

Ferrybridge Next Generation Power Station

Environmental Impact Assessment Scoping Report

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Applicant: SSE Hydrogen Developments Limited

The Planning Act 2008

The Infrastructure Planning (Environmental Impact Assessment) Regulations
2017 Regulations – Regulation 10 (Application for a Scoping Opinion)

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Ferrybridge Next Generation Power Station
Environmental Impact Assessment Scoping Report

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Glossary

Key term	Definition
Proposed Development	The Project as a whole, as described in Section 3 of this report.
The Site	The area of land within the redline boundary as shown in Figure 2, which is the subject of this EIA Scoping Report. The Site comprises of the Main Site, Proposed Pipeline Corridors and the Above Ground Installation (AGI) on the Gas Transmission System.
Main Site	The area where the generating station infrastructure will be located, on the land of the former Ferrybridge C Site. This does not include the Proposed Pipeline Corridors.
Proposed Pipeline Corridors	The two route options (northern and southern pipeline corridors) where the pipeline may be located to transport gas from the Gas Transmission System to the Main Site.
Above Ground Installation (AGI) on the Gas Transmission System	The connection point (Minimum Offtake Connection (MoC) for the gas pipeline to the Gas Transmission System.

Abbreviation	Description
%	Per Cent
<	Less than
>	More than
µgm ³	micrograms per cubic meter air
°C	Degree Celsius
AADT	Average Annual Daily Traffic
ADMS	Atmospheric Dispersion Modelling System
AEP	Annual Exceedance Probability
AGI	Above Ground Installation
ALARP	As Low As Reasonably Practicable
AOD	Above Ordnance Datum
APFP	Applications: Prescribed Forms and Procedure
AQAP	Air Quality Action Plan
AQMA	Air Quality Management Area
AQOL	Air Quality Objective Level
AQS	Air Quality Standards
BAT	Best Available Techniques
BECCS	Bio-energy with Carbon Capture and Storage
BGS	British Geological Survey
BNG	Biodiversity Net Gain

Abbreviation	Description
BS	British Standard
BSI	British Standard Institute
BTO	British Trust for Ornithology
CCA	Civil Contingencies Act
CCC	Committee for Climate Change
CCGT	Combined Cycle Gas Turbine
CCR	Carbon Capture Readiness
CCS	Carbon Capture Storage
CCUS	Carbon Capture, Utilisation and Storage
CDM	Construction (Design and Management)
CDOIF	Chemical and Downstream Oil Industries Forum
CEA	Cumulative Effects Assessment
CEGB	Central Electricity Generating Board
CEMP	Construction Environmental Management Plan
CIfA	Chartered Institute for Archaeologists
CNP	Critical National Priority
CO	Carbon monoxide
CoCP	Code of Construction Practice
COMAH	Control of Major Accident Hazards
COPA	Control of Pollution Act

Abbreviation	Description
CRTN	Calculation of Road Traffic Noise
DBA	Desk-based Assessment
DCO	Development Consent Order
DEFRA	Department for Environment, Food and Rural Affairs
DEMP	Decommissioning Environmental Management Plan
DESNZ	Department for Energy Security and Net Zero
DfT	Department for Transport
DMRB	Design Manual for Roads and Bridges
EA	Environment Agency
eDNA	Environmental DNA
EIA	Environmental Impact Assessment
ELC	European Landscape Convention
ELVs	Emission Limit Values
EMP	Environmental Management Plan
EN-1	National Policy Statement for Energy
EN-2	National Policy Statement for Natural Gas Electricity Generating Infrastructure
EN-3	National Policy Statement for Renewable Energy Infrastructure
EN-4	National Policy Statement for natural gas supply infrastructure and gas and oil
EPUK	Environmental Protection UK

Abbreviation	Description
ES	Environmental Statement
FGD	Flue Gas Desulphurisation
FRA	Flood Risk Assessment
GB	Great Britain
GHG	Greenhouse Gas
GLVIA	Guidelines for Landscape and Visual Impact Assessment
GT	Gas Turbine
GW	Gigawatt
ha	hectares
HDD	Horizontal Directional Drilling
HE	Historic England
HER	Historic Environment Record
HGV	Heavy Good Vehicles
HM	His Majesty, formerly Her Majesty
HRSG	Heat Recovery Steam Generator
HSE	Health and Safety Executive
IAQM	Institute of Air Quality Management
ICCI	In-Combination Climate Change
IED	Industrial Emissions Directive
IEMA	Institute of Environmental Management and Assessment

Abbreviation	Description
IMD	Index of Multiple Deprivation
INNS	Invasive Non-Native Species
ISO	International Standard for Standardisation
km	kilometres
km ²	kilometres squared
LandIS	Land Information System
LCA	Landscape Character Area
LILA	Locally Important Landscape Area
LNR	Local Nature Reserve
LP	Local Plan
LUWP	Levelling Up, Housing and Communities
LVIA	Landscape, Visual and Impact Assessment
LWS	Local Wildlife Site
m	metres
MA&D	Major Accidents and Disasters
MAGIC	Multi-Agency Geographical Information for the Countryside
MDC	Metropolitan District Council
MHCLG	Ministry of Housing, Communities and Local Government
MOC	Minimum Offtake Connection
MPS	Marine Policy Statement

Abbreviation	Description
MtCO ₂ e	Metric tons of Carbon Dioxide equivalent
MW	Megawatts
NCA	National Character Area
NCRs	National Cycle Routes
NEYEDC	North and East Yorkshire Ecological Data Centre
NGR	National Grid Reference
NH ₃	Ammonia
NHLE	National Heritage List for England
NIA	Noise Important Areas
NIC	National Infrastructure Commission
NO ₂	Nitrogen dioxide
NO _x	Nitrogen oxide
NPPF	National Planning Policy Framework
NPS	National Planning Statement
NSIP	Nationally significant infrastructure project
NSR	Noise Sensitive Receptors
NYC	North Yorkshire Council
OCGT	Open Cycle Gas Turbine
ONS	Office for National Statistics
PA2008	Planning Act 2008

Abbreviation	Description
PAS	Publicly Available Statement
PEA	Preliminary Ecological Appraisal
PEI	Preliminary Environmental Information
PINS	Planning Inspectorate
PM	Particulate Matter
PRoW	Public Right of Way
RAMMS	Reasonable Avoidance Measures Methods
RBD	River Basin District
REMA	Review of Electricity Market Arrangement
SAC	Special Areas of Conservation
SCR	Selective Catalytic Reduction
SDC	the former Selby District Council
SHE	Safety, Health and Environmental
SINC	Site of Importance for Nature Conservation
SoCC	Statement of Community Consultation
SPA	Special Protection Areas
SPZ	Source Protection Zone
SRN	Strategic Road Network
SSSI	Site of Special Scientific Interest
TA	Transport Assessment

Abbreviation	Description
TCPA	Town and Country Planning Act
TG22	Technical Guidance – Determining the impact of air quality improvement measures
TifALARP	Tolerable if As Low As Reasonably Practicable
TWh	Terawatt hours
UK	United Kingdom
UKCP18	United Kingdom Climate Change Projection 2018
WFD	Water Framework Directive
WHN	Wakefield Habitat Network
WHO	World Health Organisation
WMDC	Wakefield Metropolitan District Council
ZTV	Zone of Theoretical Visibility

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1. Introduction

1.1. Background

Ove Arup & Partners Ltd. (Arup) has been appointed by SSE Hydrogen Developments Limited (part of the Thermal Division of the FTSE-listed SSE plc) ('the Applicant') to prepare an Environmental Impact Assessment (EIA) Scoping Report to inform the scope and content of an EIA for the proposed Ferrybridge Next Generation Power Station referred to in this report as 'the Proposed Development'. The Proposed Development is located on land at and within the vicinity of the former Ferrybridge C Power Station Site, Kirkhaw Lane, Ferrybridge, Knottingley, West Yorkshire – within the administrative area of Wakefield Metropolitan District Council (WMDC), and a land corridor extending eastwards into the administrative area of North Yorkshire Council (NYC). The boundary of the Proposed Development is shown in Figure 1 and is referred to as the 'Site Location Plan'.

The Proposed Development comprises of the construction, operation and maintenance of single or multiple gas turbine (GT) units with a combined capacity of up to 1.2GW electrical output on land of the former Ferrybridge C Power Station Site, near Ferrybridge, West Yorkshire. The Proposed Development will consist of up to two generating stations and will provide flexible power generation with GT units arranged in either open or closed cycle configurations, or a combination, depending on market requirements. Gas will be transported from the Gas Transmission System to the Main Site via a gas pipeline connection corridor extending into North Yorkshire.

The Proposed Development will be designed to run on 100% hydrogen fuel from the outset of operations. However, the new power station may be required to run on natural gas or a blend of hydrogen and natural gas until a resilient hydrogen supply becomes available. Once there is a secure supply of commercially viable hydrogen and associated infrastructure, the Proposed Development will seek to transition to 100% hydrogen firing. SSE plc is engaging with developers on the development of hydrogen infrastructure. The Proposed Development is subject to ongoing technical (environmental and engineering) studies.

This EIA Scoping Report considers the environmental context of the Site and the potential environmental impacts of the Proposed Development. Where impacts are considered to have the potential to cause significant environmental effects, these are identified and the proposed approach to be used to characterise the impacts and understand the significance of their effects is outlined. This report also outlines issues perceived to be non-significant, which it is proposed do not require formal assessment as part of the EIA and can therefore be scoped out of the EIA.

The EIA is an iterative process that feeds into the engineering design process to mitigate significant environmental effects where they are predicted to occur. The final design iteration, along with the findings of the EIA will be reported in an Environmental Statement (ES), in accordance with The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 ('EIA Regulations') and will be submitted with the Development Consent Order (DCO) application for the Ferrybridge Next Generation project ('the DCO Application') in accordance with Regulation 5 (2)(a) of the Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 (as amended) ('APFP Regulations').

1.2. Strategic Context

There is the increasing development of, and policy support for, hydrogen to help meet the country's net zero obligations and contribute to decarbonisation. On this basis, the Proposed Development will be 'decarbonisation enabled' and will have the ability to run on solely hydrogen. However, it is recognised that there is uncertainty as to whether a secure supply of commercially viable hydrogen and associated infrastructure will be available at the commencement of operation of the Proposed Development and therefore it is anticipated that the new power station may be required to run on natural gas or a blend of hydrogen and natural gas until a resilient hydrogen supply becomes available. SSE plc is engaging with developers on the development of hydrogen infrastructure.

1.3. The Applicant

The applicant, SSE Hydrogen Developments Limited, part of the Thermal Division of the FTSE-listed SSE plc, is one of the United Kingdom (UK)'s largest and broadest-based energy companies, and the country's leading generator of renewable energy. Over the last 20 years, SSE plc has invested over £20bn to deliver industry-leading offshore wind, onshore wind, Combined Cycle Gas Turbine (CCGT), energy from-waste, biomass, energy networks and gas storage projects.

SSE has a long history at the Ferrybridge site, within the community and local economy, initially as the owner / operator of Ferrybridge C power station then latterly decommissioning and demolishing the legacy coal station. SSE also developed Ferrybridge Multifuel 1 and Multifuel 2 on parts of the former Ferrybridge C station.

1.4. Consenting Regime

The Proposed Development falls within the definition of a 'nationally significant infrastructure project' (NSIP) under Section 14(1)(a) and 15(2) of the Planning Act 2008 (hereafter referred to as 'the 2008 Act') as a 'generating station exceeding 50 MW'. It is likely that the Proposed Development will comprise of up to two generating stations and Ferrybridge Next Generation Power Station

will provide flexible power generation with GT units arranged in either open or closed cycle configurations, or a combination, depending on market requirements. The intention would be to apply for a single DCO.

As a NSIP project, the Applicant is required to seek a DCO to construct and operate the generating station, under Section 31 of the 2008 Act. Section 37 of the 2008 Act also governs the form, content and accompanying documents that are required as part of a DCO application. The requirements are implemented through the APFP Regulations which state that an application must be accompanied by an ES, where a development is considered to be 'EIA development' under the EIA Regulations.

The DCO Application will be submitted to the Planning Inspectorate (PINS) who will examine the application and make recommendations to the Secretary of State for Energy Security and Net Zero pursuant to the 2008 Act, who will subsequently determine whether or not a DCO should be granted for the Proposed Development.

Regulation 3(1) of the EIA Regulations defines the meaning of 'EIA development' (with reference to Schedules 1 and 2 to the EIA Regulations). The Proposed Development is a 'Schedule 1' development under the EIA Regulations as it constitutes "*Thermal power stations and other combustion installations with a heat output of 300 megawatts or more*". EIA is compulsory for Schedule 1 developments given the type and/or the scale of the development is likely to have the potential for significant effects on the environment. As such, an EIA is required for the Proposed Development and an ES must be prepared in accordance with these Regulations to accompany the application. A formal EIA screening opinion is therefore not being sought from the Secretary of State.

As the Applicant proposes to provide an ES with the application for a DCO, this report constitutes the Applicant's notification under Regulation 8(1b) of the EIA Regulations.

Having concluded that an ES will be included as part of the DCO Application, pursuant to Regulation 10(1) of the EIA Regulations, the Applicant is applying to the Secretary of State for their opinion as to the scope and level of detail of the information to be provided in the ES.

A description of the existing land-use within and in proximity to the Site and an overview of the Proposed Development is presented in Sections 2 and 3, respectively.

1.5. Objectives of Scoping

The scoping phase of the EIA process provides a framework for identifying potential environmental impacts arising from the Proposed Development, establishing the likely significant environmental effects and distinguishing the priority issues to be addressed within the ES. Scoping also allows stakeholders an early opportunity to comment on the proposed structure, methodology and content of the ES.

Ferrybridge Next Generation Power Station

This Scoping Report has been prepared in accordance with the relevant legislative provisions and associated Advice Notes (published by PINS).

Table 1 presents a list of information that should be included in a request for a scoping opinion, as prescribed by Regulation 10(3) of the EIA Regulations. Table 2 presents the information highlighted in paragraph 4.2 (and associated Insert 2) of Advice Note 7 ‘Environmental Impact Assessment: Preliminary Environmental Information (PEI) and Environmental Statements’ (PINS, 2017) regarding the content of a Scoping Report, including signposting to the location in this report where the information is presented.

Table 1: Information required for a request for a Scoping Opinion

Description of Information Required (Regulation 10(3))	Section in Scoping Report where presented
A plan sufficient to identify the land	Figure 2 (Proposed Development Boundary)
A description of the proposed development, including its location and technical capacity	Section 3 (The Proposed Development)
An explanation of the likely significant effects of the development on the environment	Section 6 - 18 (Potentially Significant Environmental Issues)
Such other information or representations as the person making the request may wish to provide or make	

Table 2: Information provided in the Scoping Report (Based on Advice Note 7) ¹

Description of Information Required	Section in Scoping Report where the Information is Presented
The Proposed Development	
An explanation of the approach to addressing uncertainty where it remains in relation to elements of the Proposed Development e.g. design parameters.	Section 3 (The Proposed Development)
Referenced plans presented at an appropriate scale to convey clearly the information and all known features associated with the Proposed Development.	Figure 1 (Site Location Plan)
EIA Approach and Topic Areas	
An outline of the reasonable alternatives considered and the reasons for selecting the preferred option.	Section 4 (Project Alternatives)
A summary table depicting each of the aspects and matters that are requested to be scoped out allowing for quick identification of issues.	Section 19 (Matters to be Scoped Out)
A detailed description of the aspects and matters proposed to be scoped out of further assessment with justification provided.	Section 19 (Matters to be Scoped Out)

¹ Source: Advice Note Seven: Environmental Impact Assessment: Preliminary Environmental Information and Environmental Statements, December 2017

Description of Information Required	Section in Scoping Report where the Information is Presented
Results of desktop and baseline studies where available and where relevant to the decision to scope in or out aspects or matters.	Section 2 (Description of the Environment)
Aspects and matters to be scoped in, the report should include details of the methods to be used to assess impacts and to determine significance of effect e.g. criteria for determining sensitivity and magnitude.	Section 6 to 18 (Potentially Significant Environmental Issues), Baseline Conditions and Scope of the Assessment sections for each environmental topic, and Section 21 (EIA Process)
Any avoidance or mitigation measures proposed, how they may be secured and the anticipated residual effects.	Section 6 to 18 (Scope of the Assessment for each environmental topic)
Information sources	
References to any guidance and best practice to be relied upon.	Section 6 - 18 (Potentially Significant Environmental Issues), Scope of the Assessment sections for each environmental topic)
Evidence of agreements reached with consultation bodies (for example the statutory nature conservation bodies or local authorities).	N/A
An outline of the structure of the proposed ES.	Section 21(EIA Process)

1.6. Structure of Remainder of this Report

The remainder of this report is structured as follows:

- Section 2 – Description of the Existing Environment: provides a description of the Site and the surrounding area, together with any potentially significant environmental sensitivities/receptors within the vicinity of the Site;
- Section 3 – The Proposed Development: outlines the key elements (including those likely to have a significant environmental effect) of the Proposed Development, the infrastructure to be developed and the function of the operational plant;
- Section 4 – Project Alternatives: details the alternatives that have been considered during development of the Proposed Development design;
- Section 5 – Planning Policy and Need: identifies the key documents relating to national and local planning policy in the area, together with a summary of some of the principal planning policies or provisions as relevant to the need for Proposed Development;
- Section 6 to 18 – Potentially Significant Environmental Issues: provides a discussion of how the Proposed Development may interact with the different aspects of the receiving environment, together with a description of the proposed assessment methodologies, guidance and best practice to be adopted for the EIA of the Proposed Development (or, as appropriate, its design);
- Section 19 – Matters to be Scoped Out: provides a summary of the issues proposed to be scoped out of the EIA and reasoning why, including a summary in Table 33;
- Section 20 – Cumulative and Combined Effects;
- Section 21 - Environmental Impact Assessment Process: provides an overview of the approach to be taken in the EIA and outline structure for the proposed ES;
- Section 22 – Summary;
- Figures, referenced within this report:
 - Figure 1 - Site Location Plan;
 - Figure 2 - Proposed Development Boundary;
 - Figures 3.1, 3.2 and 3.3 - Environmental Constraints;
 - Figures 4.1 and 4.2 – Biodiversity and Nature Conservation Constraints;
 - Figure 5.1 and 5.2 - Proposed Noise Monitoring Locations;
 - Figure 6 – Proposed Traffic Count Locations; and
 - Figure 7 – Proposed Viewpoint Locations.
- Appendix 1: Bird Technical Note

2. Description of the Existing Environment

2.1. Proposed Development Location

The Proposed Development will be located within land at and within the vicinity of the former Ferrybridge C Power Station Site, Kirkhaw Lane, Ferrybridge, Knottingley. The Main Site (see definition below), together with the on-site connection corridors for the electrical grid connection, hydrogen and natural gas above ground installation (AGI), water abstraction and discharge, will be located within the administrative boundary of WMDC. The Proposed Pipeline Corridor and AGI on the Gas Transmission System falls under NYC. Figure 2 illustrates the current extent of land considered for the Proposed Development.

The design will be progressed further during the preparation of the DCO Application and presented in the ES. The parts of the Site are summarised below:

- Main Site - The area where the generating station infrastructure will be located (see Section 3.2 and 3.3 for further information) and includes turbines, HRSG, exhaust gas treatment, stack(s), blending skids, and ancillary plant as well as cooling infrastructure, electricity export infrastructure and the ancillary equipment needed for the Proposed Development;
- Proposed Pipeline Corridors - Connecting the Main Site to Gas Transmission System for the supply of gas to fuel the power station; two corridors are under consideration referred to as the Northern Pipeline Corridor and the Southern Pipeline Corridor (the location of the Proposed Pipeline Corridors can be seen in Figure 2);
- AGI on the Gas Transmission System provides a connection point (Minimum Offtake Connection (MOC) which facilitates the connection of the pipeline to the Gas Transmission System;
- Water Connection Corridors- cooling for the Proposed Development is currently under consideration including potential abstraction routes from the River Aire, towns water supply, groundwater other potable supplies or other alternatives;
- Electrical Connection Corridors - To connect the Proposed Development to the adjacent Ferrybridge C substation; and
- Construction laydown area locations are under development but will be within the Site.

The Site encompasses an area of approximately 583 hectares (ha) and is indicative at this stage. The land required for the Proposed Development will be subject to appraisal and refinement as the preparation of the DCO Application progresses. The extent of the Site shown on Figure 2 is anticipated to be the maximum area required for the

Proposed Development. The final layout that will be incorporated within the proposed DCO order limits will be determined through ongoing studies of potential constraints and discussions with relevant stakeholders.

2.2. History of the Site and Surrounding Areas

The construction of Ferrybridge 'A' took place between 1924 and 1925 and the power station had a generating capacity of 125 megawatts ('MW'). Ferrybridge 'B' (generating capacity of 300 MW) was consented in April 1953 and constructed between 1955 and 1957. Ferrybridge 'A' was closed in 1976. The chimneys were demolished, and the boiler room and turbine hall converted into offices and workshops. Ferrybridge 'B' operated until 1992, when it was closed and demolished.

Ferrybridge 'C' was constructed to the west of the sites of Ferrybridge 'A' and 'B' further from the River Aire. It was consented in August 1961 by the then Minister of Power as an extension to the existing generating station "...by the addition of an area of approximately 300 acres and the construction of a new section to be known as Ferrybridge "C" Generating Station...". The Central Electricity Generating Board ('CEGB') started construction of Ferrybridge 'C' later in 1961. The Power Station first supplied electricity to the National Grid on 27 February 1966 and was completed in 1968.

The Power Station as built comprised four coal-fired boiler units, each with a generating capacity of up to 500 MW, eight concrete natural draft cooling towers, two emissions stacks, boiler and turbine houses and an electrical switch house as well as workshops and an administration block. The Power Station also included four 17.5 MW gas turbine generators (two were retired in the late 1990s) to provide the ability to start the coal-fired plant in the absence of an external power supply.

In September 2001 the Secretary of State for Trade and Industry granted consent under Section 36 of the Electricity Act 1989 for the installation of flue gas desulphurisation ('FGD') plant to two of the coal-fired boiler units (Units 3 and 4). The FGD works were commenced in 2006 with the plant becoming operational in 2009. The units not fitted with FGD plant (Units 1 and 2) were closed in 2014.

Following damage in a fire in 2014, Unit 4 could no longer operate in FGD mode and shut down in 2015. The last remaining unit (3) ceased generating electricity on 31 March 2016.

SSE and Multifuel Energy Limited built a new pavilion for the Ferrybridge Cricket Club to enable the construction of a £300 million Multifuel project on the site. The old pavilion and pitch had been replaced by modern facilities close to the stations iconic cooling towers and was officially opened on the 5th June 2013. With the first pavilion and pitch built during the early days of the station as recreational facilities for station workers and

the wider community, the cricket pitch and pavilion have been in operation for around 50 years and highlights a long association between cricket and Ferrybridge ‘C’ Power Station².

Following closure of Ferrybridge C Power Station in 2016, the power station was fully decommissioned and demolished. In July 2019, SSE principal’s contractor Keltbray removed Cooling Tower 6 in a controlled demolition, the first of the major ‘blow down’ events at the site. This was followed by the demolition of four more cooling towers in October 2019. In August 2021, two chimney stacks and the boiler house were demolished. The demolition activities at the site were fully completed in 2022³.

Ferrybridge 1, an Energy from Waste facility was constructed to the north of the Proposed Development Site and became fully operational in July 2015. Ferrybridge 1 generates up to 85MW (gross) electricity to the National Grid per annum and meets the needs of up to 170,000 UK homes and businesses. Similar to Ferrybridge 1, Ferrybridge 2 was constructed to the north of the Proposed Development Site and became fully operational in 2019. In 2020, SSE sold its share in the Ferrybridge 1 and 2 facilities.

2.3. Surrounding Land Use

The tables below provide an overview of the receptors within and surrounding the Site.

2.3.1. The Main Site

Table 3: Key receptors in proximity to the Main Site

Receptor	Approximate distance from Main Site	Direction
Industrial activity		
Mount Park	Within the Site	-
Firewood supplier	Within the Site	-

² SSE (2013) Cricketers bowled over by new pavilion. Available at: <https://www.sse.com/news-and-views/2013/06/cricketers-bowled-over-by-new-pavilion/> (Accessed 28 August 2024).

³ SSE Thermal (2024) Ferrybridge C Power Station. Available at: <https://www.ssethermal.com/flexible-generation/decommissioned/ferrybridge-c/> (Accessed 28 August 2024).

Receptor	Approximate distance from Main Site	Direction
Multi Tech Engineering UK	67 metres (m)	East
Castleford and Fryston Skip Services	23m	East
Enfinium Ferrybridge	172m	North west
National Grid Ferrybridge B Substation	251m	East
National Grid Ferrybridge A Substation	316m	East
Enfinium Ferrybridge 2	410m	North west
Blue Phoenix aggregate supplier	577m	North
Etex/Siniat plasterboard factory	Within the Site	East
Residential settlements		
Ferrybridge	Immediately adjacent	South
Pontefract	637m	South west
Brotherton	685m	North east
Knottingley	1.0 km	South east
Byram	1.0km	East
Castleford	1.1km	North west
Road network		
Hinton Lane	Within the Site	South west

Ferrybridge Next Generation Power Station

Receptor	Approximate distance from Main Site	Direction
Kirkshaw Lane	14m	East
A1(M)	197m	West
A162	243m	East
Stranglands Lane (B6136)	380m	South west

There are areas of arable fields surrounding the Site and Ferrybridge Golf Club is approximately 827m to the north of the Site.

The River Aire runs to the east of the Site.

2.3.2. Proposed Pipeline Corridors

Table 4: Key receptors in proximity to the northern and southern pipeline corridors

Receptor	Approximate distance from Northern Pipeline Corridor	Approximate distance from Southern Pipeline Corridor
Industrial activity		
Mount Park	Within the Site	Within the Site
Castleford and Fryston Skip Services	620m south	1.0km north
Knottingley Weir	692m south	80m south
Ferrybridge Business Park	732m south west	116m south west
National Grid Ferrybridge A Substation	752m south	513m north
ADM Milling Knottingley	818m south	206m south

Receptor	Approximate distance from Northern Pipeline Corridor	Approximate distance from Southern Pipeline Corridor
Multi Tech Engineering UK	1.0km south west	527m north west
National Grid Ferrybridge B substation	1.1km west	980m north
Gordons Transport	1.9km south	395m south
Residential settlements		
Ferrybridge	730m south	98m south
Pontefract	1.8km south west	1.2km south west
Brotherton	443m north west	584m north west
Knottingley	790m south	230m south
Byram	Located on the north western side with a small section located within the Site.	433m north
Sutton	Immediately adjacent	182m north
Beal	1.7km south	286m south
Birkin	182m south	391m north
Gateforth	570m north east	727m north east
West Haddlesey	1.2km north west	971m north west
Kellington	2.3km south east	1.3km south east
Road network		
A162	460m north west	112m north west

Receptor	Approximate distance from Northern Pipeline Corridor	Approximate distance from Southern Pipeline Corridor
Sutton Lane	Crosses the Site	597m north
Birken Lane	Immediately adjacent	567m north
A1 (M)	1.4km west	1.2km west
Intake Lane	780m south	Crosses the Site
A65	984m south	414m south

2.4. Environmental Receptors

A number of environmental receptors have been identified within and in the vicinity of the Site. Each of these are detailed below under each environmental discipline. All distances are approximate and given as the shortest distance between the receptor and the closest point of the Site.

2.4.1. Air Quality

Main Site

The closest Air Quality Management Area (AQMA) to the Main Site is the Knottingley AQMA located 1.3km south east and the A1 AQMA located approximately 1.4km south.

Proposed Pipeline Corridors

A smaller AQMA in Selby town (New Street/ The Crescent) was designated by Selby District Council (SDC) in February 2016 due to consistent elevated levels of nitrogen dioxide (NO₂) being recorded over a number of years, primarily as a result of traffic emissions. This AQMA is approximately 6km to the east of the of the Proposed Pipeline Corridor at its closest point.

2.4.2. Ecology

Main Site

The prevailing semi-natural habitat (excluding hard landscaping) present within the Main Site comprises of 'vacant land'. Other habitats present, which coincide with former soft landscaping and the boundaries of the former Ferrybridge C Power Station, are

species-poor 'modified' grassland, former ornamental plantings of trees and scrub, and other stands of semi-natural scrub and woodland (broad-leaved and mixed types).

The nearest statutory and non-statutory nature conservation designations are:

- Fairburn and Newton Ings Site of Special Scientific Interest (SSSI), which lies approximately 0.85km northwest of the Main Site. This site has been designated for its value as wetland habitat;
- Well Wood Local Nature Reserve (LNR), which lies approximately 1.2km northwest of the Main Site;
- Fairburn Ings LNR, which lies approximately 1.5km northwest of the Main Site and encompasses part of Fairburn and Newton Ings SSSI;
- Fryston Park Local Wildlife Site (LWS) located northwest of the Main Site boundary; and
- Bank of River Aire, Fairburn – Brotherton Site of Importance for Nature Conservation (SINC) is associated with the opposite bank of the River Aire to the Main Site.

