

# SKELTON GRANGE ENERGY FROM WASTE FACILITY ENVIRONMENTAL PERMIT APPLICATION

**Fire Prevention Plan**

Prepared for: WTI EfW Holdings Limited

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Appendix FFP1:	Emergency Contact Sheet
Appendix B3_1:	List of Wastes
Appendix B2_1:	EMS Summary

## DRAWINGS

- Drawing 001: Site Location Plan
- Drawing 002: Environmental Permit Boundary & Site Layout
- Drawing 003: Sources Pathways and Receptors
- Drawing 004: Cultural and Natural Heritage
- Drawing 005: Site Drainage Layout

## 1.0 Introduction

### 1.1 Report Context

WTI EfW Holdings Limited has commissioned SLR Consulting Limited (SLR) to prepare a Fire Prevention Plan (FPP) for the proposed Energy from Waste (EfW) Facility at Skelton Grange near Leeds, in support of an Environmental Permit (EP) Application, details of which are included in the Non-Technical Summary in Section 1 of the application. The facility will be operated by WTI UK Limited (WTI).

This report follows the Environment Agency (EA) guidance for FPPs<sup>1</sup> and details the required mitigation and management methods to prevent a fire of combustible materials stored on Site.

The information contained within this FPP aims to meet the 3 main objectives of the EA FPP Guidance:

- Minimise the likelihood of a fire happening;
- Aim for a fire to be extinguished within 4 hours; and
- Minimise the spread of fire within the Site and to neighbouring sites.

### 1.2 Site Location

The proposed EfW facility will be situated at Skelton Grange, Leeds, West Yorkshire, LS10 1RR at National Grid Reference (NGR) 433423, 431179. The Site is accessed via Skelton Grange Road to the southwest and lies within an area predominately occupied by commercial/industrial premises, sewage works, derelict ground and areas of woodland/open ground.

The Site's location is illustrated on Drawing 001. The surrounding land uses, local receptors and cultural and natural heritage within 1km are illustrated on Drawings 003 and 004.

#### 1.2.1 Commercial and Industrial Premises

Adjacent to the west of the Site's boundary is Skelton Grange substation. Approximately 130m to the south of the Site beyond the River Aire is Haigh Park Road Industrial estate with the closest properties including Parcellforce Worldwide and Northern Containers.

The majority of the surrounding land to the north is occupied by Knostrop sewage works facility, approximately 150m from the Site's boundary.

#### 1.2.2 Educational/Recreational Facilities

To the west of the Site's boundary, approximately 120m is the TCV Skelton Grange Environment Centre facility and approximately 350m is the Thwaite Mills Watermill Museum.

#### 1.2.3 Surface Water Features

Approximately 50m to the south of the Site's boundary is the River Aire. The River Aire is a designated brown trout and European eel migratory route. Beyond the River Aire is the Aire and Calder Navigation located approximately 100m to the south. There are several surface water features within 1km from the Site's boundary in all directions. The closest is two small surface water features located to the east, approximately 350m from the Site's boundary.

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<sup>1</sup> Fire Prevention Plans, June 2018.

#### 1.2.4 Areas of Woodland/Open Ground

Small areas of woodland/open ground are located to the east, southeast and west of the Site's Boundary. The closest area of woodland/open ground is adjacent to the south of the Site's boundary.

#### 1.2.5 Local road network

The Site will be accessed from Skelton Grange Road. The local road network surrounds the Site in all directions.

#### 1.2.6 Local rail network

To the south of the Site approximately 900m is the railway line serving Leeds.

#### 1.2.7 Derelict land

The adjacent land to the north and east of the Site's boundary is derelict ground.

#### 1.2.8 Residential

One residential property is located approximately 920m to the west of the Site's boundary.

### 1.3 Ecology

The MAGIC website has been assessed to determine the ecological site setting.

#### 1.3.1 Nationally designated Sites

Temple Newsam Estate Wood is designated as a Local Wildlife Site (LWS) and is located approximately 900m to the northeast of the Site.

The searches confirmed that there are none of the following within 1km of the Site's boundary:

- RAMSAR sites;
- Special Areas of Conservation (SAC);
- Sites of Special Scientific Interest (SSSI);
- National Nature Reserves;
- Local Nature Reserves;
- Special Protection Areas (SPA).
- Ancient Woodland;
- Areas of Natural Beauty; and
- National Parks.

### 1.4 Cultural and Heritage

#### 1.4.1 Registered Parks and Gardens

There is one registered park and garden within 1km of the Site's boundary. Temple Newsam is located approximately 900m to the northeast of the Site. Temple Newsam Estate Wood located within the Temple Newsam registered park and garden is a designated LWS.

## 1.4.2 Listed Buildings

There are six Grade II listed buildings located approximately 400m to the west of the Site's boundary, all six of the listed buildings are in association with Thwaite Mill:

- Thwaite House;
- Thwaite Mill;
- Warehouse, office and drying floor (southeast of Thwaite Mill);
- Bridge over mill stream (east of Thwaite Mill);
- Machine Stop (east of Thwaite Mill); and
- Stable (east of Thwaite Mill).

The search on MAGIC confirmed that the following features do not lie within 1km of the Site's boundary:

- World Heritage Sites;
- Scheduled monuments; and
- Registered Battlefields.

## 1.5 Identified Receptors

Drawings 003 and 004 illustrate the locations of receptors that have been identified as being potentially sensitive and could reasonably be affected by activities at the Site. The receptors identified are summarised in Table 1-1 below.

