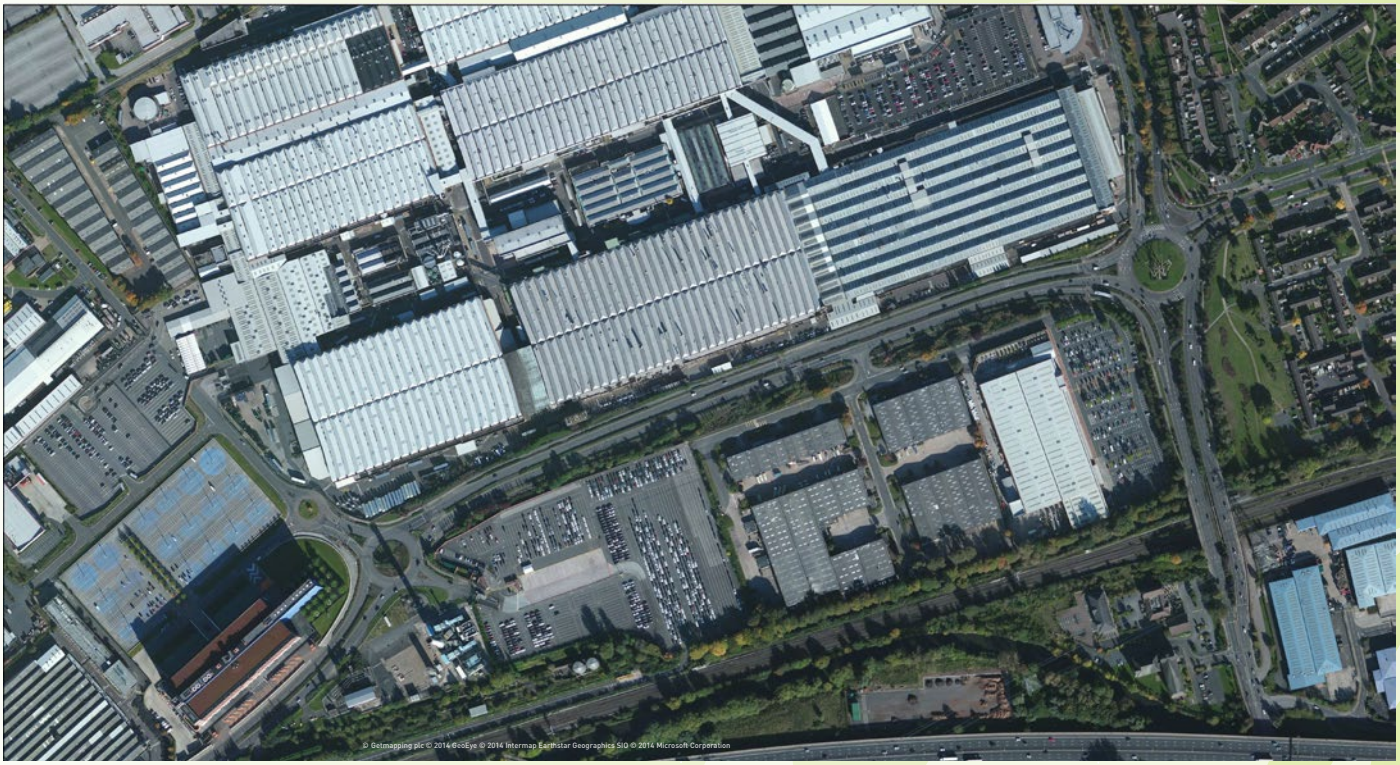
FORT PARKWAY ENERGY, CASTLE BROMWICH, BIRMINGHAM
RENEWABLE ENERGY CENTRE

ENVIRONMENTAL STATEMENT | UPDATED NON TECHNICAL SUMMARY

ROLTON KILBRIDE

January 2017 | K.0168_25B



ROLTON KILBRIDE
POWERING THE FUTURE

Pegasus Group

CONTENTS

PREFACE

This document forms the updated Non-Technical Summary (NTS) of the Environmental Statement (ES) that accompanies a planning application submitted by Rolton Kilbride (the Applicant), on behalf of Industrial Property Investment Fund, who is seeking to obtain planning permission for a proposed Renewable Energy Centre (REC) to generate power and heat for local commercial energy users located within Fort Industrial Park, off Dunlop Way, Castle Bromwich, Birmingham (the Application Site).

The Application site is located within the administrative area of Birmingham City Council (BCC). The REC is known as Fort Parkway Energy and referred to as the Proposed Development.

The ES comprises studies on each of the aspects of the environment identified as likely to be significantly affected by the Proposed Development, which are supported with technical appendices where appropriate. This ES is structured as follows:

- Volume 1: Comprises the written statement and graphic material in the form of figures, drawings and photomontages, which is the main volume of the ES
- Volume 2: Contains the Technical Appendices to the main volume of the ES

Additional documentation submitted with the planning application includes:

- Planning Statement
- Design and Access Statement
- Application Forms
- Technical Drawings
- Statement of Community Involvement
- Environmental Statement

The Environmental Statement was submitted to Birmingham City Council (BCC) in November 2015 accompanying a planning application concerning Fort Parkway Renewable Energy Centre (Application Reference 2015/09679/PA).

Shortly after the grant of planning permission for the Fort Parkway Renewable Energy Centre in June 2016, the proposed technology providers for the development (Energos) went into administration. Rolton Kilbride have therefore been investigating a range of Process Technology Companies and have developed a solution to incorporate an alternative plant solution into the building for which planning permission has been granted.

The replacement process plant has a more efficient steam boiler than before, which means output capacity is higher than the previous process plant where the gross power output will increase from 8.6MW to 12MW. This will be achieved with the same level of through-put of feedstock detailed in the planning permission and therefore no additional vehicle trips will be required. As a result of the replacement process plant, there will be a modest increase in height to a small section of the roof area of the building.

A material minor amendment application under Section 73 has been submitted to BCC which is considered the most appropriate way of addressing the changes. The updated environmental information has been provided in the form of an ES Addendum to the original ES. The ES Addendum includes updates to the air quality, landscape and noise chapters of the original ES, all other topics have been scoped out as discussed within the ES Addendum.

The ES, ES Addendum and associated documents will be available for viewing during normal business hours at Birmingham City Council Offices at the following location:

Birmingham City Council
1, Lancaster Circus
Birmingham
B4 7DJ

The ES and ES Addendum may be purchased in Volumes, the costs for which are set out below:

- Non-Technical Summary – Free of charge
- Volume 1: Main Volume and Figures - £150
- Volume 2: Technical Appendices - £150
- ES Addendum - £100

Copies of all documents can be obtained on CD for £15. For copies of any of the above please contact Pegasus Group at the following address:

Pegasus Group
Pegasus House
Querns Business Centre
Whitworth Road
Cirencester
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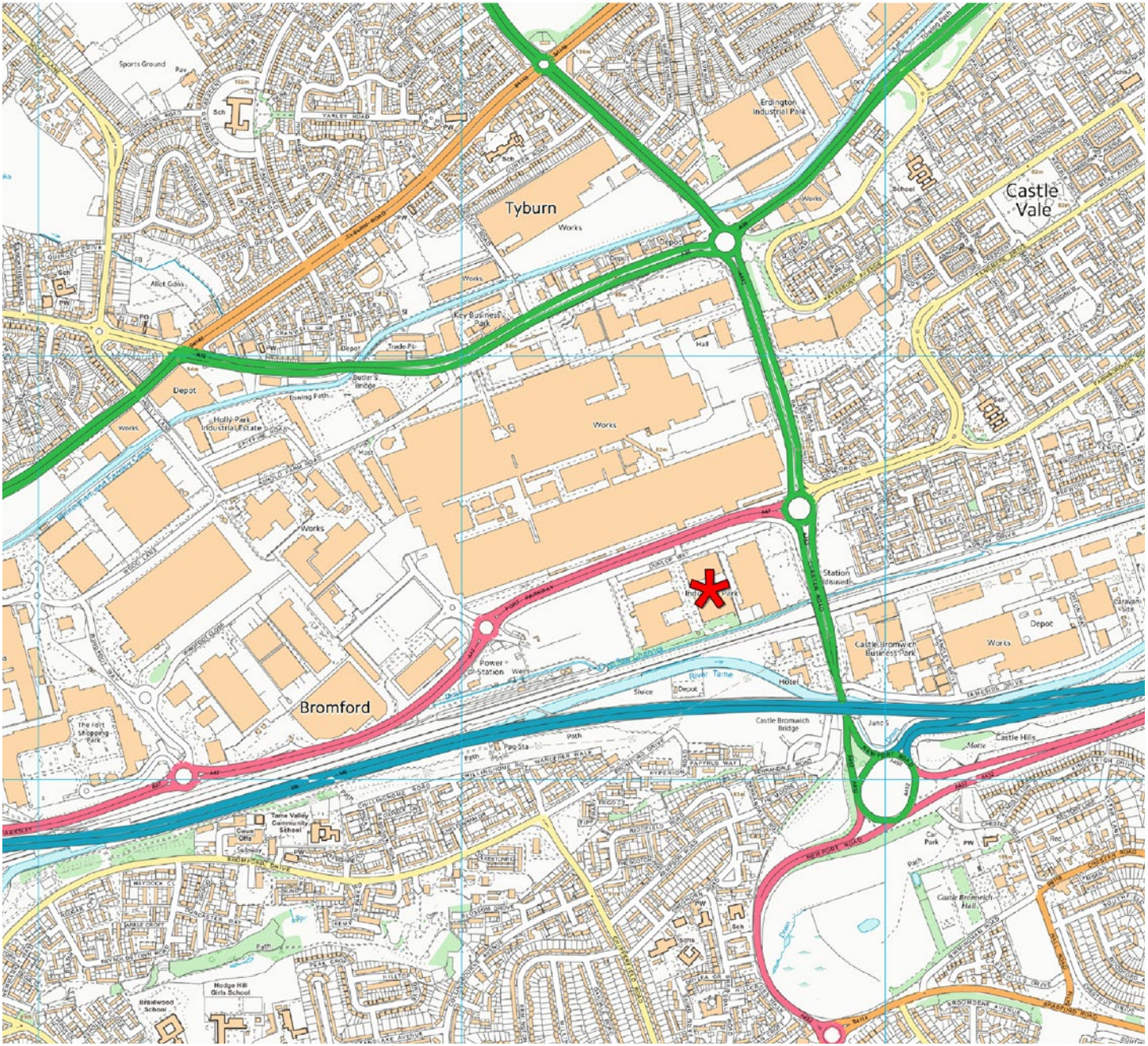
GL7 1RT

Tel: 01285 641717
Fax: 01285 642348



SITE CONTEXT PLAN

INTRODUCTION

Background

The Proposed Development includes two separate buildings; 1) a Renewable Energy Centre; and 2) an industrial warehouse building to include storage and offices.

The Renewable Energy Centre (REC) will employ an Advanced Conversion Technology (ACT) – a form of gasification process to generate power and heat from Refuse Derived Fuel (RDF) together with other non-recyclable wastes. RDF is a product derived from non-recyclable industrial and commercial waste and when heated to very high temperatures breaks down to provide a gas and which is utilised in a boiler to create steam which drives a steam turbine to produce electricity and heat. It is a clean, modern and hi-tech approach to producing energy, with a proven track record.