There are no international nature conservation designations (Natura 2000) sites within a 20 km radius of the Main Site, the nearest being Skipwith Common Special Area of Conservation (SAC) which is located just over 20km to the northeast, and Thorne Moor SAC which is located approximately 24km to the southeast.

In addition to nature conservation designations, WMDC Site Specific Policies Local Plan identifies areas of strategically important habitats that are together referred to as the Wakefield Habitat Network (WHN). The WHN includes Fryston Park and other peripheral habitats within the Main Site, as well as the River Aire adjacent to the Main Site.

Proposed Pipeline Corridors

The Northern and Southern Pipeline Corridors cross an agricultural landscape prevailingly used for the production of cereal, maize and oilseed rape crops, and more locally sugar beet and vegetable crops.

Other habitats present more locally and include mixed scrub, Lowland Mixed Deciduous and other woodland, species-poor modified grassland, and tall ruderal vegetation.

The Bank of River Aire, Fairburn – Brotherton SINC is located immediately north of the Northern Pipeline Corridor.

2.4.3. Hydrology/ Flood Risk

Main Site

The Main Site lies approximately 430m west of the River Aire whilst the area of the Site which may be used to abstract water from the river is immediately west of the River Aire which flows south-eastward to meet the River Ouse. Fryston Beck, classified as an Ordinary Watercourse, collects run off from the A1(M) motorway and land to the west of the motorway, passes through the Site (partially culverted) and discharges into the River Aire close to the south eastern corner of the Main Site. Part of the drain running around the perimeter of the former Coal Yard at the northernmost part of the Main Site is also classified as an Ordinary Watercourse.

The entire Main Site is classed by the Environment Agency (EA) as being in Flood Zone 1. (less than 1 in 1000 annual probability of river or sea flooding (<0.1 per cent (%)). The north eastern boundary of the Site, and the AGI on the Gas Transmission System is predominantly located within Flood Zone 2 ((between 1 and 100 and 1 in 1000 annual probability of river flooding (0.1-1%) and Flood Zone 3 (1% Annual Exceedance Probability (AEP)), or a 1 in 200 or greater annual probability of flooding from the sea (>0.5% AEP)).

The Site sits on an area of superficial deposits designated as Principal and Secondary A aquifer.

Proposed Pipeline Corridors

The north eastern boundary of the Site, and the AGI on the Gas Transmission System location is predominantly located within Flood Zone 3 with some areas within Flood Zone 2.

2.4.4. Geology and Hydrogeology

Main Site

The geology beneath the Main Site comprises Made Ground, overlying variable superficial deposits of glaciofluvial sands and gravels, alluvium and Brighton Sand, generally increasing in thickness towards the River Aire. The underlying bedrock is inferred to comprise Cadeby Formation dolostone. Coal mining has taken place at depth beneath the main power station and a mine entry has been identified on site; it is likely that this has been infilled. There are no SSSI designated specifically for their geological importance within the study area.

The superficial deposits are classified by the EA as a Secondary A Aquifers and the Cadeby Formation bedrock is classified as a Principal Aquifer. There are no Source Protection Zones (SPZ) within the Main Site.

There are no permitted or historic landfills within the Main Site. The closest permitted landfill site, Brotherton Ings Ash Disposal, is located approximately 450m north of the Main Site.

Ferrybridge C Power Station ceased operation in March 2016 and was subsequently demolished in 2018. A number of contamination assessments and ground investigations were undertaken pre- and post-demolition to support the surrender of the Environmental Permit. A programme of product recovery was implemented which ceased in 2021 with agreement from the EA. The final groundwater monitoring was in 2023 to support the permit surrender.

Proposed Pipeline Corridors

The Northern Pipeline Corridor runs predominantly through loamy soils with a naturally high groundwater, which has a low natural fertility. The Southern Pipeline Corridor runs predominantly through loamy and clayey floodplain soils with naturally high groundwater, which has a moderate natural fertility.

Both Proposed Pipeline Corridors pass through areas of secondary B and principal bedrock aquifers. The AGI on the Gas Transmission System, to the east of the Site is within an area of Principal bedrock aquifer. The majority of both Proposed Pipeline Corridors are within secondary A superficial drift aquifer. There are no SPZs within the Northern Pipeline Corridor. Between the Southern and Northern Corridors is a Zone 1 SPZ.

2.4.5. Landscape

Main Site

The Main Site is within located within national character area (NCA) 30: Southern Magnesian Limestone (NE464). This character area is described as a fertile, intensively farmed arable land, which creates a generally large scale, open landscape. The Main Site contains no landscape features which are considered to be important at a local, district/county, or national scale.

Sensitive receptors are likely to be residential receptors located within nearby settlements including Ferrybridge, Brotherton, Castleford, Knottingley and Byram. Recreational receptors using the local Public Right of Way (PRoW) network, recreational users of the River Aire and users of local community infrastructure, such as the cricket ground.

Proposed Pipeline Corridors

The eastern parts of the Proposed Pipeline Corridors fall within NCA 39: Humberhead Levels. This is described as a “flat, low-lying and large-scale agricultural landscape bounded to the west by the low ridge of the Southern Magnesian Limestone and to the

Ferrybridge Next Generation Power Station

east by the Yorkshire Wolds (north of the Humber) and the Northern Lincolnshire Edge with Coversands (south of the Humber)”.

Sensitive visual receptors are likely to include residents of nearby settlements including Bea, Birkin, Byram, Ferrybridge, Gateforth and Knottingley. Recreational receptors will also include local PRow networks, none of which are promoted routes, and recreational users of the River Aire.

2.4.6. Cultural Heritage

There are no World Heritage Sites, conservation areas, registered parks and gardens, registered battlefields or protected wreck sites located within the Site. There is one Grade I listed building and scheduled monument located within the Site, Ferrybridge near Knottingley (Historic Environment Record (HER): 1005799). Additionally, there are two Grade II listed buildings located within the Site (Main Building at CEGB Ferrybridge A Site (HER; 1266191) and Old Toll House (HER: 1225760).

Outside of the Site, the closest assets are the Grade II listed building at Ferrybridge (HER: 1450102), located approximately 121m south of the Site. The surrounding landscape contains notable concentrations of listed buildings in Pontefract, Hillam, Brotherton, Ledsham, Byram and Knottingley.

Main Site

There are eight scheduled monuments within 5km of the Main Site (Table 5):

Table 5: Scheduled monuments within 5km of the Main Site

Scheduled Monument	Approximate distance from Main Site	Direction
Ferrybridge near Knottingley (HER: 1005799)	420m	East
Ferrybridge Henge (HER: 1005789)	75.2m	South
Boundary cross on the corner of Ferrybridge Road and Stumpcross Lane (HER: 1011848)	1.0km	South west
St Johns Priory (HER: 1010127)	2.3km	South west
Pontefract Castle (HER: 1010127)	2.3km	South west

Scheduled Monument	Approximate distance from Main Site	Direction
Fairburn Ings (Newton Abbey), moat (HER: 1009926)	4.0km	North
Churchyard cross at the Parish Church of St Luke and All Saints (HER: 1012875)	4.2km	South
Roman Bath House, Castleford (HER: 1428421)	4.8km	North West

There are two conservation areas located within 3km of the Main Site, including:

- Knottingley, located approximately 1.5km south east of the Main Site; and
- Pontefract located approximately 2.2km south west of the Main Site (WMDC, 2024).

There is one registered parks and garden within 5km of the Main Site, Friarwood Valley Garden in Pontefract located approximately 3.2km south west.

Proposed Pipeline Corridors

An additional scheduled monuments located within 5km of the Proposed Pipeline Corridors (Table 6).

Table 6: Scheduled monuments within 5km of the Pipeline Corridor

Scheduled monument	Approximate distance from North Pipeline Corridor	Approximate distance from South Pipeline Corridor
Roman Fort 600m west of Royal Hall (national heritage list for England (NHLE): 1017822)	2.7km south east	2.0km south east

The conservation areas located within 3km of the Proposed Pipeline Corridors are listed in the table below (Table 7).

Table 7: Conservation areas located within 3km of the Pipeline Corridor

Conservation areas	Approximate distance from North Pipeline Corridor	Approximate distance from South Pipeline Corridor
Knottingley	441m south	200m south
Hillam	1.7km north	-
Monk Fyston	2.6km north	-
Pontefract	-	2.8km south west

2.4.7. Socio-Economics and Population and Human Health

Sensitive receptors include nearby residential receptors and settlements in close vicinity to the Site. This includes:

- Ferrybridge;
- Brotherton;
- Byram;
- Knottingley;
- Castleford; and
- Pontefract.

2.4.8. Materials and Waste

There are no authorised or permitted landfill sites within the Site.

There are safeguarded mineral zones within the Site. These include:

- Siniat Gypsum Works (a safeguarded area for Mineral Production (Ref: SMP06));
- Building Stone Safeguarding Area Region;
- Coal Shallow Safeguard Area Region;
- Limestone Safeguard Area Region;
- Brick Clay Safeguard Area; and
- Sand and Gravel Safeguard Area.

2.4.9. Major Accidents and Disasters

The Main Site is situated in an industrial area. A railway line previously used for coal is located east of the Main Site. There are no Control of Major Accident Hazards

(COMAH) establishments located within 5km of the Site and there are no airfields within 20km of the Site.

3. The Proposed Development

3.1. Overview

The Proposed Development comprises of the construction, operation and maintenance of single or multiple gas turbine (GT) units with a combined capacity of up to 1.2GW electrical output on land of the former Ferrybridge C Power Station Site, near Ferrybridge, West Yorkshire.

The Proposed Development will consist of up to two generating stations and will provide flexible power generation with GT units arranged in either open or closed cycle configurations, or a combination, depending on market requirements. This scoping report has considered the potential impacts of both types of operation GT technology.

Gas will be transported from the Gas Transmission System to the Main Site via a gas pipeline connection corridor extending into North Yorkshire. The gas pipeline will be included in this DCO. The exact routing of the pipeline is to be confirmed. This is subject to ongoing design work, discussions with landowners and statutory consultees as well as being informed by environmental surveys.

In accordance with the Carbon Capture Readiness (CCR) (Electricity Generating Stations) Regulations 2013, even though the Proposed Development's decarbonisation pathway is hydrogen, land will need to be set aside within the Site for CCR. This requirement is expected to be replaced by the Hydrogen Readiness Requirements when the Decarbonisation Readiness Guidance is adopted, but this is currently anticipated to be after the submission of the DCO Application. Therefore, in the intermediate period, the Site will include land set aside to meet the CCR obligation and the project will demonstrate that it can meet the other CCR requirements.

A Site layout will be developed following further engineering evaluation, consultation with stakeholders and on conclusion of further technical and environmental studies. The preferred Site layout is expected to be settled prior to statutory consultation on the DCO Application.

The following sections describe the various elements of the Proposed Development in more detail.

3.2. Combined Cycle Gas Turbine Unit

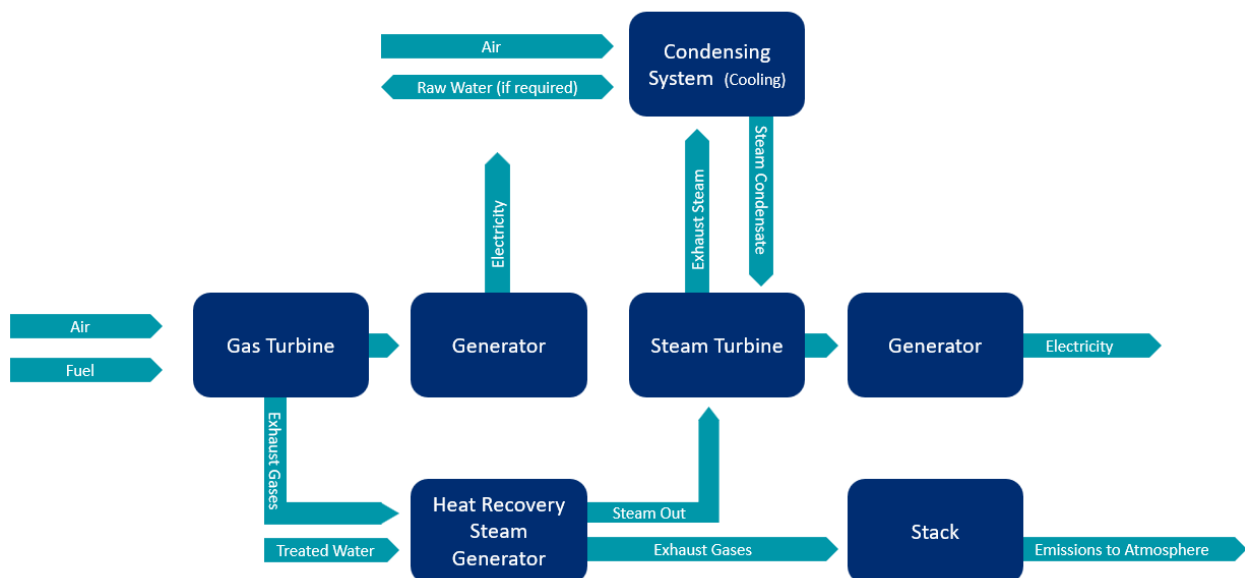
In CCGT power stations, a gas fuel (hydrogen or natural gas) is combusted to drive a gas turbine, which is connected to a generator producing electricity. As an amount of usable heat remains in the gas turbine exhaust gas, this is passed into a HRSG to make steam to generate additional electricity via a steam turbine. Any CCGT installed would be designed to be hydrogen enabled.

The waste gases from the HRSG are released into the atmosphere via an exhaust stack (stack likely to be up to 90m in height), following appropriate treatment.

The exhaust steam from the steam turbine is condensed (cooled) back into water which is returned to the HRSG to continue the process. The selection of cooling technique, and the source to be used for cooling water make-up is being determined through engineering and environmental studies and a Best Available Technique (BAT) assessment. The options include hybrid cooling towers or air cooling. Water abstracted from the River Aire for cooling was previously utilised for operations at Ferrybridge. Any new abstraction / discharge will endeavour to make use of existing infrastructure where possible. The discharge amounts and location will be dependent on the cooling technique selected.

The Proposed Development may include a modern state-of-the-art hydrogen-enabled CCGT unit. The electrical efficiency of a modern CCGT power station is greater than 62%, which is considerably higher than that for a conventional coal, biomass or oil-fired generating plant, or the majority of the existing UK fleet of gas fired power stations.

A schematic of the power generation process associated with the Proposed Development is provided below in Picture 1.



Picture 1: Power Generation Process

3.3. Open Cycle Gas Turbine Unit

In Open Cycle Gas Turbine (OCGT) power stations, like in the CCGT, a gas fuel (hydrogen or natural gas) is combusted to drive a gas turbine, which is connected to a

generator producing electricity. The electrical efficiency of a modern OCGT power station is approximately 39-41%. To enable the unit to respond flexibly and quickly to supply demand, there is no HRSG installed on an OCGT and the OCGT exhaust emissions are released into the atmosphere via an exhaust stack, following appropriate treatment.

The OCGT process requires significantly less cooling compared to the CCGT process. As with the CCGT, the confirmation as to which cooling technique is used is being determined through engineering and environmental studies and a BAT assessment. As the OCGT process requires a lower volume of water, there is the option of utilising the Towns Water or other alternatives.

3.4. Proposed Pipeline Corridor

Gas will be transported from the Gas Transmission System to the Main Site via a gas pipeline connection corridor extending into North Yorkshire. The exact routing of this connection is to be confirmed and two options are presented in this report. The pipeline corridor route selection is subject to ongoing design work, discussions with landowners and statutory consultees as well as being informed by environmental surveys. At the connection point of the pipeline and the Gas Transmission System, an AGI will be installed.

The access route for construction of the pipeline will be factored into the Proposed Pipeline Corridor selection process.

3.5. Other Infrastructure

In addition to the proposed OCGT, CCGT, and pipeline, the following infrastructure is anticipated to be required:

- New AGIs to receive natural gas and hydrogen;
- Cooling infrastructure (including pipeline routes and abstraction/discharge locations) – this will either be water or air cooling. This is subject to ongoing design work and discussions with the EA;
- Selective Catalytic Reduction (SCR) infrastructure may be required to remove oxides of nitrogen (NO_x) from the exhaust gas stream, consisting of a catalyst chamber, associated pipework and fans and reagent storage vessels;
- Electricity transmission infrastructure to connect the CCGT and OCGT to the National Grid electricity transmission system (Ferrybridge C 275 kilovolts (kv) substation);
- Ancillary infrastructure including:
 - An auxiliary boiler;
 - Workshop and stores;

- Electrical, control room and administration building;
- Water treatment plant, fire pumps and laboratory;
- Water abstraction facility;
- Above ground raw and fire water tank;
- Above ground demineralised water tank;
- Back-up diesel generators, comprising skid-mounted units;
- Drainage and SuDs;
- Chemical storage, including unloading/loading facilities;
- Wastewater treatment plant; and
- Additional access roads, maintenance/turnaround area and car parking.

3.6. Main Site Access

Assessments are underway to consider access to the Main Site. It is expected that primary access to the Main Site will likely be from Stranglands Lane into Hinton Lane with secondary access/emergency egress likely to be via the B6136. The access routes would be utilised by Heavy Good Vehicles (HGV) during construction and operational staff.

During operation, it is expected access routes will be gated, controlled and open.

3.7. Construction Programme and Management

Subject to being granted development consent and following a final investment decision, it is the aim that construction will commence in 2027, and it is anticipated to last approximately three years.

Construction methodology will be developed as the design progresses. The ES will provide further details of the proposed construction activities and their anticipated duration, along with an indicative programme of each phase of the works, including the construction of the CCGT, OCGT, pipeline, and any infrastructure to support hydrogen firing. The CCGT and OCGT may be constructed in parallel or in sequence. The ES will consider the worst case in terms of construction sequence for each topic.

It is likely that for much of the pipeline corridor a standard cut and fill construction approach will be used. For special crossings, such as the River Aire, trenchless crossing methods such as Horizontal Directional Drilling (HDD) techniques will be used. The selection of method will be made following further design work and appraisal of ground conditions.

The ES will be supported by a framework Construction Environmental Management Plan (CEMP), which will describe the specific mitigation measures to be followed to reduce impacts from:

- construction traffic (including parking and access requirements);
- earthworks;
- noise and vibration;
- works on the River Aire;
- dust generation; and
- waste generation.

The detailed CEMP will be secured by a requirement attached to any DCO that is granted and will identify the relevant procedures to be adhered to throughout construction.

Contracts with companies involved in the construction works will incorporate environmental control, health and safety regulations and current guidance with the intention that construction activities are sustainable and that all contractors involved with the construction stages are committed to agreed best practice and meet all relevant environmental legislation including: Control of Pollution Act 1974 (COPA), Environment Act 1995 and Hazardous Waste (England and Wales) Regulations 2005.

All construction works will adhere to the Construction (Design and Management) Regulations 2015 (CDM).

3.8. Preparation of the Main Site

The Proposed Development would be located within the former Ferrybridge C Power Station Site. The ground conditions vary across the Site depending on their historical use. Given the nature of the former site operations in some parts of the Site, it is likely that localised subsurface contamination is present. This will be investigated and managed as part of Site preparation works. There are also underground structures associated with the previous coal fired power station which will require removal prior to the construction of the Proposed Development. A suitable development platform will also be required.

3.9. Decommissioning

The Proposed Development is expected to operate for at least 25 years. After this time, it is expected that the Proposed Development will have some residual life remaining and an investment decision would then be made based on the market conditions prevailing at that time. If the operating life were to be extended, the Proposed Development would be upgraded in line with the legislative requirements at that time.

At the end of its operating life, the most likely scenario is that the Proposed Development would be shut down and all services would be isolated. The plant would then be decontaminated and prepared for demolition. All above ground structures would

then be removed from the Site, and it would then be suitably remediated as required to facilitate re-use. Where possible demolition materials will be re-used on Site or recycled.

A Decommissioning Plan (including Decommissioning Environmental Management Plan) would be produced and agreed with the EA as part of the Environmental Permitting and site surrender process. The Decommissioning Environmental Management Plan would consider in detail all potential environmental risks on the Site and contain guidance on how risks can be removed or mitigated. This would include details of how surface water drainage should be managed during the decommissioning and demolition. It is assumed that decommissioning will have similar or no worse of an effect than construction.

4. Project Alternatives

The EIA Regulations require that an ES should include an outline of the main alternatives that have been studied by the Applicant and an indication of the main reasons for its choices, taking into account the likely significant environmental impacts of each alternative. Under the EIA Regulations there is no requirement to assess alternatives, only a requirement to provide a review of those alternatives that have actually been considered.

Other project alternatives will be considered as the DCO Application progresses including:

- the layout of the Proposed Development including the choice and configuration of the CCGT unit and OCGT unit(s);
- the cooling technology and water source to be implemented for the CCGT;
- the route of the Pipeline Corridors; and
- route corridors for water abstraction and discharge to the River Aire.

Where alternatives are examined and assessed during the pre-application process, details of the options and reasons for selection (or otherwise) will be included within the ES for the Proposed Development.

5. Planning Policy and Need

This section sets out the main planning policy documents taken into account in defining the scope of the EIA and which are most relevant to the Proposed Development. It also sets out an overview of the established need case for this kind of project.

5.1. National Planning Statement (NPS)

The policy framework for examining and determining applications for NSIPs is provided by NPS. Section 104 of the 2008 Act requires that applications for NSIPs be determined in accordance with any NPS which has effect in relation to development of the description to which the application relates, unless this would:

- lead to the UK being in breach of its internal obligations;
- be in breach of any statutory duty that applies to the Secretary of State;
- be unlawful;
- the adverse impacts of the development outweigh its benefits; or
- be contrary to any Regulations that may be made prescribing other conditions.

The 2008 Act also refers to Marine Policy Statements ('MPS'). No MPS is applicable here since no part of the UK marine area lies within the draft order limits.

In January 2024, the Department for Energy Security and Net Zero ('DESNZ') designated the revised NPS relating to nationally significant energy infrastructure. The NPS that are of relevance to the Proposed Development include:

- Overarching National Policy Statement for Energy (EN-1) ('EN-1') (DESNZ, 2024a); and
- National Policy Statement for Natural Gas Electricity Generating Infrastructure (EN-2) ('EN-2') (DESNZ, 2024b).

These documents, from a planning policy perspective, have been the main focus in terms of scoping the EIA.

The National Policy Statement for natural gas supply infrastructure and gas and oil pipelines ('EN-4' (DESNZ, 2024c) is not directly relevant owing to the length of gas pipeline falling below the threshold in sections 14 and 21 of the 2008 Act, however it may possess importance or relevance and is considered where relevant in individual section of this scoping document.

5.1.1. Overarching NPS for Energy EN-1

Part 3 of EN-1 (DESNZ, 2024a) sets out the need for nationally significant energy infrastructure. Paragraph 3.1.1 states that the “government sees a need for significant amounts of new large-scale energy infrastructure to meet its energy objectives” and that the “government does not consider it appropriate for planning policy to set limits on different technologies but planning policy can be used to support the government’s ambitions in energy policy and other policy areas” (Paragraph 3.2.3).

Section 3.3 of EN-1 (DESNZ, 2024a) sets out why the Government believes that there is an urgent need for new nationally significant electricity infrastructure, including:

- The need for different types of electricity infrastructure – there are several different types of electricity infrastructure that are needed to deliver our energy objectives. Additional generating plants, electricity storage, interconnectors and electricity networks all have a role, but none of them will enable us to meet these objectives in isolation;
- Alternatives to new electricity infrastructure – the Government has considered alternatives to the need for new large-scale electricity infrastructure and concluded that these would be limited to reducing total demand for electricity through efficiency measures or through greater use of low carbon hydrogen in decarbonising the economy; reducing maximum demand through demand side response; and increasing the contribution of decentralised and smaller-scale electricity infrastructure;
- Delivering affordable decarbonisation – The Net Zero Strategy: Build Back Greener’ (DESNZ and Department for Business, Energy & Industrial Strategy, 2021) sets out the Government’s ambition for increasing the deployment of low carbon energy infrastructure consistent with delivering our carbon budgets and the 2050 net zero target. This made clear the commitment that the cost of the transition to net zero should be fair and affordable. Given the changing nature of the energy landscape, we need a diverse mix of electricity infrastructure to come forward, so that we can deliver a secure, reliable, affordable, and net zero consistent system during the transition to 2050 for a wide range of demand, decarbonisation, and technology scenarios. For example, paragraph 3.3.17 of NPS EN-1 recognises that new unabated natural gas generating capacity remains needed as it plays a critical role in keeping the electricity system secure and stable, given that CCGTs using natural gas and equipped with Carbon Capture and Storage (CCS) are unable to provide the quick start peaking capacity required in a low carbon system; and
- The role of combustion power stations – Low carbon hydrogen could be capable of replicating the role of natural gas in the electricity system, including providing

both firm, flexible capacity in the future and a decarbonisation route for unabated combustion power plants. The British Energy Security Strategy sets out the ambition for up to 10GW of low carbon hydrogen production capacity by 2030, subject to affordability and value for money, at least half of which will come from electrolytic hydrogen, working with industry to develop a strong and enduring UK hydrogen economy. The Net Zero Strategy also states that the plan is to deliver 5 GW of Hydrogen production capacity by 2030, whilst halving emissions from oil and gas. The 2021 Impact Assessment for the Sixth Carbon Budget shows an illustrative range for low carbon hydrogen of 85- 125 Terawatt hours (TWh) in 2035 and 250-460TWh in 2050.

In relation to Hydrogen infrastructure, paragraph 2.3.7 states that low carbon hydrogen will likely play an increasingly significant role in meeting energy demand by 2050, requiring the integration of new low carbon hydrogen into the network. Paragraph 3.2.12 explains that where the application is for hydrogen infrastructure not covered by sections 15-21 of the Planning Act “the Secretary of State should give substantial weight to the need established at paragraphs 3.4.12 to 3.4.22 of this NPS”.

Paragraphs 3.4.12 states *“There is an urgent need for all types of low carbon hydrogen infrastructure to allow hydrogen to play its role in the transition to net zero”* and paragraph 3.4.13 states *“the government is committed to developing low carbon hydrogen, which will be critical for meeting the UK’s legally binding commitment to achieve net zero by 2050, with the potential to help decarbonise vital UK industry sectors and provide flexible deployment across heat, power and transport.”*

Part 4 of EN-1 sets out a number of ‘assessment principles’ that must be taken into account by applicants and the Secretary of State in preparing and determining applications for nationally significant energy infrastructure. General points include (paragraphs 4.1.3 and 4.1.4) the requirement for the Secretary of State, given the level and urgency of need for the infrastructure covered by the energy NPS, to start with a presumption in favour of granting consent for applications for energy NSIP. This presumption applies unless any more specific and relevant policies set out in the relevant NPS clearly indicate that consent should be refused or any of the considerations referred to in Section 104 of the 2008 Act (noted above) apply.

Further to Paragraph 3.3.17 mentioned above, Paragraphs 3.3.44 and 3.3.48 of NPS EN-1 recognise the role of unabated gas-fired peaking plants in supporting the transition to a low carbon electricity system due to the ability to provide quick start peaking capacity: *“Combined Cycle Gas Turbines (CCGTs) using natural gas can be equipped with CCS which is intended to reduce emissions compared to unabated gas-fired plants by 90 per cent or more. Although they can provide flexible generation that is able to ramp up or down to meet demand, they are unable to provide the quick start peaking capacity which is required in a low carbon system”* (Paragraph 3.3.44) and *“Although Ferrybridge Next Generation Power Station*

the expectation is that low carbon alternatives will be able to replicate the role of natural gas in the electricity system over time, some natural gas-fired generation without CCS, running very infrequently, may still be needed for affordable reliability even in 2050. This can still be net zero consistent if the emissions from their use are balanced by negative emissions from [Greenhouse Gas Removal] GGR technologies” (Paragraph 3.3.48).

Paragraph 4.1.5 goes on to state that in considering any proposed development, in particular when weighing its adverse impacts against its benefits, the Secretary of State should take into account:

- Its potential benefits, including its contribution to meeting the need for energy infrastructure, job creation, a reduction of geographical disparities, environmental enhancements, and any long-term or wider benefits; and
- Its potential adverse impacts, including on the environment, and including any long-term and cumulative adverse impacts, as well as any measures to avoid, reduce or compensate for any adverse impacts, following the mitigation hierarchy.

Paragraph 4.1.6 continues by stating that within this context the Secretary of State should take into account environmental, social and economic benefits and adverse impacts, at national, regional and local levels.

Part 4.2 of EN-1 outlines the critical national priority (CNP) for nationally significant low carbon infrastructure as a factor in decision making by the Secretary of State.

Paragraph 4.2.4 states that the Government has concluded that there is a CNP for the provision of nationally significant low carbon infrastructure, with paragraphs 4.2.2 and 4.2.5 highlighting the importance of hydrogen within this.

Other assessment principles include environmental effects/considerations; environmental and biodiversity net gain (BNG); criteria for ‘good design’; consideration of CNP; consideration of CCS; climate change adaptation and resilience; network connection, amongst others.