**Table 1-1  
 Identified Receptors**

Receptor Name	Receptor Type	Direction from Site	Approximate Distance from Site Boundary at closest point (in metres)
<b>Local receptors located within 1km of the EP boundary as shown on Drawing003</b>			
Skelton Grange Substation	Commercial/industrial premises	West	Adjacent
Woodland/open ground	Woodland/open ground	South, southeast and west	Adjacent to the south
<b>Derelict land</b>	<b>Derelict land</b>	<b>North and east</b>	<b>Adjacent</b>
River Aire	River and migratory route	South	50
Aire and Calder Navigation	Aire and Calder Navigation	South	100
TCV Skelton Grange Environment Centre	Recreational facility	West	120
Haigh Park Road Industrial Estate	Commercial/industrial premises	South	130

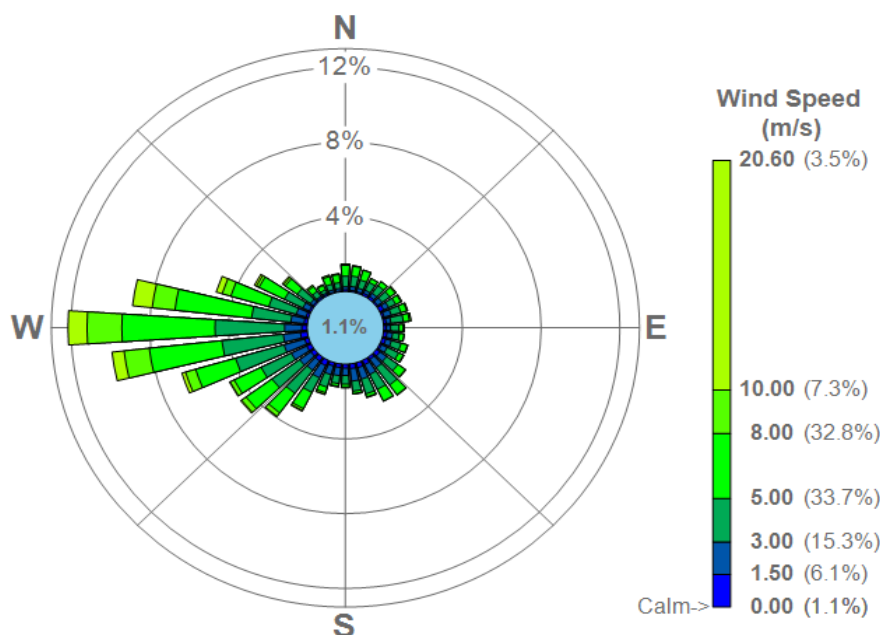


Receptor Name	Receptor Type	Direction from Site	Approximate Distance from Site Boundary at closest point (in metres)
Knostrop Sewage Works facility	Commercial/industrial premises	North	150
Thwaite Mills Watermill Museum	Recreational facility	West	350
<b>Surface water feature</b>	<b>Surface water feature</b>	<b>East</b>	<b>350</b>
Railway Line	Railway Line	South	900
Residential	Residential	West	920
<b>Ecology and Cultural and Natural Heritage identified within 1km of the EP boundary as shown on Drawing 004</b>			
Thwaite Mill and associated buildings	Grade II listed buildings	West	400
Temple Newsam	Registered Park and Garden	Northeast	900
Temple Newsam Estate Wood	LWS	Northeast	900
Halton Moor	LNR and LWS	North	1300
Hunslet Cemetery and associated buildings and Scotts Almshouses and associated buildings	Grade II listed buildings	Southwest	1800

## 1.6 WindRose

Figure 1-1 shows the wind patterns in 2017 as identified by the Leeds Bradford meteorological station. The most prominent wind direction is from the west to the east. Winds from all other directions are relatively infrequent. Receptors highlighted in bold in Table 1-1 above are likely to be affected in the event of a fire as they are located in the path of the prevailing wind (from the west).

**Figure 1-1**  
**Leeds Bradford Meteorological Station, 2017**



## 1.7 Site Type

The proposed activities at the Site are regulated under Section 5.1, Part A, (1) (b) of the Environmental Permitting Regulations 2016 (as amended). The activities include;

*'The incineration of non-hazardous waste in a waste incineration plant or waste co-incineration plant with a capacity exceeding 3 tonnes per hour'*

The following directly associated activities will be undertaken at the Site:

- Receipt, storage and handling of waste;
- Discharge of surface run-off to controlled waters;
- Emergency diesel generators;
- Storage and handling of products and residues; and
- Storage of raw materials and spent reagents.

The facility will accept up to 410,000 tonnes per annum (tpa) of residual municipal waste, commercial & industrial waste and non-infectious clinical waste.

A full list of individual waste types categorised in accordance with the European Waste Catalogue (EWC) codes is available in Appendix B3\_1.

The Site layout is illustrated on Drawing 002.

## 1.8 Waste Types, Quantities and Storage

The Site will accept municipal waste, commercial & industrial waste, sewage sludge and non-infectious clinical waste for thermal processing. These wastes may include the following components which are defined as combustible materials in the FPP Guidance:

- Paper and cardboard;
- Plastics;
- Rags and textiles;
- Scrap metals;
- Mixed waste;
- Rubber; and
- Wood.

The Site will be permitted to process up to 410,000 tpa.

The Site will be designed to have a maximum 5day waste storage capacity within the bunker at any one time, which equates to approximately 6,000 tonnes.

The Site will also generate ash residues which will be discharged from the end of the combustion grate directly into an ash quench bath and will therefore have a relatively high moisture content. The ash is not considered to be a combustible waste and therefore is not considered within this FPP.

## 1.9 Site Access

The Site will be accessed from the Skelton Grange Road southwest of the Site.

The closest fire station is The Old Fire Station located on Gipton Approach to the north. Using Google directions<sup>2</sup> and mapping, the drive time is approximately sixteen minutes and there is approximately 4.6 miles between the Site and the fire station.

The Site will benefit from security fencing along the site perimeter and security gates which restrict unauthorised access into the facility. CCTV cameras will be utilised in strategic locations around the Site. In addition to these security measures, site operatives will be manning operations on a 24 hour/7 days (24/7) a week basis.