The previous process plant had a gross power output of 8.6MW. The Proposed Development will now generate up to 12 megawatts (MW) gross of electricity as the replacement process plant has a more efficient steam boiler than before, which means the output capacity is now higher but achieved with the same level of through-put of feedstock detailed in the planning permission (there will be no additional vehicle trips).

The plant is capable of accepting 105,000 tonnes of waste per annum which would otherwise go to landfill.

The Applicant and EIA Project Team

The Applicant is a collaboration between Rolton Group, a long established, multi-disciplined engineering consultancy with specialisms in clean technologies and Kilbride, which offers expertise in development and infrastructure.

The ES has been co-ordinated and managed by Pegasus Group. The consultants who have contributed to the preparation of the ES are as follows:

- Air Quality – Air Quality Consultants
- Townscape and Visual – Pegasus Group
- Traffic and Transport – Curtins
- Hydrology and Flood Risk – PFA Consulting
- Hydrogeology and Ground Conditions – Curtins
- Noise – L F Acoustics Limited
- Ecology and Nature Conservation – Avian Ecology
- Archaeology and Cultural Heritage – Cotswold Archaeology
- Socio Economics – Pegasus Group

EIA Process

The Town and Country Planning (Environmental Impact Assessment) Regulations 2011 require that a proposed development which falls within the description of a 'Schedule 2 Development' within the meaning of the Regulations, will require an Environmental Impact Assessment (EIA) where the development is likely to have significant effects on the environment by virtue of such factors as its nature, size or location (Regulation 2).

Under the EIA Regulations Scoping is not a mandatory requirement, however, requesting a Scoping Opinion from the local authority can be helpful. Obtaining a Scoping Opinion enables consultation over the content and extent of matters to be included within the ES from all key statutory and non statutory bodies. The Scoping should identify key environmental issues, appropriate surveys and methodologies, potential mitigation and areas of further assessment.

The aim of the Scoping process is to identify key environmental issues at an early stage, to determine which elements of the Proposed Development are likely to cause significant environmental effects and to identify issues that can be 'scoped out' of the assessments.

The Applicant submitted a Scoping Request to BCC in July 2015. The Scoping Request set out the proposed methodology for each of the key environmental issues and requested comments from BCC and other Statutory Consultees on the suitability of the Proposed Development, the proposed methodology and the likely significant effects of the construction and operational phases of the Proposed Development.

A Scoping Opinion confirming the issues to be covered in the EIA was provided by BCC in September 2015. Within their Scoping Opinion BCC, stated, "it does consider that the Proposed Development falls within Category 3 (a) Schedule 2 for the electricity generation on an area exceeding 0.5 ha or Category 10 (a) for an industrial development on an area exceeding 0.5 hectares. Notwithstanding this, the Local Planning Authority respects the applicant's formal scoping request in any event".

Under the EIA Regulations, proposals which fall within the scope of Schedule 2 development, an EIA is discretionary. This EIA has been produced however, in recognition of the strategic significance of the development and the expected local interest in the proposals. The EIA and this ES have been undertaken and prepared with due regard to the criteria of Schedule 4 of the Regulations. The ES includes an assessment of the predicted effects of the proposed development, focussing, as required by the EIA Regulations, on those effects that have the potential to be significant. The content of the ES, as well as the overall approach to the EIA, has also been designed to reflect other requirements of the EIA Regulations as well as widely recognised good practice in EIA.

CONSULTATION & SCHEME BENEFITS

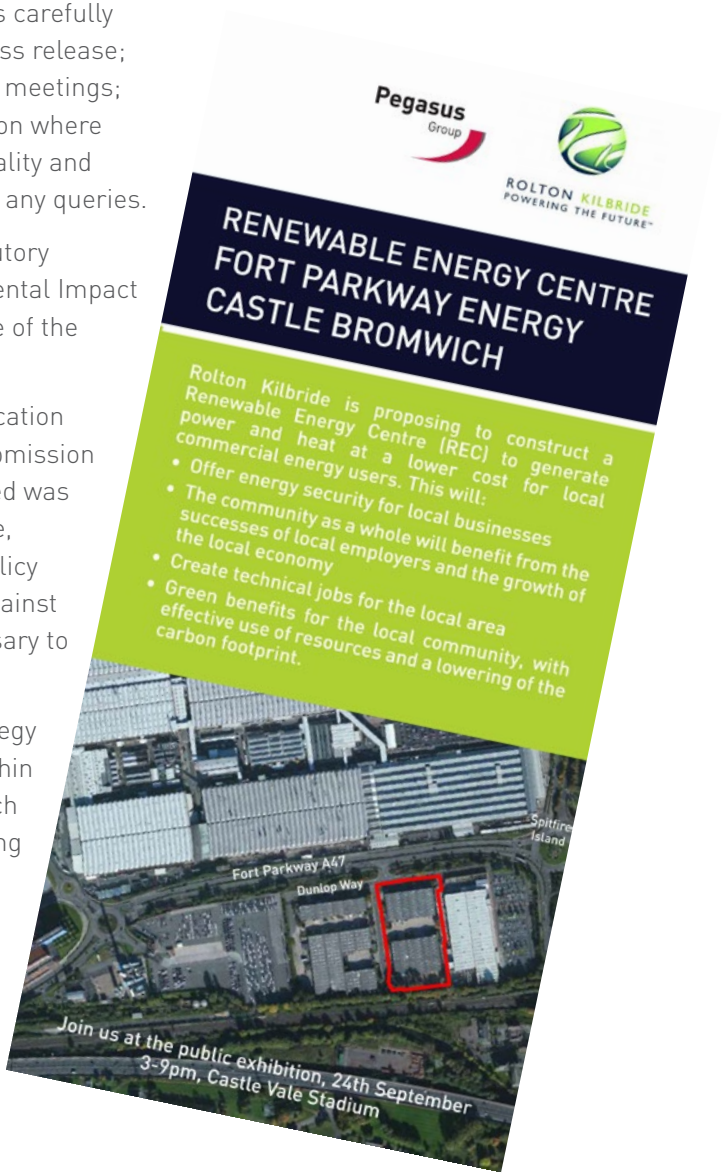
Public Consultation

Public consultation was a fundamental and integral process of the planning application. A well thought out strategy to engage with local stakeholders was carefully delivered from the outset and comprised a press release; residents and press briefings; residents group meetings; a leaflet drop and invitation to a public exhibition where members of the design team as well as air quality and transport consultants were on hand to answer any queries.

The Applicant has consulted a number of statutory consultees during the course of the Environmental Impact Assessment Scoping procedure who are aware of the proposals and have provided formal advice.

The Applicant has also engaged in a pre-application consultation process with BCC prior to the submission of the planning application. The advice received was broadly supportive of the proposals in principle, including guidance setting out the planning policy context that an application would be judged against and an indication of the documentation necessary to support an application.

The full details of the public consultation strategy and feedback from the events are included within the Statement of Community Involvement which is a separate report submitted with the planning application documentation.



Scheme Benefits

The benefits of the REC include:

- Proven technology with outstanding operational and environmental performance and very low emissions;
- Conversion of non-recyclable, non-hazardous waste into renewable energy, displacing landfill and fossil fuels;
- Reducing greenhouse gas emissions;
- Job creation across a variety of skills and levels of expertise with employment opportunities for local people;
- Reusing and transforming an existing industrial site and enhancing with landscape planting;
- Production of lower cost renewable energy for local businesses with connections to local energy users via underground cable;
- Clear progression in the transition to a low-carbon economy with grid carbon offset; and
- Compliance with Government policy and the EU Waste Framework Directive to provide sustainable, renewable energy production close to use

SITE CONTEXT AND LOCATION

Site Context

The Application Site is located within Fort Industrial Park, off Dunlop Way in the Castle Bromwich area of Birmingham. The Fort Industrial Park comprises 26 units that comprise single storey industrial / warehouse and trade counter buildings with offices, service yard and parking and is surrounded by a network of motorways, main roads (dual and single carriageway) and other roads.

The Application Site boundary is approximately 1.91ha and includes two single storey business, industrial and storage buildings (use class B1, B2 and B8) containing nine separate units. The units are surrounded by areas of hard standing used for staff car parking.

To the north and west are extensive areas of large industrial units and car storage, including Jaguar Land Rover's Castle Bromwich manufacturing plant. To the east, beyond the A452 dual carriageway, is the residential area of Castle Vale, separated by the mainline railway from further industrial units to the south. To the south is the mainline railway line, a hotel (the Castle Bromwich Inn), an elevated section of the M6 motorway, and areas of residential development, including the parkland associated with castle Bromwich Hall and a number of other areas of green space.

The River Tame lies to the south of the Application Site, between the railway line and the M6 motorway.

The site is owned by Industrial Property Investment Fund which is managed by Legal and General Property (LGP) who is seeking to redevelop part of the Fort Industrial Park to include the introduction of a Renewable Energy Centre that generates power in the form of electricity and / or heat.

Historical Uses of the Site

An Envirocheck report of the Application site reveals the earliest historical maps date from 1887 and show the site to be primarily open land with a track or road running north/south across the site and another track along the northern boundary. By 1952, a drainage ditch or trench is shown in the south of the site and the tracks have been extended to a pumping station just outside the southwest corner of the site.