Part 5 of EN-1 (DESNZ, 2024a) lists a number of ‘generic impacts’ that relate to most types of energy infrastructure, which both applicants and the Secretary of State should take into account when preparing and considering applications. These include air quality and emissions; Greenhouse Gas (GHG) emissions; biodiversity and geological conservation; flood risk; and landscape and visual, amongst others. Paragraphs 5.1.2 and 5.1.3 stress that the list of impacts is not exhaustive, and that applicants should identify the impacts of their projects in the ES in terms of both those covered by the NPS and others that may be relevant. In relation to each of the generic impacts listed within Part 5 of EN-1, guidance is provided on how the applicant should assess these within their application and also the considerations that the Secretary of State should take into account in decision-making.

Ferrybridge Next Generation Power Station

It is clear there is a strong need set out in NPS EN-1 for the Proposed Development where impacts, being CNP and its ability to play a critical role in keeping the electricity system secure and stable by providing quick start peaking capacity required in the transition towards a low carbon system.

5.1.2. NPS for Natural Gas Electricity Generating Infrastructure EN-2

NPS EN-2 (DESNZ, 2024b) covers onshore natural gas-fired electricity generating infrastructure. Paragraph 1.6.3 states that while the guidance in EN-2 has been drafted in respect of natural gas-fired electricity generating infrastructure, it may also be relevant to hydrogen gas-fired power stations.

In addition to the assessment principles and generic impacts covered by EN-1 (DESNZ, 2024a), NPS EN-2 sets out 'assessment and technology specific' information to be taken into account in the preparation and assessment of applications for natural gas-fired electricity generating infrastructure. These include factors influencing site selection and design; air quality and greenhouse gas emissions, landscape and visual impacts, noise and vibration and water quality and resources.

Factors influencing site selection (Section 2.4 of EN-2) include land use, with natural gas-fired generating stations typically requiring large sites; transport infrastructure; availability of water resources, including for cooling; and availability of grid connection.

Notably, in respect of landscape and visual impacts, EN-2 (paragraph 2.4.27) recognises that gas-fired generating stations are large and that they will have an impact on the surrounding landscape and visual amenity and (paragraph 2.5.3) it is not possible to eliminate the visual and landscape impacts associated with such development.

5.2. Other Matters that may be Important and Relevant

5.2.1. National Infrastructure Plan

The National Infrastructure Plan (His Majesty, formerly Her Majesty (HM) Treasury, 2014) sets out a vision for the UK's infrastructure, reinforcing the Government's commitment to investing in infrastructure and improving its quality and performance.

Paragraph 8.3 states that large-scale investment in gas and low-carbon electricity generation is vital in order to replace ageing energy infrastructure, maintain secure energy supplies and meet legally binding environmental targets. Around £100 billion of investment was estimated to be required in electricity generation and networks by 2020.

Paragraph 8.5 continues:

“As legacy coal, gas and nuclear power stations come offline, they will increasingly be replaced with a combination of renewable energy, new nuclear power and fossil fuel power stations fitted with Carbon Capture and Storage (CCS) technology. New gas plant is also needed as a vital backup for less flexible renewable generation and to ensure that the system can meet peak electricity demand. Demand for gas to supply heat to homes and businesses will also remain significant for some time to come.”

5.2.2. Clean Growth Strategy

The ‘*Clean Growth Strategy – Leading the way to a low carbon future*’ (Department for Business, Energy & Industrial Strategy, 2017) sets out the aims of the Government to deliver increased economic growth while reducing carbon emissions.

Page 9 of The Executive Summary confirms that for the UK to achieve its fourth and fifth carbon budgets (2023-27 and 2028-2032) it will be necessary to drive a significant acceleration in the pace of decarbonisation.

Subsequently in September 2019, one of the ‘Grand Challenges’ missions set by the UK Government was confirmed *“to establish the world’s first net-zero carbon industrial cluster by 2040 and at least 1 low-carbon cluster by 2030”*.

Pages 93 - 101 of Chapter 4 cover ‘*Delivering Clean, Smart, Flexible Power*’. The overriding objective is to deliver a reduction in emissions from the power sector. Page 96 states that in order to achieve this it will be necessary to continue to bring down the costs of low carbon generation from renewables.

Page 56 of Chapter 3 and page 151 cover the ‘hydrogen pathway’. This pathway sees a key role for low carbon hydrogen in decarbonising the grid. Existing gas infrastructure will be adapting to deliver hydrogen for heating, supporting hydrogen production using natural gas and capturing the emissions with Carbon Capture, Usage and Storage (CCUS). Because hydrogen is the main energy source for heating and transport, electricity demand and therefore generation is lower than the other pathways at around 340 TWh (around the same level as today).

Page 82 states that there is a range of low carbon heating technologies with the potential to support the scale of change needed, including decarbonising the gas grid by substituting natural gas with low carbon gases, like hydrogen.

5.2.3. The Climate Change Act 2008 (2050 Target Amendment) Order

The Climate Change Act 2008 (2050 Target Amendment) Order 2019 (June 2019) enshrines in law the Government’s commitment to achieve ‘net zero’ in terms of greenhouse gas emissions by 2050. This is in line with the recommendations of the Committee for Climate Change (‘CCC’).

The executive summary to the CCC report (The Committee on Climate Change, 2019) (page 12) states that the net zero target cannot be met simply by adding mass removal of carbon dioxide on to existing plans for the previous target of an 80% reduction by 2050 compared to 1990 levels. It highlights that CCUS is crucial to the delivery of zero greenhouse gas emissions and that it is of strategic importance to the economy. However, it raises concern that of the 43 large-scale CCUS projects operating worldwide, none are in the UK.

The report states that the remaining greenhouse gas emissions in the UK must be offset by removing CO₂ and permanently sequestering it through technologies such as CCUS. The report highlights the necessity of CCUS in terms of capturing the carbon dioxide from the production of hydrogen (given that a move to a hydrogen economy is critical to achieving net zero) and from non-renewable electricity production (page 23).

5.2.4. The Future of Hydrogen – Seizing today’s opportunities

‘The Future of Hydrogen’ (International Energy Agency, June 2019) sets out the current status of hydrogen as an energy source; the ways in which hydrogen can help to achieve a clean, secure and affordable energy future; and how to realise its potential. The study, carried out in collaboration with governments, industry and academia, contains recommendations for immediate opportunities and for scaling up hydrogen.

The report identifies that hydrogen can enable renewables to make an even greater contribution and manage their variable output. The report states that the opportunity should be taken now to scale up technologies and bring down costs to allow hydrogen to become widely used. For hydrogen to make a significant contribution to the clean energy transition, it needs to be adopted in sectors in which it is currently absent, including transport and power generation.

- Seven key recommendations are set out:
 - establish a role for hydrogen in long-term energy strategies (including in the power generation sector);
 - stimulate commercial demand for clean hydrogen;
 - address investment risks of first-movers;
 - support research and development to bring down costs;
 - eliminate unnecessary regulatory barriers and harmonise standards;
 - engage internationally and track progress; and
 - focus on four key opportunities to further increase momentum over the next decade. Subsequent text explains these four comprise: turn existing industrial ports into hubs for lower carbon hydrogen, use existing gas infrastructure to spur new clean hydrogen supplies, support transport fleets, freight and corridors using fuel cell vehicles, and establish shipping routes for international hydrogen trading.

5.2.5. Net Zero – Opportunities for the Power Sector

'Net Zero - Opportunities for the Power Sector' (National Infrastructure Commission (NIC), 2020) states that decarbonising the power sector is integral to achieving the goal of net zero by 2050.

The NIC provides impartial advice to the government on infrastructure needs and solutions. Its terms of reference are set by government, and while NIC recommendations do not constitute government policy, the government is required to formally respond to the recommendations, and they may form the evidence base for future policy.

Core to the NIC recommendations (page 7) is that:

“a highly renewable power system, combined with flexible technologies including hydrogen powered generation, could be substantially cheaper than alternatives that rely heavily on a fleet of nuclear power plants.”

“Highly renewable systems are still a low cost option in a net zero world. The analysis once again finds that electricity system costs are broadly flat across a range of different levels of renewable penetrations. If hydrogen is deployed, providing low carbon and flexible generation, it could further reduce the costs of highly renewable systems, by up to 30 per cent in some scenarios modelled here.”

This is further supported on page 14:

“Hydrogen, a zero carbon energy carrier, could be used to decarbonise areas of transport, heating, industry and potentially aviation and shipping. The CCC have stated that “By 2050, a new low carbon industry is needed with UK hydrogen production capacity of comparable size to the UK’s current fleet of gas-fired power stations.”

The NIC has identified that increasing the proportion of renewables on the system does not materially impact the cost of the system and that *“future system costs may even be lower if action is taken to test the feasibility of deploying hydrogen turbines, an emerging technology for the power sector”* (page 5). This is because hydrogen turbines displace many other non-renewable forms of generation and flexibility, reducing the necessary installed capacity of these technologies, and hence system costs.

Page 18 of the NIC recommendations acknowledges that there will be a mix of technologies in net zero power systems, including unabated thermal (with low running hours) and at least 18GW of gas CCS capacity by 2050, generating 23TWh of electricity. By 2050 it is expected that this will primarily play a peaking role in the electricity system.

5.2.6. Energy White Paper 2020

The Energy White Paper 2020 (DESNZ and Department for Business, Energy & Industrial Strategy, 2020) builds on the Ten Point Plan and the National Infrastructure Strategy, providing further clarity on the Prime Minister's measures and puts in place a strategy for the wider energy system that transforms energy, supports a green recovery, and creates a fair deal for consumers.

Page 12 states that the UK is aiming for 5GW of low-carbon hydrogen production capacity by 2030.

Page 112 recognises that clean hydrogen could potentially provide a way to decarbonise our gas supplies on a much larger scale than reliance on biomethane alone.

5.2.7. Net Zero Strategy 2021

The Net Zero Strategy 2021 (DESNZ and Department for Business, Energy & Industrial Strategy, 2021) sets out clear policies and proposals for keeping the UK on track for its coming carbon budgets, the Government's ambitious nationally determined contribution, and then sets out the vision for a decarbonised economy in 2050.

Many sectors require low carbon energy, including those where electrification is not a viable option, making the supply of cleaner fuels essential to achieving net zero. Building on commitments in the North Sea Transition Deal, the Government aims to significantly reduce emissions from traditional oil and gas fuel supplies, whilst scaling-up the production of low carbon alternatives such as hydrogen and biofuels.

The Government is actively taking steps to bring forward low carbon technologies capable of replicating the role of unabated gas in the electricity system, including CCUS-enabled generation, hydrogen-fired generation, bio-energy with carbon capture and storage (BECCS), and flexible storage.

Page 109 supports the development of innovative low carbon hydrogen solutions, supported by the UK Hydrogen Strategy, which further sets out the Government's comprehensive approach to growing a UK hydrogen economy. This indicates that use of low carbon hydrogen enabled by 5GW of production capacity could deliver total emissions savings of 41 Metric tons of Carbon Dioxide equivalent (MtCO₂ e) between 2023 and 2032, the equivalent of the carbon captured by 700 million trees over the same period.

Page 111 states that decarbonising fuel supply and growth of the hydrogen sector will regenerate communities and open up new employment opportunities right around the UK. Based on current estimates, policies and proposals to reduce emissions in fuel supply and growing the hydrogen sector could support up to 10,000 jobs in 2030.

5.2.8. UK Hydrogen Strategy 2021

The UK Hydrogen Strategy (DESNZ, 2021) sets out how the target of 5GW of low-carbon hydrogen production capacity will be achieved by 2030 and how hydrogen will be positioned to help meet the UK's 2021 Sixth Carbon Budget and net zero commitments.

The Executive Summary states that hydrogen is one of a handful of new, low carbon solutions that will be critical for the UK's transition to net zero. As part of a deeply decarbonised, deeply renewable energy system, low carbon hydrogen could be a versatile replacement for high-carbon fuels used today – helping to bring down emissions in vital UK industrial sectors and providing flexible energy for power, heat and transport.

It further states that there is almost no low carbon production of hydrogen in the UK or globally today.

Page 7 states that low carbon hydrogen will be critical for meeting the UK's legally binding commitment to achieve net zero by 2050, and Carbon Budget Six in the mid-2030s on the way to this. Hydrogen can support the deep decarbonisation of the UK economy, particularly in 'hard to electrify' UK industrial sectors, and can provide greener, flexible energy across power, heat and transport. Moreover, the UK's geography, geology, infrastructure and expertise make it particularly suited to rapidly developing a low carbon hydrogen economy, with the potential to become a global leader on hydrogen and secure economic opportunities across the UK.

Page 8 states that most hydrogen produced and used in the UK and globally is high carbon, coming from fossil fuels with no carbon capture; only a small fraction can be called low carbon, emphasising the need for low carbon hydrogen electricity generating stations.

5.2.9. Net Zero Strategy: Build Back Greener (2021)

The *'Net Zero Strategy: Build Back Greener'* (DESNZ and Department for Business, Energy & Industrial Strategy, 2021) expands on key commitments in the Ten Point Plan, the Energy White Paper and sets out the next steps the Government proposes to take to cut emissions, seize green economic opportunities and leverage further private investment in net zero. The strategy sets an indicative delivery pathway for emission reductions to 2037 by sector. It is intended to put the UK on the path for Carbon Budget 6 and ultimately on course for net zero by 2050.

Regarding power, page 19 of the strategy states that the UK will fully decarbonise its power system by 2035 subject to security of supply. It states that the power system will consist of abundant, cheap renewables, cutting edge new nuclear power stations, underpinned by flexibility including storage, gas with CCUS and hydrogen.

Ferrybridge Next Generation Power Station

5.2.10. Levelling Up White Paper 2022

The Levelling Up White Paper 2022 (Department for Levelling Up, Housing and Communities) ('LUWP') sets out the Government's strategy for spreading opportunity more equally across the UK. The LUWP acknowledges that parts of the UK that need to undergo the largest transition to achieve Net Zero are concentrated in the Midlands and North of England, and Scotland, where the largest emitting industrial sectors (manufacturing, aviation and shipping) are typically concentrated. It acknowledges that whilst this transition to Net Zero will be disruptive, it could also be transformative as the 'Green Industrial Revolution' will require significant investment in new infrastructure and production processes using new technologies which has the potential to benefit these areas through direct employment and upskilling of the workforce:

This investment has the potential to benefit disproportionately less well-performing parts of the UK, particularly those with a rich heritage of manufacturing and engineering. Analysis commissioned by the Department for Business, Energy and Industrial Strategy (BEIS) shows that the North East stands to gain an extra 27,000 direct jobs by 2050. Many other places, outside London and the South East, have the potential to build on existing areas of strength, such as renewable energy, electric vehicle manufacture, Carbon Capture, Utilisation and Storage (CCUS) and hydrogen.....Some industries will require significant upskilling. Those currently employed in carbon-intensive sectors tend to be most vulnerable to long-term unemployment. To avoid this risk, those places will need to re-skill their workforce so that the new jobs created are located there. As set out in the UK Government's Ten-Point Plan and Net Zero Strategy, successful re-skilling of this type could boost living standards and support jobs in poor places undergoing the sharpest transition."

5.2.11. Decarbonisation Readiness Consultation 2023

The Decarbonisation Readiness Consultation 2023 (DESNZ, 2023) provides an update to the 2009 CCR requirements to ensure all new build combustion power plants have a viable route to decarbonisation; make the requirements more flexible and simpler; provide a clear decarbonisation pathway for combustion power plants and keep pace with the evolving nature of decarbonisation technologies, in particular low carbon hydrogen.

The Executive Summary states that the Government sees low carbon hydrogen as a critical component of our broader strategy to deliver energy security, create economic growth and contribute to our net zero target.

It goes on to confirm that hydrogen will enable us to use our domestic energy assets, including gas and renewables, to decarbonise UK industrial sectors, power, heavy transport, and potentially home heating.

It proposes to enable combustion power plants to demonstrate decarbonisation readiness through conversion to hydrogen firing.

Page 20 states that hydrogen to power has the potential to be vital in achieving our decarbonisation targets by providing a large source of firm and flexible low carbon generation that is capable of fast ramping, as we integrate more intermittent renewables.

Section 2.2.1 states that Government analysis shows that having hydrogen available in the power sector could achieve lower emissions at a lower cost than scenarios without hydrogen.

5.2.12. Powering Up Britain (March 2023)

On 30 March 2023 the Government published three documents comprising Powering Up Britain (DESNZ, 2023), the '*Energy Security Plan*' and '*Net Zero Growth Plan*' following the judicial review of the Net Zero Strategy. All three documents provide details of the Government's measures to increase domestic energy production, resilience in the energy supply and achieve net zero.

5.2.13. Review of Electricity Market Arrangement (2024)

On 12 March 2024, the Government released the second round of consultation on the Review of Electricity Market Arrangement ('REMA'), which sets out options to deliver an enduring electricity market framework for business, industry and households. In its announcement of the second round of REMA consultation, the Government committed to support the building of new gas power stations to maintain a safe and reliable energy sources due to the intermittency of renewable energy sources.

As part of the second consultation on the REMA, the Energy Secretary set out a plan to boost gas power capacity. Firstly, by broadening existing laws requiring new gas plants to be built net-zero ready and able to convert to low carbon alternatives in the future such as carbon capture and hydrogen to power. Secondly, these gas power plants will run less frequently as the UK continues to roll out other low carbon technologies. Finally, this is in line with wider government plans to deliver net zero whilst keeping costs down for billpayers.

The REMA identifies the role in unabated gas peaking plants to support the transition to Net Zero.

5.2.14. National Planning Policy Framework (NPPF) and Planning Practice Guidance

The latest version of the NPPF was adopted in December 2023 (Department for Levelling Up, Housing and Communities, 2023). The policies contained within the NPPF

are expanded upon and supported by the 'Planning Practice Guidance' (Department for Levelling Up, Housing and Communities and Ministry of Housing, Communities and Local Government (MHCLG), 2024).

The NPPF sets out the Government's planning policies for England and how these are to be applied. It is a material consideration in planning decisions. Paragraph 5 of the NPPF states that the document does not contain specific policies for NSIP and that applications in relation to NSIP are to be determined in accordance with the decision-making framework set out in the 2008 Act and relevant NPS, as well as any other matters that are considered both important and relevant. However, matters that can be considered to be both important and relevant to NSIP may include the NPPF and the policies within it.

Sections of the NPPF that are of particular relevance relevant to the scope of the EIA include:

- 2 - Achieving sustainable development;
- 6 - Building a strong, competitive economy;
- 11 - Making effective use of land;
- 12 - Achieving well-designed and beautiful places;
- 14 – Meeting the challenge of climate change, flooding and coastal change;
- 15 – Conserving and enhancing the natural environment; and
- 16 - Conserving and enhancing the historic environment.

5.2.15. NPPF – Consultation

On 30 July 2024, the new Labour Government administration announced an 8 week consultation to update the NPPF. Amongst other changes, it proposes an emphasis and support for renewable and low carbon energy development, and proposes to give significant weight in the decision-making process to the benefits associated with renewable and low carbon energy generation, and the contribution of proposals to meeting a net zero future. It also reinforces the need for effective strategic planning across local planning authority boundaries, and that it will play a vital and increasing role in how sustainable growth is delivered and key spatial issues, including delivering strategic infrastructure are addressed.

5.2.16. Emerging Policy: Labour Government Manifesto 2024 'Clean Energy Superpower'

Ahead of the 4 July 2024 General Election, the Labour Government released its 'Labour Party Manifesto 2024' which outlined its mission to make the UK a clean energy superpower and transition to clean energy by 2030, instead of 2035. This included mention of investment in CCS, hydrogen and marine energy, a new Energy

Independence Act to establish the framework for Labour’s energy and climate policies, and maintaining a strategic reserve of gas power stations to guarantee security of supply and ensuring a phased and responsible transition to net zero. Whilst the Manifesto sets out the high-level policy and ambitions, with a detailed road map to follow, it outlines a clear and strong policy position from the Government to support a faster transition to clean energy while ensuring the electricity system remains secure and reliable. On 9 July 2024 the 2030 ambition was reaffirmed in a government announcement entitled “Chris Stark to lead Mission Control to deliver clean power by 2030”. This stated, inter alia, *“this new Mission Control centre, benefitting from the expertise and experience of Chris Stark’s leadership – and bringing together the brightest and best in the national interest – will have a laser-like focus on delivering our mission of clean power by 2030”*.

5.2.17. New Government

In early July 2024, the Labour Party won a majority in the general election and formed a new administration. Energy Security and Net Zero Secretary Ed Miliband appointed Chris Stark to head new Mission Control for Clean Power which is set to focus on 4 strands of activity, including: setting and tracking the overall approach to delivering 2030 across the energy system; real time monitoring of progress on UK infrastructure projects critical to 2030; acting as an innovation centre by encouraging discussion among experts; and serving as a convener for the Mission Control approach across government and with industry. On 31 July 2024, the first energy Mission Board was chaired by the Secretary of State who stated: "As we move forward, our Mission Board will keep a laser focus across government on delivering clean, cheap energy to homes and businesses – but also on driving economic growth and creating skilled jobs right across the country."

5.3. Local Planning Policy

The Main Site lies on land at the former Ferrybridge C Power Station within the administrative area of WMDC, and Proposed Pipeline Corridors extending eastwards into the administrative area of NYC. The relevant local planning policy context for each administrative area are set out below.

Wakefield Metropolitan District Council – Local Planning Policy

5.3.1. Local Planning Policy – Wakefield

As it relates to WMDC, the statutory development plan for this administrative area comprises the following documents:

- Volume 1 Development Strategy Strategic and Local Policies (adopted 24 January 2024);
- Volume 2 Settlement Specific Policies (adopted 24 January 2024); and
- Full suite of Local Plan 2036 Policies Maps, including the Northern Area.

Certain adopted Neighbourhood Plans are designated but none lie within or adjoining the Proposed Development.

The Local Plan is also supported by a variety of planning guidance documents.

It is considered that these documents may be 'important and relevant' as defined in section 104 of the 2008 Act. The following policies will be considered:

5.3.2. Strategic Policies

- SP1 Presumption in favour of Sustainable Development;
- SP2 Settlement Hierarchy;
- SP3 Location of Development;
- SP4 Safeguarded Land;
- SP10 Local Economy;
- SP12 Leisure, Recreation and Open Space;
- SP13 Sustainable Transport;
- SP14 Transport Network;
- SP15 Influencing the Demand for Travel;
- SP19 Minerals;
- SP21 Community Facilities and Services;
- SP23 Design, Safety and the Local Environment; and
- SP24 Mitigating and Adapting to Climate Change and Efficient Use of Resources.

5.3.3. Local Policies

- LP6 Protecting Employment Land;
- LP27 Access and Highway Safety;
- LP28 Green and Blue Infrastructure;
- LP29 Flood Risk;
- LP30 Drainage;
- LP31 Protection and Improvement of Watercourses and Flood Defences;
- LP33 Sustainable Construction and Efficient Use of Resources;
- LP34 Electric Vehicle Charging Infrastructure;
- LP35 Assessment of Applications for Renewable Energy Generation Developments;

- LP37 Mineral Extraction;
- LP38 Mineral safeguarding;
- LP44 Waste Facilities within Development;
- LP45 The Effect of Development on Public Services;
- LP51 Ecological and Geological Conservation;
- LP52 Ecological Protection of Watercourses and Water Bodies;
- LP53 Wildlife Habitat Network;
- LP54 Protection of Trees and Woodland;
- LP55 Landscape Character;
- LP56 Design of New Development;
- LP58 Waterfront Design;
- LP59 Landscape Design;
- LP60 Safety and Security Through Design;
- LP63 Conserving the Historic Environment;
- LP64 Designated Heritage Assets;
- LP65 Non-designated Heritage Assets;
- LP66 Development Affecting Archaeological Sites;
- LP67 Pollution Control;
- LP69 Contaminated Land and Unstable Land; and
- LP71 Soil Conservation.

The majority of the Main Site located on the western bank of the River Aire forms part of a wider site allocated for employment use, as illustrated in the Policies Map 2024 (Northern Area) and as identified in the Wakefield LP (Volume 2) as “Land at Ferrybridge C Power Station, Stranglands Lane, Ferrybridge, Knottingley”, reference “ES04”. The latter states the following (our bold emphasis added):

*“This site [i.e. ES04] was allocated as an Employment Zone in the Local Development Framework Site Specific Policies Local Plan 2012 as it was a site that was in established employment use. However, following the closure and decommissioning of the Ferrybridge C Power Station, a significant area of the land at Ferrybridge will be declared surplus to operational requirements and will be available for redevelopment. These areas of the site provide an important inward investment opportunity that benefits from access to the rail network. Available areas within the site shall be developed for employment uses (E(g)(ii) Research and development of products or processes, E(g)(iii) Industrial processes, B2 General Industrial and B8 Storage and Distribution) which could include advanced manufacturing. **Large areas of the site are likely to remain primarily associated with power generation, including the generation of renewable energy, and this use will be generally supported in the established areas of the site.**”*

ES04 also sets out the expectation that proposals shall have regard to the Knottingley and Ferrybridge Masterplan 2020⁴.

North Yorkshire Council – Local Planning Policy

5.3.4. Local Planning Policy – North Yorkshire Council

The Proposed Pipeline Corridors which extend eastwards from the eastern bank of the River Aire fall within the administrative area of NYC. The new unitary council for North Yorkshire became the local planning authority for the area previously covered by the eight local planning authorities comprising: Selby (which covered the area comprising the land corridors referred to), Craven, Harrogate, Hambleton, North Yorkshire, Richmondshire, Ryedale and Scarborough.

The North Yorkshire Consolidated Planning Policy Framework (March 2023) provides clarity on the statutory and non-statutory planning documents. The relevant adopted policies comprises:

- Selby District Core Strategy Local Plan (adopted October 2013);
- Selby District Local Plan 2005 saved policies (February 2005); and
- Minerals and Waste Joint Plan 2015-2030 (adopted February 2022)

The above also sits alongside other adopted Neighbourhood Plans (in the wider NYC administration). None cover areas within or adjoining the Proposed Development.

It is considered that these documents may be ‘important and relevant’ as defined in section 104 of the 2008 Act. The following policies will be considered:

5.3.5. Selby District Core Strategy Local Plan (October 2013) Policies

- SP1 Presumption in Favour of Sustainable Development;
- SP2 Spatial Development Strategy;
- SP3 Green Belt (a designation which covers most of the Proposed Pipeline Corridors);
- SP12 Access to Services, Community Facilities, and Infrastructure;
- SP13 Scale and Distribution of Economic Growth;
- SP15 Sustainable Development and Climate Change;
- SP16 Improving Resource Efficiency;
- SP17 Low-Carbon and Renewable Energy;

⁴ This was formally approved by Cabinet in January 2021

- SP18 Protecting and Enhancing the Environment; and
- SP19 Design Quality.

5.3.6. Selby District Local Plan (2005) (Saved Policies)

- ENV1 Control of Development;
- ENV2 Environmental Pollution and Contaminated Land;
- ENV3 Light Pollution;
- ENV4 Hazardous Substances;
- ENV27 Scheduled Monuments and Important Archaeological Sites;
- ENV28 Other Archaeological Remains;
- ENV29 Protection of Local Amenity Space;
- EMP2 Location of economic development;
- EMP3 Renewal of Industrial and business commitments;
- EMP4 Retention of established employment areas;
- EMP6 Employment development within development limits and established employment areas;
- EMP11 Exceptional Major Industrial and Business Development;
- T1 Development in Relation to the Highway Network;
- T2 Access to Roads; and
- CS6 Development Contributions to Infrastructure and Community Facilities.

5.3.7. Minerals and Waste Joint Plan 2015-2030 (2022)

The Minerals and Waste Joint Plan was prepared together by NYC, City of York and North Moors National Park Authority, and adopted by NYC on 4 February 2022. The eastern land corridor which extends from the eastern bank of the River Aire does not lie within a waste management facility safeguard area however lies partly within various Minerals Safeguard Areas (MSA) relating to 'Brick Clay' (an area south of Sutton, an area south-west of Beal, and areas between Birkin and Gateforth), 'Building Stone' (approximately south, west and north-west of Byram), 'Limestone' (approximately north of Knottingley and west of Birkin), 'Coal Shallow' (approximately south of Sutton and west of Bryam) and/or 'Sand and Gravel' (approximately the eastern bank of the River Aire, east of Bryam and also surrounding Birkin and Gateforth) which cover parts of the Proposed Development Site. Therefore, the following policies may be of relevance:

- Policy S01: Safeguarded surface mineral resources;
- Policy S02: Developments proposed within Safeguarded Surface Mineral Resource areas; and
- Policy S03: Safeguarded Deep Minerals Resource areas

5.3.8. Emerging Policy (NYC)

Due to the recent the establishment of the NYC unitary authority, a North Yorkshire Local Plan will be progressed to cover the new geography and will set out where development will take place over the next 15 to 20 years, and the policies and strategies that planning applications will be considered against. It is anticipated that the first major stage of that consultation (Issues and Options) will take place in early 2025, with adoption at the end of 2028.

Notwithstanding the above, the emerging draft Local Selby Local Plan for the former Selby district area was at an advanced stage in its preparation and it was decided that it would continue. The 'Plan Area' for the draft Selby Local Plan is defined as the former Local Planning Authority area, which is contiguous with the former Selby District Council administrative boundary. The draft Selby Local Plan sets out the Council's spatial approach (for new growth up to 2040) and the policies which will be used for decision making in the former Selby district local planning authority area. Once adopted the Selby Local Plan will replace the existing Selby District Core Strategy Local Plan (2013) and the saved policies of the Selby District Local Plan (2005) for the Plan Area covering the former Selby district area.