## 1.10 Environmental Management System

The Site will be managed in accordance with an approved Environmental Management System (EMS) that will cover all aspects of the EfW Installation. The Site's EMS will be accredited to the ISO 14001 Standard within 12 months from the start of operations.

The summary of the Site's EMS is included as Appendix B2\_1 in section 2 of this EP application.

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<sup>2</sup> [www.maps.google.co.uk](http://www.maps.google.co.uk) accessed June 2019

## 2.0 Fire Prevention Measures

### 2.1 Waste Pre Acceptance / Acceptance / Rejection

The Site will follow strict waste acceptance and rejection procedures to ensure that no non-conforming waste is accepted. The pre-acceptance, acceptance and rejection procedures will be contained within the management system.

### 2.2 Fire Detection

WTI will have suitable procedures in place to detect a fire in its early stages to reduce its impact. Appropriate automated fire detection systems will be implemented, and all design, installation and maintenance will be covered in accordance with BS5839-1 2013 Category P1. The most appropriate system will be chosen following completion of the facilities design and could include the following:

- Infra-red camera scanning systems;
- Optical smoke & heat detectors;
- Thermal imaging cameras;
- Very Early Smoke Detection Apparatus (VESDA);
- Manual call points;
- Sounders; and
- Flashing beacons.

### 2.3 Inspections and Amenity Monitoring

The Site will be manned 24/7 by site operatives. Site operatives will remain vigilant at all times and look out for signs of fire throughout the Site. This 24/7 presence will ensure rapid detection of fires or fire hazards.

Staff will be trained in the identification of fires and fire hazards on Site. Staff will also receive training on the selection and use of appropriate fire extinguishers, site shut down procedures, fire safety and site evacuation. Training will ensure that staff are made aware of how to respond to abnormal conditions and the procedure for contacting relevant authorities.

All waste arriving on Site will be thoroughly inspected to ensure compliance with the permit and to reduce the potential for incompatible wastes or hot loads being accepted onto Site.

The waste bunker will undergo periodic turnover to prevent the build-up of waste, dust and debris and will be monitored 24/7 by site operatives for hot spots or signs of fire. Further details are provided in section 2.5 below.

Daily and weekly monitoring will be recorded in line with the requirements of the EP and the EMS.

Further inspections and monitoring on Site are detailed in the below sections.

### 2.4 Pile Management

Stockpile sizes and waste storage times will not exceed those stated in Table 2-1 below. The table shows the storage time and dimensions associated with the waste bunker.

**Table 2-1  
 Waste Bunker Storage**

Max Storage Capacity	Length (m)	Width (m)	Height (m)	Max Storage Volume (m <sup>3</sup> )	Max Tonnage (t)
5 Days	40	20	28	20,000	7,000 <sup>3</sup>

### 2.4.1 Waste Bunker Design

The location of the tipping hall is illustrated on Drawing 002. Vehicle drivers will deposit waste either on the floor for inspection or in one of the tipping bays within the waste bunker.

At the estimated dimensions of the waste bunker, it will be capable of holding 20,000m<sup>3</sup> of material as indicated above, which equates to approximately five days of waste storage<sup>4</sup>.

The waste bunker walls will be constructed of reinforced concrete. The specification of the concrete will conform to BS 8500-2 – Concrete, which ensures the structure and composition of the concrete is of a high standard.

At the edge of the bunker, there will be 5.7m wide tipping bays which allow 7 vehicles to deposit waste into the bunker at any one time.

### 2.4.2 Stock Rotation

Stock rotation within the waste bunker will be carried out on a rotational sequence with the use of specially designed ‘zones’ to ensure the regular and well distributed turnover of waste. Turning the waste enables it to be mixed therefore producing a more homogenous fuel which is more efficient in the incineration process. Stock rotation aims to minimise decomposition of the waste as this leads to the undesirable reduction in fuel value for incineration and the risk of potential odour generation. Therefore, although it is not possible to implement a ‘first in, first out’ policy, waste will remain within the bunker for a maximum of 5 days.

To ensure stock is kept rotating the crane will take waste from the back of the bunker to the feed chute, ensuring older material is moved first.

### 2.4.3 Shut Down

During shut down of the facility, waste will remain in the bunker in accordance with the EA’s requirements before being removed from Site to a suitably licensed facility.

## 2.5 Management of Hotspots within Stockpiles

### 2.5.1 Waste Bunker

As outlined in Section 2.4.2, waste will be constantly turned over and mixed to create a more homogenous fuel ready for incineration. Turning the waste also prevents the formation of hotspots by releasing any heat that has accumulated. In addition to dissipating built up heat, turning also increases the evaporation of water which is a known heat absorbing process.

In conjunction with the waste turning process, monitoring of hotspots within the waste bunker will be managed by an infra-red camera scanning system. The temperature of the waste within the bunker will be monitored on a constant basis. If a hotspot is identified, the waste will be lifted and turned until the temperature decreases.

<sup>3</sup> Based on conversion factor for mixed municipal waste = 0.35.

<sup>4</sup> Based on bunker hydraulic volume of 7,200 m<sup>3</sup> and expected volume of 12,800 m<sup>3</sup> above the tipping floor within the bunker.

Water cannons installed as part of the suppression system will be initiated and directed at the hotspot, if the temperature does not sufficiently decrease.

The most appropriate system for the Site will be chosen and implemented prior to commissioning. The system chosen will be designed, installed and maintained in accordance with a UKAS accredited third party certification scheme.

### 2.5.2 Shutdown

During shutdown periods, self-heating within the bunker will be prevented by minimising movement of the waste. During normal operations waste is constantly being processed through the incineration plant and turning the waste is considered best practice for the reasons outlined in Section 2.4.2. During shutdown, the incineration of waste is on hold for as long as the EA requires therefore the turning of this material introduces oxygen to the waste mass which in turn increases the risk of self-combustion.