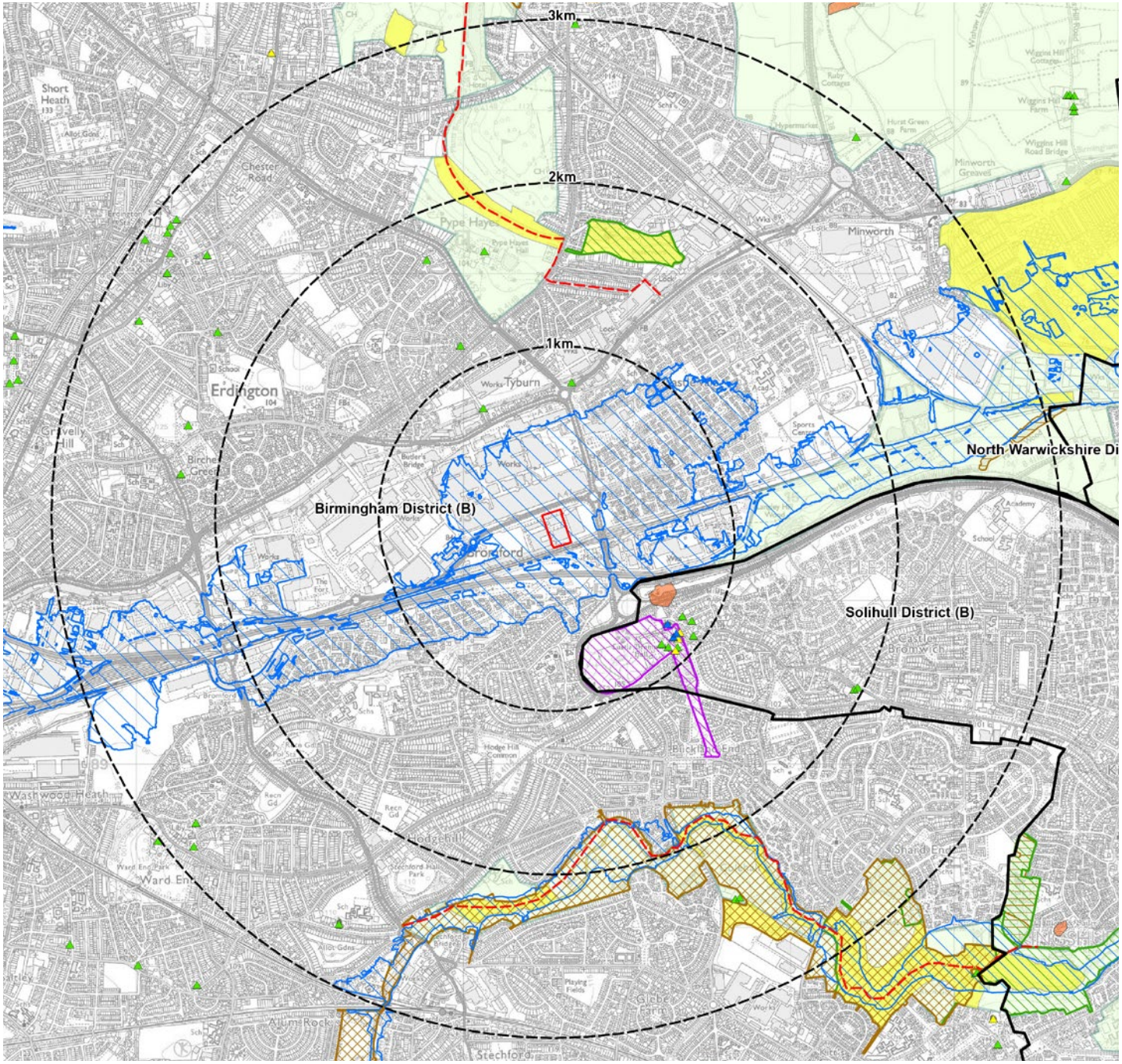
The land appears to have been levelled by the 1960's and a small unidentified building is shown on the eastern boundary, which has been removed by the 1970's, with a pathway built in the south of the site. The first major buildings are not recorded on the site until the early 1980's, with the construction of the Fort Parkway Industrial Estate, consisting of a number of light industrial units. These are the buildings which remain on site to the present day

Ecological Considerations

The Application Site is dominated by hardstanding and large industrial buildings with small sections of ornamental planting. The features of highest ecological interest are situated directly south and comprise a linear corridor of semi-natural habitats and a tree line beside the railway line embankments.

There are a number of areas of deciduous woodland and woodpasture/parkland Biodiversity Action Plan (BAP) in the vicinity of the Application Site, both of these being on the Priority Habitat Inventory. No areas of Ancient Woodland are adjacent to the site although the nearest is approximately 0.4km southeast.

There are six statutory designated sites for nature conservation within a 5km radius of the Application site. The nearest site, Plantsbrook Reservoirs Local Nature


3km
2km
1km
Birmingham District (B)
Solihull District (B)
North Warwickshire Di
Short Heath
Erdington
Tyburn
Minworth
Pype Hayes
Bromford
Castle Bromwich
Washwood Heath
Ward End
Hodge Hill
Shard End
Alum Rock
Stechford

KEY

- Site Boundary
- Local Authority Boundary
- Grade I Listed Building
- Grade II* Listed Building
- Grade II Listed Building
- SUSTRANS National Route
- Listed Buildings
- EA Flood Zone 2
- Country Park
- Registered Park / Garden
- Scheduled Monument
- Local Nature Reserve (LNR)
- Ancient Woodland
- Site of Importance for Nature Conservation (SINC)
- Green Belt

DESIGNATION & CONSTRAINTS PLAN

Reserve (LNR) is situated approximately 1.6km to the north. The Tame Valley Wildlife Corridor lies adjacent to the Site boundary, and this area is also designated as a Potential Site of Importance.

Landscape and Heritage Considerations

The Application Site is not subject to any statutory or non-statutory landscape designations and no designated heritage assets are recorded within the Application Site.

The Grade II* Registered Park and Garden at Castle Bromwich Hall lies approximately 600m to the south-south-east of the Application Site, but is separated by an elevated section of the M6.

The locally listed Fort Dunlop building lies approximately 750m to the west of the Application Site, and there are a number of other Listed Buildings in the local area, notably those in the vicinity of Castle Bromwich Hall and those to the north of the Jaguar plant.

Existing Flood Risk

The site is located in Flood Zone 2 and 3. Flood defences along the River Tame in the vicinity of the site provide protection up to the 1:100 (including an allowance for climate change) flood event.

The topography of the land indicates that any overland flow would be directed into the existing surface water drainage network and local watercourse network. Geological conditions suggest groundwater is present at relatively shallow depths within superficial deposits.

There is an existing off-site sewer network on the site. No incidences of sewer flooding have been recorded in the vicinity of the site.

A designations and constraints plan of the Application Site and surrounding area is illustrated on P8

ALTERNATIVES, SITE SELECTION & FEASIBILITY

Consideration of Alternatives

Schedule 4, part 1, paragraph 2 of the Town and Country Planning (Environmental Impact Assessment) Regulations 2011 requires that "an outline of the main alternatives studied by the applicant and an indication of the main reasons for this choice, taking into account the environmental effects" are included within the ES.

Other Legal and General Property managed sites were considered early in the feasibility process, however, the principal reason for the selection of the site was its location within an existing site in an industrial area with good access to the primary route network and in close proximity to energy intensive industrial customers.

The design of the Proposed Development has been informed by an iterative process with alternative layouts and elevations considered throughout the process. Layout options for the REC element of the site prior to the final option was taken forward, demonstrated constraints and opportunities associated with the location of the stack, vehicular movement and access as well as landscaping proposals. It was determined the stack would be more preferable sited to the east of the REC as opposed to the south as this location is further from the railway line.

A series of basic architectural massing techniques were undertaken to help understand how the buildings would best relate to one another and the character of the surrounding area. Due to the split use of the site with the industrial warehouse to the north and REC located behind, this allowed the warehouse to sit at a relative height to the neighbouring industrial units whilst the energy plant stepped up behind.

Following the basic massing exercise the functional and operational requirements of the building were explored. By creating a single central energy plant unit that is served by the ancillary buildings located to the peripheral edges this allowed for vehicular circulation around the building to all facades.

A series of elevation option alternatives were explored and considered throughout the iterative design process before the design was finalised.

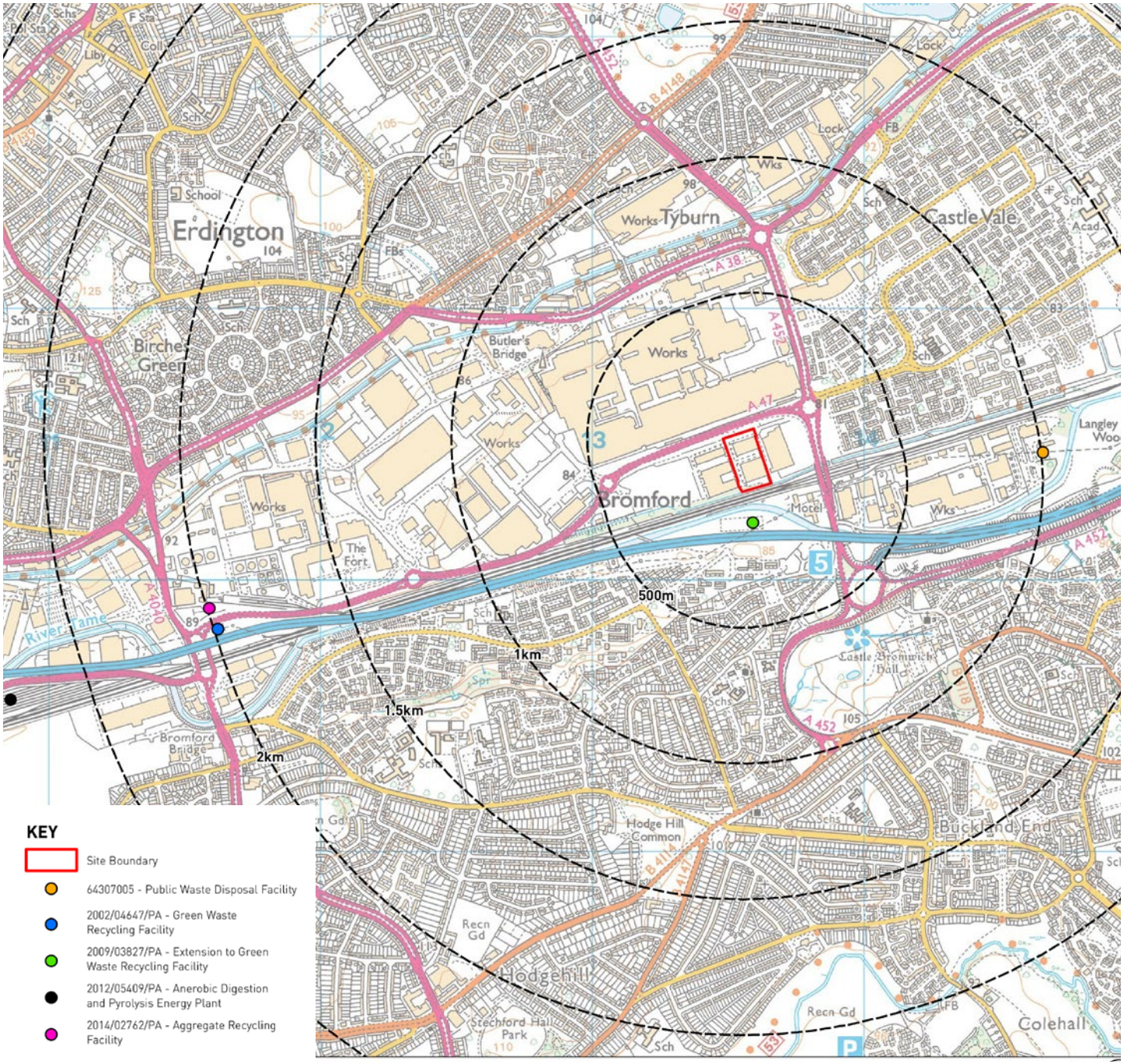
Site Identification and Feasibility

The Castle Bromwich site was identified to provide the opportunity for power to be supplied to any interested local businesses as well as the opportunity to supply heat in the form of steam and / or hot water if required; and in view of the need for new waste infrastructure within Birmingham City Council area with the plant saving up to 105,000 tonnes of waste going to landfill annually.

The site at Fort Industrial Park was chosen having established:

- Its availability and its size which was suitable for up to a 105,000 tonnes facility;
- Its proximity to energy intensive industrial consumers. It is intended that the proposal will be able to offer low cost secure energy to one or more neighbouring businesses, assisting in securing the future of those companies and their employees;
- Its access through the existing industrial estate which immediately joins the primary route network without the need to go through residential areas.