The latest draft Selby Local Plan (Revised Publication 2024) was the subject of a 6-week consulting ending on 19 April 2024 (and fulfils the requirements set out in Regulation 19⁵) and is a revised version of the Selby Local Plan the Council proposes to formally submit to the Secretary of State for examination. The Council anticipates submission will be in the latter part of 2024, with adoption at the end of 2025. As the emerging Local Plan progresses through the plan making stage, increasing weight will be afforded to the draft policies⁶ and they are therefore a material consideration. Therefore, the following draft policies in the Revised Publication 2024 may be 'important and relevant' as defined by EN-1 (DESNZ, 2024a), particularly as the Local Plan progresses through the plan making stage:

- Policy SG1 - Achieving Sustainable Development;
- Policy SG2 - Spatial Approach;
- Policy SG4 - Development in the Countryside;
- Policy SG5 - Green Belt;

⁵ Town and Country Planning (Local Planning) (England) Regulations 2012 (as amended)

⁶ Paragraph 48 of the NPPF

- Policy SG9 – Design;
- Policy SG10 - Low Carbon and Renewable Energy;
- Policy SG11 - Flood Risk;
- Policy SG12 - Valuing the Historic Environment;
- Policy SG13 - Planning Applications and the Historic Environment;
- Policy EM3 - Economic Development;
- Policy IC1 - Infrastructure Delivery;
- Policy IC6 - Sustainable Transport, Highway Safety and Parking;
- Policy IC7 - Public Rights of Way;
- Policy NE1 - Protecting Designated Sites and Species;
- Policy NE2 - Protecting and Enhancing Green and Blue Infrastructure;
- Policy NE3 - Biodiversity Net Gain (BNG);
- Policy NE4 - Protecting and Enhancing Landscape Character;
- Policy NE5 - Protecting and Enhancing Rivers and Waterbodies;
- Policy NE6 - Protecting and Enhancing Trees, Woodland and Hedgerows;
- Policy NE7 - Air Quality; and
- Policy NE8 - Pollution and Contaminated Land.

5.4. Summary

The energy NPSs represent the principal policy documents against which the Proposed Development should be assessed. They set out a number of generic impacts and considerations relevant to the scoping of projects, and assessment principles with which applications for NSIP are expected to comply. They are therefore the main planning policy used to scope the EIA.

NPS EN-1 (DESNZ, 2024a) also sets out the government’s need case for new energy infrastructure. There is a range of evidence, including the following:

- National Infrastructure Plan (HM Treasury, 2014);
- the Clean Growth Strategy, ‘Net Zero – Opportunities for the Power Sector’ (NIC);
- the Climate Change Act 2008 (2050 Target Amendment) Order;
- The Future of Hydrogen - Seizing today’s opportunities (International Energy Agency, June 2019);

- Net Zero – Opportunities for the Power Sector (NIC, 2020);
- Energy White Paper 2020 (DESNZ and Department for Business, Energy & Industrial Strategy, 2020);
- Net Zero Strategy 2021 (DESNZ and Department for Business, Energy & Industrial Strategy, 2021);
- UK Hydrogen Strategy 2021 (DESNZ, 2021);
- Net Zero Strategy: Build Back Greener (DESNZ and Department for Business, Energy & Industrial Strategy, 2021);
- Decarbonisation Readiness Consultation 2023 (DESNZ, 2023), Powering Up Britain (DESNZ, 2023);
- National Planning Policy Framework (Department for Levelling Up, Housing and Communities and MHCLG, 2023); and
- Planning Practice Guidance (Department for Levelling Up, Housing and Communities and MHCLG, 2024)

As outlined above, it demonstrates the continued relevance and urgency of the need case set out in NPS EN-1. NPS EN-2 (DESNZ, 2024b) develops this need case and establishes the criteria by which developers should identify suitable sites and assess projects. This evidence also demonstrates clear support for hydrogen turbine based power generation, to realise a range of aims that are consistent with the NPS, as emphasised in Section 3.3.8 to 3.3.12 of the EN-1 which sets out the government's aspiration to reduce total demand through greater use of low carbon hydrogen in decarbonising the economy.

For these reasons, the Applicant considers that there is a clear and compelling national need for the Proposed Development.

A range of national and local policy and guidance is also likely to be important and relevant to the determination of the application and has been considered as part of scoping the EIA.

6. Air Quality

This section will outline the proposed approach to assessing the likely significant effects of air quality associated with construction, operation and decommissioning of the Proposed Development.

6.1. Baseline Conditions

6.1.1. Existing conditions

6.1.1.1. STUDY AREA

When considering potential impacts from the Proposed Development and identifying receptors which have the potential to be affected, the following study areas have been considered in relation to emissions to air: -

- Potential impacts from construction-related dust emissions:
 - 250m from the Site;
- Potential impacts from construction or operational-related traffic emissions:
 - 200m from roads identified as being affected in-line with Environmental Protection Environmental Protection UK (EPUK)/ Institute of Air Quality Management (IAQM) screening criteria; and,
- Potential impacts from on-site operational emissions;
 - 2km for sensitive human receptors;
 - 15km for internationally designated ecological sites (e.g. SAC, Special Protection Areas (SPA) and Ramsar sites); and
 - 2km for nationally designated ecological sites (e.g. SSSI, National Nature Reserves, LWS, LNR, Ancient Woodland).

Sensitive human receptors are located around the Site in numerous towns, including Brotherton, Byram, Ferrybridge, Airedale, Pontefract and Knottingley.

Nearby schools include:

- Brotherton & Byram Community Primary, approximately 90m north of the Proposed Pipeline Corridor North; and
- Willow Green Academy, approximately 200m south of the Main Site.

Sensitive ecological receptors are located at Fairburn and Newton Ings SSSI, approximately 2km away from the Site. There are no internationally designated sites identified within 15km of the Site.

6.1.2. Local air quality management

6.1.2.1. MAIN SITE

WMDC has declared eight AQMA within their administrative area due to the possibility of exceedances of the annual average air quality objective for NO₂, predominately as a consequence of emissions from motorway traffic. Those currently declared are:

- M1 AQMA;
- Wakefield City AQMA;
- Castleford AQMA;
- Knottingley AQMA;
- A1 AQMA;
- Pontefract AQMA;
- Featherstone AQMA; and
- Hemsworth AQMA.

Two additional AQMAs were removed in December 2020, namely the M62 and Ackworth, (Department for Environment, Food and Rural Affairs (Defra), 2024). The closest AQMAs to the Proposed Development are the Knottingley AQMA located 1.3km south east and the A1 AQMA located approximately 1.4km south (refer to Figure 3.1).

6.1.2.2. PROPOSED PIPELINE CORRIDORS

The Pipeline Corridors also pass through the former SDC area, now replaced by NYC. An additional AQMA is also located in Selby town (New Street/ The Crescent), designated by SDC in February 2016 due to consistent elevated levels of NO₂ being recorded over a number of years, primarily as a result of traffic emissions. An Air Quality Action Plan (AQAP) has been drafted by NYC for 2024-2029 (NYC, 2024). This AQMA is approximately 6km to the east of the of the Pipeline Corridor at its closest point.

Baseline, or existing, background air quality for the Pipeline Corridor will be determined from available monitoring data and Defra background air quality maps (Defra, 2024).

6.1.3. Local monitoring

WMDC monitors a number of pollutants within their administrative area, particularly the level of NO₂ surrounding busy roads, towns and city centres, and hot-spot areas. The level of NO₂ has improved over the last ten years within all designated AQMAs. The annual mean concentration of NO₂ remains below the Air Quality Objective Level (AQOL) of 40 micrograms per cubic metre air (µg³) for seven of the AQMAs, with

Wakefield City AQMA being an exception. None of the eight AQMAs within the WMDC district exceeded AQOL for particulate matter (PM_{10} or $PM_{2.5}$)⁷ (WMDC, 2023).

Selby District Council (now part of NYC) has undertaken NO_2 diffusion tube monitoring at 36 sites within and around the district. Concentrations of NO_2 have shown a downward trend observed since 2016. Two monitoring sites have recorded concentrations that exceed the annual mean NO_2 concentration ($40 \mu g m^{-3}$) but no exceedances of the annual mean concentration were recorded in 2022 (the most recent year of monitoring data).

6.1.4. Background concentrations

Baseline, or existing, background air quality at the Site will be determined using data from nearby representative automatic monitoring stations, supplemented with published local authority air quality monitoring, Defra air quality monitoring and background air quality maps, and where appropriate, data published by the UK Air Pollution Information System for ecological sites. Where possible, existing background data from other recently consented projects will be utilised.

At this time is not considered that any additional air quality monitoring is likely to be necessary however this will be agreed with stakeholders including Natural England, WMDC, NYC and the EA.

6.1.5. Future baseline

Concentrations of NO_x , NO_2 , PM_{10} and $PM_{2.5}$ are likely to decrease in future years as a result of vehicle turnover and fleet renewal, improvements in technology and the introduction of more stringent regulations and policies. Concentrations of ammonia (NH_3) are also expected to reduce over time. In order to be conservative however, sensitivity analysis will be undertaken for the future year scenario which assumes no improvement in background concentrations, relative to the assessment baseline year.

No changes relevant to the air quality baseline are anticipated within the Site. It is likely that over time with greater regulation, the emissions to air will decrease through more stringent emission limits, however for the purposes of this study, it is assumed that there will be no material changes.

⁷ airborne particles with an aerodynamic diameter of $<10\mu m$ and $<2.5\mu m$, respectively

6.2. Scope of the Assessment

6.2.1. Relevant legislation, policy and guidance

The Environment Act 2021 amended the Environment Act 1995, transposing the requirement for local authorities to review air quality within their district or borough, in order to determine where pollutant levels identified in the National Air Quality Standards (AQS) may be exceeded.

If pollutant levels in an area are likely to exceed statutory AQS objectives, then local authorities must declare an AQMA and draft an Air Quality Action Plan 7 to achieve the statutory objectives. Defra has issued technical guidance to local authorities to assist in undertaking this task.

The following guidance and information have been used to inform this air quality EIA scoping assessment:

- Environment Act 2021 (UK Government, 2021);
- EA Industrial Installations Guidelines 2023 (UK Government, 2023);
- Defra Air Quality Management Areas (Defra, 2024);
- Defra Local Air Quality Management Technical Guidance (TG22) guidance document (Defra, 2022);
- IAQM construction dust guidance (IAQM, 2024);
- EPUK / IAQM guidance Land use Planning guidance (EPUK, IAQM, 2017); and
- Department for Transport (DfT) count points (DfT, 2024).

Industrial air pollution sources are regulated through a system of operating permits or authorisations, requiring stringent emission limits to be met. This ensures that any releases to the environment are minimised or rendered harmless. Regulated (or prescribed) industrial processes are classified as Part A (1), A (2), Part B or Medium Combustion Plant processes and are regulated through the Industrial Emissions Directive (IED). The larger more polluting processes are regulated by the EA, and the smaller less polluting ones by the local authorities. Local authorities focus on regulation for emissions to air, whereas the EA regulates emissions to air, water and land.

Baseline ambient air quality refers to the concentrations of relevant substances that are already present in the atmosphere, which are present from various sources such as industrial processes, commercial and domestic activities, agriculture, traffic and natural sources.

The AQS Regulations 2010 (amended in 2016) defines the policy framework for 12 air pollutants known to have harmful effects on human health or the natural environment. The Secretary of State for the Environment has the duty of ensuring compliance with the AQS objectives (pollutant concentrations not to be exceeded by a certain date).

Some pollutants have AQS objectives expressed as annual average concentrations due to the chronic way in which they affect health or the natural environment, i.e. effects occur after a prolonged period of exposure to elevated concentrations. Other pollutants have AQS objectives expressed as 24-hour, 1-hour or 15-minute average concentrations due to the acute way in which they affect health or the natural environment, i.e. after a relatively short period of exposure. Some pollutants have AQS objectives expressed in terms of both long and short-term concentrations.

The assessment will consider potential impacts of the Proposed Development on identified human health and ecologically sensitive receptors as a result of:

- Emission of pollutants to air from vehicles associated with construction and operation;
- Construction dust and mobile plant exhaust emissions generated during construction; and
- Emission from the operational phase of the Proposed Development i.e. release of pollutants to air from the CCGT or OCGT stack during operation.

6.2.2. Construction

The Proposed Development would introduce additional vehicle movements in the study area that require screening to determine the potential for impacts on local air quality. The IAQM guidance 2024 sets out indicative criteria to trigger the initiation of an assessment of air quality of a proposed development, including changes in traffic flows measured using Annual Average Daily Traffic (AADT) flows. The criteria vary, dependent on whether or not the Site is located within or may have an impact upon an AQMA. The Design Manual for Roads and Bridges (DMRB) criteria (Highways England, 2020), indicates that 'the impact of construction activities on vehicle movements shall be assessed where construction activities are programmed to last for more than 2 years. These criteria together would be considered and agreed with WMDC and NYC, for the purposes of the assessment.

Should modelling be required, the assessment would utilise local traffic data attained during the proposed traffic and transport assessment (see Traffic and Transport – Section 8), including worst-case peak traffic numbers, fleet composition, and average vehicle speeds, to calculate emission fluxes for the above listed pollutants from each road source. The worst-case traffic scenarios would be modelled using designated HGV routes, both with and without the Proposed Development and with specific reference to the AQMA.

The construction of the Proposed Development may impact on air quality in the local area due to potential fugitive emissions of dust from demolition and construction works, and emissions from plant equipment.

6.2.3. Operation

The Proposed Development is unlikely to result in a significant increase in operational traffic to the Site, in relation to the IAQM and DMRB screening criteria, and operational traffic has therefore been scoped out of the assessment. Operational vehicle movements will similarly be screened against the EPUK/IAQM criteria for outside an AQMA to ensure that the potential for significant effects is considered.

The Proposed Development, when operational, will emit NO_x to air, for which AQS objectives have been set as part of the National Air Quality Strategy. Whilst operating on natural gas only, emissions of Carbon Monoxide (CO) will also result.

At this stage, it is assumed that SCR may be required for the CCGT and therefore has the potential for additional emissions of NH₃ to occur

Emissions of sulphur dioxide and particulates from natural gas fired power stations are considered to be negligible in terms of their potential to impact air quality, and therefore no assessment of these pollutant species is proposed.

The CCGT and OCGT will be designed to comply with the requirements of the IED 2.0 (European Commission, 2024), the Large Combustion Plant BAT Reference document (2017) and BAT Conclusions (2021), and in line with draft Guidance on Emerging Technologies guidance on NO_x Emission Limit Values (ELVs) for Combustion of Hydrogen being drafted by the Environment Agency. The CCGT and OCGT will be designed to comply with the requirements of the IED 2.0 (European Commission, 2024), the Large Combustion Plant BAT Reference document (2017) and BAT Conclusions (2021), and in line with draft Guidance on Emerging Technologies guidance on NO_x ELVs for Combustion of Hydrogen being drafted by the EA.

Released pollutants will be assessed for potential human health and habitats effects, recognising the nitrogen deposition potential of NH₃.

An atmospheric impact assessment will be undertaken for the main point source emissions, utilising air dispersion modelling to assess the impact to air quality potentially brought about through the generation and dispersion of emissions from the Proposed Development. The study will be desk-based and will assess the predicted concentrations of emitted pollutants that are potentially hazardous to human health and designated habitats sites, at identified receptors (such as residential homes, schools, designated nature sites) within the study area, as well as the potential effect on the nearby AQMA.

When considering operational plant emissions, potential impacts on ecological receptors will be assessed, including statutory designated habitat sites within 15km of the Proposed Development, and non-statutory habitat sites within 2km of the Proposed

Development, in line with EA guidance⁸. A 2km study area will be used to predict impacts at human health receptors.

The modelling will be based on ELV set by the IED, the BAT Achievable Emission Levels or from the EA's draft Guidance on Emergency Technologies guidance on Oxides of Nitrogen ELVs for Combustion of Hydrogen as appropriate based on the plant design. The modelling and assessment will be undertaken with regard to published government and non-governmental guidance, as appropriate.

The atmospheric dispersion modelling study of operational emissions will be undertaken using the Atmospheric Dispersion Modelling System (ADMS) model, currently version 6. ADMS is widely used by industry and the regulatory authorities.

The dispersion modelling study will be used to determine the most appropriate height for the CCGT and OCGT stacks based on the resultant maximum short term and long term ground level concentrations predicted.

Given that the environmental assessment proposes assessment against criteria that have been established for the protection of human health (e.g. AQS), no specific human health impact assessment is proposed for the EIA. Refer to Section 16. 'Population and Human Health' which describes the signposting appendix that will be provided to summarise the results of the assessment of environmental aspects, including air quality, relating to population and human health.

6.2.4. Decommissioning

For the purposes of assessing impacts related to decommissioning, details such as the demolition methodology and changes in traffic flows are not known at this time. However, it is expected that similar mitigation measures to those proposed for construction will be required and set out in the ES.

Potential impacts on air quality, as a result of decommissioning the Proposed Development, will not be separately assessed as part of the air quality assessment. This is on the basis that with appropriate controls implemented through the Decommissioning Environmental Management Plan (DEMP) the effects of decommissioning are likely to be similar to, or no worse than the effects from construction.

⁸ <https://www.gov.uk/guidance/air-emissions-risk-assessment-for-your-environmental-permit#screening-for-protected-conservation-areas>

6.3. Summary of matters proposed to be scoped in or out of the ES

Table 8: Summary of the scope of assessment for air quality

Matter	Construction	Operation	Decommissioning
Human health effects from dust soiling	In	Out	Out
Biodiversity effects from dust soiling	In	Out	Out
Traffic Movements	In	Out	Out
Atmospheric impact assessment	In	In	Out

7. Noise and Vibration

This section will outline the proposed approach to assessing the likely significant effects of noise and vibration associated with construction, operation and decommissioning of the Proposed Development.

7.1. Baseline Conditions

As outlined in Section 2.3, the Proposed Development will be located within and in the vicinity of existing industrial facilities.

There are residential receptors and potentially sensitive ecological sites⁹ which have the potential to be impacted by noise and vibration emissions from the construction and operation of the Proposed Development.

The A1(M) is approximately 190m to the west of the Main Site and the A162 180m to the east of the Main Site. Sutton lane, Birkin Lane, Woodlane, Intake Lane and Pale Lane are within or in proximity to both Proposed Pipeline Corridors.

There are eight Noise Important Areas (NIA) within 2km of the Main Site and Proposed Pipeline Corridors (as shown in Figure 3.1 and described in Section 2.1). These include:

- NIA 6515, within Southern Pipeline Corridor, and approximately 270m east of the Main Site;
- NIA 6516, within Northern Pipeline Corridor, and approximately 670m north east of the Main Site;
- NIA 6513, approximately 1.0km south west of the Southern Pipeline Corridor, and approximately 590m south of the Main Site;
- NIA 8176, approximately 280m north of Northern Pipeline Corridor, and 920m north east of the Main Site;
- NIA 6517, approximately 550m north of the Northern Pipeline Corridor and 1.3km north of the Main Site;
- NIA 6514, approximately 1.4km south east of the Southern Pipeline Corridor and approximately 1.3km south of the Main Site;
- NIA 14503, approximately 2km south west of the Main Site;

⁹ Consideration of noise and vibration impacts on relevant species sensitive to noise and vibration disturbance will be assessed in the Biodiversity and Nature Conservation chapter using data presented in the Noise and Vibration chapter.

- NIA 14396, approximately 740m south of the Southern Pipeline Corridor, and 1km south east of the Main Site; and
- NIA 10895, approximately 430m south of the Southern Pipeline Corridor, and 1.3km from the Main Site.

There are number of settlements in the vicinity of the Main Site and Proposed Pipeline Corridors, which are outlined in Section 2.3. The nearest residential receptors are adjacent to the Main Site, along Stranglands Lane (approximately 160m) and Kirkhall Lane (approximately 250m).

There are also farm properties within and in the vicinity of the Main Site and Proposed Pipeline Corridors. These include:

- Manor Farm adjacent to Kirkhaw Lane, within the Main Site; and
- Holmfield Farm and Top Farm, approximately 280m west of the Main Site.

Nearby schools include:

- Brotherton & Byram Community Primary, approximately 90m north of the Proposed Pipeline Corridor North; and
- Willow Green Academy, approximately 200m south of the Main Site.

7.1.1. Future Baseline

There is likely to be an increase of construction and operational noise with the new proposed development. Manor Farm will be demolished as part of the Mount Park development, which also includes road improvements and noise barrier installation along Kirkhaw Lane. The Mount Park Development will also include a rise in HGV use within proximity to the Main Site.

7.2. Scope of the Assessment

Baseline noise monitoring has been undertaken to inform the Ferrybridge Multifuel 1 and 2 projects¹⁰, and this will be utilised within the assessment for the Proposed Development along with supplementary information obtained to inform this EIA. It is, however, anticipated that additional monitoring will be required to reflect the specific site layout and changes that have occurred in the area. Figures 5.1 and 5.2 illustrate proposed locations for baseline noise monitoring for the Main Site and Proposed

¹⁰Enfium Energy from Waste Facilities which take waste derived fuels from various sources of municipal solid waste, commercial and industrial waste capable of contributing electricity to the National Grid.

Pipeline Corridors respectively. These proposed noise monitoring locations are to be agreed with the relevant stakeholders. The proposed noise monitoring locations include:

- ML1 – residential receptors along Willow Lane;
- ML2 – residential receptors at Hall Court;
- ML3 – residential receptors at Pollards fields;
- ML4 – residential receptors to the south of Byram;
- ML5 – farm off Sutton Lane/Birkin Lane (if residential);
- ML6 – farm to the south of Birkin Lane (if residential);
- ML7 – farm off and to the east of Roe Lane (if residential); and
- ML8 – residential receptors to the south of Gateforth.

The following potential impacts are likely to be associated with the Proposed Development:

- Noise and vibration impacts from construction;
- Construction traffic on the local road network; and
- Operational noise impacts from the Proposed Development.

Taking into consideration the low volumes of operational transport movements and based upon experience of similar projects, it is considered unlikely that trip generation during the operational phase would generate significant road traffic noise and vibration effects and it is proposed that operational traffic noise and vibration effects are scoped out, provided that such operational traffic levels are below the screening criteria set within published guidance including 'Calculation of Road Traffic Noise' (CRTN) (Department for Transport, 1988).

The scope of the noise and vibration assessment will include:

- Liaison with local planning authorities and other stakeholders to agree scope and methodology of noise assessment and the proposed baseline noise monitoring locations proposed in Figures 5.1 and 5.2;
- Assessment of the impact of predicted noise levels at the nearest noise sensitive receptors (NSR) from the construction and operation of the Proposed Development; and
- Potential impacts from noise and vibration, as a result of decommissioning the Proposed Development, will not be separately assessed as part of the noise assessment. This is on the basis that the effects of decommissioning are likely to be similar to or no worse than the effects from construction.

The noise and vibration assessment will be carried out in accordance with the following guidance:

- 'Noise Policy Statement for England' (Defra, 2010);

- Planning Practice Guidance for 'Noise' (MHCLG, 2019c);
- National Policy Statement for Energy (EN-1) (DESNZ), 2023a;
- National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4) (DESNZ, 2023a); and
- National Policy Statement for Electricity Networks Infrastructure (EN-5) (DESNZ), 2023a).

Additionally, reference will be made, but not be limited, to the following:

- British Standard (BS) 5228-1 2009+A1:2014 'Code of practice for noise and vibration control on construction and open Sites. Part 1: Noise' (British Standard Institute (BSI), 2014a);
- BS 5228-2 2009+A1:2014 'Code of practice for noise and vibration control on construction and open Sites. Part 2: Vibration' (BSI, 2014b);
- International Organisation for Standardisation (ISO) 9613-2: 1996 'Attenuation of sound during propagation outdoors. Part 2: General method of calculation' (ISO, 1996);
- ISO 9613-2: 2024 'Attenuation of sound during propagation outdoors. Part 2: Engineering method for the prediction of sound pressure levels outdoors' (ISO, 2024);
- BS 4142: 2014+A1:2019 'Methods for rating and assessing industrial and commercial sound' (BSI, 2014c);
- BS 7385: 1993 'Evaluation and measurement for vibration in buildings' (BSI, 1993)
- BS 6472: 2008 'Guide to evaluation of human exposure to vibration in buildings' (BSI, 2008);
- Control of Pollution Act 1974 (as amended);
- CRTN (Department for Transport, 1988); and
- Highways Agency (2020) DMRB Volume 11 Section 3 Part 7 LA 111 (Revision 2) Noise and Vibration.

Noise levels associated with enabling and construction works will be calculated (at chosen sensitive receptors) using the data and procedures given in BS 5228. The need for prediction of vibration levels will be further considered depending upon the types of activities required but specifically the effects of piling and trenching activities – if required – will be considered. Additionally, noise increases at sensitive receptors due to any construction traffic on public roads will be calculated according to the methods given in CRTN. The assessment of construction works will include the electrical, water and gas connections.

The operational noise impact of the Proposed Development will be predicted using computer noise modelling software, based on information on plant layout, and the

operating conditions and the levels of noise generated by plant items and vehicles. The modelling software enables a detailed implementation of the proposed equipment and buildings, existing surrounding buildings and ground features. The software implements the methodology in ISO 9613-2 for the calculation of noise levels from industrial sources.

The significance of the noise impact of the Proposed Development during operation will be assessed using the method given in BS 4142 and potentially World Health Organisation (WHO) guidance (WHO, 1999, 2009 and 2018). BS 4142 provides a method for rating the acceptability of increases in existing noise levels at NSR affected by noise from industrial sources at proposed developments, and the WHO guidance provides information regarding assessment of sleep disturbance. Further details of the approach will be discussed and agreed as required with the local authority.

Additionally, the potential for tonal, impulsive and irregular characteristics of the noise emissions from the Proposed Development will be considered and assessed against the prevailing noise climate at the NSR.

The construction of the Proposed Development may have an impact on traffic flows on local roads around the Site. The change in road traffic noise levels, at a selection of relevant NSR, will be predicted using the standard methodology outlined in the CRTN. The predictions will be based on baseline and with-development traffic data provided as part of the proposed traffic and transport assessment (see Section 8: Traffic and Transport).

The significance of changes in construction road traffic noise levels will be assessed based on a range of relevant guidance including the DMRB.

Potential impacts on noise and vibration, as a result of decommissioning the Proposed Development, will not be separately assessed as part of the noise and vibration assessment. This is on the basis that with appropriate controls implemented through the DEMP the effects of decommissioning are likely to be similar to, or no worse than the effects from construction.

7.3. Summary of matters proposed to be scoped in or out of the ES

Table 9: Summary of the scope of assessment for noise and vibration

Matter	Construction	Operation	Decommissioning
Noise & Vibration from construction at sensitive receptors	In	n/a	Out
Construction Traffic Noise on local road network	In	n/a	Out
Construction Traffic Vibration	Out	n/a	Out
Operational noise at sensitive receptors	n/a	In	Out
Operational Vibration	n/a	Out	Out
Operational Traffic Noise & Vibration	n/a	Out	Out

8. Traffic and Transport

This section will outline the proposed approach to assessing the likely significant effects of traffic associated with construction, operation and decommissioning of the Proposed Development.

8.1. Baseline Conditions

There are several potential road traffic access routes to the Proposed Development from the Strategic Road Network (SRN).

Access to the Main Site during the construction phase for HGV construction traffic would be via the existing trunk and local road networks - these are the A162 Ferrybridge Bypass and the B6136 (Stranglands Lane). It is assumed that all HGV movements would ultimately be routed via the M62 Junction 33, then along A162/ B6136.

The study area will comprise these main highway links and the public transport, cycle and walking provision within the immediate vicinity of these links. The main characteristics of each highway link are summarised below (and shown on Figure 2):

A162 Ferrybridge Bypass

The bypass is a dual carriageway which connects the A1246 from Fairburn to the A1. It runs to the east of Ferrybridge and to the west of Knottingley. A count undertaken in 2021 indicates that Annual Average Daily Flows at a point north of the junction with the B6136 are 16,335 vehicle;

B6136 (Stranglands Lane)

Stranglands Lane is a 30mph road which has pedestrian footpaths at both sides and a bus stop. It connects Castleford to the A646 and Headlands Lane in Knottingley; and

M62 Junction 33

The M62 is a three-lane motorway. To exit at Junction 33, the Proposed Development's traffic will take the slip road and turn right at the Ferrybridge interchange roundabout. A count undertaken in 2023 indicates that Annual Average Daily Flows at a point west of junction 33 are 68,525 vehicles.

Access to the Proposed Pipeline Corridors is under design development and not known at this time. These will be subject to environmental and technical assessments.

Construction traffic to/from the Proposed Pipeline Corridors will utilise the SRN and A-roads as far as practicable.

8.1.1. Cycling

There are no National Cycle Routes (NCRs) that have an interface with the highway links that form the study area.

There is a Wakefield District Cycle Rides route (Route 12 – Darrington to Knottingley & Pontefract¹¹) running approximately 1km south of the Main Site which crosses the likely construction traffic route.