The fire detection and suppression systems will be fully functional throughout the shutdown ensuring early detection and handling of any potential hotspots.

## 2.6 Plant and Equipment on Site

The following items of mobile plant are likely to be held on Site. The full list will be detailed prior to commissioning:

- Front loaders;
- Cherry pickers;
- Fork lift loaders; and
- Skid steer loaders.

The use of each piece of mobile plant will be maintained in line with manufacturers' recommendations.

All mobile plant and vehicles will be fitted with a fire extinguisher.

The Site will be operational 24/7, therefore mobile plant will be continuously in use. If required, mobile plant will be temporarily stored in a safe area at least 6m from any combustible waste or hazardous material storage.

## 2.7 Training

All staff will receive training on the selection and use of fire extinguishers, fire safety, shut down procedures and site evacuation. Staff will be trained to identify fires and fire hazards and to contact emergency services when appropriate.

Training will ensure that all operational staff are aware of relevant procedures relating to normal and abnormal operations and emergencies scenarios.

There will always be at least one trained fire marshal working on Site at any one time.

All staff and contractors working on Site will be made aware of the contents of the FPP and the procedures that are in place in the event of a fire on Site.

WTI will conduct refresher training, in addition to maintaining a copy of this FPP in the Facility manager's office, to ensure that all staff members' knowledge is current and up to date. WTI will test the FPP on an annual basis to ensure staff understanding.

## 2.8 Security Measures

The Site will be monitored 24/7 by a CCTV system. The CCTV cameras will benefit from external lighting and will detect breaches of the boundary line by recording the external areas. The Tipping Hall will also be monitored by CCTV on a 24/7 basis from the control room.

An operator will carry out periodic inspections of the Tipping Hall ensuring that fires are detected rapidly, and the relevant authorities are contacted.

## 2.9 Fire Sources and Prevention Measures

Table 2-2 below provides a summary of the potential causes of fire on Site and associated preventative measures and is taken from the FPP guidance.

**Table 2-2**  
**Fire Sources and Preventative Measures**

Cause	Preventative Measure
Arson and Vandalism	<p>The Site will have a number of security measures in place to limit the likelihood of arson or vandalism including:</p> <ul style="list-style-type: none"> <li>• Security fencing;</li> <li>• Lockable site entrance gates;</li> <li>• Security lighting;</li> <li>• 24/7 CCTV in operation;</li> <li>• 24/7 site operative's presence;</li> <li>• Inspection and maintenance procedures for site security measures including daily perimeter checks; and</li> <li>• A visitor sign in system.</li> </ul> <p>The waste bunker is located within a building with restricted access. In the event of a breach of security at the Site, the cause will be investigated, and appropriate mitigation measures implemented.</p> <p>Records maintained will include inspections and maintenance of security fencing and gates, breaches of security, investigations and actions taken.</p>
Self-Combustion	<p>Effective stock management will limit the likelihood of the self-combustion of materials stored on Site. As such, WTI has waste acceptance and stock management procedures which will be upheld by all employees at the Site, as detailed in Section 2.1.</p> <p>Waste stored in the bunker will be continuously turned over.</p> <p>Only waste included in Appendix B3_1 will be accepted at the Site.</p> <p>All fuel and oil will be stored at least 6m from any combustible waste or other hazardous materials.</p>
Plant or Equipment Failure	<p>Plant and equipment will be maintained in accordance with the manufacturer's recommendations.</p> <p>All plant will be fitted with a fire extinguisher.</p> <p>Induction training and refresher training will be provided to staff on the safe operation of plant and equipment relevant to their role, in accordance with the EMS.</p>

	<p>Inspection of plant and equipment will be undertaken prior to use to check for faults and ensure appropriate maintenance is undertaken.</p> <p>When not in use, mobile plant will be stored at least 6m from any storage areas of combustible materials.</p> <p>In the event of a failure or suspected fault with an item of plant or piece of equipment, the operator will ensure that the equipment is shut off in a safe manner and not used until the equipment can be repaired or replaced.</p> <p>No industrial heaters will be utilised on Site.</p> <p>Records of operator failure or failure of equipment will be kept on Site together with a summary of remedial action taken.</p>
Electrical faults (Including Damaged or exposed electrical cables)	<p>All electricians on Site will be fully certified by a qualified electrician and regular safety inspections will be carried out in accordance with the Site's EMS. Records of faults and/or daily electrical maintenance will be recorded in the site diary.</p>
Naked lights	<p>All ignition sources will be kept a minimum of 6m away from the storage of combustible and flammable wastes. No naked lights will be permitted on Site.</p>
Discarded Smoking materials	<p>Smoking will not be permitted within operational areas of the Site. A designated smoking area will be identified that is at least 6m from the storage of combustible wastes and hazardous materials.</p>
Hot works	<p>Any hot works will be undertaken under a permit to work system and conducted in a cleared area of Site at least 6m from any combustible wastes. A site operative will perform a continuous fire watch during the hot work and for a minimum of 60 minutes after the work is completed.</p> <p>No hot work will be undertaken by staff unless they are trained and have the relevant permit to work.</p>
Hot Exhausts	<p>Vehicles and mobile plant will be turned off when not in use.</p> <p>Inspections will be carried out on all mobile plant and consideration will be given to the high-risk time for hot exhausts (one hour after switching off when dust can settle on hot surfaces).</p> <p>Site operatives will keep a watch on the vehicles at regular intervals for signs of fire caused by the settlement of dust and also at the end of a shift.</p> <p>Flammable/combustible materials will be stored in the designated areas ensuring they are located away from frequent vehicle movements.</p>
Open Burning	<p>Open burning will not be permitted on Site.</p>
Reactions between incompatible materials	<p>To ensure that incompatible materials or reactions do not take place, waste will be offloaded at the Site supervised by suitably qualified site operatives.</p> <p>Only vehicles that are accompanied by the correct documentation will be accepted onto Site. Waste will then undergo visual inspection at the point of disposal into the bunker.</p>