No other viable site alternatives that met all three criteria were identified



CUMULATIVE PLAN

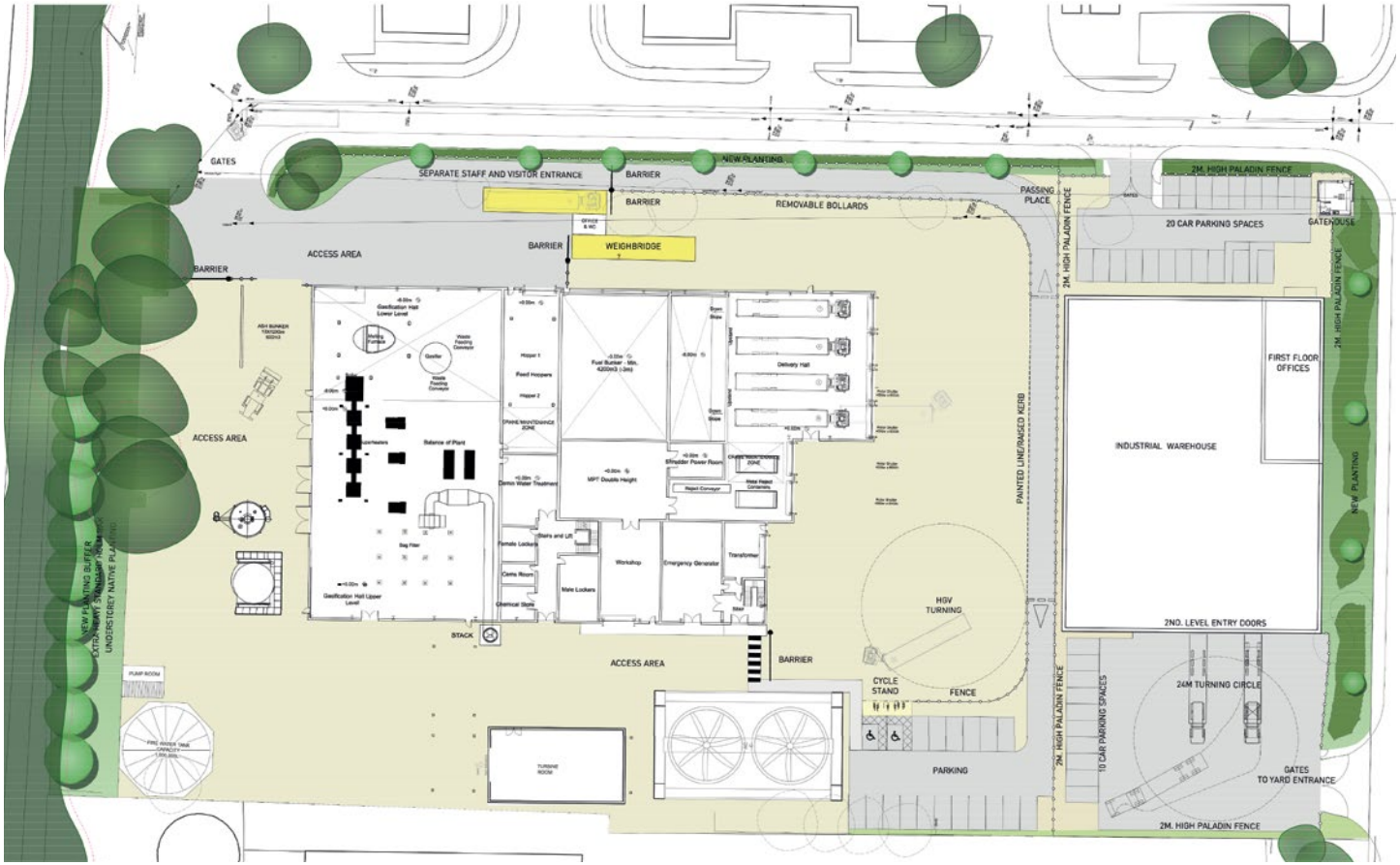
Consented Development & Cumulative Considerations

Schedule 4, part 1, paragraph 4 of the Town and Country Planning (Environmental Impact Assessment) Regulations 2011 requires that a description of the likely significant effects of the development on the environment should cover cumulative effects.

The main aim of a cumulative assessment is to assess the additional impact of the development proposed on the baseline of projects that are either already operational, have planning permission or which are in the planning system.

BCC identified five sites in their Scoping Opinion to be included within the cumulative assessment. The sites lie within a 3km radius of the Proposed Development and are as follows:

- Public Waste Disposal Facility (Ref 64307005)
- Green Waste Recycling Facility (Ref 2002/04647/PA)
- Extension to Green Waste Recycling Facility (Ref 2009/03827/PA)
- Anaerobic Digestion and Pyrolysis Energy Plant (Ref 2012/05409/PA)
- Aggregate Recycling Facility (2014/02762/PA)



SITE LAYOUT PLAN

PROPOSED DEVELOPMENT

The Proposed Development includes two separate buildings; 1) a Renewable Energy Centre (REC); and 2) an industrial / warehousing building to include storage and offices.

The REC is capable of accepting up to 105,000 tonnes per annum of residual commercial and industrial waste (CIW) together with an element of construction and demolition (C&D) and potentially municipal solid waste (MSW) as well as Refuse Derived Fuel (RDF). The Facility will not accept hazardous or hazardous clinical waste.

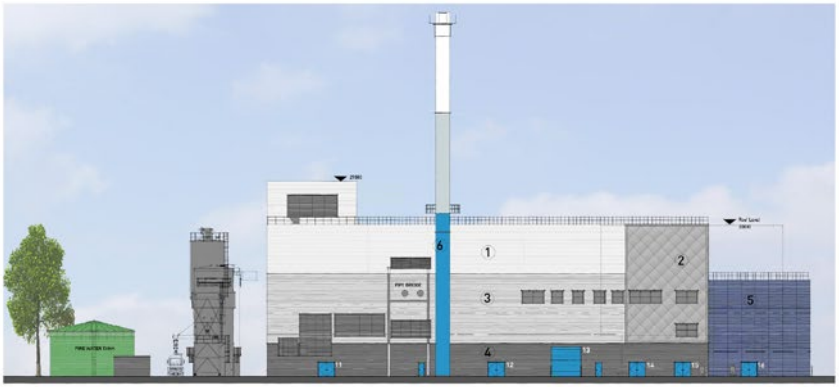
The electricity produced from the REC will have a capacity to produce 12 megawatts (MW) gross of electricity. Unlike incineration, the technology employed by Fort Parkway Energy will involve a two-stage system, which initially gasifies the waste to produce synthetic gas. This gas is then transferred to a second stage where it burns more efficiently as a fuel than would be the case from a basic waste incineration system. The process allows for efficient control of emissions and improved performance generally as an energy solution.

The proposed REC is made up of the following principal elements:

- A main building – this will house the majority of the process plant and will have a number of silos to the rear and a flue stack to the east of the building, all waste material will be unloaded inside the building. At its highest point, the main body of the building will be 29m high and 82.3m long x 48.8m wide with a floor area of 4,855m2. The increase in height of part of the rear roof of the building from 23m as described in the original ES to 29m, will allow for the internal plant to be configured vertically as opposed to horizontally. The flue stack contains a walk around platform for continual air quality monitoring access and consists of a metal framework. The stack height will not change with a height of 55m and a diameter of 2.1m which in comparison to the adjacent Rolls Royce peaking plant is smaller. The Rolls Royce site is larger with an exhaust stack height of 60.4m and 4.5m diameter; There will be a change to the configuration of the building involving the relocation of the delivery hall.

MATERIALS PALETTE

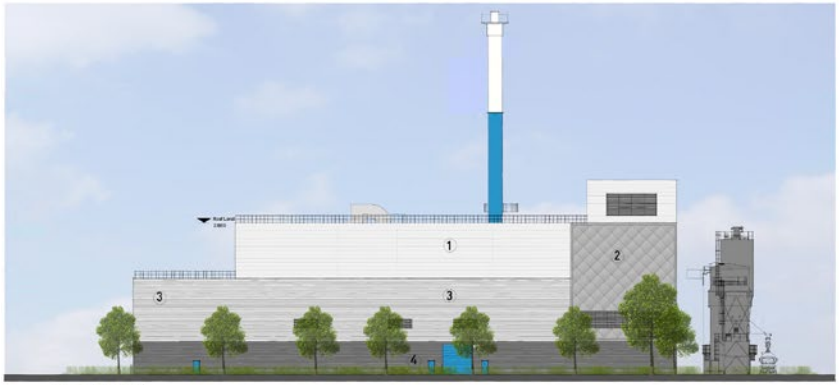
1	Architectural Wall Panel: Colour White
2	Aluminium Sotech Optima Shingles
3	Horizontal Metal Cladding Panel Ref: Colour Hamlet RAL 9002
4	Horizontal Metal Cladding Panel Ref: Colour Pure Grey RAL 000 55 00
5	Architectural Wall Panel: Colour Topaz
6	Blue Coated Metal



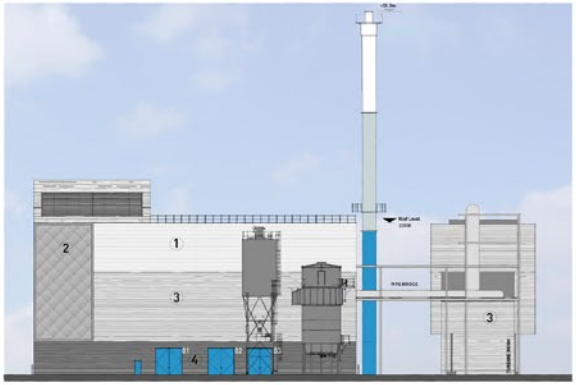
EAST ELEVATION

NORTH ELEVATION

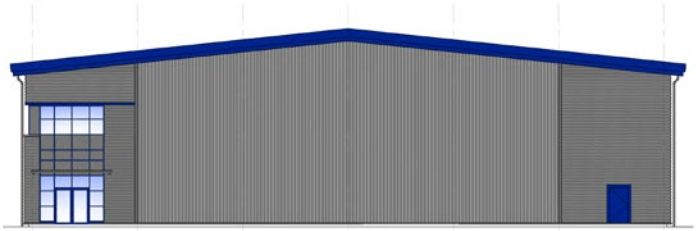
- Waste Storage Bunker - Wastes are deposited into an 8m deep waste bunker with a capacity of 820m3 (which has 4 days of waste storage thus complying with fire regulations and stopping build-up of heat from waste gasses) where shredding and separating takes place and any ferrous material is taken out;
- Turbine Room – this will be a smaller separate building 15.6m high, with a base of 20m x 11m. A short section of pipe line will connect the main building and the turbine generator building;
- As a result of the incorporation of a vertical gasifier, to ensure the roof height is kept as low as possible, the section of the building where the gasifier is located will go underground to a depth of 8m (the same depth as already approved for the waste bunker on the original plans).
- Air cooled condenser fans – have a height of 23.4m with a footprint of 27.4m x 11m;



WEST ELEVATION



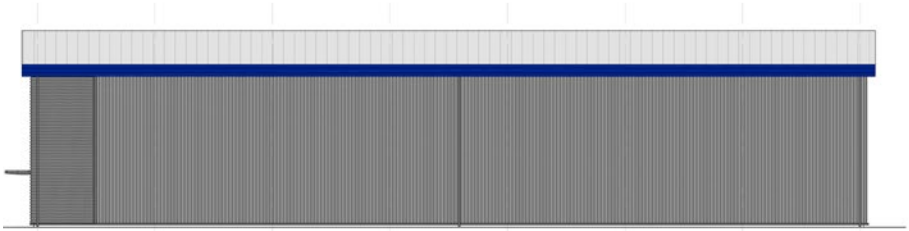
SOUTH ELEVATION



Front Elevation

Rear Elevation

Side Elevation on Dunlop Way



Side Elevation

- Ash Bunker – the fly-ash is stored in a silo measuring 10m x 12m x 5m with a capacity of 600m3. The ash is removed in a safe manner by attaching an umbilical hose to a tanker and can be either reused /recovered or disposed of at licensed landfills. The handling, storage, treatment and reuse/disposal of this material is highly regulated and loaded onto trucks with a front end loader;
- Fire Water Tank - a fire water tank would be included next to the south eastern boundary of the site. The tank has a 17m diameter and a height of 6.75m with a 1 million litre capacity;
- Pump Room – the pump house is next to the fire water tank and has a height of 3.2m with a footprint of 6.1m x 4.6m; and
- Technical / Control room and Workshop – the control room will be located within the eastern side of the building and the workshop within the western side.