8.1.2. Walking

There is one PRow approximately 260m east of the Main Site, within the Southern Pipeline Corridor.

There are a number of PRow that run within both Proposed Pipeline Corridors as outlined in Table 10.

Table 10: PRow within the Study Area¹²

Public Rights of Way route code	Description
35.13/10/1	Footpath within the parish Sel – Brotherton, which runs north-south from low street to Ferry Bridge, scheduled monument. The footpath is located within the Northern Pipeline Corridor and approximately 500m east of the Main Site.
35.13/11/1	Footpath within the parish Sel – Brotherton, runs west to east parallel to Marsh Drain. The footpath is located immediately adjacent to the Southern Pipeline Corridor and approximately 650m east of the Main Site.
35.13/11/2	Footpath within the parish Sel – Brotherton, runs west to east parallel to Marsh Drain. The footpath is located

¹¹ Wakefield District Cycle Rides, Route 12 – Darrington to Knottingley & Pontefract, <https://cycling-wakefield.org.uk/wp-content/uploads/2021/04/CycleLeaflet12DarringtonKnottingleyPontefract.pdf>, accessed August 2024

¹² North Yorkshire Council (2024) PRow. Available at: https://maps.northyorks.gov.uk/connect/analyst/mobile/#/main?mapcfg=Out_and_About (accessed September 2024)

Public Rights of Way route code	Description
	crosses the boundary of the Proposed Pipeline Corridors and approximately 840m east of the Main Site.
35.13/13/3	Footpath within the parish Sel – Brotherton, east of the A162 and connects to 35.13/14/2, 35.13/11/2 and 35.13/14/1. The footpath crosses the boundary of the Southern Pipeline Corridor and is located approximately 520m east of the Main Site.
35.13/13/4	Footpath within the parish Sel – Brotherton, follows on from 35.13/13/3 and runs parallel to the River Aire. The footpath crosses the boundary with the Southern Pipeline Corridor.
35.13/14/2	Footpath within the parish Sel – Brotherton, east of the A162 and diverts from 35/13/3. The footpath crosses the boundary of the Southern Pipeline Corridor and is located approximately 660m east of the Main Site.
35.13/15/1	Footpath within the parish Sel – Byram Cum Sutton, diverts from 35.13/11/2 towards the River Aire and connects with 35.13/14/2 and 35.13/16/2. The footpath crosses the boundary of the Southern Pipeline Corridor.
35.16/1/1	Footpath within the parish Sel – Byram Cum Sutton, runs from Sutton Lane to Marsh Drain. The footpath crosses the boundary of the Northern Pipeline Corridor.
35.16/2/1	Footpath within the parish Sel – Byram Cum Sutton, runs south from Mast Village Farm along Marsh Lane and connects to 35.16/2/1 and 35.16/2/2.
35.13/16/2	Footpath within the parish Sel – Brotherton, runs north-south from Marsh Lane to the River Aire where it connects to route 35.13/13/4. The footpath crosses the boundary of the Southern Pipeline Corridor.

Public Rights of Way route code	Description
35.13/11/4	Footpath within parish Sel – Brotherton, runs north-south from Marsh Lane to the River Aire where it connects to route 35.13/13/4. The footpath crosses the boundary of the Southern Pipeline Corridor.
35.10/5/1	Footpath within parish Sel – Brotherton, runs parallel to the River Aire. The footpath crosses the boundary of the Southern Pipeline Corridor
35.10/4/1	Footpath within the parish Sel – Brotherton, runs north-south from Birkin Lane to River Aire, where it connects to the route 35.10/5/1. The footpath crosses the boundary of the Southern Pipeline Corridor.
35.10/9/2	Footpath within the parish Sel – Brotherton, partially runs parallel along Fleet drain where the footpath crosses the boundary of the Northern Pipeline Corridor.
35.10/6/2	Footpath within the parish Sel – Birkin, crosses the boundary of the Southern Pipeline Corridor.
35.10/3/1	Footpath within the parish Sel – Birkin, crosses the boundary of the Southern Pipeline Corridor.
35.10/7/1	Footpath within the parish Sel – Birkin, runs from Maspin Moor Road to Roe Lane. The footpath crosses the boundary of the Northern Pipeline Corridor.
35.10/2/1	Footpath within the parish Sel – Birkin, runs from Hillam Road to Tinklers Lane. The footpath crosses the Northern Pipeline Corridor.

8.1.3. Buses

There is public transport provision along the B6136, Castleford Lane and Pontefract Road, with a number of bus services currently operating including:

- F148 and 149 Wakefield – Knottingley;

Ferrybridge Next Generation Power Station

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- 158 Castleford Bas Station G – Knottingley;
- 406 Pontefract – Knottingley;
- 476 Selby – Pontefract;
- 493 Pontefract – Sheburn; and
- SW3 Knottingley – St Wilfrids School.

These services provide generally frequent buses throughout the day Monday-Friday.

8.1.4. Rail

A railway line previously served Ferrybridge coal fired power stations as it delivered coal. This route is currently not in use, but the infrastructure remains and could potentially be used for future industrial processes. FM1 may have the rights to utilise the railway (as part of the Ferrybridge CCS project¹³).

The closest train station is Knottingley Train Station which is approximately 1.5km south-east of the Main Site and has frequent Northern Rail operated services to Leeds (approximately every 30 minutes during the day) as follows:

- Services run between 6:00 – 23:00 between Monday and Saturday; and
- Services run between 9:00 – 22:30 No services on Sunday.

8.1.5. Water

The Site is close to the River Aire. It is unlikely that the River Aire will be utilised for the transportation of plant and equipment, however Goole Docks will be explored as a potential location for transporting goods part-way to the site via water

8.1.6. Future Baseline

The future baseline will assume the likely future conditions in the study area in the absence of the Proposed Development, which for transport will be any changes to the highway, cycle or walking networks. There are a number of junction developments and road improvement works planned within and surrounding the Main Site as part of the Mount Park development (WMDC, Ref: 23/00100/HYB). This will be considered fully in the ES as part of the future baseline section.

¹³ PINS reference – EN07010002

8.2. Scope of Assessment

Overarching EN-1 (2023) Section 5.14 (traffic and transport) is relevant to this section of the scoping report and provides detail of what should be included as part of this assessment, which includes; ensuring National Highways and Highways Authorities are consulted with pre-application; that Travel Plans are prepared; to provide good quality non-motorised user facilities as part of any new infrastructure proposed; assess any potential disruption to services and infrastructure; implement demand management measures to reduce travel before new infrastructure is proposed; ensure satisfactory arrangements for reasonably foreseeable abnormal disruption; and encourage a modal shift of freight from road to more environmentally sustainable alternatives;.

The following potential impacts may be associated with the Proposed Development:

- Generation of traffic during construction affecting the local and strategic road network;
- Generation of traffic during operation affecting the local and strategic road network;
- Generation of traffic during decommissioning affecting the local and strategic road network; and
- Interruption caused by temporary diversions to PRowS and cycle routes during construction.

Based on similar projects, it is highly likely that the construction phase will generate the highest volume of traffic movements over the lifespan of the Proposed Development.

It is anticipated that the operational phase will result in a limited number of operational roles and deliveries, including over outages. Based on experience of similar projects, it is considered unlikely that trip generation during the operational phase would generate significant traffic and transport effects. Therefore, it is proposed that operational traffic is excluded from the assessment based on the assumption that operational traffic movements will be below screening thresholds specified in published guidance. This approach would be agreed with the relevant Highways Authorities via a Transport Scoping Report.

To fully assess the impacts of the construction phase on the transport network, the main document supporting the ES Chapter would be the Transport Assessment (TA). The scope of the TA will be developed (following determination of the number of construction movements) in liaison with all relevant local and strategic highway authorities.

The scope of the TA will cover the following key areas:

- A review of national, regional and local transport policy including the National Planning Policy Framework and Local Planning Policy Documents;

- A description of baseline and future baseline conditions, including link and junction flows (described further above), a review of highway safety issues including examination of personal injury accident data and consideration of accessibility by all main transport modes;
- Calculation of construction traffic flows over the period of construction;
- Distribution and assignment of construction traffic flows to the road network, including the identification of routes for abnormal loads such as the delivery of generators, turbines, and transformers;
- Local network impact analysis – the size of the study area is to be confirmed with the local authorities and National Highways, and key junctions may be identified by these stakeholders that require detailed capacity analysis, impacts then assessed;
- Consideration of the local PRoW for leisure and commuting uses, and whether their use would be affected by the Proposed Development;
- Cumulative impact assessment – including consideration of the traffic likely to be generated by other committed and proposed developments in the study area; and
- The formulation of mitigation measures, such as a Construction Worker Travel Plan to promote sustainable journeys during the construction phase of the development and where possible reduce single occupant car journeys, and a Construction Traffic Management Plan to seek to control the routing and impact that HGVs will have on the local road network during construction.

A summary of any residual and cumulative impacts will be provided should the proposed mitigation not fully address the impact of the Proposed Development on the transport network.

The traffic and transport chapter will summarise salient points from the TA and relate the magnitude and significance of potential impacts to criteria contained in the Institute of Environmental Management and Assessment (IEMA) Guidelines – Environmental Assessment of Traffic and Movement (2023) (hereafter referred to as the ‘IEMA Guidelines’).

The IEMA Guidelines state that a link on the highway network should be included within the study if one of the following criteria is met:

- Rule 1 – Include highway links where traffic flows will increase by more than 30% (or the number of HGVs will increase by more than 30%); or
- Rule 2 – Include highway links of high sensitivity where traffic flows have increased by 10% or more.

Paragraph 2.17 goes on to state:

“It should be noted that the Rule 1 and Rule 2 ‘criteria’ process may not be appropriate for some impacts, and it is generally accepted by regulators and practitioners that it should not be applied to assessments of air quality, noise, road safety and driver delay. For these impacts, a separate study area and assessment criteria should be agreed with the relevant stakeholders.”

The IEMA Guidelines recommend that several environmental effects may be considered important when considering traffic from an individual development. The section will provide preliminary assessment of the following effects:

- Severance of communities;
- Driver delay;
- Pedestrian delay;
- Non-motorised user amenity;
- Fear and intimidation;
- Road safety;
- Road safety audits; and
- Hazardous loads/large loads.

The impacts of worker traffic and HGV traffic increases associated with the Proposed Development are fundamental to determining the effects in the above categories.

The significance of effect is determined through consideration of two elements: the magnitude of the impact and the sensitivity of the receptor.

The overall effect will be determined by measuring the magnitude of the impact following the introduction of embedded mitigation measures (where applicable) against criteria including the predicted increase in traffic, the type and sensitivity of the receptor, and the type of impact. Effects are defined as beneficial or adverse, with effects further defined using the following classifications:

- Minor – slight, very short, or highly localised impact of no significant consequence;
- Moderate – limited impact (by extent, duration or magnitude) which may be considered significant; and
- Major – considerable impact by extent, duration or magnitude) of more than local significance, or in breach of recognised acceptability, legislation, policy or standards.

In order to understand traffic flows on highway links within the study area, existing data from the Department of Transport, the local highway authority, National Highways, and/or or recent applications in the area which include traffic surveys, may be utilised. Where data is not available, or deemed out of date/unsuitable for use, traffic surveys will be undertaken to determine the baseline traffic conditions of the surrounding highway

network in the study area. The extent of the traffic data and scope for any traffic surveys that may be required will be agreed with the local highway authority and National Highways. Proposed traffic count locations for accesses to the Main Site are shown in Figure 6. The proposed traffic count locations are to be agreed with the relevant stakeholders.

AADT flows will be derived from the survey data to enable baseline traffic flows to be established at the required design years.

As construction traffic flows are not yet known, it is not possible at this stage to scope out any elements of the traffic and transport assessment, other than road user and pedestrian safety. This is because the Proposed Development is not expected to result in changes which could significantly affect accidents and safety during construction because it is an explicit requirement of the highway authorities that any planning application proposals do not unacceptably increase safety risks. Road Safety will however be considered in the TA as appropriate and reported in that separate document.

Potential impacts on traffic and transport, as a result of decommissioning the Proposed Development, will not be separately assessed as part of the traffic and transport assessment. This is on the basis that with appropriate controls implemented through the DEMP the effects of decommissioning are likely to be similar to, or no worse than the effects from construction.

8.3. Summary of matters proposed to be scoped in or out of the ES

Table 11: Matters to be scoped in or out of the ES for traffic and transport

Matter	Construction Assessment	Operational Assessment	Decommissioning Assessment
Severance	In	Out	Out
Road Vehicle driver and passenger delay	In	Out	Out
Non-motorised user delay	In	Out	Out
Non-motorised user amenity	In	Out	Out
Fear and intimidation	In	Out	Out

Matter	Construction Assessment	Operational Assessment	Decommissioning Assessment
Road user and pedestrian safety	Out	Out	Out
Road Safety Audits	In	Out	Out
Hazardous/large loads	In	Out	Out

9. Biodiversity and Nature Conservation

This section will outline the proposed approach to assessing the likely significant effects on biodiversity and nature conservation associated with construction, operation and decommissioning of the Proposed Development.

9.1. Baseline Conditions

Information on nature conservation designations in the vicinity of the Proposed Development has been provided in Section 2.4.3 and is not duplicated here (refer also to Figure 1.3).

9.1.1. Main Site

The prevailing semi-natural habitat (i.e. excluding hard landscaping) present within the Main Site (including land need for linkages to the Proposed Pipeline Corridors located to the east of the River Aire) comprises 'vacant land' which is defined (UKHab, 2023) as land disturbed by previous development but currently not in use, and which may support early stages of recolonisation by ruderal vegetation. In this case, the vacant land has originated following the demolition and clearance of the former Ferrybridge C Power Station. Other habitats present, which coincide with former soft landscaping and the boundaries of the former Ferrybridge C Power Station, are species-poor 'modified' grassland, former ornamental plantings of trees and scrub, and other stands of semi-natural scrub and woodland (broad-leaved and mixed types).

The River Aire, which is under consideration as an option for cooling water abstraction and discharge, flows along the eastern boundary of the Main Site and is a large lowland river with narrow marginal strips of riparian woodland. Some of this woodland, whilst relatively young and of secondary origin, conforms to the 'Lowland Mixed Deciduous Woodland' priority habitat type listed on Section 41 of the Natural Environment and Rural Communities Act. The river and parts of its riparian woodland are identified by WMDC as contributing to the WHN. No other habitats coinciding with the Proposed Development form part of the WHN.

The above habitat context restricts the potential for protected species to occur, and survey work has been instructed to investigate this further. Breeding bird surveys completed at the Main Site in 2024 recorded a limited suite of common bird species associated with the limited areas of woody vegetation, and also little ringed plover (*Charadrius dubius*).

Survey work in 2024 also confirmed that great crested newt (*Triturus cristatus*) and badger (*Meles meles*) are absent and would not be affected. There are no trees or structures suitable for use by bats for roosting.

The River Aire could support additional relevant species. Previous surveys in 2017 have recorded otter (*Lutra lutra*) (transitory use only), although the bank structure at that time did not afford opportunities for refuge. This is to be investigated again in 2024 using a boat to inspect the banks (given that viewpoints and safe access are restricted at bank-top).

Prior fish surveys of the River Aire in 2017 recorded a resident fish assemblage typical of the habitat conditions present. Fish monitoring data published by the EA also indicates the presence of European eel (*Anguilla anguilla*), a migratory species. In 2017, the River Aire was sub-optimal for other migratory fish due to barriers, particularly weirs, to fish movement being present upstream and downstream on the River Aire. This is no longer the case and it is now assumed that other migratory fish, i.e. salmon (*Salmo salar*) and river and sea lamprey (*Lampetra fluviatilis* and *Petromyzon marinus* respectively) can now move along the River. The former barriers have been removed or bypassed through the 'Developing the Natural Aire project' which was completed between 2019 and 2023, and the River Aire can now be accessed by migratory fish species to reach breeding habitat in the headwaters of the catchment.

Any response by migratory fish at the time of assessment of the Proposed Development (in 2024/25) to the removal of barriers will be small and unlikely to be representative of the future baseline at operation of the Proposed Development, given work to remove barriers was only completed in 2023. As such, the Proposed Development would be assessed and designed based on the assumption that migratory fish species could be present at construction, and that the River Aire will have an elevated importance for migratory fish species during the operation period of the Proposed Development.

Plant invasive non-native species (INNS) (also known as 'controlled weeds') recorded in 2024 comprised a knotweed species (*Reynoutria* sp.) (treated with herbicide), floating pennywort (*Hydrocotyle ranunculoides*), Himalayan balsam (*Impatiens glandulifera*) and Japanese rose (*Rosa rugosa*).

9.1.2. Proposed Pipeline Corridors

The Proposed Pipeline Corridors to the east of the River Aire cross an agricultural landscape prevailingly used for the production of cereal, maize and oilseed rape crops, and more locally sugar beet and vegetable crops. The fields are generally large, with boundaries delineated mostly by ditches (both dry and wet), but at some locations also by mature trees and native, species-rich and/or important hedgerows. Other habitats present more locally include mixed scrub, Lowland Mixed Deciduous and other woodland, species-poor modified grassland, and tall ruderal vegetation.

Ponds within 500m of the Proposed Pipeline Corridors were screened for the potential for great crested newt to occur and pose a constraint, and then relevant ponds were

surveyed for great crested newt in 2024. The survey detected this species in one pond, with all of the other ponds surveyed in 2024 returning a negative result.

Trees supporting features suitable for bat roosts were found in 2024, but these are very localised in occurrence and it is anticipated that most could be avoided.

Previous survey work in 2017 recorded the following protected and notable species badger, barn owl (*Tyto alba*) and otter (transitory use only). The habitats present remain suitable for these species, as well as for a variety of bird species typical of the lowland farmland landscape and woodland (further information is provided as Appendix A.1). The wetter ditches are suitable for water vole (*Arvicola amphibius*), although it was not found in the ditches surveyed for this species in 2017.

Plant INNS detected through survey comprise giant hogweed (*Heracleum mantegazzianum*), Himalayan balsam, Japanese knotweed, waterweeds (*Elodea* spp.), variegated yellow-archangel (*Lamium galeobdolon* subsp. *argentatum*) and rhododendron (*Rhododendron ponticum*).

9.2. Scope of the Assessment

The following potential impacts may be associated with the Proposed Development:

- Permanent loss of habitats within the Main Site and Proposed Pipeline Corridors during construction. This would be largely confined to the Main Site;
- Temporary impacts (direct or indirect) on habitats within or adjacent to the Main Site and Proposed Pipeline Corridors during construction and decommissioning, including the majority of the land that would be affected by the Proposed Pipeline Corridors;
- Disturbance and displacement of protected species during construction and decommissioning, including underwater sound effects on fish if a cofferdam(s) is required in the River Aire for upgrade of water abstraction or discharge infrastructure;
- Impingement, entrainment and water quality (including thermal) impacts on fish and aquatic invertebrate species if there is cooling water abstraction and/or discharge from/to the River Aire; and
- Air quality and lighting impacts on ecological receptors in the vicinity of, and/or downwind of, the Main Site during operation.

Potential impacts on relevant ecological receptors will be assessed in accordance with good practice including Guidelines for Ecological Impact Assessment in the UK and Ireland (Chartered Institute of Ecology and Environmental Management, 2022). This will also include assessment of conflicts and compliance with relevant legislation and policy.

Any requirements for impact avoidance and mitigation to remove or reduce potential for significant ecological effects will be identified. Proposals for ecological enhancement will also be made.

As outlined in the Air Quality and Noise and Vibration sections of this report (Sections 6 and 7), the Proposed Development will result in emissions to air, and (particularly during construction) noise and potentially vibration. Potential air quality impacts on relevant statutory and non-statutory nature conservation designations will be described in the Air Quality impact assessment, with additional consideration and assessment in the Biodiversity and Nature Conservation chapter if needed. Similarly, consideration of impacts on relevant species sensitive to noise and vibration disturbance will be made, using data presented in the Noise and Vibration chapter, with the results presented in the Biodiversity and Nature Conservation chapter.

A summary of the existing ecological data and the ecological surveys (with timescales) proposed to be undertaken to facilitate an assessment of the likely effects of the Proposed Development on designated sites, habitats and protected/ notable species is provided in Table 12.

Ecological features that are proposed to be scoped out are covered in Section 19.2.

Potential impacts on biodiversity and nature conservation, as a result of decommissioning the Proposed Development, will not be separately assessed as part of the biodiversity and nature conservation assessment. This is on the basis that with appropriate controls implemented through the DEMP the effects of decommissioning are likely to be similar to, or no worse than the effects from construction.

Table 12: Proposed ecological desk-based assessments (DBA) and surveys to inform the ecological impact assessment for the Proposed Development

Study/ Survey	Scope	Location	Progress to date
Desk Study	<p>Online data search and purchase of records from the North and East Yorkshire Ecological Data Centre (NEYEDC) and the BTO.</p> <p>Minimum 2km radius for protected species records and notable habitats, 2km for local nature conservation</p>	Main Site and Proposed Pipeline Corridors.	Completed in Summer 2024 to inform the Preliminary Ecological Appraisal (PEA) report, and subsequent impact assessment.

Study/ Survey	Scope	Location	Progress to date
	<p>designations, and 15km (from the Main Site) for national and international nature conservation designations. This scope meets the data needs for the air quality impact assessment.</p>		
PEA/habitat survey	<p>UKHab survey to identify all habitats within the Proposed Development Site. Screening of habitats for the potential for protected and notable species to occur. It will also include a site condition assessment of all discrete habitat parcels to inform a future BNG assessment.</p>	Main Site and Proposed Pipeline Corridors	<p>Survey commissioned and work ongoing as land access permission is obtained.</p> <p>Comparable surveys in 2017 have also informed the screening and understanding of likely protected species constraints, allowing some surveys to progress before the PEA is completed.</p>
Aquatic invertebrate (including INNS)	<p>Boat-based survey to determine the baseline interest of the River Aire and also assess the risk posed by any invertebrate INNS present within the river. Data to be collected to</p>	River Aire in the vicinity of the existing cooling water intake and outfall at the Main Site	Work commissioned and scheduled for September 2024 (survey not possible in Spring 2024 due to the

Study/ Survey	Scope	Location	Progress to date
	coincide with the upper (cooling water intake) and lower (cooling water discharge) extent of the Proposed Development.		lack of boat access to the river)
Badger	All habitats within the Proposed Development Site and immediate surrounds (to a maximum distance of 50m out, where accessible).	Main Site and Proposed Pipeline Corridors	Survey commissioned and work ongoing as land access permission is obtained.
Bats - roosts	Ground level preliminary roost appraisal to identify potential constraints to inform iterative design. If impacts cannot be avoided, follow-up roost investigation surveys would be completed.	Main Site and Proposed Pipeline Corridors	Ground level preliminary roost appraisal commissioned and work ongoing as land access is obtained.
Birds - breeding	<p>Targeted survey for breeding birds at locations of substantive permanent habitat loss. Searches for breeding activity by specifically protected bird species e.g. little ringed plover (<i>Charadrius dubius</i>). Five breeding bird surveys between April and July.</p> <p>Land access not available for Proposed Pipeline Corridors in Spring 2024 and otherwise a breeding</p>	Main Site	Completed between April and July 2024

Study/ Survey	Scope	Location	Progress to date
	<p>bird survey was not considered proportionate (refer to Section 19 and Appendix A.1). Further investigation for barn owl would be completed if suitable nest sites are identified.</p>		
<p>Botanical Surveys</p>	<p>Targeted botanical surveys of higher quality habitats (where confirmed as present through PEA) to provide adequate baseline for future BNG assessment. To encompass:</p> <ul style="list-style-type: none"> • Hedgerows (including Important hedgerow survey) • Grasslands (if of potential botanical interest and likely to be adversely affected) • Ditch survey (if of potential botanical interest and likely to be meaningfully affected) • Modular River Physical survey 	<p>Main Site and Proposed Pipeline Corridors</p>	<p>Survey commissioned and work ongoing as land access permission is obtained.</p>
<p>Fish</p>	<p>Boat-based environmental DNA (eDNA) survey of the River Aire in the vicinity of the proposed water abstraction and discharge.</p>	<p>River Aire in the vicinity of the existing cooling water intake and</p>	<p>Work commissioned and scheduled for September 2024 (survey not</p>

Study/ Survey	Scope	Location	Progress to date
	<p>eDNA survey has been demonstrated to be less intrusive and more effective than traditional fish survey techniques.</p> <p>Third party data on fish would also be collected and reviewed e.g. monitoring data published by the EA.</p>	outfall at the Main Site	possible in Spring 2024 due to the lack of boat access to the river)
Great crested newt	<p>eDNA survey and population size class assessment survey of four ponds associated with the Main Site, and eDNA survey of ponds within 250m of Proposed Pipeline corridors (with a wider screening of risks associated with ponds at up to 500m distance from the Proposed Development Site).</p> <p>Given the temporary nature of the works, population size class surveys have not been undertaken and land access was not available (refer to Section 19).</p>	Main Site and Proposed Pipeline Corridors	Completed by end of June 2024
INNS	<p>To cover plant INNS, and also aquatic INNS that could pose a constraint to use of the River Aire as the cooling water supply. All habitats within the Proposed Development Site, and</p>	<p>Main Site and Proposed Pipeline Corridors</p> <p>River Aire in the vicinity of the existing cooling</p>	<p>Survey commissioned and work ongoing as land access permission is obtained.</p>

Study/ Survey	Scope	Location	Progress to date
	<p>immediate surrounds to place Site into context (to a maximum distance of 50m out, where accessible).</p> <p>Aquatic INNS associated with the River Aire will be addressed at the time of the boat survey.</p>	<p>water intake and outfall at the Main Site</p>	
Otter	<p>Survey for potential refuge sites and field signs from bank top and also through a boat survey. All accessible habitats within 100m of the cooling water intake and outfall infrastructure on the River Aire.</p>	<p>Main Site River Aire in the vicinity of the existing cooling water intake and outfall at the Main Site</p>	<p>Survey of Main Site completed. River Aire to be surveyed at time of fish survey.</p>
Water vole	<p>Surveys of suitable ditches if impacts cannot be avoided within 5m of the ditches. Land access not available to Proposed Pipeline Corridors to permit survey in Spring 2024.</p>	<p>Main Site and Proposed Pipeline Corridors</p>	<p>Survey commissioned, work to progress after a review of impact avoidance options.</p>

9.2.1. Habitats Regulation Assessment

There are no Habitats Sites (formerly referred to as European Sites, encompassing SACs, SPAs or Ramsar sites) within 15km of the Main Site (the source of operational emissions to air, which is the only impact pathway needing assessment to such a large distance), or within 5km of the Proposed Pipeline Corridors (the latter being an overly precautionary distance for identification of Habitats Sites of potential relevance to the construction of this infrastructure). No adverse impacts are therefore anticipated, due to there being no likely source-receptor pathways by which impacts might occur.

On this basis, a Habitat Regulations Assessment is not considered necessary and agreement is sought that this can be formally scoped out.

9.2.2. Biodiversity Net Gain (BNG) Assessment

A BNG assessment will be provided that complies with the requirements specified for NSIPs if these have been published at the time of application (no guidance has been published as of late August 2024 and the Government has indicated that the statutory regime is unlikely to come into force for terrestrial NSIPs before November 2025). In the absence of specific guidance then the proposed approach is to provide a BNG assessment which aligns with the BNG regime for Town and Country Planning Act 1990 (TCPA) planning applications.

The BNG regime for planning applications requires that applicants submit a baseline BNG assessment with their planning application. A full BNG assessment, which would also consider the measures needed to achieve 10% BNG, is not proposed to accompany the DCO application given that this is only mandatory for planning applications after determination as a pre-commencement requirement. This is considered a proportionate approach given the defined low sensitivity of the habitat comprising the majority of the Main Site (vacant land), and because (with the anticipated sensitive design) most of the habitat impacts along the Proposed Pipeline Corridors are anticipated to be definable as temporary (restorable within 2 years) and therefore would not need to be accounted for within the BNG calculations.

The baseline BNG assessment will be made utilising the iteration of the Statutory Biodiversity Metric (Defra, 2023) that is current at the time of assessment.

9.3. Summary of matters proposed to be scoped in or out of the ES

Table 13: Summary of the scope of assessment of Biodiversity and Nature Conservation

Matter	Construction	Operation	Decommissioning
Permanent and temporary habitat loss and disturbance	In	Out	Out
Emission and deposition of nitrogen and other relevant pollutants on sensitive habitats and	In	In	Out

Matter	Construction	Operation	Decommissioning
nature conservation designations			
Disturbance and displacement of protected and notable terrestrial and aquatic species, including consideration of indirect noise and lighting effects	In	In	Out
Injury or mortality of fish as a result of cooling water abstraction and/or discharge	Out	In	Out

10. Water Environment and Flood Risk

This section will outline the proposed approach to assessing the likely significant effects on the water environment and flood risk associated with construction, operation and decommissioning of the Proposed Development.

10.1. Baseline Conditions

For the purposes of the water environment assessment, an initial study area of approximately 1km from the Site has been considered in order to identify surface and groundwater receptors that could reasonably be affected by the Proposed Development. The study area will be reviewed as the design develops and initial assessments are undertaken.

