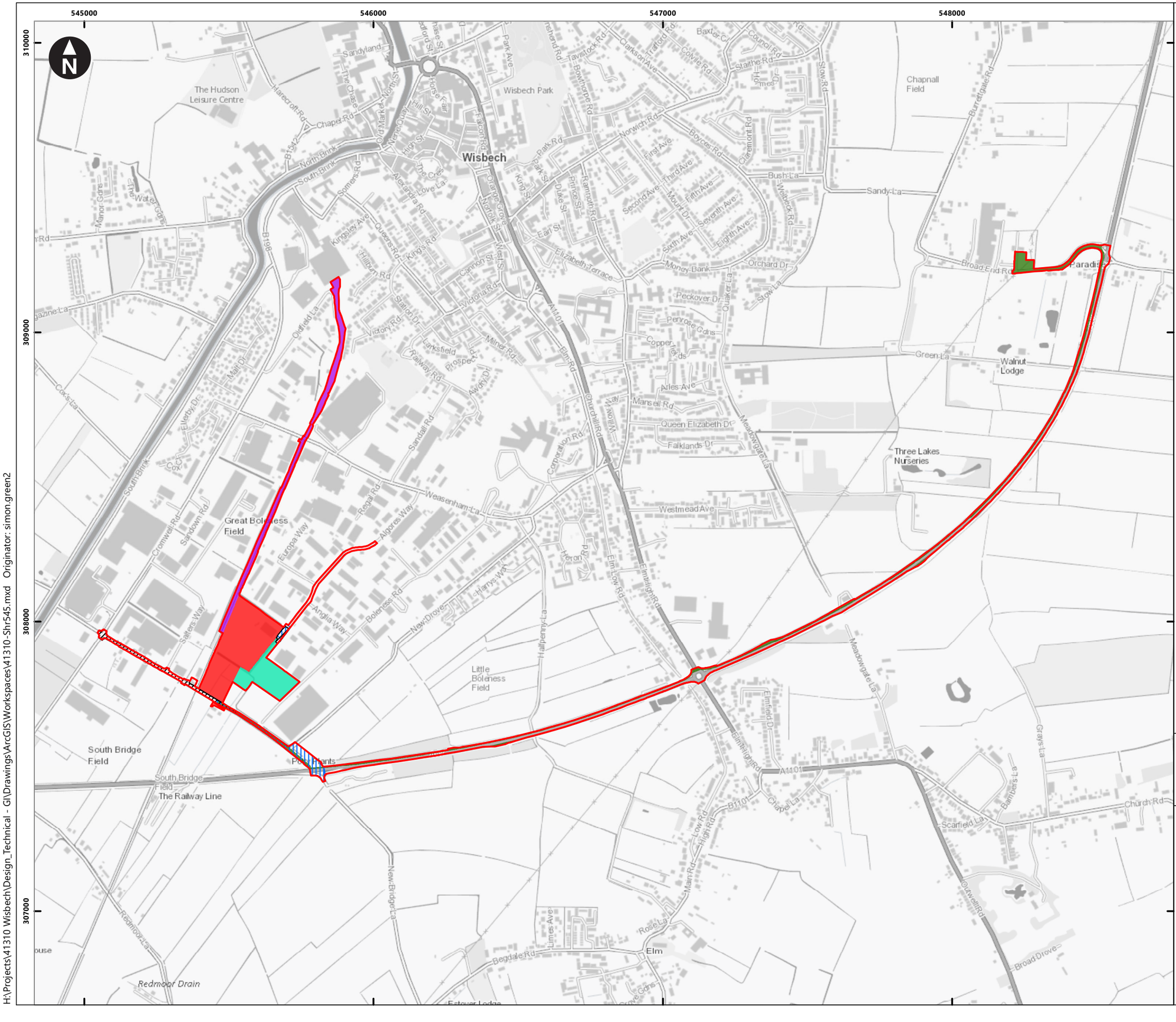
2.6.4 It is anticipated that up to 700 staff would be employed during the construction process. At its peak, a maximum of 500 staff would be onsite at any one time.

2.7 Operation

2.7.1 The EfW CHP Facility is designed to accept residual household and industrial and commercial waste. Residual waste is mixed waste that cannot be usefully reused or recycled. The residual waste would be delivered in lorries which would access the site from New Bridge Lane. Having passed over the weighbridge they would enter the enclosed tipping hall to tip their waste. The waste would be mixed and stored in the main waste bunker prior to being loaded into the furnace. The heat generated by the furnace would be used to create steam which would drive the turbine to create electricity. Heat can also be taken and transported to local customers using the CHP Connection.

2.7.2 Gases released by the process are heated at high temperatures to remove organic compounds before being passed into an air pollution control system to remove other potential pollutants. Once the flue gas has been cleaned, it would be analysed using a comprehensive system of continuous emissions monitoring equipment and periodic manual sampling. The treatment process would be adjusted to ensure that the emissions meet the strict emission limits set out in the Environmental Permit granted by the Environment Agency. Finally, the treated flue gases would be discharged to the atmosphere, via the chimneys.

2.7.3 When operational, up to 40-full time staff will be employed at the EfW CHP Facility.



Key

- Order limits
- EfW CHP Facility Site
- CHP Connection
- Temporary Construction Compound
- Grid Connection
- Access Improvements
- Water Connections

0 100 200 300 400 500 600 700 m

Scale at A3: 1:12,500

Client

Medworth CHP Limited
Medworth Energy from Waste Combined Heat and Power Facility
Non Technical Summary

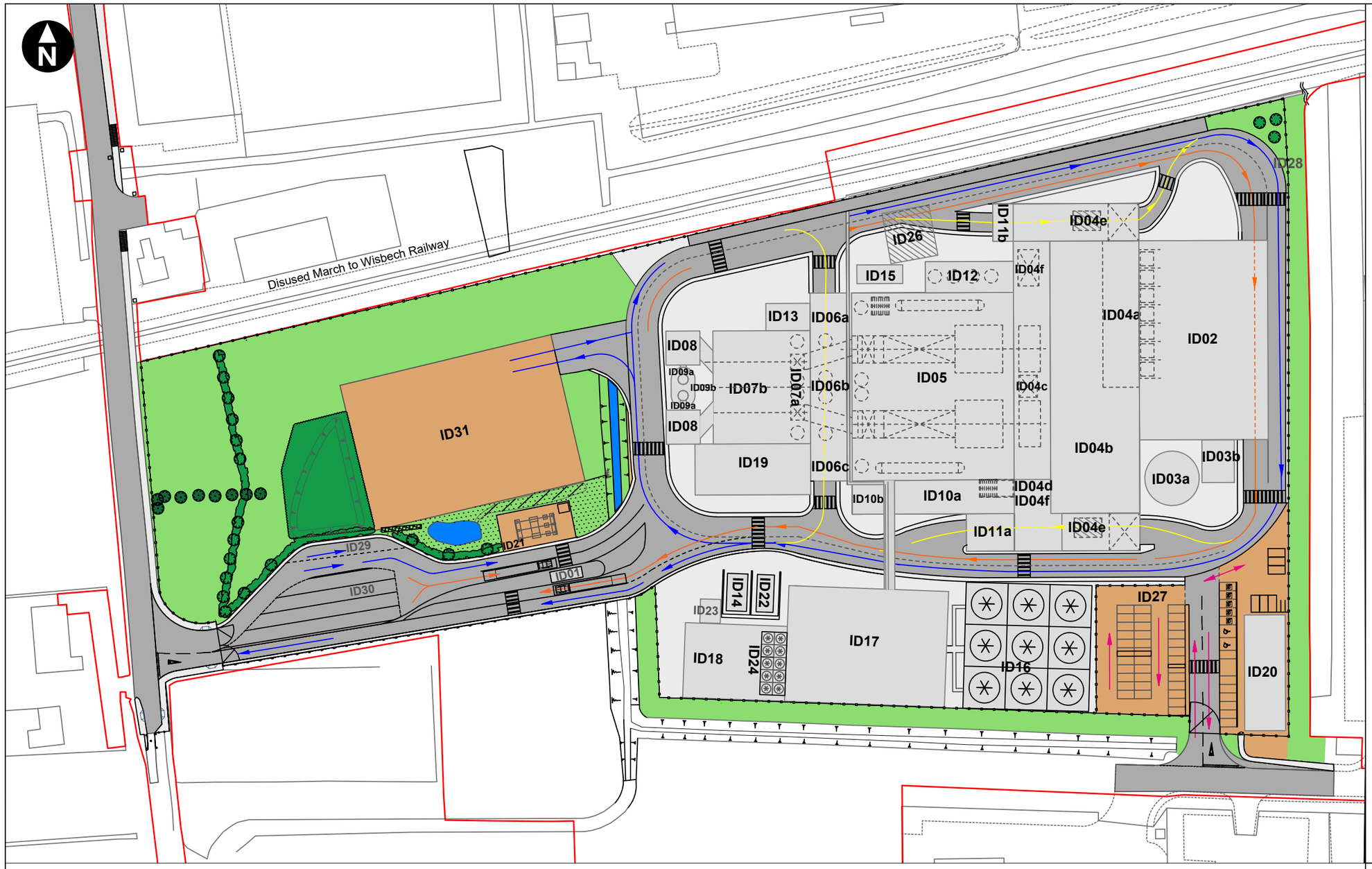
Figure 2.1
Project Components

June 2022

wood.