In addition, the external site areas will include:

- Two weighbridges (both in and out);
- Site entrance and circulation roads;
- 9 car parking spaces including 2 disabled bays;
- Provision for cycling spaces; and
- Landscaping and Sustainable Urban Drainage Systems (SuDS).

The industrial warehouse building has a height of 11.6m, width of 37.83m and length of 49m. The floor area measures 1950m2. To the east side of the building are 20 car parking spaces and a gatehouse. The service yard is located west of the building and includes 2 loading bays and 10 car parking spaces. There will be a 2m high paladin boundary fence.

The gatehouse will be a moveable structure and has a height of 4.3m by 5.4m x 5.4m. The floor area measures 29m2.

Process Description

The plant employs a two stage system that first gasifies the waste to produce a synthetic gas which is then transferred to a second stage where it is oxidised. Changing the waste to a gas fuel, means the combustion environment can be finely controlled, dioxins thoroughly destroyed and Nitrogen Oxides (NOx) emissions minimised which can achieve emissions levels that are compliant with the Industrial Emissions Directive (IED) (Directive 2010/75/EU of the European Parliament and the Council on industrial emissions).

The key stages of the process are as follows:

- Fuel bunker and transport system;
- Thermal conversion;
- Heat recovery steam generator
- Energy utilisation system;
- Flue gas cleaning system; and
- Control and monitoring system.

Operating Hours

The REC will operate continuously; 24 hours a day, 7 days per week. Operational staff would be required to operate the Plant on a 3 shift pattern (each of 8 hours). During weekdays the facility will be open for deliveries between the hours of 0700 and 1900 and between the hours of 0700 and 1400 on Saturdays. There will be no waste received on Sundays. It is expected that HGVs importing and exporting materials from the site will do so evenly throughout the 12 hour period and there is unlikely to be a peak in movements associated with these operations.

Grid Connection

The Applicant has submitted a budget quotation request and held discussions with the relevant power network operators in the area regarding the scale of the generation considered, which would typically be connected to the local network. Western Power Distribution (WPD) operates the Distribution Network.

Due to the available capacity of the local networks, it has been indicated by WPD that the maximum generation export capacity that could be afforded to the Fort Industrial Park is considered to be 20,000kVA. Any capacity above this level is likely to require substantial reinforcements back up the distribution network towards the Nechelles Bulk Supply point.

WPD has provided a Budget Estimate for a 10,000kVA generation capacity exporting to its distribution network via a 132,000 volt connection.

Design Approach

Many industrial parks are designed with a typical 'form follows function' approach. From the outset and in conjunction with advice from BCC City Design team it was deemed important that the external appearance of the plant should make a statement whilst being appropriate for the area.

In terms of architectural detailing and materials, both follow a similar palette, albeit simplified for the smaller industrial warehouse unit and consist of mainly a coloured cladding system.

Due to the energy plant building being a large mass, it was important to use a cladding system that would achieve the functional needs, as well as aesthetic ones too. A horizontal metal cladding in a dark grey colour has been used for the building base which is a common architectural technique and gives the building a strong base or plinth to sit on. Above that a lighter grey has been specified and finally a white architectural panel to the top third of the building. The concept behind this allows the building to sit and almost blend into the typical overcast skyline of the UK. Key corners and frontages have been wrapped in an aluminium diamond shaped shingle, which helps to give the elevations their own hierarchy. These textured panels add some shadow relief to the elevations helping to break up the building mass. Operational doors, external machinery and part of the stack will be faced in a contrasting Blue coated metal.

Following advice from BCC the dark blue architectural panel on the north elevation was toned down using a lighter colour palette.

A tree screening belt was integrated on the southern boundary to screen visible elements from the south.

CONSTRUCTION AND ENVIRONMENTAL MANAGEMENT

Construction (including demolition) Duration

Subject to the grant of planning permission, it is anticipated that the construction of the proposed REC would commence in 2017. Construction on site would last for 24 months, after which there would be a commissioning period. Furthermore, construction would normally take place during the hours of 0700 to 1800 (Monday to Friday) and 0800 to 1300 (Saturday). No construction would take place on Sundays or bank holidays.

Environmental Management Plans

A Construction Environmental Management Plan will be prepared and adopted and will include sections on: noise, vibration, air quality, water quality, surface quality (prevention of contamination of ground surface), site transportation and traffic management, visual intrusion and waste management. The appointed contractor will also be required to register with the Considerate Construction Scheme.

A Site Waste Management Plan will be prepared and all relevant contractors will be required to seek to minimise waste arising at source and, where such waste generation is unavoidable, to maximise its recycling and reuse potential. Recycling of materials will primarily take place off-site where noise and dust are more easily managed.

Consents

In addition to planning permission, other consents will be required to enable the Proposed Development to proceed. Of particular importance to this development is the need for an Environmental Permit from the Environment Agency that will control all operations associated with the plant based upon various risk assessments. Information presented in this ES will be used in the preparation of the Permit.

AIR QUALITY

Introduction

The impacts of dust and PM10 (particulate matter) emissions during the construction (including demolition) phase have been assessed qualitatively following published guidance. The operational impacts of the Proposed Development on air quality, odour and bioaerosol conditions for local receptors have also been assessed. Air quality impacts have been assessed quantitatively using dispersion modelling, while odour impacts have been assessed following a risk assessment technique outlined in published guidance. Bioaerosol impacts have been assessed qualitatively based upon the levels expected to be generated and the likelihood of their being emitted from the REC.

Baseline Conditions

The local area is heavily industrialised, with numerous point sources of emissions to air, as well as having a very busy and congested road network. Local monitoring shows roadside concentrations of nitrogen dioxide to be above the annual mean objective, but away from busy roads concentrations of all pollutants are below the objectives.

Likely Significant Effects

The odour risk assessment has demonstrated that the odour effects on all local receptors will be negligible, thus the Proposed Development is judged to be insignificant in terms of odour effects. The qualitative bioaerosol assessment has also demonstrated that the Proposed Development will have an insignificant effect on local receptors in terms of bioaerosol concentrations.

The impacts of road traffic generated by the Proposed Development have been screened out as insignificant, as the development will lead to less overall traffic being on the local roads than the site's current use, and only very marginally more HGV traffic.

In terms of emissions from the facility's stack, the assessment has demonstrated that these will result in an insignificant change in concentrations at all local sensitive receptor locations for all pollutants and all averaging periods, with the exception of annual mean nitrogen dioxide. Following Environment Agency guidance, the process contribution to annual mean nitrogen dioxide could also be screened out as insignificant, but Environmental Protection UK (EPUK) and Institute of Air Quality Management (IAQM) guidance employs a stricter screening criterion. Following this stricter guidance, the development will still have a negligible impact on annual mean nitrogen dioxide concentrations at most local receptors, but will likely have a slight adverse to moderate adverse impact at up to 48 properties nearest to the busy road network. The facility will still contribute a fraction of the total concentration at these receptors (less than 1 µg/m3 when total concentrations at some receptors are above 40 µg/m3), with road traffic emissions being a far more significant source.

Mitigation and Enhancement

The construction works have the potential to create dust. During construction it will therefore be necessary to apply a package of mitigation measures to minimise dust emission. With these measures in place, it is expected that any residual effects will be 'not significant'. However, the guidance recognises that, even with a rigorous dust management plan in place, it is not possible to guarantee that the dust mitigation measures will be effective all of the time, for instance under adverse weather conditions. The local community may therefore experience occasional, short-term dust annoyance. The scale of this would not normally be considered sufficient to change the conclusion that the effects will be 'not significant'.

No additional mitigation has been proposed for the operational impacts, other than the self-imposed emission limit of 150 mg/Nm3 of NOx (nitrogen oxides). The pollutant emissions from the proposed facility will most likely be significantly lower than those modelled, as the technology to be employed is very clean.

Conclusion

The assessment has demonstrated that the Proposed Development will not have a significant impact on dust and PM10 (particulate) levels during construction, provided that the recommended mitigation is applied. Similarly, odour and bioaerosol emissions will be kept to a sufficiently low level that the local effects will be insignificant.

The overall operational air quality impacts of the Proposed Development are judged to be 'not significant'. This judgement takes account of the uncertainties in future predictions of road traffic emissions, and the worst-case assumptions applied in the dispersion modelling assessment.

TOWNSCAPE AND VISUAL

Introduction

The townscape and visual impact assessment has assessed the likely effects of the Proposed Development on landscape/townscape character, landscape/townscape features and elements within and in the immediate vicinity of the Proposed Development, and on local visual amenity. The assessment has been undertaken with regard to best practice and the Guidelines for Landscape and Visual Impact Assessment, 3rd Edition (2013), as published by the Institute of Environmental Management & Assessment (IEMA) and the Landscape Institute.

Baseline Conditions

The Application Site lies within the Arden National Character Area (NCA97), though this is considered to be of limited usefulness. There are no published landscape character assessments at a more local level.

The wider area is predominantly industrial to the north and west, including the large Jaguar manufacturing plant to the north of the A47 Fort Parkway dual-carriageway. An existing gas turbine power station, with a stack of approximately 60m in height, is located to the west, close to the now refurbished Fort Dunlop building.

To the east is a large B&Q superstore, the A452 Chester Road dual-carriageway and the Castle Vale residential area.

To the south lies the West Coast Mainline railway line, a hotel, pub and small office development, and then an elevated section of the M6 motorway. High voltage transmission lines mounted on 62m pylons broadly follow the line of the motorway, as does the River Tame. Beyond the motorway are the Hodge Hill and Buckland End residential areas.

There are 27 existing trees within the Application Site, together with areas of shrub planting and grass around the perimeter.

There are no statutory or non-statutory landscape designations in place on the Application Site. The nearest non-statutory designation of relevance in landscape and visual terms is the Grade II* Registered Park and Garden at Castle Bromwich Hall. The Hall itself is Grade I Registered, as is the nearby church of St Mary and St Margaret. The Registered Park and Garden lies approximately 600m to the south-south-east of the Application Site, but is separated from the Application Site by the elevated section of the M6.