The Site and an initial 1km study area surrounding this lies within the extensive floodplain of the River Aire. The Site is generally low lying with an average Above Ordnance Datum (AOD) of 13.5 AOD. Beyond the current Ferrybridge Site, land use comprises urban areas and arable farming.

10.1.1. Groundwater and Hydrogeology

10.1.1.1. THE SITE

According to the Multi-Agency Geographical Information for the Countryside (MAGIC) online maps, the majority of the bedrock (Cadeby Formation, Brotherton Formation and Sherwood Sandstone) beneath the Site is classed as Principal with some bedrock (the Roxby and Edlington Formations) classed as Secondary B¹⁴. Principal aquifers are “designated by the EA as strategically important rock units that have high permeability and water storage capacity and are based on geological mapping provided by BGS”. Secondary B aquifers are ‘predominantly lower permeability layers which may store and yield limited amounts of groundwater due to localised features such as fissures, thin

¹⁴ MAGIC (2024). Available at:

<https://magic.defra.gov.uk/MagicMap.aspx?chosenLayers=aqbedrock,aqdrift,backdropDIndex,backdropIndex,europeIndex,vmlBWIndex,25kBWIndex,50kBWIndex,250kBWIndex,miniscaleBWIndex,baseIndex&box=-596566:-83527:1410471:1316473&useDefaultbackgroundMapping=false> (Accessed 14 August 2024).

*permeable horizons and weathering. These are generally the water-bearing parts of former non-aquifers.*¹⁵.

The Superficial deposits across the Site are classed as Secondary A aquifers, with the exception of the Harrogate Till which is designated Secondary undifferentiated (aquifers where it is not possible to apply either a Secondary A or B definition because of the variable characteristics of the rock type, with a minor value). Secondary A aquifers are *'permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers.'* Secondary A aquifers are *'permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers.'*¹⁵.

According to the EA's online Catchment Data Explorer website¹⁶, groundwater beneath the Site sits across two groundwater bodies including:

- Aire & Don Magnesian Limestone; and
- Aire & Don Sherwood Sandstone.

The Proposed Development is not located within a SPZ, although two SPZ1s are located within the study area (north of Knottingley and northeast of Byram), whilst a small area to the northeast of the study area overlaps an SPZ3. This is shown on Figure 3.1.

10.1.1.2. MAIN SITE

According to the British Geological Survey (BGS), the Main Site is underlain by bedrock of the Cadeby Formation – Dolostone.

The entirety of the Main Site is underlain by the 'Aire & Don Magnesian Limestone' (ID: GB40401G700900) groundwater body. This water body has a surface area of approximately 221.8 kilometres squared (km²) and currently has a poor overall status (due to water quality).

¹⁵ EA (2024) 'Protect groundwater and prevent groundwater pollution'. Available at: <https://www.gov.uk/government/publications/protect-groundwater-and-prevent-groundwater-pollution/protect-groundwater-and-prevent-groundwater-pollution#:~:text=secondary%20B%20aquifers%20are%20mainly,and%20openings%20or%20eroded%20layers> (Accessed 14 August 2024).

¹⁶ EA (2023) 'Explore Catchment Area'. Available at: <https://environment.data.gov.uk/catchment-planning> (Accessed 14 August 2024).

10.1.1.3. PROPOSED PIPELINE CORRIDORS

The Proposed Pipeline Corridors are underlain by bedrock of the Edlington Formation – Calcareous Mudstone, the Brotherton Formation – Dolomitic Limestone, the Roxby Formation – Calcareous Mudstone, and the Sherwood Sandstone Group - Sandstone¹⁷.

Above this, superficial deposits consist of Glaciofluvial Deposits (sand and gravel), Brighton Sand Formation (Sand) and Alluvium (clay, sand, silt and gravel) along the course and immediate margins of the River Aire and the Hemingborough Glaciolacustrine Formation (Clay and Silty) surrounding the AGI on the Gas Transmission System. Harrogate Till is also encountered in a small area southeast of the Sutton Sewage Treatment Works.

The northeast of the study area (northeast of the Proposed Pipeline Corridors) also overlaps the Wharfe & Lower Ouse Sherwood Sandstone.

The eastern portion of the Proposed Pipeline Corridors, towards the AGI on the Gas Transmission System, is underlain by the 'Aire & Don Sherwood Sandstone (ID: GB40401G701000) groundwater body. This groundwater body has a surface area of approximately 303.2km² and is currently at poor overall status due to both water quantity and quality reasons (EA, 2023).

10.1.2. Surface Water Bodies

10.1.2.1. MAIN SITE

The River Aire is located to the north east and east of the Main Site and Fryston Beck, a tributary of the River Aire, is partially culverted beneath the Main Site. There are a number of other watercourses located either on or in close proximity to the Main Site including surface water ponds in the north of the Site, and surface water drains to the south and east.

10.1.2.2. PROPOSED PIPELINE CORRIDORS

There are a number of Lead Local Flood Authority and Selby Area Internal Drainage Board watercourses, land drains and ditches, crossing the Proposed Pipeline Corridors including Marsh Drain, Main Drain, Old Eye, The Fleet, Maspin Moor Drain and Brotherton Ings.

¹⁷ British Geological Society (2024) 'GeoIndex (Onshore)'. Available at: <https://www.bgs.ac.uk/map-viewers/geoindex-onshore/> (Accessed 14 August 2024).

According to the EA online Catchment Data Explorer (2023)¹⁶, the Proposed Development crosses four Water Framework Directives (WFD) catchments within the Humber River Basin District (RBD) including:

- Aire from Wyke Beck to Fryston Beck (GB104027063036), where the Main Site is located. This water body has a catchment water area of 59.4km² and is heavily modified with a moderate ecological status;
- Aire from Fryston Beck to River Ouse (GB104027063037). This water body has a catchment area of approximately 92.15km² and is heavily modified with a moderate ecological status;
- The Fleet from Source to River Aire (GB104027062740). This water body has a catchment area of approximately 13.4km² and is currently at moderate ecological status; and
- Ouse from River Wharfe to Upper Humber (GB104027064270). This water body has a catchment area of 87.8km² and is currently at moderate ecological status¹⁵.

The New Fleet Drain from source to River Went water body is within the study area of the Proposed Development (south of the Aire, and the Proposed Development).

10.1.3. Designations

There are no known surface water bodies with designations for nature conservation importance in hydrological connectivity to the Site.

10.1.4. Flood Risk

10.1.4.1. MAIN SITE

The EA Flood Map identifies the entire Main Site where the CCGT and OCGT will be located is in Flood Zone 1, although the northern and eastern boundaries of the Site are adjacent to Flood Zone 2 and Flood Zone 3. This is shown on Figure 3.2.

10.1.4.2. PROPOSED PIPELINE CORRIDORS

Both Proposed Pipeline Corridors are located predominantly in areas of Flood Zones 2 and 3, with the southern option almost entirely within Flood Zone 3. The AGI on the Gas Transmission System is located predominantly within Flood Zone 3 with smaller areas

within Flood Zone 2 (as shown in Figure 3.3). The definition of these flood zones according to the National Planning Policy Guidance¹⁸ are:

- Flood Zone 1 is land that has a low probability of flooding (less than 1 in 1000 annual probability of river or sea flooding (<0.1%));
- Flood Zone 2 is land that has a medium probability of flooding (between 1 and 100 and 1 in 1000 annual probability of river flooding (0.1-1%)), or between 1 in 200 and 1 in 1,000 annual probability of sea flooding (0.1-0.5%); and
- Flood Zone 3 is land assessed as having a 1 in 100 or greater annual probability of river flooding (>1% AEP), or a 1 in 200 or greater annual probability of flooding from the sea (>0.5% AEP) in any year.

Land surrounding the River Aire benefits from flood defences¹⁹.

10.1.5. Future baseline

The water environment and flood risk chapter within the PEI Report and ES will consider changes which may affect the future water environment in the absence of the Proposed Development. The future baseline will also take into account any developments that are likely to be present in the future baseline.

It is expected that the current water environment would remain relatively consistent and that it would continue to be managed in a similar way, with the value of receptors present not expected to change significantly by the end of the construction period.

Any short-term effects from climate change would be unlikely to significantly alter the receptors prior to construction of the Proposed Development. Longer term impacts from climate change could alter the quantity and quality of the water bodies and dependent receptors. Any mitigation proposals would take consideration of climate change scenarios. The Flood Risk Assessment (FRA) will consider future climate change scenarios as per relevant guidance.

10.2. Scope of Assessment

The Proposed Development has the potential to have direct and indirect impacts on water quality and resources, flood risk, and the physical form and hydromorphology of

¹⁸ Department for Energy Security and Net Zero (DESNZ) (2024) 'National Policy Statement for natural gas supply infrastructure and gas oil pipelines (EN-4)'. Available at: <https://www.gov.uk/government/publications/national-policy-statement-for-natural-gas-supply-infrastructure-and-gas-and-oil-pipelines-en-4> (Accessed 14 August 2024).

¹⁹ UK Government (2024) 'Get flood risk information for planning in England'. Available at: <https://flood-map-for-planning.service.gov.uk/> (Accessed 14 August 2024).

water features. Other potential sensitive uses of local water resources and waterways (e.g. navigation or recreation) could also be adversely impacted (subject to confirmation of use).

Furthermore, any impacts on water quality and resources can also have secondary adverse impacts on ecological species and habitats, which will be considered in the assessment for Biodiversity and Nature Conservation. Such impacts may be direct (i.e. where there are well defined hydrological pathways between the Proposed Development and the receptor site) or they may be indirect.

It is also important to ensure that existing flood risks are taken into account and that the Proposed Development is designed in an appropriate way taking these risks into account so that it remains safe for its entire lifetime.

10.2.1. Construction

During construction, potential impacts include contamination from suspended solids or other chemical contaminants that may be present in site runoff, infiltrate to ground, or be split directly into waterbodies when there are works within or adjacent to them. Any existing ground contamination, if present, could also be mobilised, although the Site will be appropriately investigated (See Section 11) and if remedial works are necessary, these would be undertaken prior to construction taking place.

Other impacts during construction may involve physical damage to waterbodies or temporary changes to their flow and water levels (e.g. from an increase in runoff, changes to flow pathways, and construction of new pipelines or intake/discharge infrastructure).

10.2.2. Operation

During operation and maintenance of the Proposed Development, adverse impacts may include the effects of diffuse pollutants in surface water runoff (that may contain metals, hydrocarbons, and inert solids etc); the risk of pollution from chemical spillages or fire on the Site (which may necessitate the use of fire-fighting chemicals or large volumes of water that may become contaminated); changes in flood risk and hydromorphology of water features; and the effects of water abstraction from, and discharges to, local watercourses (e.g. cooling or process water).

Through appropriate design and mitigation measures, flood risk to the Proposed Development and off-site, surface and foul drainage, abstractions and discharges from and to watercourses, response to spillages and emergencies, and potential impacts on the hydromorphology of water features, can usually be effectively managed. This includes other regulatory regimes that require permits or consents to be obtained from

the EA, Lead Local Flood Authority (i.e. NYC or WMDC) and Selby Area IDB for works close to and affecting watercourses.

The scope of the water environment and flood risk impact assessment will therefore be to consider all potential impacts to surface and groundwater features, which are in hydraulic connectivity with the Proposed Development Site during construction and during the entire life span of the Proposed Development. However, any impacts to ponds will be assessed under 'Biodiversity and Nature Conservation' (Section 9) and any impact as a consequence of contaminated land, will be assessed under 'Geology, Hydrogeology and Land Contamination' (Section 11).

Information from previous assessments at the Site, supported by an updated desk-based study, will be used to confirm potential receptors and to establish the baseline. No additional water quality sampling and analysis is proposed at this stage as existing, public data is available in the area²⁰. However, this will be kept under constant review as more details of the Proposed Development become available. Data on historical pollution incidents, local abstraction and discharge consents will also be obtained from the EA and reviewed, together with details on private water supplies from the local authority.

The Humber river basin management plan and online Catchment Data Explorer website¹⁶ will also be used to establish WFD water body status, pressures and objectives, and to review measures that may have been determined to be required for local water bodies to meet good Ecological Status/ Potential under the Water Environment (WFD) (England and Wales) Regulations 2017²¹. Consultation will be undertaken with the EA (EA), WMDC and NYC, the Selby Area Internal Drainage Board, the Canals and Rivers Trust, and Yorkshire Water to obtain relevant available flood risk and water resource data, together with any other pertinent information.

The potential impacts of the Proposed Development on the water environment will be assessed for the construction, operation and maintenance and decommissioning phases of the Proposed Development. The impact assessment will be undertaken in consideration of EN-2 [paragraphs 2.3.1 to 2.3.4 (climate change adaptation and resilience), paragraphs 2.4.8 to 2.4.17 (water resources), paragraphs 2.4.30 to 2.4.31 (water quality and resources) and paragraphs 2.5.12 to 2.5.13 (water quality and

²⁰ DEFRA (2024) Water Quality Archive. Available at: <https://environment.data.gov.uk/water-quality/view/landing>

²¹ UK Government (2017) 'The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017'. Available at: <https://www.legislation.gov.uk/uksi/2017/407/contents> (Accessed 14 August 2024).

resources)] (DESNZ, 2024b)²². Consideration of EN-4 [paragraphs 2.9.25 to 2.9.36 (water quality), paragraphs 2.10.4 to 2.10.6, 2.11.4 to 2.11.7, 2.21.34 to 2.21.41 and 2.22.9 to 2.22.10 (water quality and resources), and EN-1 paragraphs 5.8 (flood risk), 5.16 (water quality and resources) will also be made¹⁸. The impact assessment will demonstrate that appropriate measures will be put into place to mitigate adverse effects following a precautionary principle and the mitigation hierarchy (i.e. avoid, minimise, reduce and compensate (if absolutely necessary)) any adverse impacts on waterbodies (including their uses) and flood risk, and the significance of any residual effects will be presented in the ES.

In most cases, a qualitative assessment of potential impacts on surface water, groundwater, hydromorphology and flood risk using a source-pathway-receptor approach and standard significance of effects criteria will be undertaken. The assessment of flood risk, operational surface water discharges, and abstractions and discharges related to plant operation may also be supported by quantitative analysis, where appropriate. The scope of any specific assessments will be agreed with the relevant consultees during future direct consultation.

In relation to changes in drainage regime, the magnitude of this impact will depend on the proposed extent of hardstanding and the implication on run-off rates within the Site. This will be determined through preparation of a Drainage Strategy as part of the FRA. The significance of this impact will be assessed as part of the ES. The proposals will be designed to ensure that sufficient attenuation is provided for storage of surface water run-off to minimise the potential risk of flooding.

The Proposed Development may seek to utilise water from the River Aire with an associated discharge into the River Aire. The abstraction of water for this purpose will be considered within the ES; the current scope of the assessment will be to:

- Identify and review publicly available information on existing water abstraction strategy for the Humber catchment;
- Identify and review licences that will be required for abstraction (river & groundwater);
- Assess any potential available abstraction headroom; and

²² Department for Energy Security and Net Zero (2024) 'National Policy Statement for natural gas electricity generating infrastructure (EN-2)'. Available at: <https://www.gov.uk/government/publications/national-policy-statement-for-natural-gas-electricity-generating-infrastructure-en-2> (Accessed 14 August 2024).

- Review available plant requirements and assess potential for water supply via abstraction (including limitations).

Depending on the volumes of water abstracted for the Proposed Development, there may be a risk of entrapment to species; the relevant guidance and legislation will be reviewed and adopted to provide appropriate mitigation measures in relation to eels.

The discharge of any treated effluent will be assessed, including in terms of any potential thermal uplift and chemical alteration (i.e. as a result of biofouling prevention). The assessments of the potential impacts from the direct discharge of effluents and/ or cooling water will be undertaken in accordance with the EA 'Surface water pollution risk assessment for your environmental permit' (April 2018). A range of qualitative assessment and quantitative modelling options are available to support the ES where required. Initially, qualitative assessment based on expected flows and chemical loads will be undertaken. No chemical modelling is proposed at this stage, but this will be kept under review as further scheme information becomes available.

Finally, the potential effects arising from the Proposed Development in terms of water quality, resources and flood risk in relation to abstraction and discharge of water will be presented in further detail within the Water Environment and Flood Risk chapter of the ES. This will also be used to inform engagement with the EA and other stakeholders, as required, regarding application for new licences or permits for the Proposed Development.

10.2.3. Flood Risk Assessment

An FRA is required in accordance with the NPPF²³ and NPS EN-1 due to the size (over 1ha) and location of the Proposed Development²⁴. The FRA will consider risks to the Proposed Development from all mechanisms of flooding (such as fluvial, pluvial and groundwater flooding etc) as well as identify how, if at all, the risk of flooding will change as a result of development of the Site (including taking climate change into account). Where appropriate, recommendations to manage flood risks to an acceptable level will be made, considering the vulnerability of the Proposed Development to flooding, so that

²³ Ministry of Housing, Communities and Local Government (2023) 'National Planning Policy Framework'. Available at: <https://www.gov.uk/government/publications/national-policy-statement-for-natural-gas-electricity-generating-infrastructure-en-2> (Accessed 15 August 2024).

²⁴ Department for Energy Security and Net Zero (2024) 'Overarching National Policy Statement for energy (EN-1)'. Available at: <https://www.gov.uk/government/publications/overarching-national-policy-statement-for-energy-en-1> (Accessed 15 August 2024).

the development remains safe throughout its lifetime. This will inform the design of the Proposed Development (including finished ground and floor levels) as well as the EIA.

10.2.3.1. WATER FRAMEWORK DIRECTIVE ASSESSMENT

A WFD assessment will be undertaken in accordance with PINS Advice Note 18 The WFD (Version 1, PINS, June 2017)²⁵. At this stage, only a 'preliminary' WFD Assessment is proposed. This will cover the screening and scoping stages of assessment to consider:

- Whether the Proposed Development has the potential to cause deterioration in ecological status/potential of the water bodies;
- Whether the Proposed Development has the potential to prevent the water bodies from meeting their objective of good ecological status/potential (i.e. prevention of the implementation of EA identified mitigation measures); and
- Whether the Proposed Development has the potential to prevent or compromise WFD objectives being met in other waterbodies.

The preliminary WFD Assessment will initially be based on desk study, with the requirement for a hydromorphological walkover survey confirmed following initial assessment.

Components of the Proposed Development that have the potential to impact WFD status/potential or prevent improvement will be identified, with reference to guidance on exemptions, and these will be carried forward to further assessment. The need for further, more detailed assessment will be determined in consultation with the EA once the preliminary screening and scoping assessments have been completed.

10.2.4. Decommissioning

Potential impacts on the water environment and flood risk, as a result of decommissioning the Proposed Development, will not be separately assessed as part of their assessment. This is on the basis that the effects of decommissioning are likely to be similar to or no worse than the effects from construction. However, where there may be beneficial effects (e.g. cessation of water abstraction for cooling or discharges of process water etc.) this will be assessed qualitatively and reported.

²⁵ Planning Inspectorate (2017) Nationally Significant Infrastructure Projects – Advice Note Eighteen: the Water Framework Directive. Available at: <https://www.gov.uk/government/publications/nationally-significant-infrastructure-projects-advice-note-eighteen-the-water-framework-directive> (Accessed 22 August 2024).

10.3. Summary of matters proposed to be scoped in or out of the ES

Table 14: Summary of the scope of assessment for water environment and flood risk

Matter	Construction	Operation	Decommissioning
Quality or Quantity impacts to Surface Water Features	In	In	Out
Quality or Quantity impacts to Groundwater and dependent receptors	In	In	Out
Flood Risk Impacts (to and from the Proposed Development)	In	In	Out

11. Geology, Hydrogeology and Land Contamination

This section will outline the proposed approach to assessing the likely significant effects on geology, hydrogeology and land contamination associated with construction, operation and decommissioning of the Proposed Development.

11.1. Baseline Conditions

For the purposes of determining the local baseline conditions with respect to geology and land contamination, a study area that extends 250m from the Site will be adopted. This will be extended for hydrogeology to 1km from the Site. This is appropriate to assess the local geological and hydrogeological setting, and the influence that potential contaminated land might have on the Site or local receptors. However, the baseline conditions in terms of soil chemical quality, where available, will be based on information directly within the Site only.

11.1.1. Geology

11.1.1.1. MAIN SITE

The geology beneath the Main Site comprises made ground, overlying variable superficial deposits of glaciofluvial sands and gravels, alluvium and Brighton Sand Formation, generally increasing in thickness towards the River Aire. The underlying bedrock is inferred to comprise Cadeby Formation dolostone. Coal mining has taken place at depth beneath the main power station, there are no records of shallow mine workings beneath the site. A mine entry (adit;²⁶) has been identified 125m northwest of the site, the area immediately surrounding the mine entry is defined as a Development High Risk Area. The Coal Authority online records suggest that no remedial treatment of the mine entry has been undertaken, however anecdotal information suggests it has been infilled.

Information obtained from the Soilsmap Viewer of the Land Information System (LandIS) website (LandIS, 2024) describes the soils at the Site as 'freely draining slightly acid loamy soils' with a low natural fertility. To the west of the Site are areas of freely draining lime-rich loamy soils with a lime-rich natural fertility.

²⁶ According to the Coal Authority Mapping this is defined as an adit mine entry, which is an access way to the mine.

There are no SSSI designated specifically for their geological importance within the study area. Further consultation will be required with WMDC and NYC to establish if there are any designated Local Geological Sites present within the study area.

11.1.1.2. PROPOSED PIPELINE CORRIDORS

Information obtained from the Soilscales Viewer of the LandIS website (LandIS, 2024) describes the soils beneath the Northern Pipeline Corridor as predominantly 'loamy soils with a naturally high groundwater', which has a low natural fertility.

The Southern Pipeline Corridor runs predominantly through 'loamy and clayey floodplain soils with naturally high groundwater', which has moderate natural fertility.

The geology beneath the Proposed Pipeline Corridors comprises made ground, and variable natural superficial deposits of glaciofluvial sands and gravels, alluvium, Brighton Sand Formation and Hemingbrough Glaciolacustrine Formation. Bedrock beneath the Proposed Pipeline Corridors comprises of, from southwest to northeast, Cadeby Formation dolostone, Edlington Formation calcareous mudstone, Brotherton formation dolomitic limestone, Roxby Formation calcareous mudstone and Sherwood Sandstone Group.

There are no SSSI designated specifically for their geological importance within the study area. Further consultation will be required with WMDC and NYC to establish if there are any designated Local Geological Sites present within the study area.

11.1.1.3. MINERAL RESOURCES

WMDC and NYC are the local authorities responsible for minerals planning. The Local Plans for both authorities refer to mineral safeguarding and online Local Plan mapping identifies mineral safeguarding areas within the study area.

The water abstraction area to the north of Main Site is identified by WMDC as an area of Safeguarding Mineral Production described as the Siniat Gypsum Works. The NYC Local Plan maps identify the study area as being within Mineral Resource Safeguarding areas for building stone, sand and gravel, limestone and brick clay. Further consultation will be required with NYC and WMDC to establish if there are any aggregate/mineral quarrying or non-coal mining sites within the study area.

11.1.2. Hydrogeology

11.1.2.1. MAIN SITE

The superficial deposits are classified by the EA as a Secondary A aquifer and the Cadeby Formation bedrock is classified as a Principal aquifer.

There are no SPZ within the Main Site.

11.1.2.2. PROPOSED PIPELINE CORRIDORS

Both Proposed Pipeline Corridors pass through areas of Secondary B (Edlington Formation and Roxby Formation) and Principal (Cadeby Formation, Brotherton Formation and Sherwood Sandstone Group) bedrock aquifers. The majority of the superficial deposits beneath both Proposed Pipeline Corridors are classified as Secondary A aquifers.

There is a SPZ1 approximately 750m to the north of the Northern Pipeline Corridor at Byram Hall. Between the Northern and Southern Pipeline Corridors (to the south of Sutton), there is an SPZ1. There are no SPZs within the potential AGI connection point to the Gas Transmission System, however there is an SPZ3 approximately 920m to the northeast. This is shown on Figure 3.3.

11.1.3. Land Contamination

11.1.3.1. MAIN SITE

Ferrybridge C Power Station ceased operation in March 2016 and was subsequently demolished in 2018. A number of contamination assessments and ground investigations were undertaken pre- and post-demolition to support the surrender of the Environmental Permit. A programme of product recovery was implemented which ceased in 2021 with agreement from the EA. The final groundwater monitoring was undertaken in 2023 to support the permit surrender.

There are no permitted or historic landfills within the Main Site or within 250m.

11.1.3.2. PROPOSED PIPELINE CORRIDOR

There are no authorised or historic landfill sites within, or within 250m of the Proposed Pipeline Corridors. The Brotherton Ings Ash disposal site is approximately 450m from the Site, which currently in aftercare status and not in use. The land is predominately agricultural.

11.1.3.3. FUTURE BASELINE

No changes are anticipated in the future baseline. It is assumed that the Main Site will continue with its current land use. It is assumed the Proposed Pipeline Corridor and AGI on the Gas Transmission System will continue in agricultural land use and there will be no new, or more sensitive, receptors.

11.2. Scope of the Assessment

The assessment will consider the following potential impacts that may be associated with the Proposed Development:

- Disturbance of contaminated soils and groundwater and creation of new pathways to sensitive receptors both on and off-site (including human health of construction workers and site neighbours and controlled waters) during construction; and
- Pollution of soils and controlled waters within or near the Main Site and Proposed Pipeline Corridors during operation, for example due to the accidental spillage of polluting materials (if materials are not appropriately stored at the Proposed Development in accordance with BAT under the Environmental Permit and/or an appropriate drainage system is not implemented and maintained).

A desk-based risk assessment will be completed to identify potential contaminative uses at the Proposed Development Site. This DBA will identify the potential for land contamination and potential pathways to sensitive receptors (including human health and controlled waters) and consider the potential for mobilisation of contaminants associated with current and historical land use in and around the Site.

The results of the DBA will be used to assess data gaps and uncertainties and, if required develop an initial scope for site investigation, which may also be required to assess possible foundation solutions. This phased approach to assessment is consistent with the EA's online guidance for the risk management of land contamination and BS10175:2011+A2:2017. It is anticipated that the requirements for any initial intrusive investigation will be discussed and agreed in advance with the EA, WMDC, and NYC.

Based on the assessment of the baseline and the identification of any potential impacts, the ES will make recommendations for mitigation measures. These may include the recommendation for an initial intrusive investigation (to address residual data gaps or better delineate identified potential contamination hotspots or plumes), quantitative risk assessment, remediation and validation. It will also make recommendations for possible mitigation measures to be employed by contractors, should any previously unidentified contamination be encountered during the construction phase.

An assessment of potential impacts on existing ground conditions will be undertaken as part of the EIA, including the potential for the Proposed Development to result in land contamination, as defined in the Part 2A of the Environment Act 1995.

The significance of the effects of land contamination are assessed by comparing the difference in risk of each contaminant linkage at baseline to those at construction, operation and decommissioning stages. Where there is shown to be a decrease in contamination risk the Proposed Development is assessed as having a beneficial effect on the environment in the long term.

11.2.1. Construction

Disturbance of potentially contaminated soils during construction may pose a risk to human health: that of construction workers and Site neighbours; and a risk to groundwater and surface water. Such risks during construction are typically mitigated by applying good working practices set out in a Code of Construction Practice (CoCP)/Environmental Management Plan (EMP) and Health and Safety Plan. The developer and/or appointed contractor for the Proposed Development will be required to prepare their own CoCP prior to commencement of construction. However, a land contamination risk assessment is recommended to provide information to support the infrastructure design, inform on health and safety requirements of construction work and aid excavated management. While it is not expected that the residual effects to human health and controlled waters from the disturbance of contaminated land would be significant; at this stage the data is not available to confirm that, so this aspect is scoped in for further assessment.

Sterilisation of potential mineral deposits could occur during construction, however given the existing development across the Main Site the likelihood of potential resources being present is considered to be low. However as further information on any aggregate/mineral quarrying or non-coal mining sites within the study area is required, this aspect is scoped in for further assessment.

11.2.2. Operation

Any contamination identified during the construction phase would be subject to remediation. As a result, no significant impacts would be anticipated during operation of the Proposed Development. Operation and maintenance of the Proposed Development will be in accordance with environmental legislation and best practice. Therefore, this aspect is scoped out.

11.2.3. Decommissioning

Potential impacts as a result of decommissioning the Proposed Development, will not be separately assessed as part of the geology, hydrogeology and land contamination assessment. This is on the basis that the effects of decommissioning are likely to be similar to or no worse than the effects from construction. This is on the basis that with appropriate controls implemented through the DEMP the effects of decommissioning are likely to be similar to, or no worse than the effects from construction.

11.3. Summary of matters to be scoped in or out of ES

Table 15: Summary of the scope of assessment for geology, hydrogeology and land conditions

Matters	Construction	Operational	Decommissioning
Effects on geology/mineral resource	In	Out	Out
Effects from contamination on surface water and groundwater resources	In	Out	Out
Effects from contamination on human health/built environment	In	Out	Out

12. Landscape and Visual Amenity

This section will outline the proposed approach to assessing the likely significant effects on landscape and visual amenity associated with construction, operation and decommissioning of the Proposed Development.