41310-Shr545

H:\Projects\41310 Wisbech\Design_Technical - GI\Drawings\ArcGIS\Workspaces\41310-Shr545.mxd Originator: simon.green2



Key

ID01: Gatehouse/weighbridge
ID02: Tipping hall
ID03: Fire water tank & fire water pump cabin
(ID03a): Fire water tank
(ID03b): Fire water pump
ID04: Waste bunker building
(ID04a): Tipping bunker
(ID04b): Main waste bunker
(ID04c): Main waste chute
(ID04d): Control room
(ID04e): Crane maintenance area
(ID04f): IBA storage bunker and loading areas
ID05: Boiler house building
ID06: Air pollution control storage area
(ID06a): Loading area
(ID06b): APCr silos
(ID06c): Loading area
ID07: Air pollution control building
(ID07a): APC plant,silos and reactors
(ID07b): Bag filter houses
ID08: Induced draft fans cabins
ID09: Chimneys & continuous emission monitoring systems (CEMS)
(ID09a): 2x chimneys
(ID09b): CEMS platform
ID10: Switch gear building
(ID10a): Switch gear building north
(ID10b): Switch gear building south
ID11: IDB loading enclosures
(ID11a): IDB loading enclosures east
(ID11b): IDB loading enclosures west
ID12: Diesel tanks and urea tanks building
ID13: Compressed air station
ID14: Main transformer
ID15: Emergency diesel generator
ID16: Air cooled condensor
ID17: Turbine hall
ID18: Water treatment plant
ID19: Workshop and stores
ID20: Administration building
ID21: 132kV Switching compound
ID22: Private wire transfer
ID23: Private wire switchgear compound
ID24: Water re-cooling system
ID25: Steam and condensate plates
(ID25a): Steam and condensate pipelines to/from boiler house building
(ID25b): Steam and condensate pipelines to/from CHP connection
ID26: Mobile crane slab
ID27: Parking area
ID28: Fence/gates line
ID29: Layby
ID30: Vehicle queuing area
ID31: Laydown maintenance area

0 m 50 m

Scale 1:1250 @ A3

Key:

Order limits

Vehicle Circulation:

Vehicle movements over weighbridge

Waste deliveries IBA, APCr and consumables

Vehicle movements bypassing weighbridge

Staff and visitors

Client

Medworth CHP Limited
Medworth Energy from Waste Combined Heat and Power Facility
Non Technical Summary

Figure 2.2
EfW CHP facility site layout

June 2022

wood.

41310-Shr546.dwg

\\woodplc.net\Wood\UK\SAL\SAL-FS12-Shared\Projects\41310 Wisbech\Design_Technical - GIS\Drawings\ACAD\41310-Shr546.dwg Originator: ADAM.GUY

3. Environmental assessment and the identification of significant effects

3.1 The process of environmental assessment

3.1.1 **Section 1** of this Non-Technical Summary explained that the application must be accompanied by an Environmental Impact Assessment (EIA) because the Proposed Development is a Nationally Significant Infrastructure Project. The process of undertaking this assessment includes collecting information on existing environmental conditions (often called the baseline), consultation with consultees and members of the public, and an understanding of what is proposed and how it might affect the existing environment. Conclusions are then reached on whether the Proposed Development would have likely significant environmental effects (either positive or negative). The EIA process is reported in the ES which is submitted with the application.

3.1.2 How significant environmental effects are determined requires an understanding of the sensitivity of the existing environment and the scale of the change resulting from the development as proposed. For example, a change to a very sensitive environment (i.e., a Receptor) might only need to be small to create a significant effect.

3.1.3 Each of the environmental topics which are reported in the ES and summarised in this Non-Technical Summary explain how the conclusions on significance have been reached.

3.2 How the Proposed Development has been designed to reduce significant environmental effects

3.2.1 Important to understanding how the Proposed Development might affect existing environmental conditions are the measures that have been put in place to avoid or reduce significant effects. These are known as ‘mitigation’ measures. Those which form part of the Proposed Development itself are said to be embedded into its design.

3.2.2 The consultation process which the Applicant has undertaken has informed some of the embedded measures which are included as part of the Proposed Development. In addition, policy guidance, best industry practice and regulation have also been influential. Each of the individual environmental topic chapters in this ES (**Chapters 6 to 18 (Volume 6.2)**) identify embedded measures relevant to that topic whilst a summary of measures is provided within ES **Chapter 19 Schedule of Mitigation and Monitoring (Volume 6.2)**.

3.2.3 The Applicant has prepared a number of documents which would be secured as part of the application and whose purpose is to ensure measures are delivered. Key documents include the **Outline Construction Environmental Management Plan (CEMP) (Volume 7.12)**, the **Outline Construction Traffic Management Plan**

(CTMP) (Volume 6.4) and the **Outline Landscape and Ecological Management Plan (LEMP) (Volume 7.7)**.

3.3 The identification of likely significant effects and mitigation measures

3.3.1 Taking into account the mitigation measures embedded into the design and with an understanding of the existing environmental conditions, it is possible to identify which aspects of the environment might be significantly affected, positively or negatively.

3.3.2 The negative significant effects are listed within individual topic chapters of the ES and summarised in the following sections of this Non-Technical Summary. Grouped, they are:

- A restriction to prevent easy pedestrian access across New Bridge Lane because of the number of lorries arriving and departing the EfW CHP Facility (ES **Chapter 6 Traffic and Transport Volume 6.2**).
- Individual and cumulative noise and visual effects to occupiers of residential and commercial properties during the construction of the EfW CHP Facility, and to two residential properties during operation (ES **Chapter 7 Noise and Vibration** and **Chapter 9 Landscape and Visual,** both **Volume 6.2**).
- Visual effects to a property at the southern end of B198 (Cromwell Road), the village of Begdale, for users of a public right of way at Halfpenny Lane (Elm – northern end of New Drove), and a part of the Nene Way to the south of Wisbech, together with seven other locations (six of which are within 1.6km of the EfW CHP Facility) (ES **Chapter 9 Landscape and Visual (Volume 6.2)**).

3.3.3 Additional mitigation measures are identified to reduce or minimise the significant effects which have been identified. These include the provision of a pedestrian crossing close to the junction of Cromwell Road and New Bridge Lane, additional measures regarding the management of noise and vibration and the purchase or compulsory acquisition of 9 New Bridge Lane to remove its use as a residential property. The Applicant also proposes the erection of an acoustic fence to the front and side of 10 New Bridge Lane to reduce levels of noise which would otherwise be experienced at the property.

3.3.4 As a result of the additional mitigation measures the remaining residual negative significant effects are the visual effects referenced above.

3.3.5 The Proposed Development could also give rise to positive significant effects. These are direct effects resulting from the employment of approximately 700 construction workers together with additional, indirect employment effects. The use of local suppliers would also produce a positive significant effect. The Applicant would aim to deliver these benefits through the implementation of the **Outline Employment and Skills Strategy (Volume 7.8)**

4. Traffic and Transport

4.1 How traffic and transport effects have been assessed

4.1.1 The traffic and transport effects of the Proposed Development have been assessed for the construction and operation phases and include for a new access from New Bridge Lane to the EfW CHP Facility Site. The assessment has been informed by the Scoping Opinion and by Stakeholder consultation, most notably with the relevant highway authorities. It has used appropriate methodologies and it has been informed by national and local planning policies together with baseline traffic surveys. These were undertaken on surrounding roads in October 2021 at locations agreed with the relevant highway authorities. The assessment also accounts for future growth in traffic volumes. Decommissioning has been assumed to involve fewer vehicle movements than construction.

4.1.2 An **Outline Construction Traffic Management Plan (CTMP) (Appendix 6A Volume 6.4)** has been prepared, setting out how the potential impacts of construction lorries and staff vehicles can be mitigated and managed.

4.1.3 Full details of the Traffic and Transport assessment can be found in ES **Chapter 6 Traffic and Transport (Volume 6.2)**.

4.2 Baseline assessment

4.2.1 A baseline assessment has been undertaken to review the existing road network and identify two Study Areas. The first Study Area is a wide area covering the roads used to provide access for all construction vehicles. The second is a smaller area that considers the local access routes to serve the EfW CHP Facility when operational.

4.2.2 The existing road network can be described in two parts. First, the strategic road network, principally the A47, provides access from Wisbech to Peterborough, King's Lynn and further afield. Secondly, the local road network serving the local rural communities and Wisbech town.

4.2.3 The A47, leading onto Cromwell Road and then New Bridge Lane, will be the main point of arrival for lorries associated with the operation of the EfW CHP Facility.