The locally listed Fort Dunlop building lies approximately 750m to the west of the Application Site, and there are a number of other Listed Buildings in the local area, notably those in the vicinity of Castle Bromwich Hall and those to the north of the Jaguar plant.

The only Public Right of Way (PRoW) in the vicinity of the Application Site is a short section of public footpath associated with the parkland of Castle Bromwich Hall. There are pedestrian walkways associated with many of the roads in the area. The Park Hall Nature Reserve lies to the south-east, between the M6 and the railway.

Likely Significant Effects

The assessment has not identified any significant townscape and visual effects which would arise as a result of the Proposed Development.

PHOTOMONTAGE OF SPITFIRE ISLAND TO NORTH-EAST OF B&Q SUPERSTORE, LOOKING SOUTH-WEST

Mitigated Enhancement

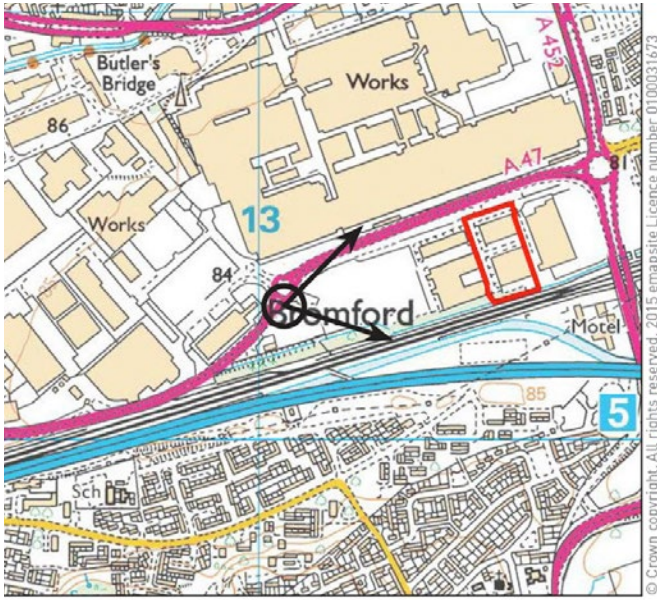
Mitigation measures (such as minimising the height of the stack and the main building, and the use of cladding of variable colours and shades so as to minimise the perceived massing of the buildings) have been incorporated into the design of the Proposed Developed as part of the iterative design process. The measures are therefore an integral part of the development and no further additional mitigation is considered necessary from a landscape and visual perspective.

Conclusion

The Application Site lies outside of any statutory or local/non-statutory landscape designations. The Application Site is currently occupied by a number of industrial/trade counter buildings, set within an industrial context including the large Jaguar manufacturing plant on the north side of Fort Parkway, and the existing Fort Dunlop gas turbine power station to the west of the Application Site.

The Proposed Development would result in the replacement of the existing industrial buildings with a number of other, slightly larger industrial buildings, together with a 55m tall stack. The stack would be shorter than the existing stack at the Rolls Royce peaking plant and the pylons which line the nearby elevated section of the M6 motorway, and would be seen in the context of a number of other nearby stacks such as those at the Jaguar plant.

The nature of the Proposed Development, together with the context provided by the land uses surrounding the Application Site, would mean that the Proposed Development is considered to be appropriate to the setting and townscape character of the site. The Proposed Development would not result in any significant effects on local landscape or townscape features or elements, and would not have any significant effects on visual amenity as experienced from locations within the local area.

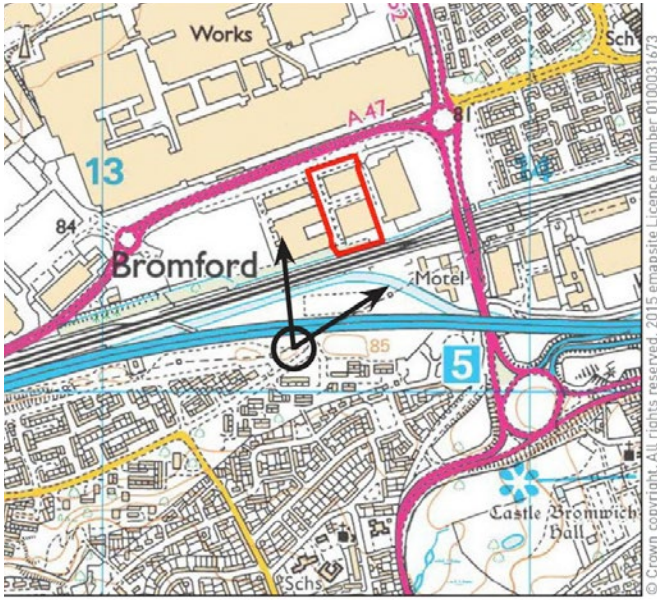


Consented Scheme Wireframe View

ES Addendum Wireframe View

ROUNDABOUT ON A47 FORT PARKWAY, ADJACENT TO FORT DUNLOP, LOOKING EAST'


Jaguar Storage
Facility



GREENSPACE TO NORTH OF BROMFORD DRIVE, LOOKING NORTH-NORTH-EAST'

TRAFFIC AND TRANSPORTATION

Introduction

The traffic and transport assessment has considered the environmental impacts of traffic to include pedestrian amenity, highway safety and driver delay in the context of the relative change in traffic flows. Two receptors have been identified within the study area, these being the Fort Parkway Industrial Park and the Castle Vale Residential Area. The sensitivity of these receptors was noted to be 'low' and 'moderate', respectively.

Baseline Conditions

The location of the Application Site has been considered in the context of existing and future consented infrastructure using Geographic Information System (GIS) based modelling techniques, which confirm that the site relates well by non-car modes to adjoining residential areas.

Baseline traffic flows have been collected and used as the basis of the environmental impact analysis. Analysis against daily flows is considered reasonable in light of the fact that the trip profile of the site is likely be distributed evenly over the course of the day.

Likely Significant Effects

Operational phase impacts have been determined with reference to the trip generation calculations contained within the Transport Assessment which accompanies the ES.

Construction phase (including demolition) impacts could be generated from the arrival and departure of construction workers and associated HGV traffic. Whilst impacts can be significantly reduced with appropriate mitigation, the construction phase impacts would be, at worst, categorised as 'Negligible'. This is considered to be acceptable, particularly in light of the temporary nature of this phase of development.

Cumulative impacts during construction could arise alongside the construction of adjoining schemes. However, schemes are either already operational and are included within the baseline assessment or insufficient information is available to measure this effect for the remaining schemes. Notwithstanding, an arbitrary quadrupling of construction traffic flows assumed for the Proposed Development will only yield an acceptable 'Moderate Adverse' impact.

Mitigation and Enhancement

Given the application site's current land use and the resulting impact of the Proposed Development, it is considered that the surrounding highway network is of a suitable standard and will not require further mitigation to accommodate movements associated with the operational phase.

For the construction phase it is proposed that a Construction Traffic Management Plan (CTMP) would be prepared and submitted to the Local Planning Authority prior to the commencement of on-site works. The purpose of the CTMP would be so that appropriate environmental management practices are followed during the construction (and demolition) phase of the project

Conclusion

The Proposed Development can be accommodated without any unacceptable detriment to the environmental effects of traffic. It is noted that the inclusion of mitigation measures at both construction and operational phases would reduce the effects and impacts of the development further, providing confidence in the conclusion of the traffic and transport assessment.

HYDROLOGY AND FLOOD RISK

Introduction

An assessment has been undertaken of the likely significant effects that the Proposed Development would have on the water environment. The effect of the Proposed Development on local flood risk and water quality of nearby watercourses has been assessed and mitigation measures proposed. The hydrology and flood risk assessment is supported by a detailed Flood Risk Assessment which has been submitted with the planning application documents.

Baseline Conditions

The Application Site is currently a light industrial park consistent of two buildings surrounded by areas of car parking, hard standing and small areas of grass and landscape planting.

The site is predominately flat with a slight slope south towards the Dunlop Carrier watercourse on its southern boundary. The Dunlop Carrier is an artificial watercourse which receives runoff from the surrounding urban area. The site's surface water runoff currently drains to onsite sewers which discharge into the Dunlop Carrier.

Likely Significant Effects

The construction of the Proposed Development will temporarily disrupt the onsite drainage network. Potentially polluting activities and accidental spillages and leakages may occur during the construction and operation of the Proposed Development which could have an effect on local water quality.

Mitigation and Enhancement

Good site management, adequate contingency planning and implementation of the Environment Agency's pollution prevention guidelines and best practice construction techniques will reduce the risk of a significant water pollution event occurring.

The surface water drainage system will incorporate stormwater storage and will be discharged at a reduced flow rate during short duration intense storm events (e.g. thunderstorms) into the onsite sewer network (and therefore the Dunlop Carrier). The system will provide a degree of flood risk betterment during these storm events.

The surface water drainage system will incorporate specific measures to intercept oil and silt and other pollutants from the site and relevant plant will be designed to minimise pollution risk.

Conclusion

Adopting best practice construction site management and provision of a suitably designed surface water drainage system incorporating pollution control and stormwater storage minimises the effect of the Proposed Development on local flood risk and water quality in nearby watercourses.

HYDROGEOLOGY AND GROUND CONDITIONS

Introduction

A qualitative assessment of the effects of the Proposed Development arising from the ground conditions has been completed. The assessment has considered the extent and methods of foundation construction, the anticipated degree of disturbance of the ground, the final form of the development, and the relevant national and local policies for contaminated land assessment and management.

Baseline Conditions

The baseline ground conditions at the site have been assessed by a detailed Phase 1 desktop study.

Likely Significant Effects

Prior to mitigation a number of likely significant effects have been identified relating to the risk of the effects of contaminated land on construction workers, end users and controlled waters.