	<p>Tanks containing fuel will be constructed so that any leaks/spillages are contained. Tanks will be surrounded by a leakage containment bund capable of containing at least 110% of the volume of the largest tank within the bund. Bunds will be impermeable and resistant to stored materials.</p>
Neighbouring sites	<p>The Site is located within an area predominantly occupied by commercial/industrial premises to the south and west and open ground/agricultural ground to the north and east.</p> <p>The waste bunker is housed within a building and also located away from the Site's boundaries.</p> <p>Employees will remain aware at all times and report activities or behaviour which could represent a fire risk from neighbouring sites to the Facility Manager. The manager will then take appropriate action to address the risk.</p>
Incompatible Wastes (Including reactions between incompatible materials)	<p>All waste arriving onsite will be checked in accordance with the waste acceptance procedure detailed in Section 2.1 to ensure no materials of unknown composition are accepted at the Site.</p> <p>Spillages and leakages of fuels and oils will be handled in accordance with the Accident Management Plan.</p>
Hot loads deposited at site	<p>No burning, reactive/reacting or visibly hot (producing steam or heat) loads will be accepted on Site.</p> <p>In accordance with Section 2.3, all waste will be visually inspected upon arrival at the tipping hall, therefore minimising prohibited wastes and the acceptance of hot loads.</p> <p>Instructions will be given to customers to ensure no hot loads are accepted on Site.</p> <p>Should a hot load be deposited on Site, it will be handled via the procedures outlined in Section 3.3 of this FPP.</p> <p>In the unlikely event that a hot load is delivered to Site, the waste will be quarantined according to the procedures in Section 3.6.1.</p>
Leaks and spillages of oils and fuels	<p>The Site will operate in accordance with the Site's spill procedures to isolate the spill and initiate the clean up as soon as practicable.</p> <p>Spill kits will be located at various locations across the Site.</p> <p>All mobile plant and vehicles will be subject to planned preventative maintenance.</p>
Build-up of loose combustible waste, dust and fluff	<p>As outlined in Section 2.3, the bunker will undergo periodic turnover to prevent the build-up of waste, dust and debris.</p> <p>WTI will adopt good housekeeping measures on site and daily and weekly monitoring will be undertaken in line with the requirements of the EMS.</p> <p>The tipping hall and waste bunker will be subject to a deep clean during the annual planned shutdown. The deep clean will remove any fluff or dust build up from equipment and building structures not accessible during operational periods.</p>

## 3.0 Fire Management

### 3.1 Containing and Mitigating Fires

The building will be designed in accordance with BS9999:2008 – ‘Fire Safety in the design, management and use of buildings’. This standard gives recommendations and guidance on the design, management and use of buildings to achieve reasonable standards of fire safety for all people in and around them. It also provides guidance on the on-going management of fire safety within a building throughout its entire life cycle. The waste bunker will be constructed of reinforced concrete and fire-retardant materials. A minimum of 2 hour fire protection will be provided to all buildings, rooms and panels around the waste bunker (excluding the tipping hall). The 2 hour protection will be applied to glass partitions and windows.

All procedures relating to emergencies on Site, inclusive of fires, will be held within the site office and be made easily accessible.

An up-to-date site plan will be on display in the site office and will identify:

- The site layout;
- Waste storage;
- The location of emergency muster points;
- The location of firefighting equipment; and

Personal Protection Equipment.

### 3.2 Fire Suppression

Automatic water-based fire suppression on Site will likely comprise of one or more of the following:

- Automatic, electric driven water cannons; and
  - The water cannon system will be able to deploy water across all areas of the waste bunker
  - Manual controls will also be installed and implemented if required.
- Automatic, pre-action, Sprinkler system.
  - The sprinkler system will be located high within the tipping hall to cover, the roof, tipping hall floor, tipping apron, push walls and back-feed chutes.
  - The sprinkler system will be a high temperature activation system.
  - Manual override controls will be provided to minimise reliability issues.

Manual fire suppression measures on Site will include, but are not limited to the following:

- Fire hose reels; and
- Portable fire extinguishers.

Fire extinguishers will be provided at designated points throughout the Site.

### 3.3 Emergency Contact Details

An emergency contact sheet is included as Appendix FPP1. The contact sheet details the phone numbers for the Fire service, EA, local businesses, the local sewage service, Yorkshire Water who will be contacted if necessary in the event of a fire, and additional relevant contact numbers for the Site.

## 3.4 Site Procedures

### 3.4.1 Small Fire

A small fire in the tipping hall will be dealt with as follows:

- A fire or area of smouldering waste will not be dealt with in-situ, a loading bucket will be utilised to pull the affected waste into the open and away from any further waste that could catch fire on contact; and
- The fire will be extinguished immediately utilising the fire hoses or the fire extinguishers.

Once the small fire has been dealt with safely, the remaining waste pile will be immediately visually inspected by site operatives for any signs of smouldering/fire waste that still remains within the waste pile. If further waste is found to be smouldering/on fire then the same procedure, detailed in this section, will be implemented.

### 3.4.2 Uncontainable Small Fire or Large Fire

The following procedure will be followed in the event of a small fire in the tipping hall becoming uncontainable or in the event of a major fire onsite:

- The Facility Manager, Fire Service and EA will be notified immediately;
- If it is safe to do so, a temporary bund (using flood barriers held on site) will be constructed by site operatives and managed by the Site Manager to ensure that firewater is kept primarily within the tipping hall. Roller shutter doors will be closed and flood barriers utilised to ensure no release of water under the door. Any firewater held within the banded area will either:
  - Drain directly into the waste bunker; or
  - Be tested before removal offsite to a suitably licensed facility.
- If possible, waste that is unburnt will be dampened down to prevent the fire from spreading further and any contaminated runoff will be held within the temporary banded area;
- If possible, unburned material will be separated from the fire using heavy plant;
- The burning area will be isolated, and attempts will be made to extinguish the fire utilising the onsite fire extinguishers or fire hoses if safe to do so; and
- The Site and buildings will be evacuated.