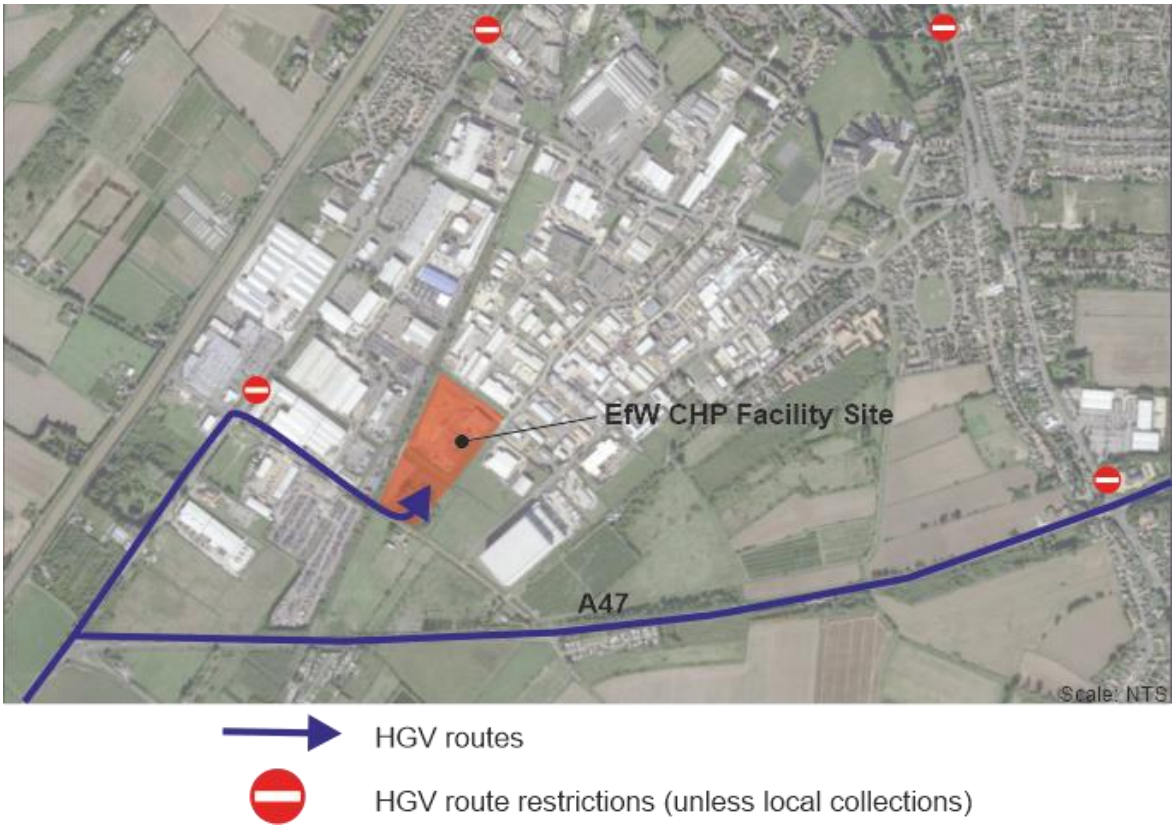
4.2.4 Baseline traffic flows for the main access route to the EfW CHP Facility were recorded in 2021. For those closest to the Proposed Development flows on Cromwell Road from the A47 to New Bridge Lane annual weekday flows were recorded as being 14,775, 6.4% of which were HGVs, and on New Bridge Lane itself as being 791, 21.9% of which were recorded as HGVs.

4.3 Embedded environmental measures

4.3.1 A range of environmental measures have been embedded into the Proposed Development and several of these are key to managing traffic and transport effects, including:

- A lorry routing strategy to allow local, but prevent regional, deliveries through Wisbech town during construction and operation, see **Graphic 2.6 Operational HGV routing restrictions**;
- Use of the A47 as a primary means of access to the site;
- The provision of appropriate signage, the creation of a new access and improvements to New Bridge Lane which include for its reopening across the site of the disused March to Wisbech Railway, the provision of a footpath, street lighting and pedestrian crossing points;
- The preparation of an **Outline Construction Traffic Management Plan (ES Appendix 6A, Volume 6.4)** and an **Operational Travel Plan (ES Appendix 6C, Volume 6.4)** to mitigate the environmental effects associated with road traffic and to encourage access to the site by sustainable forms of transport; and
- Road condition surveys before and after the construction phase.

Graphic 2.6: Operational HGV routing restrictions



4.4 Likely significant effects

4.4.1 The traffic and transport assessment considers the environmental effects which could arise from congestion (including upon public transport), accidents and as a result of an increase in vehicle movements along the roads which would be used by vehicles accessing the Proposed Development for construction or operational purposes. The assessment is informed by a review of accident data and junction modelling using the information obtained from the baseline traffic surveys.

4.4.2 In the peak construction month (month 14) there would be a maximum of 643 daily traffic movements, inclusive of 187 lorries, arriving and departing during weekdays. There would be lower numbers at the weekend and in other months.

4.4.3 When it is operational there would be 362 daily traffic movements, 78 of which would be the movement of staff cars and light vehicles and 284 heavy goods vehicles (HGV). Traffic volumes at weekends would again be lower.

4.4.4 The assessment concludes that there would be no significant increase in accidents during the construction and operational phases as a result of the Proposed Development. Modelling indicates that junction capacities would not be exceeded.

4.4.5 The assessment of the construction and operational phases indicates a significant effect on New Bridge Lane due to the increase in HGVs. To address this issue, which is known as ‘severance’ (an effect which can occur when vehicle numbers are sufficiently high to deter pedestrians from wanting to cross the road) a pedestrian crossing of New Bridge Lane is proposed. The crossing would be at the junction of New Bridge Lane and Cromwell Road. At this location currently no formal crossing exists, and the proposed pedestrian crossing would include tactile paving at new dropped crossings. With this in place the concluding residual effect is not significant.

5. Noise and Vibration

5.1 How noise and vibration effects have been assessed

5.1.1 An assessment of potential noise and vibration effects due to the Proposed Development has been undertaken in accordance with appropriate methodologies, relevant British Standards and national and local planning policies. The assessment has been informed by the Scoping Opinion, consultation responses and Stakeholder engagement with organisations such as the relevant local authorities. Decommissioning is assumed to involve noise levels of a similar level to those which would be generated during construction. As no ecological (non-human) Receptors sensitive to noise and vibration impacts have been identified they have also been scoped out of the assessment.

5.1.2 Noise and vibration increase due to construction and operational traffic rely on traffic counts that are referred to in **Section 4** above.

5.1.3 Full details of the Noise and Vibration assessment can be found in ES **Chapter 7 Noise and Vibration (Volume 6.2)**.

5.2 Baseline assessment

5.2.1 Noise monitoring data was obtained from surveys undertaken in November 2021, and together with traffic surveys, these have informed the assessment of noise generated by the construction and operation of the Proposed Development. The surveys were undertaken at or near to properties near the EfW CHP Facility Site and along the route of the Grid Connection. Eight short-term and three long-term monitoring locations, were used and it has been concluded that the current sound climate is dominated by local road traffic, and industrial noise from the existing industrial area.

5.3 Embedded environmental measures

5.3.1 An **Outline Construction Environmental Management Plan (CEMP) (Volume 7.12)** is submitted with the DCO application. This **Outline CEMP** includes measures to control noise levels during the construction of the Proposed Development within an appended Construction Noise Management Plan. The Applicant has also prepared an **Operational Noise Management Plan (ES Appendix 7D, Volume 6.4).**

5.3.2 Measures to reduce noise from the operation of the EfW CHP Facility would include:

- Operating within construction hours as prescribed within the **Outline CEMP (Volume 7.12)**;
- Limiting the hours during which waste is delivered;
- Regular inspection and maintenance of roads within the EfW CHP Facility Site;

- The use of continuous flight auger piles (‘corkscrewing’) in preference to percussion piles (‘hammering’) to reduce vibration;
- Controlling noise emissions from major processes by enclosing them within buildings;
- The appropriate specification of noise reduction louvres and vents; and
- Careful plant design and selection.

5.4 Likely significant effects

5.4.1 The environmental assessment identifies potential significant effects arising from construction noise at residential and commercial properties in proximity to the EfW CHP Facility Site along with a potential for significant construction and traffic related vibration effects to occur at one residential property.

5.4.2 Significant noise effects from the operation of the EfW CHP Facility would occur at two residential properties, 9 and 10 New Bridge Lane.

5.4.3 In view of the assessment conclusions additional mitigation is proposed by the Applicant which in relation to construction noise include the measures set out in the **Outline CEMP (Volume 7.12)** and additionally:

- Selection of quieter plant.
- Use of alternative construction methods.
- Programming of activities to avoid overlapping of intensive works in the vicinity of the closest Receptor locations.
- Provision of local screening; and
- In cases where, despite the implementation of the above or other methods, significant effects cannot be avoided, then additional noise insulation may be provided or temporary rehousing offered. Criteria triggering eligibility for additional noise insulation or temporary rehousing is provided in **Appendix 7B Construction Noise Assessments (Volume 6.4)**.

5.4.4 The Applicant is in negotiation with the owner of 9 New Bridge Lane to purchase the property or failing that compulsorily acquire it. At 10 New Bridge Lane the Applicant proposes to erect an acoustic fence at the start of the construction phase. Regarding the potential for vibration effects arising from the construction of the New Bridge Lane Access Improvements, residents in close proximity to vibratory rollers will be informed of the nature, extent and duration of the works being undertaken and that they will be limited in duration and number. To address any potential for cosmetic damage to buildings, building condition surveys will be offered before and after works with any damage identified made good. Significant effects during operation would be addressed by the acquisition of 9 New Bridge Lane and cessation of its residential use and the provision of the acoustic fence to the frontage and side of 10 New Bridge Lane as referenced above.

5.4.5 With the additional mitigation measures in place, significant noise and vibration effects are not predicted.

6. Air Quality

6.1 How air quality effects have been assessed

6.1.1 The environmental impact assessment of air quality considers the potential for effects on the environment from air emissions from the storage of waste, the chimneys, and road traffic associated with the Proposed Development. It has modelled the effect of levels of pollution on people and important ecological sites. The Study Area for consideration of effects from the operation of the chimneys covers a 15km radius which is in line with Environment Agency guidance. The assessment considers the construction and operation effects with those created by decommissioning considered to be the same or less than construction. The assessment has been informed by the Scoping Opinion, consultation responses and Stakeholder engagement, such as the Environment Agency and relevant local authorities and it has used appropriate methodologies and has taken into consideration national and local planning policies.