Mitigation and Enhancement

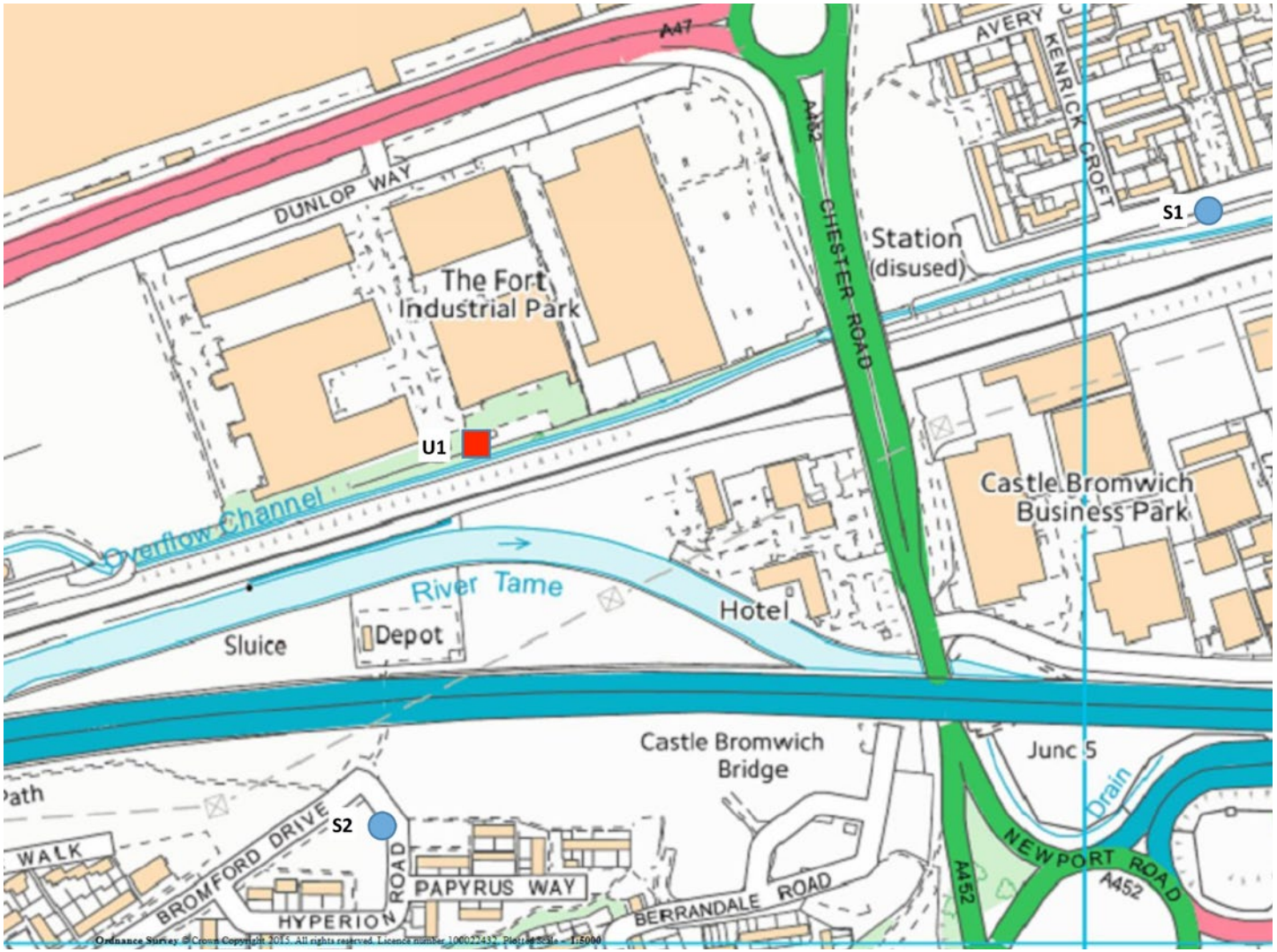
The following mitigation measures have been recommended:

- Undertake a geo-environmental ground investigation prior to development to provide an assessment of the ground conditions on the application site with respect to geotechnical properties and any potential contamination in the underlying soils and or groundwater.

- Application of appropriate measures during the construction phase to protect construction workers and site neighbours from exposure to any contaminated material which may be encountered (e.g. dust control measures, appropriate Personal Protection Equipment).
- The stockpiling and testing of material displaying visual or olfactory evidence of contamination during the construction works. Based on the results of testing, the soils should be re-used, treated or disposed off-site.
- A 'clean' and inert 300mm thick cover layer should be placed over in-situ soils in areas of new landscaping. The cover soils should be validated prior to placement.
- Building slabs and membranes should be designed to mitigate the Characteristic Situation classification for the site, ground gas monitoring should be undertaken to classify the gas regime, as described within BS 8485 and C665.
- If piling through the Secondary A aquifer to the Secondary B aquifer within the bedrock is required as part of the development, a foundation works assessment should be completed to the satisfaction of the Environment Agency (EA). The piling technique should be chosen in accordance with the foundation works risk assessment to mitigate risks to controlled waters.
- The concrete used within the development should be designed in accordance with the concrete classification for the site (assessed using BRE Special Digest 1).
- The local water supply company should be consulted regarding the pipe material and backfill specification of potable water supply pipes.

Conclusion

Once operational the facility would be operating on sealed hard standing which would ensure any oils/lubricants or wastes are not able to penetrate into the underlying natural ground. The impact of the development on controlled groundwater and surface water will be negligible. Systems would be in place in line with the plants/facilities Environmental Permit which would have been developed to ensure all potential contamination issues associated with the operation of the facility would have been satisfactorily controlled. As such no significant ongoing effects are predicted.



KEY

- Unattended Survey Position
- Attended Survey Position

NOISE MEASUREMENT LOCATIONS

NOISE AND VIBRATION

Introduction

A noise assessment has been carried out for the Proposed Development. The assessment has taken account of potential effects during the demolition, construction and operation of the Proposed Development, upon surrounding residential receptors and has been updated to consider the minor amendments resulting from the change from Energos to a new technology provider.

Baseline Conditions

Noise surveys have been previously undertaken to determine the existing noise levels at properties which would be potentially affected by the construction (including demolition) and operation of the Proposed Development.

The surveys indicated that noise levels at the properties are principally influenced by road traffic using the M6 (and A452) throughout the day and night-time periods.

Likely Significant Effects

The Proposed Development is located some distance from the surrounding noise sensitive receptors. An assessment of the noise levels associated with the demolition of the existing buildings and construction of the Proposed Development indicates that noise associated with the works would result in a negligible effect.

Noise levels associated with the operation of the Proposed Development are anticipated to be low and below the limits specified within Condition 24 of the current planning permission. The operation would therefore not result in any significant adverse noise impacts, with noise associated with the operation resulting in a negligible effect at surrounding properties.

There would be regular deliveries made to the site during the daytime periods. Compared to the existing development there would be an overall reduction in traffic, although the number of HGV movements would increase slightly. This would result in no change in road traffic noise levels on roads surrounding the Proposed Development, with a negligible effect identified.

Mitigation and Enhancement

No additional noise mitigation measures have been identified at this stage, in addition to those which would be incorporated as standard into the design of the Proposed Development. Further assessments would be made during the detailed design stage to ensure that the noise levels attributable to the operation of the plant achieved the requirements of Condition 24 of the present planning permission.

Conclusion

In summary, the construction and operation of the Proposed Development would not give rise to any adverse noise impacts at surrounding properties.

ECOLOGY AND NATURE CONSERVATION

Introduction

The ecological assessment compiles information from a desk study and Extended Phase I habitat survey, enabling the determination of the likely ecological effects of the Proposed Development.

The assessment establishes the likely presence of protected or notable species, identifies statutory designated sites for nature conservation in the vicinity of the Proposed Development and evaluates the overall conservation status of the Application Site. The potential effects on identified ecological receptors including designated sites and protected and notable species is assessed in line with current guidance, and appropriate mitigation and enhancement measures are described.

Baseline Conditions

An Extended Phase 1 habitat survey was undertaken on the Application Site in April 2015. The survey recorded habitats within the Application Site and aimed to establish the presence or potential presence of protected and notable species.

Statutory designated sites were identified within a 5km radius of the Application Site using the Multi Agency Geographic Information for the Countryside (MAGIC) website, along with the Joint Nature Conservation Committee (JNCC) and Natural England (NE) websites. EcoRecord (the biological record centre for Birmingham and the Black Country) provided records of protected and notable species, locally designated sites and habitats within a 2km radius of the site.

The Application Site was dominated by buildings and surrounding hard standing with smaller areas of amenity grassland and ornamental planting and an area of bare ground with trees along the southern boundary. Habitats adjacent to the southern Application Site boundary comprised scattered scrub with trees, and a highly managed overflow channel (the Dunlop Carrier). A railway line with embankments lined with shrubs was present to the south of this channel and the River Tame is situated on the far side of the railway, c. 56m south. The river and its floodplain also comprised the Tame Valley Site of Local Importance for Nature Conservation (SLINC).

No evidence of protected or notable species was found within or adjacent to the Application Site. The habitats present had the potential to be used by nesting birds and foraging bats.

The overall value of the Application Site to such species is assessed to be low.

Likely Significant Effects

No significant effects are anticipated on statutory or non-statutory designed sites or habitats. No significant effects are anticipated on protected species, including birds, bats, badger, dormouse, amphibians and reptiles and invertebrates.

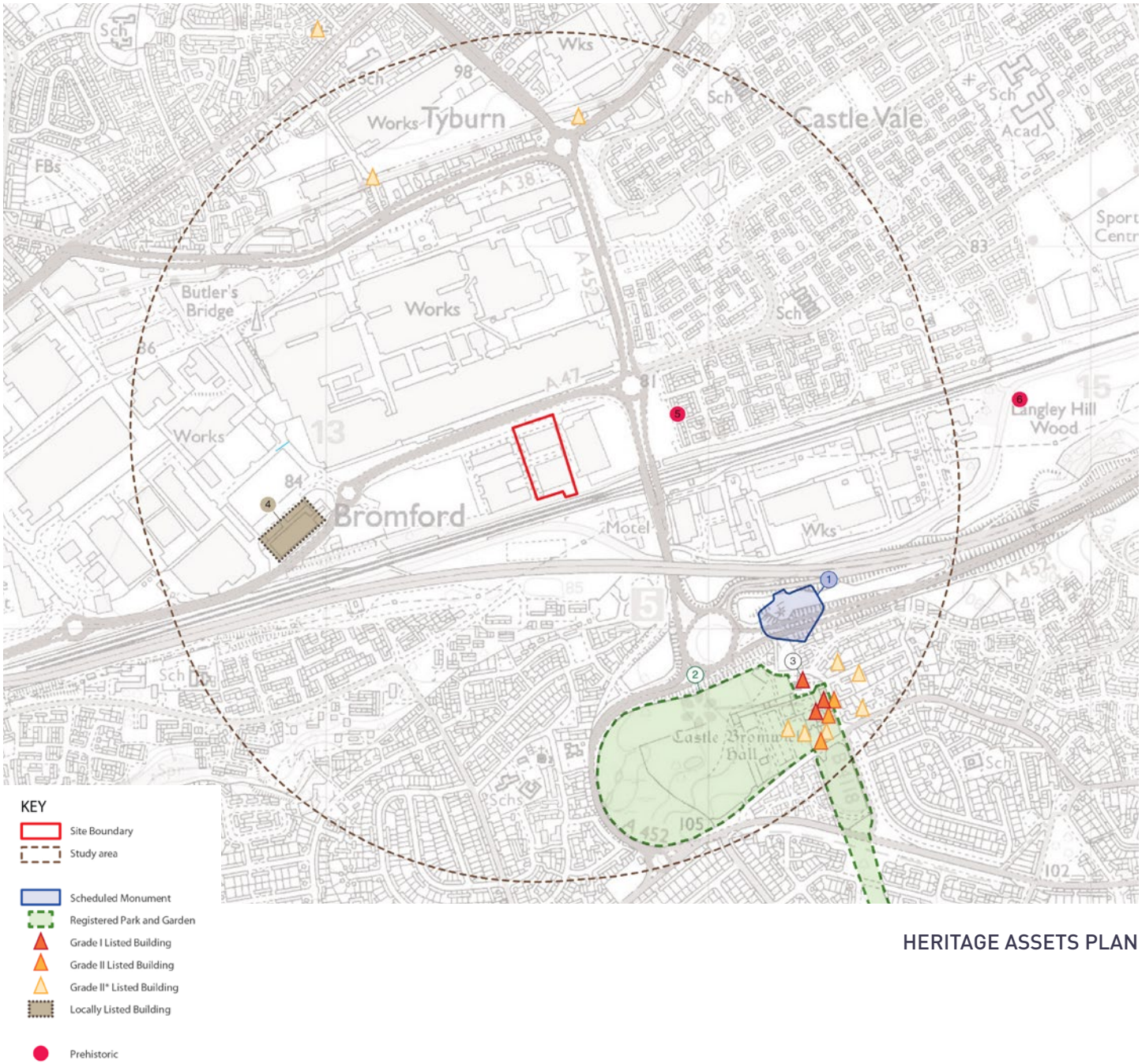
Mitigation and Enhancement

Mitigation and enhancement measures will include the following:

- Pollution prevention and control measures during construction;
- Inclusion of lighting scheme that avoids light spill to habitats adjacent to the south of the Application Site;
- Reasonable Avoidance Measures (RAMs) will be implemented during construction to avoid any risk of accidental harm to individual amphibians or reptiles that may be present; and,
- A Pre-construction nesting bird survey to be undertaken if works commencing during the breeding bird season (generally acknowledged annually as 1st March to 31st August inclusive).