12.1. Baseline Conditions

12.1.1. Landscape character

The Site does not fall within any nationally or locally designated landscapes and contains no landscape features which are considered to be valued at a local, district/county or national scale. The landscape to the north and north east of Gateforth has been identified as a candidate Locally Important Landscape Area (LILA) referred to as Hambleton Hough and Brayton Barff (Selby District Local Landscape Designation Review, 2019). A LILA is also identified to the north east and this is referred to as Magnesian Limestone North.

There is a hierarchy of published assessments, from broad-scale national or regional assessments, through to more detailed local authority assessments which describe the baseline character of the landscape within the study area. Those of relevance, which will inform the description of the baseline character of the landscape and the assessment of landscape effects comprise the following:

- Selby Landscape Character Assessment, 2019;
- The Wakefield Landscape Character Assessment, 2004; and
- North Yorkshire and York Landscape Characterisation Project, North Yorkshire County Council, 2011.

The Guidelines for Landscape and Visual Impact Assessment, Third Edition (GLVIA3) (IEMA; Landscape Institute 2013) state that broad-scale assessments at national or regional level can be helpful in setting the landscape context but are unlikely to be helpful on their own as the basis for Landscape and Visual Impact Assessment (LVIA). NCAs defined by Natural England have been appraised to provide this context.

The Main Site is located within NCA 30: Southern Magnesian Limestone (NE464)²⁷. This character area is described as a ridge, or narrow belt of elevated land defined by the underlying Permian Zechstein Group, formerly known as the Magnesian Limestone

²⁷ Natural England, National Character Area 30, <https://nationalcharacterareas.co.uk/southern-magnesian-limestone/>, accessed August 2024

running north-south through the NCA, forming a prominent landscape feature. Key characteristics of NCA 30 which are relevant to the study area include a fertile, intensively farmed arable land, which creates a generally large scale, open landscape and localised industrial influences, especially in the Aire and Don valleys, and in the south and along the fringe of the Coal Measures to the west, with former mines and spoil heaps (many now restored), power lines, settlements, industry and transport routes. NCA 30 is influenced by similar development within the industrialised area of the Site and the wider study area.

The eastern parts of the Proposed Pipeline Corridors fall within NCA 39: Humberhead Levels²⁸. This is described as a *“flat, low-lying and large-scale agricultural landscape bounded to the west by the low ridge of the Southern Magnesian Limestone and to the east by the Yorkshire Wolds (north of the Humber) and the Northern Lincolnshire Edge with Coversands (south of the Humber)”*.

The Wakefield Landscape Character Assessment (2004) and the Selby Landscape Character Assessment (2019) define a series of Landscape Character Areas (LCA) at the district level, which will be reviewed and where necessary updated to form the basis of the assessment of landscape effects in the ES. This will include the areas of the Main Site, Proposed Pipeline Corridors, and AGI on the Gas Transmission System.

12.1.2. Visual amenity

Sensitive visual receptors with respect to the construction, operation and decommissioning of the Proposed Development within the Main Site are likely to include residents of nearby settlements including:

- Brotherton;
- Byram;
- Castleford;
- Ferrybridge; and
- Knottingley.

Recreational receptors with respect to the Main Site will also include people travelling on the local PRoW networks, including parts of the promoted Wakefield Way, recreational users of the River Aire, and users of public open spaces, such as the cricket ground.

²⁸ Natural England, National Character Area 39, <https://nationalcharacterareas.co.uk/humberhead-levels/>, accessed August 2024

With respect to the construction and decommissioning phases of the Proposed Pipeline Corridors, sensitive visual receptors are likely to include residents of nearby settlements including:

- Beal;
- Birkin;
- Byram;
- Ferrybridge;
- Gateforth;
- Knottingley; and
- Sutton.

12.2. Scope of the Assessment

The EIA process requires that a clear distinction is drawn between landscape and visual impacts, as follows:

- **Landscape effects** relate to changes to the landscape as a resource, including physical changes to the fabric or individual elements of the landscape, its aesthetic or perceptual qualities, and landscape character; and
- **Visual effects** relate to changes to existing views of identified visual receptors ('people'), from the loss or addition of landscape features within their view due to the Proposed Development.

The following potential impacts may be associated with the Proposed Development:

- **Temporary changes** to landscape character and people's views of the landscape in the vicinity of the Main Site and the Proposed Pipeline Corridors during construction and decommissioning; and
- **Permanent changes** to landscape character and people's views of the landscape in the vicinity of the Main Site and other infrastructure during operation.

The proposed method for the LVIA has been devised to address the specific impacts likely to result from a development of its scale and nature. The methodology draws upon the following established best practice guidance:

- GLVIA3 (IEMA; Landscape Institute 2013);
- An Approach to Landscape Character Assessment, (Natural England, 2014);
- Visual Representation of Development Proposals. Technical Guidance Note 06/19 (Landscape Institute, 2019);
- Assessing Landscape Value Outside National Designations. Technical Guidance Note 02/21 (Landscape Institute, 2021); and
- Infrastructure. Technical Guidance Note 04/20 (Landscape Institute, 2020).

The methodology for the LVIA will involve the following stages:

- a) A review of published landscape character assessments, studies, relevant supporting evidence base documents, aerial photography, mapping and fieldwork to define the baseline and to determine the extent of the study area within which there is potential for landscape and visual effects;
- b) Define the landscape and visual receptors and describe the landscape and visual baseline;
- c) Review the design to embed mitigation measures into the Proposed Development to avoid or minimise adverse landscape and visual effects and maximise opportunities for landscape integration and enhancement;
- d) Determine the sensitivity (nature of the receptor) of landscape and visual receptors, by considering the value attached to the landscape or views and susceptibility to change of the receptor;
- e) Assess the magnitude of impact (nature of effect) of the Proposed Development in relation to size, scale, duration and reversibility; and
- f) Assess the significance of effects resulting by considering the relationship between the sensitivity of the receptor and the magnitude of impact and determine which effects are significant.

The assessment of impacts on built heritage, including impacts on the setting of listed buildings and structures, will be addressed by the cultural heritage assessment – see Section 13. The assessment will also take into consideration impacts and mitigation related to biodiversity, as described in Section 9.

A detailed study of the existing landscape components, character and views of the Site and the study area will be carried out in consideration of the following:

- Site context;
- Topography;
- Vegetation including green infrastructure;
- Roads, public rights of way and access;
- Settlement and land-use;
- Landscape character; and
- Representative views.

This will be supported by figures, annotated baseline photographs, wireframes and photomontages as appropriate. The planning context with respect to landscape character and visual amenity will also be reviewed, taking into account relevant national, regional and local planning policies. The baseline study will form the basis of the assessment of the predicted landscape and visual effects of the Proposed Development.

Based upon previous project experience and a CCGT stack height of approximately 90m (to be confirmed following air emissions modelling), a 10km radius study area is proposed for the LVIA of the Proposed Development. Significant landscape or visual impacts are not considered likely beyond 10km. Should an alternative stack height be proposed following emissions modelling, consideration will be given to the appropriateness of the selected study area. This study area may therefore be further refined as the project progresses, informed by detailed desk study and fieldwork, and will be justified in the ES.

Representative proposed viewpoints have been identified within zones of theoretical visibility (ZTV) for the main building envelope and the potential stacks, as well as around the AGI on the Gas Transmission System. Each proposed viewpoint will be represented by winter and summer baseline photography. These will be generated using a bare ground Digital Terrain Model and a Digital Surface Model and will be reviewed in the field against the following criteria in order to determine the selection of representative viewpoints which will inform the assessment of visual effects:

Consideration has been given to the:

- The activity/occupation/pastime of the receptors at particular locations;
- The extent to which their attention or interest may be focused on the views;
- The visual amenity they experience.
- Location, focus and orientation;
- Features or characteristics of value within the view;
- Principal or secondary interests;
- Static or kinetic nature of views; and
- Duration of the view.

Table 16 outlines the proposed viewpoints for the LVIA upon which this scoping report is seeking consultation. The proposed viewpoints are also presented in Figure 7.

Table 16: Proposed viewpoint locations

Assessment viewpoint reference	Grid reference	Receptor type
1	53° 46' 28.5" N 1° 15' 17.1" W	Recreational users of PRow South Mitford 3S.59/ 8/. Residents along Grove Crescent, South Mitford
2	53° 45' 45.0" N	Recreational users of

Ferrybridge Next Generation Power Station

Assessment viewpoint reference	Grid reference	Receptor type
	1° 9' 26.3" W	Hambleton Haugh Nature Reserve, Hambleton
3	53° 44' 28.7" N 1° 16' 54.5" W	Residents along Silver Street, Fairburn
4	53° 43' 50.9" N 1° 16' 22.6" W	Residents along Old Great North Road, Brotherton
5	53° 42' 47.0" N 1° 19' 30.7" W	Recreational users of PRow Castleford 20 & Castleford 21 (footpaths), Hollywell Wood
6	53° 43' 02.6" N 1° 18' 15.9" W	Residents of Meadow Court, Castleford
7	53° 42' 28.9" N 1° 17' 26.7" W	Residents along Holmfield Lane, Pontefract WF8 2NF
8	53° 43' 14.4" N 1° 16' 12.2" W	Recreational users of PRow 35.13/10/1 (footpath)
9	53° 43' 13.5" N 1° 15' 40.5" W	Recreational users of PRow Bryam cum Sutton 35.16/1/1
10	53° 43' 26.8" N 1° 11' 29.5" W	Recreational users of PRow Birkin 35.10/4/1
11	53° 42' 5.3" N 1° 10' 8.4" W	Recreational users of PRow Kellington 35.41/7/1. Residents along Ridgeway, Low Road, Kellington

Verified photomontages of the Proposed Development will be produced for up to four representative viewpoints in winter and summer in line with the guidance within the Landscape Institute Technical Guidance Note 02/19 Visual representation of development proposals (Landscape Institute, 2019). The selection of viewpoints for photomontages will also consider the likelihood of significant effects in relation to long-distance views.

The Applicant will seek to agree the study area and the location of representative viewpoints and photomontages with WMDC and other relevant consultees, as appropriate. Evidence of any agreement reached will be set out in the ES.

A review of Campaign to Protect Rural England's Light Pollution and Dark Skies mapping indicates that the Main Site is located within the highest of the nine bands of night time brightness defined (>32 nanowatts / cm^2/sr). Therefore, dark night skies are not a characteristic of the landscape and visual receptors sensitive to small changes in night time lighting, such as astronomers and residents, are unlikely to be affected by the Proposed Development. The introduction of additional lighting, including in relation to the AGI on the Gas Transmission System, is not anticipated to result in significant effects and therefore these effects are proposed to be scoped out of further assessment in the ES.

The mitigation of landscape and visual effects will be intrinsic within the Proposed Development which will adopt design principles and standard construction or operational measures including:

Seeking to substantially retain and manage existing established vegetation²⁹ within the Site, as far as reasonably practicable, to ensure its continued presence to aid the screening of ground level views into the Site. The extent to which the retention of existing vegetation could be achieved will be set out in the ES and a worst-case scenario assumed. Additional mitigation will be identified, described in the ES and secured, to avoid or minimise significant residual effects that are predicted to remain;

- Use of suitable materials in the construction of structures to reduce reflection and glare and to assist with breaking up the massing of the buildings and structures;
- Selection of finishes for the buildings and other infrastructure would be informed by the finishes of the adjacent developments and agreed with relevant consultees at the detailed design stage in order to minimise the visual impact of the Proposed Development; and

²⁹ It is noted that there is not a significant level of vegetation on the main site and mainly comprises made ground.

- Lighting required during the construction and operation stages of the Proposed Development would be designed to reduce unnecessary light spill outside of the Site, in accordance with a lighting strategy that will accompany the Application for development consent.
- A landscaping and biodiversity strategy, incorporating but not limited to these measures, will be submitted as part of the Application for development consent.

As described in Section 3, a number of technical parameters have yet to be finalised for the Proposed Development, in order to maintain flexibility as the design progresses. Therefore, the Rochdale Envelope approach will be applied to the assessment and a reasonable worst-case scenario assessed that allows for later choice of technology, dimensions and configuration of any buildings. The likely worst-case for assessment will be reported in the ES with reference to the construction and decommissioning phases and in year 1 of operation, when proposed planting would not have established and existing deciduous vegetation would not be in leaf.

Where the assessment indicates the need for mitigation as a result of significant effects on landscape character or visual amenity, this will be outlined within the ES. The LVIA will assess the residual landscape and visual effects at year 15 of operation in summer to demonstrate how effects are expected to alter as any such planting matures. The ES will clearly present any assumptions made about the height that the proposed planting would have reached by year 15 of operation for the purposes of generating visual representations and reaching the assessment conclusions.

A landscaping and biodiversity strategy will be prepared to accompany the DCO application. This will clearly describe the measures to implement and maintain any proposed planting to support its successful establishment and long-term management.

Potential effects on landscape and visual amenity as a result of decommissioning the Proposed Development will not be separately assessed as part of the LVIA. This is on the basis that the effects of decommissioning are likely to be similar to or no worse than the effects from construction.

12.3. Summary of matters proposed to be scoped in or out of the ES

Table 17: Summary of the scope of assessment for landscape and visual amenity

Matter	Construction	Operation	Decommissioning
Landscape Character	In	In	Out
Visual Amenity	In	In	Out

13. Cultural Heritage

This section will outline the proposed approach to assessing the likely significant effects on cultural heritage associated with construction, operation and decommissioning of the Proposed Development.

13.1. Baseline Conditions

This scoping assessment considers potential effects on Cultural Heritage as a result of the Proposed Development.

A review of publicly available historic environment data has been used to inform this scoping assessment, including:

- Data from the NHLE – Historic England’s (HE) dataset of designated heritage assets (including World Heritage Sites, Scheduled Monuments, Listed Buildings, Registered Parks and Gardens, and Registered Battlefields)³⁰;
- Data from Wakefield Council on Conservation Areas³¹;
- Data on the Historic Environment from Wakefield Council’s Wakefield Policies Map, part of the Wakefield District Local Plan (adopted 24 January 2024)³²;
- Published histories and published historical and archaeological research relating to the area; and
- British Geological Survey data.³³

This assessment first considers heritage assets within the Proposed Development, which is inclusive of the Main Site and the Northern Pipeline Corridor, the Southern Pipeline Corridor and AGI on the Gas Transmission System. It then considers heritage assets beyond the boundary of the Site. A 5km study area has been used for all designated heritage assets, with the exception of conservation areas which have been identified up to 3km.

³⁰Historic England (2024) *The National Heritage List for England*. Available at: <https://historicengland.org.uk/> (Accessed 22 August 2024).

³¹ Wakefield Council. (2024) *Conservation Areas*. Available at: <https://www.wakefield.gov.uk/planning/heritage-conservation-and-tree-preservation/conservation-areas/> (Accessed 13 August 2024).

³² Wakefield Council (2024) *Wakefield District Local Plan (adopted 24 January 2024)*. Available at: <https://www.wakefield.gov.uk/planning/planning-policy/wakefield-district-local-plan/> (Accessed 20 September 2024).

³³ British Geological Survey (undated). BGS Geology Viewer. Available at: <https://www.bgs.ac.uk/map-viewers/bgs-geology-viewer/>. Accessed on 20 September 2024.

13.1.1. The Site

There are no World Heritage Sites, conservation areas, registered parks and gardens, registered battlefields or protected wreck sites within the Site.

There are three designated heritage assets within the Site, all within the Southern Pipeline Corridor:

- Ferrybridge near Knottingley, or Ferry Bridge, an 18th century bridge over the Aire which is both a scheduled monument (NHLE: 1005799) and a Grade I listed building (NHLE: 1167483). It is also recorded as a Class I Archaeological Site in WMDC's Local Plan;
- Main Building at CEGB Ferrybridge A Site (NHLE: 1266191), which is Grade II listed building; and
- Old Toll House (NHLE: 1225760), also a Grade II listed building.

Previous archaeological investigations in the wider area have identified evidence of an extensive complex of prehistoric monuments, including the Ferrybridge Henge, which is a scheduled monument (NHLE: 1005789) and a number of prehistoric features excavated during construction work for the A1(M) to the west of the Site, including an extremely rare Iron Age chariot burial and evidence of feasting.³⁴

WMDC's Wakefield Local Plan records a Class II Archaeological Site, Angel Moon Field, within the Main Site. It records another Class II Archaeological Site, Site of Parish Church of St Andrew and Cemetery, immediately outside of the Main Site.

The superficial geological within the Main Site includes sand of the Brighton Sand Formation and glaciofluvial deposits, both of which formed during the Pleistocene, and alluvium which formed during the Holocene.³⁵ Borehole records from within the Main Site record the presence of soft grey clayey and sandy silt "with organic matter at the lowest levels", and it is possible that paleochannels are present within the Main Site.³⁶

While it is likely that past land use within the Main Site and the clearance of the area as part of the demolition of the previous power station will have removed some

³⁴ Orton, D. (2007) 'A local barrow for local people? The Ferry Fryston cattle in context', Croxford, B., Ray, N., Roth, R. and White, N. (eds) *TRAC 2006: Proceedings of the Sixteenth Annual Theoretical Roman Archaeology Conference, Cambridge 2006*. Oxbow Books.

³⁵ British Geological Survey (undated). BGS Geology Viewer. Available at: <https://www.bgs.ac.uk/map-viewers/bgs-geology-viewer/>. Accessed on 20 September 2024.

³⁶ British Geological Survey. GeoIndex Onshore Viewer, historical borehole record BGS ID: 107745. Available at: <https://www.bgs.ac.uk/map-viewers/geoindex-onshore/>. Accessed on 20 September 2024.

archaeological remains that may have been present, it is possible that archaeological remains may survive within the Main Site.

Much of the land within the Proposed Pipeline Corridors is undeveloped and has the potential for previously unrecorded archaeological remains.

13.1.2. Study Area

A high-level appraisal has been undertaken to identify designated heritage assets which could potentially be sensitive to adverse effects resulting from development within the Site. A 5km study area has been used for all designated heritage assets, with the exception of conservation areas which have been identified up to 3km. This approach is in line with good practice and guidance for assessment of the setting of heritage assets, and accounts for the topography of the Site and the nature of the Proposed Development. There is considered to be no potential for the significance of heritage assets beyond these studies areas to be affected as a result of changes in their setting as a result of the Proposed Development due to their distance, limited intervisibility/ glimpsed views with the proposed development, and there being no known non-visual association between the assets and the Site.³⁷ The discussion below has been divided between the study area from the Main Site and the Northern Pipeline Corridor and the Southern Pipeline Corridor.

Figures 3.1, 3.2 and 3.3 shows the locations of designated sites located within the Site, and within the 3km and 5km study areas.

In addition to the designated assets within the Site, there may be non-designated heritage assets, including non-designated historic buildings and archaeological sites, in close proximity to Site, as well as historic LCAs and find spots, which are locations where archaeological objects have been found (and removed) from the ground surface or from an unprovenanced context. Assessment of these will be included within the EIA within a 1km study area.

13.1.3. Main Site

There are no World Heritage Sites, registered battlefields or protected wreck sites in the surrounding area of the Main Site.

There are seven scheduled monuments, within 5km of the Main Site. These are:

³⁷ Historic England. 2017. *The Setting of Heritage Assets. Historic Environment Good Practice Advice in Planning: 3 (2nd Edition)*. Available at: <https://historicengland.org.uk/images-books/publications/gpa3-setting-of-heritage-assets/> (Accessed on 20 September 2024).

- Ferrybridge near Knottingley (a bridge across the River Aire) (NHLE: 1005799) located within the Site;
- Ferrybridge Henge (NHLE: 1005789) located approximately 72.7m south;
- Boundary cross on the corner of Ferrybridge Road and Stumpcross Lane (NHLE: 1011848), located approximately 1.0km south west;
- St Johns Priory (NHLE: 1005787), located approximately 2.0km south west;
- Pontefract Castle (NHLE: 1010127), located approximately 2.3km south west;
- Fairburn Ings (Newton Abbey), moat (NHLE: 1009926), located approximately 4.0km north; and
- Churchyard cross at the Parish Church of St Luke and All Saints (NHLE: 1012875), located approximately 4.2km south.

There are approximately 153 listed buildings within 5km of the Main Site. The closest listed buildings to the Main Site include:

- Grade I Ferry Bridge (NHLE: 1167483), located within the Site, approximately 420m east of the Main Site;
- Grade II Main Building at CEGB Ferrybridge A Site (NHLE: 1266191), located within the Site, approximately 305m east of the Main Site;
- Grade II Church of St Andrew (NHLE: 1265111), located approximately 306m south of the Main Site;
- Grade II Old Toll House (NHLE: 1266191), located within the Proposed Development Site in the Southern Pipeline Corridor and approximately 363m east of the Main Site;
- Grade II Ferrybridge War Memorial (NHLE: 1450102), located approximately 455m south of the Main Site;
- Grade II Church of St Edward (NHLE: 1132452), located approximately 849m north west of the Main Site;
- Grade II The Manor House (NHLE: 1132453), located approximately 989m north west of the Main Site;
- Grade II Lodge to Byram Park (NHLE: 1148537), located approximately 1.0km north west of the Main Site; and
- Grade II Milestone approximately 10m north of junction with Byram Park Road (NHLE: 1167455), located approximately 1.0km north west of the Main Site.

There are two conservation areas located within 3km of the Main Site, including:

- Knottingley, located approximately 1.5km south east of the Main Site; and

- Pontefract located approximately 2.2km south west of the Main Site³⁸.

There is one Grade II registered park and garden 'Friarwood Valley Garden' located approximately 3.2km south west of the Main Site.

Although not designated, the listed buildings at the former Byram Park are set within an area of designed historic landscape park, potentially designed by Lancelot "Capability" Brown, an 18th Century gardener and landscape architect, who was a notable figure in the history of the English landscape garden style³⁹. The listed buildings and the non-designated parkland should be considered as a group when assessing potential effects arising from change to their setting(s).

13.1.4. Northern Pipeline Corridor

There are no World Heritage Sites, registered parks and gardens, registered battlefields or protected wreck sites within the study area of the Northern Pipeline Corridor.

There are numerous Grade II listed buildings located within 5km and four Grade I listed buildings including the Church of St Mary (NHLE: 1316671) located approximately 813m south of the Northern Pipeline Corridor.

The scheduled monument, Roman fort 600m west of Royal Hall (NHLE: 1017822) is located approximately 2.7km south east of the Northern Pipeline Corridor.

There is a conservation areas located within 3km of the Northern Pipeline Corridor including:

- Knottingley, located approximately 441m south of Northern Pipeline Corridor;
- Hillam, located approximately 1.7km north of the d Northern Pipeline Corridor; and
- Monk Fryston, located approximately 2.6km north of the Northern Pipeline Corridor³⁸.

13.1.5. Southern Pipeline Corridor

There are no World Heritage Sites, registered parks and gardens, registered battlefields or protected wreck sites within the study area of the Southern Pipeline Corridor. There are numerous grade II listed buildings located within 5km and five grade I listed

³⁸ Wakefield Council (2024) Conservation Areas. Available at: <https://www.wakefield.gov.uk/planning/heritage-conservation-and-tree-preservation/conservation-areas/> (Accessed 13 August 2024).

³⁹ Wickham, L. and Lynch, K. (2019) Byram Park [online] Available at: <https://yorkshiregardenstrust.org.uk/research/sites/byram-park> Accessed 15.8.24.

buildings including Church of St Mary (NHLE: 1316671), located approximately 427m to the south.

The scheduled monument, Roman fort 600m west of Royal Hall (NHLE: 1017822) is located approximately 2.0km south east of the Southern Pipeline Corridor.

There are two conservation areas located within 3km of the Southern Pipeline Corridor, including:

- Knottingley, located approximately 200m south of the Southern Pipeline Corridor; and
- Pontefract located approximately 2.8km south west of the Southern Pipeline Corridor

There are no World Heritage Sites, scheduled monuments, conservation areas, registered parks and gardens, registered battlefields or protected wreck sites in the study area around the AGI on the Gas Transmission System.

There are numerous Grade II listed buildings and one Grade II* listed building (Gateforth Hall (NHLE: 1132514)), located approximately 1.3km north of the AGI on the Gas Transmission System.

13.2. Scope of the Assessment

It is proposed to update the existing cultural heritage DBA which will determine, as far as is reasonably possible from existing records, the nature of the archaeological resource within a study area of 1km from the Site for non-designated heritage assets. The assessment will follow current professional good practice and guidance including that produced by the Chartered Institute for Archaeologists (CIfA), HE and IEMA:

- CIfA Standard and Guidance for historic environment DBA⁴⁰;
- CIfA Code of Conduct: professional ethics in archaeology⁴¹;
- HE Good Practice Advice in Planning Note 2: Managing Significance in Decision-Taking in the Historic Environment⁴²;

⁴⁰ CIfA (2020) *Standard and Guidance for historic environment desk-based assessment*. Available at: https://www.archaeologists.net/sites/default/files/CIfAS%26GDBA_4.pdf (Accessed 13 August 2024).

⁴¹ CIfA (2022) *Code of Conduct: professional ethics in archaeology*. Available at: https://www.archaeologists.net/sites/default/files/Code_of_conduct_revOct2022.pdf (Accessed 13 August 2024).

⁴² Historic England (2015) *Managing Significance in Decision-Taking in the Historic Environment*. Available at: <https://historicengland.org.uk/images-books/publications/gpa2-managing-significance-in-decision-taking/gpa2/> (Accessed 13 August 2024).

- HE Advice Note 12: Statements of Heritage Significance; Analysing Significance in Heritage Assets⁴³; and
- IEMA, IHBC and ClfA: Principles of Cultural Heritage Impact Assessment (2021)⁴⁴.

An inventory of all heritage assets will be cross-referenced to figures and to the assessment. The baseline collation of data will be supported by Site visits to identify the potential for any unknown archaeological assets, the potential for survival of archaeology and to establish the setting of identified heritage assets.

It is expected that sufficient heritage information is presently available, through the work carried out in relation to Ferrybridge Multifuel 1 and Ferrybridge Multifuel 2 and Ferrybridge D, to provide a baseline assessment for the EIA, enhanced with a new search of national and local databases to establish any new information and/or changes to the baseline. Archaeological evaluation of the Site, such as geophysical survey and/or trial trenching, is not anticipated, but this will be discussed and agreed with the Local Planning Authority archaeological advisors at WMDC and NYC.

The purpose of the EIA will be to assess the potential impacts of the Proposed Development upon the significance of the heritage resource and to understand the level of harm to that resource. The aim will then be to propose appropriate mitigation to resolve the harm caused, where possible.

Once all of the potential heritage receptors have been identified, they will be assigned a level of significance (or 'value'). This is not necessarily a reflection of their designated or non-designated status but is determined through an assessment of their heritage interest and values, including their archaeological, historical, architectural and artistic interest. The impact from the Proposed Development upon the significance of the heritage assets will then be quantified and expressed within the EIA. This will produce an initial significance of effect of the Proposed Development upon the heritage resource, taking into account any design or embedded mitigation.

Following the impact assessment process, any potential mitigation strategies required will be considered and recommendations made. The significance of residual effects remaining after mitigation will be assessed.

⁴³ Historic England (2019) *Statements of Heritage Significance: Analysing Significance in Heritage Assets*. Available at: <https://historicengland.org.uk/images-books/publications/statements-heritage-significance-advice-note-12/> (Accessed 13 August 2024).

⁴⁴ IEMA., IHBS. And ClfA (2021) *Principles of Cultural Heritage Impact Assessment in the UK*. Available at: https://www.archaeologists.net/sites/default/files/j30361_iema_principlesofchia_v8.pdf (Accessed 13 August 2024).

Potential impacts on cultural heritage, as a result of decommissioning the Proposed Development, will not be separately assessed as part of this assessment. This is on the basis that the effects of decommissioning are likely to be similar to or no worse than the effects from construction.

13.2.1. Potential Impacts

The following potential impacts could occur:

- Physical impacts to non-designated heritage assets within the Site during construction;
- Physical impacts and/or non-physical impacts caused by change associated with the setting of designated and non-designated heritage assets beyond the Site, which could arise from off-site activities such as vibration from construction traffic, changes to below ground hydrology and/or biodiversity enhancements for BNG; and
- Non-physical impacts caused by change to the setting(s) of designated and non-designated heritage assets, including listed buildings, conservation areas and historic LCAs, in the vicinity of the Site during construction and operation.

13.2.2. Construction

Assessment of potential physical impacts on the archaeological resource within the Proposed Development Site are scoped in for the Proposed Pipeline Corridors, and the AGI on the Gas Transmission System.

Assessment of potential physical impacts arising from construction within the Main Site area is scoped in. While the area has been extensively developed for the previous Power Stations, it is possible that archaeology, including palaeoenvironmental remains, may be present in some areas of the site.

It is assumed that the pipeline would be installed below ground with landscape restoration of the easement area to limit visual change. Therefore, temporary and permanent effects arising from changes within the setting of assets as a result of the construction of the Southern Pipeline Corridor, Northern Pipeline Corridor, and the AGI on the Gas Transmission System will be scoped out. This would be reassessed should the pipeline be installed above ground or landscape restoration not be proposed.