## 3.5 Fire Waters

The Site will benefit from an engineered containment system with impermeable surfacing.

### 3.5.1 Waste Bunker (primary firewater containment)

In the event of a fire within the waste bunker, any firewater generated from the use of the water cannons or sprinklers will be contained within the bunker. The height of the waste bunker from the floor up to the tipping bay elevation is approximately 9 m. Up to this height, 1.8 10<sup>6</sup> litres<sup>5</sup> of firewater can be safely contained. The use of water within the waste bunker is likely to be localised, for example, a water cannon aimed at a hotspot. Therefore, it is reasonable to conclude that large quantities of water will not be used, and the maximum containment capacity of the bunker will not be reached.

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<sup>5</sup> Fire water containment calculation: Below tipping floor bunker volume (7,200m<sup>3</sup>) \* void space (25%)\* 1,000 = 1,800,000 litres.

### 3.5.2 Tipping Hall (secondary firewater containment)

There will be very little run-off generated under normal site operating conditions within the tipping hall. The area will be sloped to the waste bunker to prevent the release of potentially contaminated runoff entering the surface water drainage system.

Any firewater used in the tipping hall will drain towards the waste bunker where it will be fully contained.

If necessary, the tipping hall can be banded to prevent the release of firewater into the yard. Flood barriers will be stored on Site and can be used to band the building by placing them across open doorways to ensure that no firewater is released from the tipping hall.

### 3.5.3 Firewater Sources

Potential sources of water available will be:

- Firewater storage tank(s) and associated pumps;
- Attenuation pond; and
- On board water supply from Fire Service vehicles.

The firewater tank will be connected to the local water supply and will be fitted with a flowmeter to ensure the required flow rate and performance can be tested.

The fire hydrant system is fed from the firewater storage tanks and will incorporate isolating valves to enable section of the system to be maintained and repaired without the whole system becoming unavailable. The indicative locations of the fire hydrants are illustrated on Drawing 002.

The available water sources on site are considered to provide sufficient availability of firewater in the event of a fire.

## 3.6 Management after a Fire Event

After a fire event, the following procedure will be implemented depending on the severity of the fire:

1. A small and containable fire that can be dealt with in-house using suitably trained staff and firefighting equipment located on Site.

The fire will be recorded in the site log book with the following details:

- Cause of the fire;
- Methods used to manage the fire;
- Disposal methods of any materials; and
- Clean up actions.

An assessment will also be completed to determine whether further mitigation measures could have prevented the fire. Any outcomes to be implemented onsite will be incorporated within this FPP and the Site's EMS as required. All staff will be notified of the cause of the fire and any new mitigation measures implemented.

2. A larger fire that requires the presence of the Fire Service.

If the site operatives have been told to evacuate or cease operations by the Fire Service, the Site will wait until told it is safe to re-enter and resume operations. An assessment will be undertaken by the facilities management team with the assistance of any relevant insurance assessors, structural engineers and fire specialists. Any damaged buildings will be made safe and any severely damaged equipment or building materials will be removed by a licenced scrap waste company. All building structures and equipment deemed to be safe will be cleaned as necessary.

Should damage be sufficient to prevent the Site from being able to treat and store waste, the Site will cease accepting waste and will divert to a suitably licensed facility. Depending on the extent of the fire and the levels of waste that will need to be diverted, the actual site will be determined at the time.

The Facility Manager will liaise with the EA to determine a plan-of-action to introduce waste treatment and storage operations back at the Site, and the timescales involved to achieve this.

### 3.7 Fire Damaged Waste

A visual assessment will be carried out by the Facility Manager to determine whether the waste can be treated on Site. Wherever possible, unburnt wastes will be separated from fire damaged piles. Due to the nature of the operations at Skelton Grange (the incineration of waste and its role as a recovery site) the burnt waste could potentially be processed/disposed of on Site. However, this decision will ultimately be made by the Facility Manager with the EA's agreement.

The Site Management will determine what decontamination measures will be required to be carried out proportionately to the impact caused by the fire. The period of time taken to restore the site or affected part of the site to operational status will be determined by the nature and extent of the fire. If the affected area does not impact the rest of the site's operation, operations will re-start as and when appropriate.

After a significant incident, an assessment will be undertaken by a suitably qualified individual. Technically competent managers and/or engineers will assess the degree of damage caused by a fire and the residual risk from fire damaged waste, emissions or equipment. Burnt waste material will be kept on site for a short period of time if required for a subsequent internal investigation.

### 3.8 Quarantine Area

The quarantine area is an area located within the boundary of the Site (land covered by the EP) designated for burnt and/or non-conforming waste.

#### 3.8.1 Waste Bunker

Due to the nature of the operations on Site, it is not deemed necessary to supply a quarantine area for waste stored in the bunker that meets the requirements of the FPP guidance.

As detailed in Section 3.3 above, burnt or burning waste will be kept within the bunker to ensure coverage by the comprehensive automated suppression system. Waste that typically would be moved to a quarantine area, as stated in the FPP guidance, will remain in the waste bunker and processed through the incinerator as opposed to being removed from Site.

#### 3.8.2 Hot Load

The Site will have a dedicated quarantine area for the handling of any hot loads delivered to Site. The quarantine area will maintain a 6m separation distance from all combustible materials and ignition sources and will be kept clear at all times. The indicative location of the hot load quarantine area is shown on Drawing 002.