6.1.2 An assessment of potential effects created by dust has also been undertaken. The assessment considers the effects of dust during construction on people within 350m of the site boundary and within 50m of construction vehicle routes up to 500m from the entrance to the construction site. The impact of odour from the storage of waste during abnormal operation is also considered.

6.1.3 Full details of the Air Quality assessment can be found in ES **Chapter 8 Air Quality (Volume 6.2)**.

6.2 Baseline assessment

6.2.1 Information about existing air quality in Wisbech has been gathered from Fenland District Council. In addition, data and tools for the dispersion modelling have been obtained from the Department for Environment, Food and Rural Affairs (Defra). Fenland has declared three AQMA (Air Quality Management Areas) and operate two continuous monitoring sites together with 25 passive monitoring locations.

6.2.2 To gather further data and to provide a robust understanding of the effects from the Proposed Development on existing air quality conditions in the vicinity, the Applicant has undertaken additional air quality monitoring data at 14 locations in and around Wisbech including continuous monitoring at the Thomas Clarkson Academy. This monitoring found that commonly recorded pollutant concentrations are below their respective thresholds at all monitoring stations.

6.3 Embedded environmental measures

6.3.1 Appropriate measures would be incorporated into the Proposed Development to ensure that there would be no significant effects on sensitive Receptors.

6.3.2 The measures proposed are:

- An **Outline Construction Environmental Management Plan (Volume 7.12)** which incorporates measures to minimise dust emissions during construction activities;
- The use of technologies within the EfW CHP Facility which represent best practice, and which clean and continuously monitor the emissions generated by its operation;
- The height of the chimneys, designed to ensure that emissions are dispersed appropriately; and
- Measures to minimise odour at all times contained within an **Outline Odour Management Plan (Volume 7.11)**.

6.4 Likely significant effects

6.4.1 The assessment has concluded that there will be no significant effects on people in the vicinity of the Proposed Development with the appropriate embedded mitigation measures.

6.4.2 Whilst increases in pollutant concentrations emitted from chimneys and the vehicles delivering to the Proposed Development are expected, these are predicted to be negligible increases and would not exceed commonly agreed air quality standards. They would not affect the health of people living in the area or negatively affect important ecological habitats.

6.4.3 The Air Quality Assessment is supported by a separate **Human Health Risk Assessment (Annex G to Appendix 8B, Volume 6.4)**. This assesses the overall human exposure to pollutants by the local population and then the risk that this exposure causes. It considers extreme worst-case assumptions such as a farmer living at the closest farming area to the EfW CHP Facility with all their food reared and grown at that location. The impact of emissions generated by the Proposed Development upon this farmer is not significant.

7. Landscape and Visual

7.1 How landscape and visual effects have been assessed

7.1.1 The Landscape and Visual Impact Assessment (LVIA) has been undertaken in accordance with best practice guidance and has been informed by national and local planning policies, together with responses to scoping and ongoing consultation with Stakeholders such as the relevant local authorities. It has looked at a Study Area within a 17km radius from the centre of the EfW CHP Facility Site. It has assessed the effects arising from construction and operation with decommissioning effects considered to be the same or less than construction.

7.1.2 Several maps and visualisations have been prepared to help inform the assessment, and these include:

- A series of computer-generated maps to illustrate the surrounding areas where it may be possible to see the Proposed Development; and
- Images from 30 viewpoints, with photomontage images or wireframes[2] of the Proposed Development generated for a selection of those viewpoints.

7.1.3 The mapping and visualisations are supported by comprehensive field work to understand the landscape character of the Study Area as well as, for instance, the townscape character of Wisbech. Visits were also undertaken to areas important for recreational purposes as well as residential locations.

7.1.4 Full details of the Landscape and Visual assessment can be found in ES **Chapter 9 Landscape and Visual (Volume 6.2)**.

7.2 Baseline assessment

7.2.1 The EfW CHP Facility Site is located on the southern side of Wisbech within an area of industrial, commercial, and business development. The existing waste transfer station includes a waste reception building , office and welfare facilities. To the east of the existing entrance to the EfW CHP Facility Site, there is for instance the Lineage Logistics cold storage facility which is approximately 33m high. The CHP Connection would run north along the route of the disused March to Wisbech Railway which is currently overgrown.

7.2.2 The topography of the land in the area is flat which is typical of the wider Fens. There is a dense network of drainage ditches in place and that is a key landscape characteristic across the Study Area. Tree cover is generally limited, but sometimes restricts some middle and long-distance views. There are orchards (mainly in the south-west and east of Wisbech) but also narrow tree shelterbelts and higher levels of tree cover in settlements and in the larger gardens that typically surround more isolated properties.

[2] this type of visualisation represents the 3D form of development in its context, but not overlaid onto a photograph

7.2.3 Wisbech is the largest settlement within the Study Area. Outside of Wisbech, the settlements become more dispersed, especially to the east and west. Settlements are most common to the south-east (Elm, Emneth, Friday Bridge, Outwell and Upwell) and to the north-east (Walton Highway, West Walton and Ingleborough).

7.2.4 There are a number of promoted walking and cycling routes that cross the Study Area. These include the Nene Way and National Cycle Routes 1 and 63, which are the closest routes to the Proposed Development.

7.2.5 The route of the Grid Connection is on highways land, whilst the location for the Walsoken Substation is currently occupied by landscaping between Broadend Road and the front of the existing Walsoken DNO Substation.

7.3 Embedded environmental measures

7.3.1 The embedded environmental measures that have influenced the landscape and visual assessment are as follows:

- Limiting night-time lighting to security and safety only. The Applicant has prepared an **Outline Lighting Strategy (Volume 6.4**) to minimise lighting on the site and which commits to the use of appropriate deflectors and hoods and positioning to achieve the necessary illumination levels whilst minimising light spill and glare for example.
- The preparation of an **Outline Landscape and Ecology Strategy** which includes opportunities to create natural habitats. This is illustrated in **Figure 3.14 (Volume 6.3)**. Habitats to be created in wet woodland and species rich wet grassland.
- The preparation of an **Outline Landscape and Ecology Management Plan (Volume 7.7)** which set out measures to manage the habitats and landscapes created.
- The architectural design, which seeks to minimise the overall mass of the EfW CHP Facility within the functional requirements, with cladding materials and colours that reflect the surrounding context, final details of which would be agreed with the relevant local authority.
- The use of expansion bellows near ground level, as opposed to taller expansion loops, where the CHP Connection would run behind residential properties.
- The undergrounding of the Grid Connection which removes any operational landscape and visual effects.

7.4 Likely significant effects

7.4.1 The landscape and visual assessment considered the potential effects of the Proposed Development on:

- the character of the landscape;
- the character of the town of Wisbech; and

- Views from numerous different locations within the Study Area which include:
  - residential areas, groups of dwellings or individual properties;
  - footpaths, cycleways and visitor attractions; and
  - roads, including different sections of the same road.

7.4.2 The assessment has concluded that there would be no significant landscape or townscape effects apart from locally significant effects within the landscape character area closest to the Proposed Development. This is known as the Wisbech Settled Fen landscape character area. There would be some significant visual effects during construction and operation whilst effects arising from decommissioning are likely to be similar to those identified for construction. The visual effects which have been identified would be to:

- Residents of 9 and 10 New Bridge Lane during construction and operation;
- Residents of No. 25 Cromwell Road would see the construction and final form of the middle and upper sections of the EfW CHP Facility above existing commercial buildings;
- A small number of properties on the northern edge of Begdale;
- People walking along a section of the Nene Way – south of Wisbech;
- Cyclists using a stretch of the Sustrans National Cycle Route 63 heading into Wisbech approximately 1.3km from the EfW CHP Facility;
- People walking along Halfpenny Lane towards Wisbech would experience short-lived close distance views;
- People using public rights of way (PRoW) west of Begdale: Crooked Bank/Narrow Drove/Broad Drove at a distance of 1-2.9km would see upper parts of the main building and chimneys once the EfW CHP Facility had been constructed;
- Recreational users of the PRoW 'The Still', south of Leverington for the operational phase only and at a distance of 1.8km to 2.8km would see the EfW CHP Facility as a focal point low above a short section of the south-eastern horizon above the intervening vegetation;
- Vehicular users of the A47 eastbound (to Wisbech) which would be short-lived and when operational, seen in the context of the existing cold store and other buildings; and
- Vehicular users of the B198 Cromwell Road (southwest of Wisbech town centre) although during both construction and operation the Proposed Development would be seen in the context of existing buildings and would be often screened by them in close-up views.

7.4.3 Of the residential Receptors referenced above, **Section 5 Noise and Vibration** confirms that land within the curtilage of 9 New Bridge Lane would be acquired by the Applicant and its residential use would cease thereby also removing it as a visual Receptor.

8. Historic Environment

8.1 How historic environment effects have been assessed

8.1.1 The assessment of likely significant effects on the historic environment involved analysing records about listed buildings, scheduled (protected) monuments, known archaeology, historical mapping, and the results of a site visit. The requirements of national and local planning policy, professional guidance, and responses from consultation with various Stakeholders such as Historic England and the relevant local authorities underpinned the assessment.