Conclusion

The Proposed Development will have no significant effects on Ecology or Nature Conservation either individually or in combination with other developments. Residual effects of the Proposed Development will be negligible and not significant in relation to all identified ecological receptors.



HERITAGE ASSETS PLAN

ARCHAEOLOGY AND CULTURAL HERITAGE

Introduction

The archaeology and cultural heritage assessment has considered the likely significant effects of the Proposed Development.

Baseline Conditions

No heritage assets are recorded within the Application Site and no specific potential for currently unrecorded below-ground archaeological remains has been identified. Construction of the existing industrial units within the Application Site is likely to have disturbed or removed any unrecorded below-ground archaeological remains previously present.

Designated heritage assets in the vicinity include Castle Bromwich Grade II* Registered Park and Garden, Castle Bromwich Hall Grade I Listed Building, the Grade I Listed Church of St Mary and St Margaret, which are heritage assets of high value. They also include Fort Dunlop Base Stores Locally Listed Building, which is a heritage asset of low value.

Likely Significant Effects

The Proposed Development will not result in any adverse significant effects. The significance of effect on designated heritage assets in the vicinity, including Castle Bromwich Grade II* Registered Park and Garden, Castle Bromwich Hall Grade I Listed Building, the Grade I Listed Church of St Mary and St Margaret, and Fort Dunlop Base Stores Locally Listed Building will be neutral.

Mitigation and Enhancement

No adverse effects have been identified and therefore no mitigation or enhancement is proposed.

Conclusions

No heritage constraints to the Proposed Development have been identified. The assessment has identified no adverse effects to any known or anticipated heritage asset.

No specific potential for below-ground archaeological remains has been identified and any unrecorded below-ground archaeological remains are likely to have been disturbed or removed by the construction of industrial buildings within the Application Site. It has been agreed with the Council's Principal Conservation Officer that the completed heritage assessment provides a sufficient and 'proportionate' level of information to enable an understanding of the potential effect of the proposal, in accordance with the requirement of paragraph 128 of the Framework.

The Proposed Development will not harm designated heritage assets through alteration to setting. The proposals are thus consistent with the requirements of section 66(1) of the Planning (Listed Buildings and Conservation Areas) Act 1990 which requires 'special regard' to be given to the desirability of preserving Listed buildings and their settings. In this regard the proposals are also consistent with the development plan policy for 'Listed Buildings' which requires development to 'preserve or enhance' the character of such buildings. The proposals are consistent with the requirements of Paragraph 132 of the Framework which notes that 'great weight' should be given to the conservation of heritage assets.

Development plan policy regarding archaeological remains states that 'an assessment of the archaeological aspects of development proposals will be required from applicants before planning application is determined. Planning permission will not be granted where the assessment of the archaeological implications is inadequate'. A copy of the heritage assessment has been provided to the Council's Principal Conservation Officer, who has agreed that this is suitable and provides proportionate information to determine the application. No known archaeological remains will be affected, and the proposals are consistent with the development plan policy on archaeological remains.

SOCIO-ECONOMICS

Introduction

The socio-economic assessment considers effects of the Proposed Development during both the construction (including demolition) and operational phases. The analysis focuses on the provision of employment and the effect in terms of the economy within Birmingham City and Tyburn Ward.

There are a wide range of socio-economic issues that exist and which will be affected by the Proposed Development.

Baseline Conditions

Birmingham City is expected to experience population growth. It is expected to see the population age in accordance with national trends. The area currently experiences a high level of deprivation, particularly related to income and employment.

The area has a high level of unemployment and the majority of workers are employed in lower value occupations. The unemployed within Tyburn that are seeking a job are similarly looking for lower value employment. The level of qualifications is also low. However, the pay across Birmingham City is comparatively higher than the income of residents within the City. Birmingham experiences net in-commuting flows which may reflect this pay differential although is to be expected in a City of this size.

Likely Significant Effects

The key socio-economic effects of the Proposed Development can be summarised as follows:

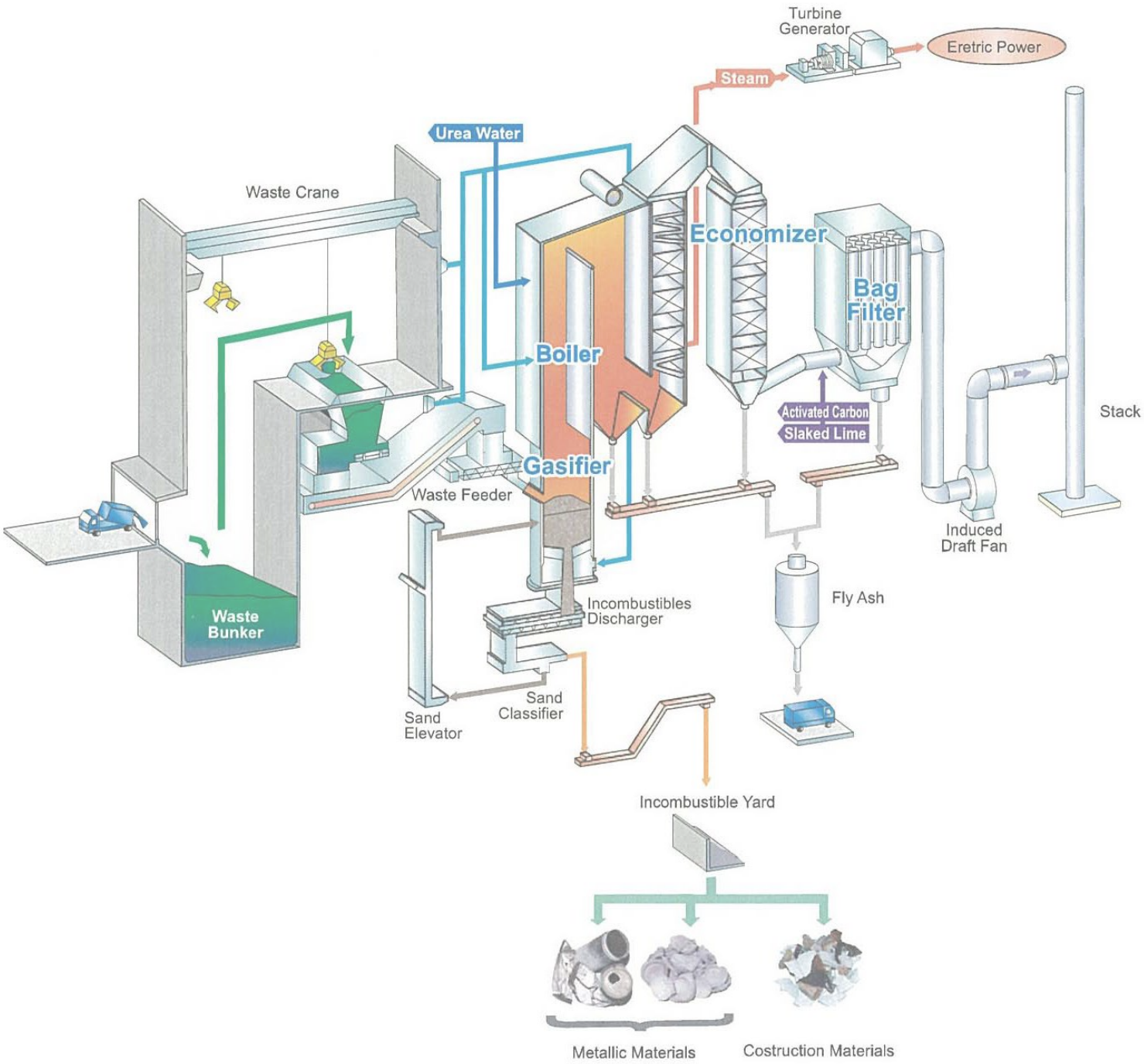
- Provision of circa 100 to 130 additional jobs during the construction phase in the construction sector;
- Provision of 20 jobs during the operational phase;
- The jobs will include elementary jobs during both the operational and construction phases which responds to the type of jobs being sought by the unemployed in Tyburn Ward currently;
- The provision of a different range of jobs locally which may meet the needs of some local residents;
- Investment in construction, operation and maintenance all of which will provide for indirect effects including generating work for local tradesmen;
- The increase of the local disposable income (for employees of the facility and tradesmen) which will have induced effects on local economy;
- Additional £2M GVA per annum for the local economy;
- The provision of lower priced sustainable energy for local businesses, reducing business costs which may be used to expand or enhance businesses (including new jobs and/or increased wages);
- The above will all address the current deprivation relating to income and employment; and
- Potential minimal increases in commuting flows.

Mitigation and Enhancement

There are no identified negative effects associated with the Proposed Development in socio-economic terms and so no mitigation has been identified.

Conclusion

Overall the Proposed Development is considered to provide for minor positive effects and will prevent around 105,000 tonnes of residual waste going to landfill, utilising is as a valuable resource.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Waste Crane
Economizer
Bag Filter
Boiler
Activated Carbon
Slaked Lime
Stack
Gasifier
Waste Feeder
Induced Draft Fan
Fly Ash
Waste Bunker
Incombustibles Discharger
Sand Classifier
Sand Elevator
Incombustible Yard
Metallic Materials
Costruction Materials

SUMMARY

The technical chapters which have made up the Environmental statement and assess the REC at Fort Parkway Energy demonstrate that there are no overriding environmental constraints or planning policies which would preclude the development of the Application Site.

The Planning Statement which forms a separate part of the planning application demonstrates significant weight for both Planning Policy and Waste Policy which demonstrates the need for and benefits of the scheme. The assessment of the proposal against the Development Plan has shown broad compliance with the relevant saved policies contained in the Birmingham Unitary Development Plan. Compliance has also been shown with the emerging policies set out in the Birmingham Development Plan which is currently subject of Examination.

The proposal has also been shown to be in compliance with national strategic level planning policies contained within the National Planning Policy Framework and the National Planning Policy for Waste, and guidance set out in the Waste Management Plan for England and both EN-1 and EN-3. These documents are significant material considerations in the planning process and indicate this proposal is acceptable.

The above considerations demonstrate that upon considering the significant benefits associated with the scheme against the relatively benign impacts, the proposal, on balance, falls well within the scope of acceptability as the benefits would indeed outweigh any limited harm.

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