## 4.0 Conclusion

This FPP is considered to be a 'working' document that is reviewed and updated annually or as required should any of the following occur:

- A fire on Site;
- A change or review of legislation; or
- If the Site is instructed to do so by the EA.

It is the responsibility of the Facility Manager or nominated person to maintain this FPP and to ensure it is adhered to in the event of a fire on Site.

The FPP illustrates that the Site meets the requirements of the EA's FPP guidance. Although there will be large volumes of stored combustible waste in the waste bunker, management procedures, mitigation measures and fire monitoring procedures reduce the likelihood of a fire on Site. The Site will also be equipped with appropriate firefighting equipment and fire water management systems should a fire occur on Site.

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## APPENDIX FPP1

### Emergency Contact List

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## Emergency Contact List

### Fire Service (in the event of a major fire)

- 999 or 112

### Environment Agency Hotline (24-hour service)

- 0800 80 70 60

### Local Businesses (with associated directions)

- Northern Containers Ltd located in Haigh Park Road Industrial Estate (South): 01132708515; and
- TVC Skelton Grange Environment Centre (West): 01132430815.

### Sewage Service – Yorkshire Water Emergency Number (24-hour service)

- 03451 242 424

### Skelton Grange EfW Installation

Site and emergency number to be included once the facility is operational.



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## APPENDIX B3\_1

### List of Wastes

Waste code	Description
<b>02</b>	<b>Wastes from Agriculture, Horticulture, Aquaculture, Forestry, Hunting and Fishing, Food Preparation and Processing</b>
<b>02 01</b>	<b>wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing</b>
02 01 03	plant-tissue waste
02 01 04	waste plastics (except packaging)
02 01 07	wastes from forestry
<b>02 03</b>	<b>wastes from fruit, vegetables, cereals, edible oils, cocoa, coffee, tea and tobacco preparation and processing; conserve production; yeast and yeast extract production, molasses preparation and fermentation</b>
02 03 01	sludges from washing, cleaning, peeling, centrifuging and separation
02 03 02	wastes from preserving agents
02 03 03	wastes from solvent extraction
02 03 04	materials unsuitable for consumption or processing
02 03 05	Sludges from on-site effluent treatment
<b>02 05</b>	<b>wastes from the dairy products industry</b>
02 05 01	materials unsuitable for consumption or processing
02 05 02	sludges from on-site effluent treatment
<b>02 06</b>	<b>wastes from the baking and confectionery industry</b>
02 06 01	materials unsuitable for consumption or processing
02 06 02	wastes from preserving agents
02 06 03	sludges from on-site effluent treatment
<b>02 07</b>	<b>wastes from the production of alcoholic and non-alcoholic beverages (except coffee, tea and cocoa)</b>
02 07 01	wastes from washing, cleaning and mechanical reduction of raw materials
02 07 02	wastes from spirits distillation
02 07 03	wastes from chemical treatment
02 07 04	materials unsuitable for consumption or processing
02 07 05	sludges from on-site effluent treatment
<b>03</b>	<b>Wastes from Wood Processing and the Production of Panels and Furniture, Pulp, Paper and Cardboard</b>
<b>03 01</b>	<b>wastes from wood processing and the production of panels and furniture</b>
03 01 01	waste bark and cork

03 01 05	sawdust, shavings, cuttings, wood, particle board and veneer other than those mentioned in 03 01 04
<b>03 03</b>	<b>wastes from pulp, paper and cardboard production and processing</b>
03 03 01	waste bark and wood
03 03 02	green liquor sludge (from recovery of cooking liquor)
03 03 05	De-inking sludges from paper recycling
03 03 07	mechanically separated rejects from pulping of waste paper and cardboard
03 03 08	wastes from sorting of paper and cardboard destined for recycling
03 03 10	fibre rejects, fibre-, filler- and coating-sludges from mechanical separation
03 03 11	sludges from on-site effluent treatment other than those mentioned in 03 03 10
<b>04</b>	<b>Wastes from the Leather, Fur and Textile Industries</b>
<b>04 02</b>	<b>wastes from the textile industry</b>
04 02 15	wastes from finishing other than those mentioned in 04 02 14
04 02 21	wastes from unprocessed textile fibres
04 02 22	wastes from processed textile fibres
<b>15</b>	<b>Waste Packaging; Absorbents, Wiping Cloths, Filter Materials and Protective Clothing not otherwise specified</b>
<b>15 01</b>	<b>packaging (including separately collected municipal packaging waste)</b>
15 01 01	paper and cardboard packaging
15 01 02	plastic packaging
15 01 03	wooden packaging
15 01 06	mixed packaging
15 01 09	textile packaging
<b>15 02</b>	<b>absorbents, filter materials, wiping cloths and protective clothing</b>
15 02 03	absorbents, filter materials, wiping cloths and protective clothing other than those mentioned in 15 02 02
<b>16</b>	<b>Wastes not otherwise specified in the list</b>
<b>16 01</b>	<b>end-of-life vehicles from different means of transport (including off-road machinery) and wastes from dismantling of end-of-life vehicles and vehicle maintenance (except 13, 14, 16 06 and 16 08)</b>
16 01 03	end-of-life tyres
16 01 19	plastic
<b>17</b>	<b>Construction and Demolition Wastes (including excavated soil from contaminated sites)</b>