8.1.2 The purpose of the analysis was to identify all historic features close to the Proposed Development, including the Grid Connection, to understand if and how they could be affected by its construction and/or operation. The assessment made use of a photomontage from North Brink as well as computer-generated maps to show the extent to which the Proposed Development would be seen from this and other historic locations.

8.1.3 The effects from both the construction and operation phases have been assessed with decommissioning effects considered to be the same or less than those generated at construction. Full details of the Historic Environment assessment can be found in ES **Chapter 10 Historic Environment (Volume 6.2).**

8.2 Baseline assessment

8.2.1 The EfW CHP Facility Site and its construction compound is located on the former Great Boleness Field. The field was used for agricultural purposes during the 19th century, and from the start of the 20th century it was increasingly used as an area of orchards and market gardens. Nearby previous archaeological investigations indicate there is the potential for the survival of Roman period remains in this area. Boreholes dug within the EfW CHP Facility Site have identified bands of peaty material, which are likely to derive from a freshwater marsh deposit. These interface with deposits of yellow sandy and silty clays, which may be estuarine in origin.

8.2.2 The Access Improvements and CHP Connection cross or follow the disused March to Wisbech Railway. This railway was opened in 1847 and was closed to passengers in 1968, reduced to a single track in 1972 and finally closed to freight in 2000.

8.2.3 The proposed route for the Grid Connection passes through highway land which would have been previously agricultural and for the most part historically undeveloped. Given the construction works necessary to construct the highways the potential for archaeological remains is considered to be low.

8.2.4 Historic features which are designated for their significance tend to be in the nearby settlements of Wisbech and Elm, which have a good proportion of listed buildings, many of which are located within Conservation Areas.

8.3 Embedded environmental measures

8.3.1 The embedded environmental measures include the adoption of a fully underground cable for the Grid Connection which removes the potential for any visual effects from the operation of the Grid Connection upon the setting of heritage assets such as listed buildings. The location within the highway and highway verge also reduces the potential for effects upon archaeology whilst the Applicant proposes to provide for archaeological investigation and recording the process of which is to be outlined in a Written Scheme of Investigation (WSI), the requirement for which is included within the **Outline CEMP (Volume 7.12)**, and which will be secured as a DCO Requirement.

8.4 Likely significant effects

8.4.1 The assessment of effects upon the historic environment arising from the construction and/or operation of the Proposed Development concludes that they will not be significant. The assessment considered some of the key historic buildings within Wisbech such as Peckover House together with its registered park and garden. It was concluded that views from the front of the property to the EfW CHP Facility would be limited to the upper parts of the buildings and chimneys but seen in the context of existing industrial and logistics buildings whilst views into and out from the garden should not be affected.

9. Biodiversity

9.1 How biodiversity effects have been assessed

9.1.1 The assessment methodology is consistent with the standard industry guidelines. It includes an examination of publicly available information supplemented with field surveys. Consultation with ecological consultees, such as Natural England, took place and the assessment has been informed by national and local planning policy and the Scoping Opinion. The assessment considers the effects which would arise from construction and operation with those resulting from decommissioning considered to be the same or less than construction.

9.1.2 Ecological features such as habitats and species that could be sensitive to the Proposed Development have been identified, and the effects on them determined with reference to existing environmental conditions. Species surveys took place to understand the presence of reptiles and Great Crested Newts, otters, water voles, badgers, bats, and both breeding and migratory birds. These surveys follow accepted guidance, and whilst some of the surveys focused upon the Grid Connection route (for example, surveys of migratory birds), others such as water voles, are relevant to the whole of the Proposed Development.

9.1.3 Full details of the biodiversity assessment can be found in ES **Chapter 11 Biodiversity (Volume 6.3)**

9.2 Baseline assessment

9.2.1 The baseline encompasses desk study and field survey information collected for ecological features within a defined Study Area which surrounds the Proposed Development. This Study Area includes designated biodiversity sites, legally protected species, conservation-notable habitats and species (including those of principal importance in England or regional and local priorities) and other habitats and species that may be relevant in the Proposed Development. The Study Area differs depending upon the information sought so for example it is 30m either side of the Order limits for badger but 500m for ponds. European sites and European sites with an ornithological interest are recorded 15km and 20km away respectively.

9.2.2 Surveys of the habitats on site and in the surrounding area have been undertaken and have been used to quantify the quality as well as the extent of habitats. Birds, amphibians, reptiles, bats, and mammals have also been surveyed to understand the areas they occupy and, in some cases, to obtain an estimate of the number of them in the area.

9.2.3 Within the Study Area there are two sites designated for their international importance (the Ouse Washes is 12.5km from the Proposed Development and the Nene Washes which is 7.2km distant). Additionally, The Wash is located within the wider 20km Study Area some 17.3km distant from the Proposed Development and is used for the identification of sites for ornithological interest. There is one non-statutory nature conservation site within the 2km area of search of the Proposed Development (River Nene County Wildlife Site).

9.2.4 Monthly surveys recorded six species of bat, whilst no evidence of Great Crested Newt or otter were recorded by surveys. Evidence of water vole was recorded whilst areas within and adjacent to the Proposed Development have the potential to support reptiles. No badger setts were recorded within or adjacent to the Proposed Development.

9.2.5 Bird surveys began at an early stage in the project and thus included a large area of land. The focus of the surveys was on land which at the time could be used for the Grid Connection and specific consideration was given to those birds evident at the Ouse and Nene Washes which might use agricultural land near to the Proposed Development for feeding.

9.3 Embedded environmental measures

9.3.1 A range of embedded environmental measures are included in the Proposed Development to avoid or reduce potential adverse effects. These include:

- The undergrounding of the Grid Connection cables, which removes the potential for interference with birds or bats;
- General ecological best practice measures and habitat and species-specific measures set out in the **Outline CEMP** and its associated appendix **(Volume 7.12)**;
- A landscape scheme designed to maximise biodiversity, whilst the **Outline Landscape and Ecology Management Plan (Volume 7.7)** will ensure that habitats are appropriately managed; and
- The **Outline Lighting Strategy (Volume 6.4)** is informed by the joint guidance provided by the Bat Conservation Trust and Institution of Lighting Professionals to ensure that the operational lighting proposals minimise impacts to ecological Receptors.

9.4 Likely significant effects

9.4.1 The assessment has considered effects resulting from environmental changes (including land take/land cover change, the fragmentation of habitat, increases in noise/vibration/light, and air pollution) which may result from the Proposed Development.

9.4.2 Although some potentially negative effects on biodiversity features have been identified these are considered to be negligible to low in the scale of the change which could occur and the assessment has concluded that, with the embedded measures in place, none are considered to be significant.

9.4.3 Whilst no significant effects have been identified, the Applicant does propose to provide overall biodiversity enhancement by delivering Biodiversity Net Gain. It has prepared an **Outline Landscape and Ecology Strategy (Figure 3.14 Volume 6.3)** which includes for the provision of habitats such as grasslands, hedgerows and tree planting and complementary biodiversity features such as bat and bird boxes, bug hotels, hibernation boxes, a ‘green’ wall which would provide nectar-rich climbing

plants and brown roofs which would provide a habitat for a range of plants and insects.

10. Hydrology

10.1 How hydrology effects have been assessed

10.1.1 The assessment is based on a detailed review of publicly available information, including existing watercourses, water quality, and the extent to which water is extracted and used in the surrounding area. A **Flood Risk Assessment (ES Appendix 12A, Volume 6.4)** has been prepared, which assesses the present and future risks (including an allowance for climate change) of flooding at the Proposed Development. The assessment is informed by the Scoping Opinion, consultation responses and Stakeholder engagement, such as the Environment Agency and Internal Drainage Board. It has also been informed by national and local planning policy and has assessed the effects arising from construction and operation with decommissioning effects considered to be the same or less than those identified for construction.

10.1.2 Full details of the Hydrology assessment can be found in ES **Chapter 12 Hydrology (Volume 6.2).**

10.2 Baseline assessment

10.2.1 The Proposed Development is situated within a flat and low-lying area served by an extensive network of artificial drainage channels under the control and management of the Hundred of Wisbech Internal Drainage Board (HWIDB) and King's Lynn Internal Drainage Board (KLIDB). Drains are present along the edge and across the centre of the EfW CHP Facility Site and across the Grid Connection route.

10.2.2 Tidal flooding from the River Nene, which is located approximately 0.6km to the west of the Proposed Development, represents the greatest potential flood risk to the Proposed Development.

10.2.3 Consistent with many parts of Wisbech the entirety of the EfW CHP Facility Site and CHP Connection Corridor and large areas of the Access Improvements, TCC and Water Connections lie within Flood Zone 3 (land having a 1 in 200 probability or greater of tidal flooding in any one year). Small areas of the TCC, Access Improvements and most of the Water Connections lie within Flood Zone 2 (land having between a 1 in 200 and 1 in 1,000 probability of tidal flooding in any one year). The flood mapping assessment undertaken indicates that the Proposed Development would not flood during the design flood event as it benefits from the protection offered by the raised tidal defences along the banks of the River Nene.

10.3 Embedded environmental measures

10.3.1 Appropriate measures are to be incorporated into the Proposed Development to ensure no significant effects on the water environment. These include, but are not limited to:

- Adherence to best practice guidance for the control of pollution;

- Constructing a finished floor level for the EfW CHP Facility above the modelled flood level for the River Nene;
- Installing measures to control the rate at which rainwater would be discharged off site;
- Designing watercourse crossings so that they do not affect the flow of water;
- Constructing and operating the Proposed Development consistent with an **Outline Drainage Strategy (Volume 6.4)** and
- Ensuring that the proposed EfW CHP Facility buildings are at least 6m away from the IDB ditches so that they can continue to be maintained.

10.3.2 The Flood Risk Assessment sets out measures to address flood risk, including preparing a Flood Emergency Management Plan. An **Outline Flood Emergency Management Plan (Volume 7.9)** accompanies the application.

10.4 Likely significant effects

10.4.1 Without the implementation of the embedded mitigation measures, likely significant effects on the water environment could include the following:

- Changes in water quality arising from accidental spillage of pollutants or high volumes of sediment or contamination from soil in areas where the ground has been disturbed during construction;
- Changes in the flow of watercourses as a result of additional water being placed into them;
- Changes to the watercourse flow caused by new bridges or culverts;
- Increases in the amount of, and speed at which, rainwater runs off the site surface due to changes in ground conditions (leading to increased flood risk); and
- Changes in the capacity of the floodplain to accommodate floodwater because of new structures in the floodplain.

10.4.2 However, the assessment concludes that the implementation of the proposed embedded environmental measures would ensure that no significant effects on the water environment would occur.

11. Geology, Hydrogeology and Contaminated Land

11.1 How soils, geology, hydrogeology and contaminated land effects have been assessed

11.1.1 This assessment is based on the review of publicly available information and a ground investigation survey of the EfW CHP Facility Site. The assessment is informed by the Scoping Opinion, consultation responses and Stakeholder engagement, such as the Environment Agency and by national and local planning policy.

11.1.2 Full details of the assessment can be found in ES **Chapter 13 Geology, Hydrogeology and Contaminated Land (Volume 6.2),** which has considered the construction and operation of the Proposed Development. The environmental effects associated with the decommissioning phase are considered similar to those reported for the construction phase works, albeit with a lesser duration of one year.

11.1.3 There are no designated geological sites within the Study Area, so these have been scoped out of the assessment, along with the potential for significant effects upon shallow groundwater, health effects to construction workers resulting from any contaminated land, ecology and agricultural soils, their structure and the potential for erosion in the context of the EfW CHP Facility. Operational effects scoped from the assessment concern the potential for effects upon the health of workers at the EfW CHP Facility.

11.2 Baseline assessment

11.2.1 The soils are typically loam and clay and with naturally high groundwater. However, most of the EfW CHP Facility Site is previously developed land; consequently, the soils were removed or covered by buildings, hardstanding, or imported materials.

11.2.2 A similar situation occurs in relation to the CHP Connection (which follows the route of the disused March to Wisbech Railway), the Access Improvements and Grid Connection. The Water Connection to provide a potable supply would only affect agricultural land if the option to drill under the A47 is selected.

11.2.3 The geology is characterised as tidal flat deposits, including mud flat and sand flat deposits. These deposits are normally encountered as a silty clay with layers of sand, gravel and peat. There are no Regionally Important Geological and Geomorphological Sites (RIGS) or Locally Important Geological Sites (LIGS).

11.2.4 The ground investigation undertaken by the Applicant across most of the EfW CHP Facility Site confirmed that shallow groundwater is present. This characteristic is considered to apply to all of the Proposed Development. If required, further targeted ground investigations will be undertaken by the Applicant.

11.2.5 Associated with its current use as a waste transfer station, the EfW CHP Facility Site includes small pockets of potential contamination from, for example, fuel spills. Along the route of the Grid Connection, potential sources of contamination include a historic landfill at the former Wisbech Canal (by the Elm High Road/A47 roundabout), a nearby former offsite petrol station (along the A47) and an offsite former refuse tip (south of Walsoken Substation).

11.3 Embedded environmental measures

11.3.1 Appropriate measures will be incorporated into the Proposed Development to ensure no significant adverse effects on soil, agricultural land or land contamination Receptors. These include but are not limited to:

- The routing of the Grid Connection within highways and highway land to remove the potential to affect agricultural soils.
- Soil handling, storage and reinstatement measures integrated into the **Outline CEMP (Volume 7.12)**.
- Any disposal off-site of excavated material will be undertaken in accordance with duty of care for waste under section 34(7) of the Environmental Protection Act 1990.
- Access to the Grid Connection working areas via existing highways thereby removing the requirement to run vehicles across fields.
- Where the Grid Connection crosses the historic landfill at the former Wisbech Canal, it is possible that, by using the proposed open cut trench method for cable installation, the waste materials will not be encountered within the design depth, this is due to the likelihood of the road being built up over the landfilled material. If any contamination is found it will be subject to appropriate risk assessment and, if necessary, either removed, treated and/or mitigated as part of the Proposed Development. The **Outline CEMP (Volume 7.12)** includes an unexpected contamination protocol.
- Pollution Prevention Plans will be prepared to detail how ground and surface waters will be protected during construction and operation, including for the use/storage of fuels, oils and other chemicals, and incident response planning.

11.4 Likely significant effects

11.4.1 The environmental assessment concludes that during the construction and operational phases of the Proposed Development there will be no significant effects upon Geology, Hydrogeology and Contaminated Land.

12. Climate Change

12.1 How climate change effects have been assessed

12.1.1 The assessment of climate has been divided into the following subsections consistent with recognised industry guidance, the Scoping Opinion, consultation with Stakeholders and relevant planning policy.

- Greenhouse gas (GHG) emissions – the effects on the climate of GHG emissions arising from the construction, operation, and decommissioning of the Proposed Development, including how it would affect the ability of the UK Government to meet its carbon reduction targets; and
- Vulnerability to climate change – the climate change resilience (CCR) assessment demonstrates the effects of a changing climate on the Proposed Development, including how the design will take account of the projected impacts of climate change. The construction, operation and decommissioning of the Proposed Development is considered.

12.1.2 An assessment of the exacerbation of climate change on existing effects of other environmental topics or the ability of mitigation to be implemented in the knowledge of future climate change trends known as the In-Combination Climate Change Impact (ICCI) is reported as part of the relevant aspect core assessments

12.1.3 Emissions associated with the changes in land use which would arise because of the Proposed Development have been scoped out of the assessment and this has been agreed with the Planning Inspectorate and is recorded in the Scoping Opinion. Other items considered or excluded from the assessment are explained in ES **Chapter 14 Climate (Volume 6.4).**

12.2 Baseline assessment

12.2.1 The assessment is based on a reasonable worst-case scenario and comparison with the future baseline scenario where residual waste continues to be sent to landfill. The change in GHG emissions associated with the Proposed Development is set against the UK carbon budgets and relevant policy objectives at national and local level.

12.2.2 A review of published weather data in the location of the Proposed Development was undertaken. Consideration was also given to future climate conditions and trends over the Proposed Development's lifetime. Future levels of precipitation, temperature, wind speed and snowfall have been considered and the following conclusions drawn:

- Climate model projections show that mean winter and summer temperatures are very likely to increase in the future, with an expected increase of around 2.46°C (winter) and 3.41°C (summer) from the baseline by the 2070s (2060 – 2079).
- Summer rainfall is likely to decrease in the future, by up to 26% by 2070s whilst winter rainfall is likely to increase by 14%.

- Snowfall is likely to decrease substantially, whilst it is considered very unlikely that large changes will be observed in average annual wind speeds. However, an increase in the number of storms is likely.

12.3 Embedded environmental measures

12.3.1 A range of environmental measures have been embedded into the development proposals. These include:

- The Proposed Development will seek to reuse or refurbish materials for use in construction and operation, it will be energy efficient through measures such as solar panels to the roof of the administration building which will be designed to be BREEAM 'Excellent' with the rest of the EfW CHP Facility 'Good.
- The provision of heat and power to local customers via a CHP Connection.
- The layout of the EfW CHP Facility Site has been designed to allow sufficient space for the plant and equipment for a carbon capture facility if required in the future.
- Measures to reduce air pollutant emissions from construction plant and machinery are specified in the **Outline CEMP (Volume 7.12)**.
- The Proposed Development will be designed to be resilient to the impacts of climate change throughout its lifetime, including the adoption of mitigation measures identified in the **Flood Risk Assessment (ES Appendix 12A, Volume 6.4)** and method statements to protect the facility and workforce from weather extremes.

12.4 Likely significant effects

12.4.1 The Proposed Development has been evaluated based on the extent to which it materially affects the ability of the UK Government to meet its carbon target and budgets. The scale of its GHG emissions has been set against the UK Government's UK carbon target of 'net zero' in 2050 and the UK carbon budgets. Local objectives, targets and plans for reducing GHG emissions have also been considered.

12.4.2 The Proposed Development is anticipated to result in reduced GHG emissions compared to the current situation where it does not exist. This is because it would offset GHG emissions that would otherwise be generated by the continued use of landfill as a means of dealing with residual waste (the waste which is not able to be recycled or re-used). This is known as avoided emissions. The Proposed Development is therefore expected to have a positive effect in reducing the amount of carbon emitted to the atmosphere. Notwithstanding the absence of any significant adverse effects, the Applicant proposes to allow the export of steam and electricity from the EfW CHP Facility to surrounding businesses. Subject to agreement, by using the steam generated, users will be able to reduce their carbon footprint associated with steam and heat generation. The Proposed Development also includes land set aside for the possible future inclusion of carbon capture technology, subject to technical viability and developing government policy.

12.4.3 The Proposed Development has been designed to be resilient to climate change. Therefore, it is anticipated that there will be no significant effects as a result of any vulnerability to climate change and as such there is no requirement to identify additional mitigation measures.