<b>17 02</b>	<b>wood, glass and plastic</b>
17 02 01	wood
17 02 03	plastic
<b>17 09</b>	<b>other construction and demolition wastes</b>
17 09 04	mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03
<b>18</b>	<b>Wastes from Human and Animal Health Care and/or Related Research (except kitchen and restaurant wastes not arising from immediate health care)</b>
<b>18 01</b>	<b>wastes from natal care, diagnosis, treatment or prevention of disease in humans</b>
18 01 04	wastes whose collection and disposal is not subject to special requirements in order to prevent infection (for example dressings, plaster casts, linen, disposable clothing, diapers)
<b>19</b>	<b>Wastes from Waste Management Facilities, Off-site Waste Water Treatment Plants and the Preparation of Water Intended for Human Consumption and Water for Industrial Use</b>
<b>19 02</b>	<b>wastes from physico/chemical treatments of waste (including dechromatation, decyanidation, neutralisation)</b>
19 02 03	pre mixed wastes composed only of non-hazardous wastes
19 02 10	combustible wastes other than those mentioned in 19 02 08 and 19 02 09
<b>19 05</b>	<b>wastes from aerobic treatment of solid wastes</b>
19 05 01	non-composted fraction of municipal and similar wastes
19 05 02	non-composted fraction of animal and vegetable waste
19 05 03	off-specification compost
<b>19 06</b>	<b>wastes from anaerobic treatment of waste</b>
19 06 04	digestate from anaerobic treatment of municipal waste
19 06 06	digestate from anaerobic treatment of animal and vegetable waste
<b>19 08</b>	<b>Wastes from waste water treatment plants not otherwise specified</b>
19 08 01	Screening
19 08 05	Sludges from treatment of urban waste water
<b>19 12</b>	<b>wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified</b>
19 12 01	paper and cardboard
19 12 04	plastic and rubber
19 12 07	wood other than that mentioned in 19 12 06
19 12 08	textiles

19 12 10	combustible waste (refuse derived fuel)
19 12 12	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11
<b>20</b>	<b>Municipal Wastes (Household waste and similar commercial, industrial and institutional wastes) Including separately collected fractions</b>
<b>20 01</b>	<b>separately collected fractions (except 15 01)</b>
20 01 01	paper and cardboard
20 01 08	biodegradable kitchen and canteen waste
20 01 10	clothes
20 01 11	textiles
20 01 25	edible oil and fat
20 01 28	paint, inks, adhesives and resins other than those mentioned in 20 01 27
20 01 38	wood other than that mentioned in 20 01 37
20 01 39	plastics
<b>20 02</b>	<b>garden and park wastes (including cemetery waste)</b>
20 02 01	biodegradable waste
<b>20 03</b>	<b>other municipal wastes</b>
20 03 01	mixed municipal waste
20 03 02	waste from markets
20 03 03	street-cleaning residues
20 03 04	septic tank sludge
20 03 06	waste from sewage cleaning
20 03 07	bulky waste

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## APPENDIX B2\_1

### EMS Summary

### Environmental Management System

The Environmental Permit (EP) application for Skelton Grange EfW Facility requires an environmental management system (EMS) to be in place before commencement of operations. WTI will operate the site using an EMS accredited to ISO 14001 Standard. The EMS will be accredited within 12 months of the start of operations.

The proposed management system is described in section 2 of the BATOT Operating Techniques document submitted in section 7 of this EP application and is also summarised below.

WTI will operate an in-house Environmental Management System (EMS) which will ensure that:

- the risks that the activities pose to the environment are identified;
- the measures that are required to minimise the risks are identified;
- the activities are managed in accordance with the management system;
- performance against the management system is audited at regular intervals; and
- the Environmental Permit is complied with.

The company's Environmental Policy will clearly define WTI's commitment to continual improvement, to minimising the impact of the site activities on the environment and to complying with relevant legislation and other requirements to which the company subscribes.

The management system will be reviewed at least once every four years or in response to significant changes to the activities, accidents or non-compliance. The management system will be supplemented by the BATOT document which outlines the proposed operating techniques at the site and demonstrates conformance with the requirements of Environment Agency (EA) guidance.

The EMS will include procedures as outlined in the EA's Develop a management system: environmental permits guidance (April 2018). Accordingly, the EMS will include:

- Senior Management Commitment Statement;
- Environmental policy (including commitment to the continuous improvement of the environmental performance of the facility);
- Planning and establishment of the necessary procedures, objectives and targets, in conjunction with financial planning and investment;
- Environmental Risk Assessments;
- Fire Prevention Plan;
- Site Infrastructure Plan;
- Site Operations Procedures;
- Waste Storage Plan;
- Site and equipment maintenance plan;
- Contingency plans;
- Accident prevention and management plan;
- A changing climate plan;
- Complaints procedure;
- Staff competence and training records;
- Record keeping;
  - permits issued to the site;
  - other legal requirements;
  - risk assessments;
  - management system plans;

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- operating procedures;
  - staff competence and training (for example qualifications, courses attended);
  - emissions and any other monitoring undertaken (for example emissions to air data);
  - compliance checks, findings of investigation and actions taken;
  - complaints made, findings of investigation and actions taken;
  - audits of management system, findings (reports) and actions taken;
  - management reviews and changes made to the management system;
  - certification audit reports and any actions carried out; and
  - Waste Duty of Care records.
  - Site Condition Report;
  - Management System Review by senior management, of the EMS and its continuing suitability, adequacy and effectiveness following the development of cleaner technologies;
  - Site Closure Plan including consideration for environmental impacts from the eventual decommissioning of the installation at the stage of designing a new plant, and throughout its operating life;
  - Checking performance and taking corrective action, paying particular attention to:
    - monitoring and measurement;
    - corrective and preventative action;
    - maintenance of records;
    - independent (where applicable) internal and external auditing in order to determine whether or not the EMS conforms to planned arrangements and has been properly implemented and maintained;
  - Application of sectoral benchmarking on a regular basis; and
  - Waste stream management plans.

When implementing the EMS' procedures, WTI will pay particular attention to:

- structure and responsibility;
- recruitment, training, awareness and competence;
- communication;
- employee involvement;
- documentation;
- effective process control;
- planned regular maintenance programs;
- emergency preparedness and response; and
- safeguarding compliance with environmental legislation.



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