13. Socio-economics, Tourism, Recreation and Land use

13.1 How socio-economic, tourism, recreation and land use effects have been assessed

13.1.1 The assessment is based on the review of publicly available information and is informed by the Scoping Opinion, consultation responses and Stakeholder engagement together with national and local planning policy. It assesses the effects arising from construction and operation with decommissioning effects considered to be the same or less than those assessed at construction.

13.1.2 There is no guidance setting out a prescribed methodology for the assessment of socio-economic and related effects. Professional judgement is used to determine effects taking account of the sensitivity of the socio-economic Receptors assessed and the predicted magnitude of change which would be experienced by these Receptors, which then determines beneficial or adverse effects and the significance of these effects.

13.1.3 Full details of the assessment can be found in ES **Chapter 15 Socio economic, Tourism, Recreation and Land Use (Volume 6.4).**

13.2 Baseline assessment

13.2.1 As an overview of some relevant socio-economic features, employment rates in Fenland are below the East of England and national average and males are more economically active than females. Manufacturing, wholesale and the retail trade are the dominant employment sectors, with fewer jobs in industries such as IT, other services and the arts. King's Lynn West Norfolk has higher employment levels than the national average, but lower than the East of England. Key employment sectors are wholesale and retail, human health and social work and then manufacturing.

13.2.2 There are significant areas of land allocated for housing within and adjacent to Wisbech reflective of a projected growth in Fenland households from 40,620 to 53,000 by 2043.

13.2.3 Wisbech has nine primary schools and three high schools whilst in February 2022 planning permission was granted for a new social, emotional, and mental health school. Fenland District Council recognises that there is pressure on school places in Wisbech and highlights the need for new secondary school provision whilst the King's Lynn West Norfolk Local Plan Review requires new school provision as part of the land allocation for residential development on land to the east of Wisbech.

13.2.4 Tourist attractions in Wisbech include Elgoods Brewery and Peckover House and Garden. There are also a number of recreational routes, such as the Nene Way (a long distance footpath) and the National Cycle Route 63. Land uses neighbouring the Proposed Development are industrial or commercial in nature with the exception

of a small number of individual residential properties along New Bridge Lane. The route of the Grid Connection adjoins but does not include land in agricultural use.

13.3 Embedded environmental measures

13.3.1 The following environmental measures have been embedded for the Proposed Development:

- An **Outline Skills and Employment Strategy (Volume 7.8)** which sets out the Applicant's commitments to support education, skills and apprenticeships, engage with local suppliers and promote employment opportunities locally;
- An **Outline CEMP (Volume 7.12)** which provides measures that would be employed during construction to control the environmental effects of the Proposed Development and includes a commitment to register the Proposed Development with the Considerate Contractors Scheme.
- An **Outline CTMP (ES Appendix 6A, Volume 6.4)** which provides measures to be employed during construction to control the environmental effects of traffic and an **Outline Travel Plan (ES Appendix 6C, Volume 6.4)** to encourage the use of sustainable transport by the operational workforce.

13.4 Likely significant effects

13.4.1 The Proposed Development could have both beneficial and adverse effects upon areas such as employment and the economy, skills and education, housing, tourism and recreation. The assessment has concluded that there would be significant effects arising from the provision of approximately 700 construction jobs in that there would be both direct jobs and indirect jobs created in the construction phase of the Proposed Development. The assessment also concluded that there could be positive significant effects during construction for local suppliers.

14. Health

14.1 How health effects have been assessed

14.1.1 The assessment is informed by the Scoping Opinion, consultation responses and Stakeholder engagement as well as by national and local planning policy. To identify any likely significant effects in relation to physical and mental health, the Proposed Development has been screened using guidance provided by Public Health England.

14.1.2 The information used in the assessment has come from a variety of publicly available information sources, including the Office for National Statistics (ONS) and Public Health England.

14.1.3 Consideration is given to effects arising from construction and operation with decommissioning effects considered to be the same or less than those assessed at construction. Full details of the health assessment can be found in ES **Chapter 16 Health (Volume 6.2)**.

14.2 Baseline assessment

14.2.1 The Study Area relevant to the consideration of health effects includes for the local, district and county level namely:

- Local level – the wards of Medworth, Octavia Hill, Wisbech, Elm & Christchurch, Emneth & Outwell, Walsoken, West Walton and Walpole;
- District level – Fenland District and King's Lynn and West Norfolk; and
- County Level – Cambridgeshire and Norfolk.

14.2.2 As an overview of some of the existing health issues in Fenland, there are lower levels of life expectancy relative to England, higher levels of socio-economic disadvantage, higher levels of excess weight and lower levels of physical activity. King's Lynn and West Norfolk are similar in relation to these indicators. Relevant wards within Fenland have a higher percentage of people whose day-to-day activities are limited due to ill health than the Cambridgeshire and England average. Residents of relevant wards in King's Lynn West Norfolk have levels of ill health, which are generally consistent with the Norfolk average.

14.3 Embedded environmental measures

14.3.1 A range of environmental measures have been embedded into the Proposed Development. However, given the broad nature of health as a topic, many of the embedded measures identified in other topics are also relevant.

14.3.2 Relevant measures include:

- Liaison with the local community to help address any perceived risks to health;

- **An Outline Employment and Skills Strategy (Volume 7.8**) detailing how the Applicant will maximise the use of the local workforce and provide skills and training opportunities;
- Suitable chimney heights to ensure adequate dispersion of emissions together with Best Available Techniques to reduce emissions to the atmosphere;
- An **Outline Construction Transport Management Plan (ES Appendix 6B, Volume 6.4)** and an **Outline Travel Plan (ES Appendix 6C, Volume 6.4)** to mitigate the effects arising from construction transport and to encourage walking and cycling during the operation of the Proposed Development;
- An **Outline CEMP (Volume 7.12)** which includes for local community liaison; and
- The undergrounding of the Grid Connection cable reducing the potential for people to come into proximity of electric fields.

14.4 Likely significant effects

14.4.1 The population's health is affected by a wide range of factors which can include the ability of people to access services, including areas for recreation, the quality of the air they breathe, levels of noise experienced or the ability to access employment. Therefore, the assessment of effects upon health is informed by the findings of significance across several of the other environmental topics reported within the ES.

14.4.2 With the mitigation measures in place, the health assessment concludes that effects would not be significant for construction and operation, with decommissioning effects considered to be the same or lower than those assessed for construction.

15. Major Accidents & Disasters

15.1 How major accident and disaster effects have been assessed

15.1.1 The risk of Major Accidents and Disasters arising from, or impacting the Proposed Development, was assessed at an earlier stage, and not considered significant. The Planning Inspectorate agreed with this conclusion when it issued its **Scoping Opinion** (**Volume 6.5**). However, the Planning Inspectorate requested further information on this topic, including the relevant measures to ensure that the effects are not significant. Full details of the Major Accidents and Disasters assessment can be found in ES **Chapter 17 Major Accidents and Disasters (Volume 6.2)**.

15.1.2 The EfW CHP Facility Site is outside the consultation distances for any sites with Hazardous Substances Consent, Licensed Explosives Site or Major Accident Hazard Pipelines.

15.2 Embedded environmental measures

15.2.1 Some of the key measures embedded into the Proposed Development, which will be relied upon to ensure that there are no significant effects, are described below.

- An Integrated Management System which will ensure that the EfW CHP Facility operates to all applicable standards and requirements for safety, health, energy and the environment.
- A design by suitably qualified and experienced professionals, which is in accordance with industry good practice.
- Requirement for and compliance with the Environmental Permit issued by the Environment Agency.
- The drainage systems will be designed to provide adequate containment, including the retention of firewater consistent with the **Outline Drainage Strategy (ES Appendix F, Volume 6.4)**.
- An **Outline CEMP (Volume 7.12)** to require risk assessment of construction activities and the identification and avoidance of utilities.

15.3 Likely significant effects

15.3.1 With the relevant environmental measures secured there will be no significant effects arising from Major Accidents and Disasters associated with the Proposed Development during its construction, operation and decommissioning.

16. Cumulative Effects

16.1 How cumulative effects have been assessed

16.1.1 The approach to the cumulative effects assessment followed the advice and guidance provided by the Planning Inspectorate and has been discussed with the relevant local planning authorities. The assessment divides into two different stages. The first is where a single Receptor is potentially affected by more than one environmental impact, for example, noise and visual impacts on the same residential property. The second is where different projects combine to create an effect on a Receptor, for example, the combination of the Proposed Development and another nearby project, which together might affect the same residential property. Full details of the Cumulative Effects assessment can be found in ES **Chapter 18 Cumulative Effects Assessment (Volume 6.2).**

16.2 Baseline assessment

16.2.1 For the first type of cumulative effects, the baseline is that which has been identified within the individual environmental topic chapters. For the second type, a review of planning applications, planning permissions, local authority site allocations and any other promoted schemes was undertaken across a defined geographical area, these were then collated into a list. This list was then issued to the host local authorities and any additional projects suggested by them, included.

16.3 Embedded environmental measures

16.3.1 Embedded environmental measures are those identified within the individual environmental topic chapters.

16.4 Likely significant effects

16.4.1 The assessment considers the scenario where a single Receptor is potentially affected by more than one environmental impact. A combination of potentially significant noise and visual effects during the construction and operational phases mean that 9 and 10 New Bridge Lane could be affected by cumulative impacts and require mitigation to reduce the significance of the effect. As discussed in the consideration of noise and vibration above, the Applicant will acquire 9 New Bridge Lane and cease the residential use. The cessation of the residential use would remove the potential for significant noise and visual effects. However, it would give rise to a socio-economic effect, which is the loss of a dwelling. The cumulative assessment concludes that the loss of a single dwelling would not have a significant effect upon the local housing market given that Fenlands housing targets are to construct 550 dwellings per annum.

16.4.2 The landscape and visual assessment identified significant effects upon footpaths west of Begdale, to users of Halfpenny Lane, the Nene Way and the National Cycle Network Route 63 during construction and operation. Users of The Still, south of

Leverington, would also experience a significant visual effect during operation. The socio-economic, tourism, recreation and land use assessment also considers public rights of way and cycle routes for their tourism and recreation value. It concluded that effects arising from the Proposed Development would not be significant. It is considered that cumulative effects would also be not significant.

16.4.3 Consideration was also given to the effects which could be created as a result of the Proposed Development cumulatively with other projects proposed in the Study Area. Ten projects were identified where potential cumulative effects could occur. Each project was considered against the environmental topics presented within the ES. Where it was considered that a project together with the Proposed Development had the potential to create a significant cumulative effect, an assessment was undertaken. The assessment concluded that in all cases, whilst each project might individually create significant effects, the cumulative effects with the Proposed Development were not significant.

17. Alternatives Considered

17.1 Introduction

17.1.1 The Applicant is required to set out any reasonable alternatives which they have considered when developing their project and provide reasons for the choices made.

17.1.2 Full details of the Alternatives considered can be found in ES **Chapter 2 Alternatives (Volume 6.2).**

17.2 The Site

17.2.1 When selecting the site the Applicant considered its performance against a series of criteria to confirm it as a suitable for a EfW CHP Facility. Essential and preferable criteria applied by the Applicant included the following.

- Essential criteria:
  - A location to respond to the requirement for additional EfW capacity.
  - Proximity to potential heat and power customers;
  - Ability to connect to the national grid;
  - Minimum site size of 3.5 hectares (8.6 acres); and good access to the main road network.
- Preferable criteria:
  - Brownfield site over greenfield;
  - A site in an existing waste related use; and
  - Free from environmental designations.

17.2.2 The site off Algores Way, Wisbech meets the Applicant's criteria and is considered highly suitable for the Proposed Development, in particular the proximity to potential heat and power customers.

17.3 Design

17.3.1 Having identified the site, several layout iterations where then considered for the main EfW CHP Facility. These were in response to highway proposals as set out in the Wisbech Access Strategy, for the proposed reopening of the disused March to Wisbech Railway, the likely effects arising from the use of Algores Way as the main point of access, and the need to ensure that there is sufficient land to enable the delivery of future environment requirements, such as, carbon capture and storage.

17.3.2 The above factors influenced the design in the following ways:

- The EfW CHP Facility layout within the site was modified to facilitate the main access from New Bridge Lane.

- To accommodate the reintroduction of the March to Wisbech Railway, including a future railway siding for waste unloading and land for an embankment to facilitate a bridge along New Bridge Lane, three land parcels adjacent to the site were considered. The one selected enabled the EfW CHP Facility Site's main entrance to remain on New Bridge Lane.
- Eight land parcels adjacent to, and in the vicinity of, the EfW CHP Facility Site were considered for the location of the Temporary Construction Compound. Of the eight parcels considered, one was selected owing to its proximity, ease of access and size.

17.3.3 Alternatives were also considered for the design of the EfW CHP Facility. Four options were prepared, with particular attention given to the roof. The preferred option was chosen because it enclosed plant and machinery between the boiler house and chimney, was consistent with the existing roofscape in the area, minimised the height and mass of the buildings and provided a safer (flat) surface for maintenance and operation. The colour options for the buildings concluded with the choice of darker shading at lower levels graduating upwards to lighter shades. This option is consistent with the surrounding industrial landscape.

17.3.4 Following statutory consultation further consideration was given to the appearance of the EfW CHP Facility. This included a review and modification of cladding materials to provide more texture in the façade of the EfW CHP Facility and to provide future opportunities to create a distinctive image, subject to local consultation and agreement.

17.3.5 The Applicant also considered alternative designs for the administration building, including the use of different external materials settling on a building with a timber façade combined with the use of a 'green wall'. The roof would also include a 'brown roof' which in combination with the 'green wall' would provide ecological habitats.

17.4 CHP Connection

17.4.1 The route selected for the CHP Connection will follow the corridor of the disused March to Wisbech Railway. This corridor forms a spine through the industrial estate providing opportunities for the industrial businesses to access the heat and power generated by the EfW CHP Facility. Conscious of proposals to reinstate the railway, the CHP Connection has been designed to run alongside a future railway track.

Following statutory consultation consideration was given to alternatives to the use of expansion loops when the CHP Pipeline runs behind residential properties. The Applicant now proposes to use expansion bellows at this location instead of expansion loops. The bellows would sit at the same height as the proposed CHP Pipeline thereby reducing the potential for visual effects.

17.5 Grid Connection

17.5.1 Several options for potential cable routes to connect the Proposed Development to the national grid were considered. At early stages in the evolution of the project these included connections to UKPN substations as well as a connection direct to

the 400kV overhead line operated by National Grid which runs in a north-west to south-east direction, to the east of Emneth.

17.5.2 National Grid informed the Applicant that the cost and technical challenges of a connection directly onto its infrastructure would not be viable and the Applicant's identification of a preferred corridor for the Grid Connection was undertaken by considering alternative corridors to UKPN's Walpole Substation, each being assessed for its relative environmental, policy and technical performance, whilst cost was also considered.

17.5.3 Two alternative points of connection to the national grid were taken forward for statutory consultation and assessed in the PEIR. These were for a connection either to UKPN's Walpole DNO Substation, or to its Walsoken DNO Substation. The Applicant considered a connection consisting of both an underground and overhead section to access either location. The Applicant had been informed by UKPN that occasionally, a connection to Walsoken would require the Applicant to constrain the amount of electricity exported. However, the level of constraint would not prevent the EfW CHP Facility from generating over 50 megawatts.

17.5.4 Following consultation feedback, it was clear that a connection to the Walsoken DNO Substation would be preferable given it would be the shorter of the two options and thereby affect fewer landowners and have a generally lower potential for environmental effects. It would also be potentially cheaper if a section of overhead line were to be retained. The Applicant then considered whether to maintain a section of overhead cable or place the entire connection underground. The latter was chosen despite the additional cost as it would remove the potential for visual effects once operational. Feedback received from landowners suggested that part of the intended cable route could cross land identified by the landowner as a site for housing. The Applicant therefore engaged with National Highways, discussions which culminated in an agreement to route the connection along the western verge of the A47. This alternative was considered appropriate in that it removed the need for privately owned land and reduced the construction footprint of the connection.

17.5.5 Having selected the Walsoken DNO Substation as the point of connection the Applicant considered alternative locations for its own substation at Walsoken. Agricultural land to the east of the existing substation, and land immediately to the south was identified. The chosen option however was land in the ownership of UKPN which is immediately adjacent to the existing substation. This site was chosen because of its closeness, that visually it would be seen against the context of the existing infrastructure and because the access to the existing substation could be used. Finally, alternatives to the electrical equipment were considered and clean gas insulated switchgear selected because it does not emit greenhouse gases and is lower in height to alternative equipment choices.

17.5.6 The Applicant has produced a **Grid Connection Options Appraisal Report** as **Appendix 2A (Volume 6.4)** to ES **Chapter 2 Alternatives (Volume 6.4).**

18. Conclusion

18.1 What happens next?

18.1.1 This Non-Technical Summary forms part of the environmental statement which itself forms part of the DCO application submitted to the Planning Inspectorate. Following acceptance of the DCO application, Stakeholders, local communities, and members of the public can comment on the assessments undertaken, and the conclusions reached as part of their responses to the DCO application itself. The Planning Inspectorate will set out the timescales for commenting.

18.1.2 As set out in Section 1.3 above, an independent examiner or panel of examiners (known as the Examining Authority) will be appointed and a public examination process will be conducted to consider the application, which will include, amongst other matters, the environmental effects arising from its construction and/or operation. The scale and nature of these effects will be considered against the project's benefits. The Examining Authority will make a recommendation to the Secretary of State, who will then decide whether to approve or refuse it.

18.1.3 The Environmental Statement has been prepared in consultation with the Planning Inspectorate and key consultees such that the scope of the baseline surveys and assessments have been informed by them. Significant effects have been identified, although the number of significant adverse effects has been reduced through the identification of additional mitigation. In summary, the Proposed Development would create the following significant effects with the additional mitigation in place:

- Negative significant visual effects during the construction, operation and decommissioning to a property at the southern end of B198 (Cromwell Road), the village of Begdale, for users of a public right of way at Halfpenny Lane (Elm – northern end of New Drove), and a part of the Nene Way to the south of Wisbech, together with seven other locations (six of which are within 1.6km of the EfW CHP Facility) (ES **Chapter 9 landscape and Visual (Volume 6.2)**).
- Positive significant effects which would include direct effects resulting from the employment of approximately 700 construction workers together with the benefits arising from indirect job creation. The use of local suppliers during construction would also produce a positive significant effect. The Applicant would aim to deliver these benefits through the implementation of the **Outline Employment and Skills Strategy (Volume 7.8)**.