The construction of the Proposed Development has the potential to change the setting of designated and non-designated heritage assets in a way which could impact their significance. The current development within the Main Site is low lying and well screened, meaning that new chimneys and stacks associated with a power station could represent a substantial addition to existing industrial elements associated with the site. Temporary and permanent non-physical impacts are therefore scoped in for further assessment relating to works at the Main Site.

Assessment of temporary and permanent effects of construction activities beyond the Proposed Development, including BNG, if applicable, is scoped in.

13.2.3. Operation

Due to the existing industrialised nature and use of the Main Site, it is unlikely that the day to day running of the new power station would change the setting of heritage assets in the vicinity in such a way would result in significant adverse effects. Assessment of permanent effects from the change to the setting of heritage assets as a result of the operation of the Proposed Development is scoped out.

Assessment of the potential for operational activities beyond the Proposed Development Site, including BNG, if applicable, is scoped in.

13.3. Summary of matters proposed to be scoped in or out of the ES

Table 18: Summary of the scope of assessment for cultural heritage

Matter	Construction	Operation	Decommissioning
Physical impacts	In	Out	Out
Setting effects	Out	Out	Out
Operational activities beyond the Site, including BNG, if applicable.	Out	In	Out

14. Socio-Economics

This section will outline the proposed approach to assessing the likely significant effects on socio-economics associated with construction, operation and decommissioning of the Proposed Development.

14.1.1. Policy Context

The Main Site is located within the land of the former Ferrybridge Power Station Site adjacent to the village of Ferrybridge. Together with the on-site connection corridors for the electrical grid connection, hydrogen and natural gas connections, water abstraction and discharge, the Site will be located within the administrative boundary of WMDC. The Proposed Pipeline Corridors and AGI on the Gas Transmission System falls under NYC.

14.1.1.1. WAKEFIELD DISTRICT LOCAL PLAN 2036

The Wakefield District Local Plan 2036⁴⁵ includes a focus on low carbon energy. For example, Strategic Policy 24 outlines how WMDC will mitigate and adapt to climate change and ensure efficient use of resources. Local Plan (LP) policies include:

- Policy LP32 Renewable Energy;
- Policy LP33 Sustainable Construction and Efficient Use of Resources;
- Policy LP35 Assessment of Applications for Renewable Energy Generation Developments; and
- Policy LP36 District Heating and Cooling Infrastructure.

14.1.1.2. NORTH YORKSHIRE LOCAL PLAN

The new North Yorkshire Local Plan is currently under development and seeks to highlight where development will occur over the next 15 to 20 years and any policies or strategies for proposed applications to follow⁴⁶. It should be noted that adopted planning policies for the part of the Site in NYC includes the Selby District Core Strategy Local

⁴⁵ Wakefield Metropolitan Council (2024) Wakefield District Local Plan 2036 Planning Growth and Protecting Places: Volume 1 Development Strategy, Strategic and Local Policies. Available at: <https://www.wakefield.gov.uk/media/cezexgd0/volume-1-development-strategy-strategic-and-local-policies.pdf> (Accessed 20 August 2024).

⁴⁶ North Yorkshire Council (2024) The North Yorkshire Local Plan. Available at: <https://www.northyorks.gov.uk/planning-and-conservation/planning-policy/north-yorkshire-local-plan> (Accessed 21 August 2024).

Plan (October 2013) which also has a focus on low carbon energy. Selby's emerging plan also echoes the focus on low carbon energy.

Further relevant policies to the socio-economic assessment will be considered as part of the EIA. Section 5 provides further background on policy relevant to the Proposed Development, such as EN-1, which states the importance of taking into account social and economic benefits and adverse impacts.

14.2. Baseline

The baseline assessment covers key socio-economic indicators, as well as tourism and recreation within the immediate, wider and national study areas.

14.2.1. Study Area

The study areas in this socio-economic assessment are receptor specific and are defined at a local, regional and national scale, as follows:

- 'Direct area' (or 'direct impact area') is defined as Knottingley Ward, which is the ward the Main Site lies within;
- The wards that the Proposed Pipeline Corridors will run through include Monk Fryston and South Milford Ward, Thorpe Willoughby and Hambleton Ward, and Camblesforth and Carlton Ward. These wards, as well as Knottingley, make up the 'Wider area';
- 'Regional' is defined as Yorkshire and the Humber; and
- 'National' is defined as England.

14.2.2. Socio-economics

In 2021, the population of the Direct Area was 14,445. A comparison of the total population of the Study Area to other broader geographical area is shown in Table 19.

Table 19: Comparative Total Population of the Study Area⁴⁷

Knottingley Ward	Wider area	Yorkshire and the Humber	England
14,445	35,494 ⁴⁸	5,541,262	57,106,000

The latest data shows that the main socio-economic characteristics of the direct impact area population are:

- The main employment sector in the direct impact area is Sector G “Wholesale and retail trade; repair of motor vehicles and motor cycles”; and
- The most common employment occupation in the direct impact area is ‘Elementary Occupations’⁴⁷.

14.2.3. Tourism and Recreation

Given the Site’s location on land previously used for a Power Station, it is not anticipated that the Proposed Development will significantly impact recreational and tourism assets in the surrounding area. There are several PRowS surrounding the Site, details of the PRowS are provided in Table 10. It is currently anticipated that permanent above ground infrastructure is not anticipated along the Proposed Pipeline Corridor or the cricket pitch. There will be AGI at the connection point to the Gas Transmission System. It is not anticipated that this will significantly impact recreational and tourism assets.

14.2.4. Future baseline

The future baseline will assume the likely future conditions in the study area in the absence of the Proposed Development. It will assume that the land remains undeveloped and (where relevant) part of the wider Ferrybridge Site.

⁴⁷ Local Government (n.a) Key facts about Knottingley Ward. Available at: <https://reports.esd.org.uk/reports/shared?encryptedId=65B97B846071150E4F8B0B327B790056F73B1CE549B53463A36A2873C6F0DF36> (Accessed 23 August 2024).

⁴⁸ Census 2021 (ONS)

The future baseline for the socio-economics assessment will consider natural population growth and how predicted climate change might affect existing conditions at the Site.

14.3. Scope of the Assessment

The following potential impacts may be associated with the Proposed Development:

- Creation of direct and indirect employment during construction and operation alongside possible training and skills development opportunities;
- Potential impacts on community infrastructure and businesses in proximity to the Proposed Development;
- Potential impacts on leisure and tourism receptors in proximity to the Proposed Development;
- Potential impact on land use (such as effects on other planned or proposed developments);
- Potential disruption on the local and strategic road networks; and
- Potential disruption to PRow.

Potential traffic, noise, air quality / dust and visual impacts on local residents and other sensitive receptors will be assessed as part of the Traffic and Transport, Noise and Vibration, Air Quality, and Landscape and Visual Amenity assessments described in other parts of this Report.

14.3.1. Methodology

The methodology for assessing socio-economic impacts will follow best practice processes and will involve:

- Review of relevant baseline conditions at the Site and locality;
- Assessment of local (Wakefield and North Yorkshire), regional (East of England) and national (England) socio-economic policy context to consider alignment and contribution of the Proposed Development to these activities;
- Estimate of employment generated during the construction and operational phases;
- Assessment of land use and local amenities that may be affected by the Proposed Development; and
- Consideration will also be given to whether there are any cumulative impacts that are not assessed in other ES chapters (Traffic and Transport, Noise and Vibration, Air Quality, and Landscape and Visual Amenity) that might affect local amenities and land use.

For socio-economics, there is no accepted definition of what constitutes a likely significant (or not significant) socio-economic effect. It is recognised that 'significance'

reflects the relationship between the scale of impact (magnitude) and the sensitivity (or value) of the affected resource or receptor. As such, the significance criteria for socio-economic effects are assessed using the expert judgement of authors with professional experience in socio-economics and relies on the assessment of the sensitivity of receptors and magnitude of impacts.

The assessment will be carried out using a number of recognised data sources including, but not limited to the following:

- 2021 Census (Office for National Statistics (ONS));
- ONS Labour Force and Neighbourhood Statistic;
- Business Register and Employment Survey;
- Annual Population Survey;
- Google Maps; and
- Travel to Work Data.

Wherever possible, the impacts of the socio-economic assessment will be appraised using best practice guidance and latest recommendations from government, reflected within planning policy and appraisal guidance, research studies, and using the best available data to support.

A summary will be provided of key residual impacts of the Proposed Development and how the Proposed Development fits into local and regional socio-economic objectives, as well as its overall impact on the contribution to the local economy and community.

Potential impacts on socio-economics, as a result of decommissioning the Proposed Development, will not be separately assessed as part of the socio-economic assessment. This is on the basis that the effects of decommissioning are likely to be similar to or no worse than the effects from construction.

14.4. Summary of matters proposed to be scoped in or out of the ES

Table 20: Summary of the scope of assessment for socio-economics

Matter	Construction	Operation	Decommission
Creation of direct and indirect employment	In	In	Out
Potential impacts on community infrastructure and	In	In	Out

Matter	Construction	Operation	Decommission
businesses in proximity to the Proposed Development			
Potential impacts on leisure and tourism receptors in proximity to the Proposed Development	In	In	Out
Potential impact on land use (such as effects on other planned or proposed developments)	In	In	Out
Potential disruption on the local and strategic road networks	In	In	Out
Potential disruption to PRow	In	In	Out

15. Climate Change

This section will outline the proposed approach to assessing the likely significant effects for greenhouse gases and climate resilience associated with construction, operation and decommissioning of the Proposed Development.

15.1. Baseline Conditions

The receptors for the three assessments are:

- Greenhouse Gas (GHG) Assessment - the global atmosphere;
- Climate Change Resilience (CCR) Assessment - the Proposed Development (E.g. the GTs, pipeline, water abstraction). More detail will be provided in the assessment in the ES; and
- In-combination Climate Change Impact (ICCI) Assessment - the receptors as described within each environmental topic.

The baseline for the lifecycle GHG assessment will be developed which considers the existing carbon emissions at the Site of the Proposed Development along with future GHG emissions at the Site if the Proposed Development does not proceed (i.e. the Site remaining as described in Section 2). The GHG baseline will also consider GHG's currently present in the site soils and habitats and the potential for these to continue to sequester GHGs in the future in the absence of the Proposed Development.

The existing baseline for the CCR assessment and ICCI assessment is based on historic observational data available from the Met Office at the nearest weather station to the location of the Proposed Development.

The future baseline for the climate change resilience and ICCI assessments is based on United Kingdom Climate Change Projection 2018 (UKCP18) data for the 12km² grid square within which the Proposed Development is located. UKCP18 probabilistic projections for pre-defined 20-year periods for the following average climate variables have been obtained and are presented in Table 21.

Table 21: The UKCP18 Climate Change Probabilistic Projections for Average Weather Metrics for the Local Area from 2050-2070 (under the RCP8.5 High Emissions Scenario)

Metrics	Observed Baseline (Dec 1980 – Nov 2000)	Future climate (Dec 2050 – Nov 2070)	
		Median	Change compared to baseline
Temperature			
Mean summer maximum daily temperature (°C)	15.55	19.65	4.10
Mean winter minimum (°C)	4.31	6.95	2.60
Average daily maximum temperature in summer (°C)	20.08	25.16	5.10
Average daily minimum temperature in winter (°C)	1.45	4.05	2.60
Number of hot days (daily maximum temperature higher than 25 (days/year)	9.95	51.10	414%
Precipitation			
Average summer precipitation (mm/day)	1.61	1.21	-25%

Metrics	Observed Baseline (Dec 1980 – Nov 2000)	Future climate (Dec 2050 – Nov 2070)	
		Median	Change compared to baseline
Average winter rainfall (mm/day)	1.53	1.79	17%
Other			
Average number of heatwaves per year (3 days above 25 °C) (occurrences/year)	1.20	6.13	410%
Dry Spells (10 days or more with no precipitation) (occurrences/year)	3.60	4.35	21%
Heavy rainfall (annual number of days with >20mm rainfall) (days/year)	2.30	2.95	28%

15.2. Scope of Assessment

To align with the requirements of the EIA Regulations and the National Policy Statement for Energy (EN-1)⁴⁹ and associated published guidance^{50, 51}, three separate aspects have been considered in scoping the climate assessment:

- Lifecycle GHG impact assessment: The effect on the climate of GHG emissions arising from the Proposed Development, assessed within a contextualisation process as specified within industry guidance. Due to its nature and purpose, the Proposed Development is considered likely to result in notable GHG emissions impacts both in terms of GHG emissions arising through construction and operation but also the potential GHG emissions avoided due to the future use of a low carbon fuel source. The assessment will give consideration to the impacts arising from the supply of fuels to the power generation station. The possible downstream effects of generated electricity is scoped out of the assessment.
- ICCI assessment: The combined impact of the Proposed Development and potential climate change on receptors in the receiving environment.
- Climate change resilience assessment: The resilience of the Proposed Development to climate change impacts, including how the design has been adapted to take into account anticipated impacts of climate change. The impacts of climate change are likely to have an impact on the construction and operation of the Proposed Development.

The relevance and applicability of each aspect has been considered in the context of the Proposed Development; Table 22 presents scoping outcomes and rationale.

⁴⁹ Department for Energy Security and Net Zero (2024) National Policy Statements for energy infrastructure. Available at: <https://www.gov.uk/government/collections/national-policy-statements-for-energy-infrastructure> (Accessed 22 August 2024).

⁵⁰ Institute of Environmental Management and Assessment (2022) Guide (to) Assessing Greenhouse Gas Emissions and Evaluating their Significance. Available at: <https://www.iema.net/resources/blogs/2022/02/28/iema-launch-of-the-updated-eia-guidance-on-assessing-ghg-emissions-february-2022/> (Accessed 19 September 2024).

⁵¹ Institute of Environmental Management and Assessment (2020) Environmental Impact Assessment Guide to Climate change Resilience and Adaptation. Available at: <https://www.iema.net/media/mabhqino/iema-eia-climate-change-resilience-june-2020.pdf> (Accessed 19 September 2024).

Table 22: Scoping outcomes of climate assessment

Matter	Construction	Operation	Decommissioning
Lifecycle GHG impact assessment	In	In	In
In-combination climate change assessment (ICCI)	In	In	In
Climate change resilience review	In	In	In

An assessment of lifecycle GHG emissions will be undertaken. The approach of the GHG assessment will align with best practices set out in BSI Publicly Available Statement (PAS) 2080:2023⁵² which requires GHG emissions to be considered using a modular approach across lifecycle stages. The assessment of significance of the Proposed Development on the climate will be undertaken in line with IEMA guidance for assessing the impact of GHGs in EIA and conducted in accordance with recent case law. In line with IEMA guidance the significance of impact will be determined not by considering the magnitude of emissions from the Proposed Development and considering how the Proposed Development alone but additionally by considering how it contributes to the transition to net zero. Table 23 presents the GHG lifecycle stages to be considered and the emissions sources scoped into the GHG assessment.

The scoping approach has taken cognisance of the Supreme Court decision in 2024⁵³ which concluded that the exclusion of GHG emissions arising from downstream burning of fuels produced by the project assessed within the EIA resulted in the assessment being deficient. The scope of the assessment set out in this Scoping Report includes the upstream production of fuels and the emissions arising from this in operation. Additional emissions arising from the use of generated electricity are expected to be minimal (the combustion of fuels being the primary source of emissions arising from

⁵² BSI (2023) PAS 2080:2023 Carbon Management in buildings and infrastructure. Available at: https://www.bsigroup.com/globalassets/localfiles/en-th/pas-2080/pas2080_final-th.pdf (Accessed 22 August 2024).

⁵³ *Finch (on behalf of the Weald Action Group) v Surrey County Council and others* (2024)

electricity generation and use) and on that basis are excluded from the assessment on the basis that they are small and immeasurable.

Table 23: GHG lifecycle stages to be assessed

Lifecycle Stage	Activity	In/ Out of GHG Assessment	Rationale
Pre-construction stage	Preliminary studies and assessments; Stakeholder engagement; Site surveys	Out	In comparison with the other elements of the Proposed Development, the pre-construction stage will represent an insignificant proportion of the GHG emissions and so can be scoped out.
Production stage	Raw material extraction and manufacturing of products required to build the Proposed Development.	In	Embodied GHG emissions associated with materials required for the construction of the Proposed Development
Construction process stage	On-Site construction activity and enabling works; Transport of construction materials (where these are not included in embodied GHG emissions);	In	GHG emissions from energy (electricity, fuel, etc.) consumption for plant and vehicles, generators on Site; Fuel consumption from transport of materials to Site (where these are not included in embodied GHG emissions); GHG emissions from fuel use for worker commuting;

Lifecycle Stage	Activity	In/ Out of GHG Assessment	Rationale
	<p>Transport of construction workers;</p> <p>Disposal of any waste generated during the construction processes.</p>		<p>GHG emissions from disposal of waste;</p> <p>GHG emissions from fuel consumption of transportation of waste.</p> <p>GHG emissions arising from changes to soils and habitats during construction.</p>
<p>Operation stage</p>	<p>Operation of Proposed Development/ Maintenance.</p>	<p>In</p>	<p>GHG emissions from operation of the Proposed Development;</p> <p>Emissions quantification for operation will consider a range of operational scenarios reflecting different fuel supply options (natural gas versus hydrogen firing) and transition scenarios between operation of these fuel scenarios;</p> <p>Potential GHG emissions avoided due to low carbon approach and the beneficial impact of the Proposed Development on the carbon intensity of power generation in the UK as well as supporting the decarbonization path to net zero;</p>

Lifecycle Stage	Activity	In/ Out of GHG Assessment	Rationale
			<p>GHG emissions associated with maintenance, repair and replacement activities;</p> <p>GHG emissions arising from changes in the potential for GHG sequestration in soils and habitats during operation.</p>
Decommissioning	Removal and or renewal of the full Proposed Development	In	A high-level assessment of GHG emissions associated with decommissioning will be assessed (likely using the construction emissions as a proxy).

An ICCI assessment will be undertaken to identify how the resilience of receptors in the surrounding environment will be impacted by future climate conditions and the Proposed Development. The likelihood and consequence of climate hazards impacting the receptors will be assessed to understand if there are any significant impacts. The assessment will be undertaken in line with guidance published by IEMA³ for assessing climate risk in EIA. The climate variables relevant to the Proposed Development are detailed in Table 24.

Table 24: Climate variables for the ICCI review of the Proposed Development

Climate Variable	In/ Out of the ICCI	Rationale	Planning Document which support assessment and mitigation of the Issue/Risk
Flooding	In	The impacts of extreme weather events will be considered as part of the	Flood Risk Assessment

Climate Variable	In/ Out of the ICCI	Rationale	Planning Document which support assessment and mitigation of the Issue/Risk
		climate change allowances to be made within the Flood Risk Assessment	
Temperature change	In	<p>No significant impacts on receptors in the surrounding environment from increased temperatures are anticipated as a result of the combined impact of climate change and the Proposed Development.</p> <p>However, any residual combined temperature impacts will be considered by the Landscaping and Biodiversity Management Strategy.</p>	Landscaping and Biodiversity Management Strategy
Sea level rise	In	The Proposed Development Site is located adjacent to the River Aire which is not tidal at this point but there is potential for this to change under a changed climate.	A Flood Risk Assessment will consider a range of scenarios and will be informed by future Climate Change Predictions regarding sea level rise.
Precipitation change (increased frequency and magnitude of	In	Climate change may lead to an increase in substantial precipitation events that could lead to flash flooding. Projected increases in rainfall will be considered as	<p>Landscaping and Biodiversity Management Strategy</p> <p>Flood Risk Assessment</p>

Climate Variable	In/ Out of the ICCI	Rationale	Planning Document which support assessment and mitigation of the Issue/Risk
<p>precipitation events) and rainfall and low precipitation and drought conditions</p>		<p>part of the Landscaping and Biodiversity Management Strategy and Flood Risk Assessment.</p> <p>Climate change may lead to periods of decreased precipitation resulting in water scarcity. This will be considered in terms of the potential water abstraction from the River Aire for cooling. The suitability of vegetation used for landscaping for future climate conditions will be considered in the Landscaping and Biodiversity Management Strategy</p>	<p>Landscaping and Biodiversity Management Strategy</p>
<p>Storms (high wind and lightning)</p>	<p>In</p>	<p>Projections indicate an increase in the frequency and intensity of storms and this may result in impacts on the surrounding environmental receptors.</p>	<p>N/A</p>

The climate change resilience assessment will consider resilience in terms of both gradual climate change, and the risks associated with the predicted increase in frequency of extreme weather events, as set out in Table 25. The likelihood and consequence of climate hazards impacting the Proposed Development will be assessed to identify any significant risks. It will consider the resilience and adaptation measures

for such risks within the proposed design for infrastructure and assets comprising the Proposed Development; the design of which will be assumed to comply with current planning, design and engineering practice and codes. The assessment will be undertaken in line with guidance published by IEMA for assessing climate risk in EIA.

Table 25: Climate variables for the climate change resilience review of the Proposed Development

Climate Variable	In/ Out of CCR Assessment	Rationale
Flooding	In	The Proposed Development may be vulnerable to flooding arising from extreme weather events.
Temperature change	In	Increased temperatures may increase cooling requirements of the Proposed Development and could impact on structural integrity of buildings and materials.
Sea level rise	In	The Site is located adjacent to the River Aire which is not tidal at this point but there is potential for this to change under a changed climate.
Precipitation change (increased frequency and magnitude of precipitation events) and rainfall and low precipitation and drought conditions	In	The Proposed Development may be vulnerable to changes in precipitation, for example, pressure on water supply during periods of reduced rainfall, and damage to structures and drainage systems during periods of heavy precipitation.
Storms (high wind and lightning)	In	Projections indicate an increase in the frequency and intensity of storms and the

Climate Variable	In/ Out of CCR Assessment	Rationale
		Proposed Development may be vulnerable to extreme weather events such as storm damage to structures and assets.

Based on the table above a climate change resilience assessment is scoped into the Climate Change assessment. Outputs from the lifecycle GHG impact assessment and the climate change resilience assessment will be presented in a standalone Climate Change Impact Report.

16. Population and Health

This section will outline the proposed approach to assessing the likely significant effects of population and health associated with construction, operation and decommissioning of the Proposed Development.

16.1. Baseline Conditions

Public health profile data produced by Public Health England (Office for Health Improvement & Disparities), published under the Public Health Outcomes Framework has been reviewed for the purposes of this EIA Scoping Report.

A detailed human health profile will be developed for the population and human health assessment which focuses on key indicators at Ward and district level. Wards that will be included are Knottingley Ward, which is the Ward the Main Site lies within; and Monk Fryston and South Milford Ward, Thorpe Willoughby and Hambleton Ward, and Camblesforth and Carlton Ward, which are the Wards that the Proposed Pipeline Corridors will run through. Districts that will be included are WMDC, which the Main site falls within, and Selby District (which falls under NYC), which is the district that the Proposed Pipeline Corridors will run through. A comparison with regional (Yorkshire and the Humber) and national (England) averages will also be provided. This profile will be consolidated by engaging with the Integrated Care Board and the relevant local authority to ensure that it is a consolidated baseline.

An initial high-level summary of key indicators deemed relevant to likely health impacts of the Proposed Development for the local area, and the comparative geographies is set out in Table 26. At this scoping stage, data is provided for Knottingley Ward (Main site location), WMDC, and Selby District. Data has been obtained from a number of recognised data sources including:

- Census 2021 (ONS, 2021);
- Claimant Count 2024 (ONS, 2024); and
- Public Health England - Office for Health Improvement and Disparities (2024).

The list above is intended to provide an outline of sources and it should be noted that additional datasets may be used in the preparation of the assessment.

Table 26: Human health baseline indicators

Indicator	Knottingley Ward	WMDC	Selby District	Yorkshire and the Humber	England
Population (2021-2022) ^{54 55}	14,445	361,786	92,000	5,541,262	57,106,000
Population aged under 16 (per cent (%)) (2022) ^{54,56,57}	20.1	18.7	18.0	18.5	18.5
Population aged 65 and over (%) (2022) ^{54,56}	18.3	19.0	20.4	19.0	18.3
Ethnic minority population (%) (2021) ^{54,57,58}	2.1	7.0	2.4	14.6	19.0

⁵⁴ Local Government (n.a) Key facts about Knottingley Ward. Available at: <https://reports.esd.org.uk/reports/shared?encryptedId=65B97B846071150E4F8B0B327B790056F73B1CE549B53463A36A2873C6F0DF36> (Accessed August 2024).

⁵⁵ Census population profiles, 1981 to 2021, Available at: <https://bothness.github.io/censusprofiles/E12000003/?year=2021> (Accessed September 2024)

⁵⁶ Office for Health Improvement and Disparities, North Yorkshire (UTLA, 2021), Available at: https://www.localhealth.org.uk/#c=report&chapter=c04&report=r01&selgeo1=lalt_2021.E07000169&selgeo2=eng.E92000001 (Accessed September 2024)

⁵⁷ NOMIS (2021) 2021 Census Profile. Available at: <https://www.nomisweb.co.uk/reports/localarea?compare=E08000036,E12000003,E92000001> (Accessed August 2024).

⁵⁸ Local Government Association (n.a), Cohesion and Integration in North Yorkshire. Available at <https://lginform.local.gov.uk/reports/view/lga-research/lga-research-cohesion-and-integration?mod-area=E06000065#Ethnicity> (Accessed September 2024)

Indicator	Knottingley Ward	WMDC	Selby District	Yorkshire and the Humber	England
Residents aged 16 years and over in employment (%) (2021) ^{57,56}	54.8	56.1	59.9	53.5	55.7
Unemployment (%) (2021) ^{57,56}	2.5	2.6	1.9	2.7	2.9
Claimant Count (% claiming unemployment-related benefits aged 16-64) (2024) ^{54,57}	4.3	3.7	2.7	4.2	3.9
Education of Level 4 and above qualifications (%) (2021) ^{54,57}	16.45	24.27	31.1	29.5	33.9
No qualifications (%) (2021) ^{54,57}	31.3	24.4	16.0	20.6	18.1

Indicator	Knottingley Ward	WMDC	Selby District	Yorkshire and the Humber	England
Income deprivation (%) ⁵⁶ above	18.9	14.7	7.9	-	12.9
Index of Multiple Deprivation (IMD) Score ⁵⁹	36.6	27.3	12.7	-	21.7
General Health – good or very good (%) (2021) ⁵⁴	75.3	79	83.1	80.5	82.2
General Health – bad or very bad (%) (2021) ⁵⁴	7.7	6.6	4.3	5.8	5.2
Disability – day-to-day activities limited a lot or a little (%) (2021) ⁵⁴	22.1	20.1	16.3	18.6	17.3

⁵⁹ Department of Health and Social Care, Local Authority Health Profiles. Available at: <https://fingertips.phe.org.uk/profile/health-profiles/data#page/1/qid/1938132701/ati/502/iid/90366/age/1/sex/1/cat/-1/ctp/-1/yrri/3/cid/4/tbm/1> (Accessed September 2024)

Indicator	Knottingley Ward	WMDC	Selby District	Yorkshire and the Humber	England
Life expectancy at birth (male) (years) (2020-2022) ⁵⁶	74.7	77.0	80.5	77.9	79.5
Life expectancy at birth (female) (years) (2020-2022) ⁵⁶	79.9	80.9	83.7	81.9	83.2
Under 75 mortality rate from causes considered preventable (Standardised mortality ratio) ⁵⁶	193.6	130.2	87.0	113.5	100.0

16.1.1. Future baseline

Between 2011 and 2021 the populations of Wakefield and Selby increased by 8.4% and 10.2%, which were greater than the average population increase for Yorkshire and the Humber (3.7%) and England as a whole (6.6%)⁶⁰. Total population numbers in

⁶⁰ Census 2021. Available at <https://www.ons.gov.uk/visualisations/censuspopulationchange/E08000036/>

Wakefield are projected to keep on increasing, and at a greater rate than elsewhere in the region. Over the next 3 years, the population is estimated to grow by 0.9% – 1.0%. This growth rate is then predicted to steadily decline to 0.6%, per year. An increasing population will lead to increased pressures on services such as health and social care.

Both Wakefield and Selby have ageing populations. In Wakefield, the size of the 60-79 age range population has been steadily increasing for the last decade and will continue to do so over the next 3 years⁶¹. After which, there is predicted to be continued rise, plateauing in 2032. An increase in the population size is also seen in the 80+ age range, which is predicted to steadily increase and will continue for the foreseeable future. Selby has an older population, with a larger proportion of the population aged 65+ relative to England. By 2030 this proportion is set to increase further, and the number of residents aged 85+ is set to increase by 47%⁶². Implications of an ageing population are wide in terms of people living longer into older age, with an increased demand for health and well-being services, a reduced contribution to the economy and lower incomes, and increased human resources for care services (paid and unpaid carers).

16.2. Scope of the Assessment

In November 2022, IEMA published two new pieces of guidance on assessing human health as part of EIA^{63,64}. Previous to this, there was no consolidated methodology or practice for the assessment of effects on human health. Therefore, previously no specific human health impact assessment was required as environmental aspects that were relevant or partially relevant to population and human health would assess the impacts on human health within each respective chapter.

The human health assessment will be qualitative and based on this new IEMA guidance. It will consider the potential impacts for each phase of the development. Key principles of the IEMA guidance include assessing effects at population level, as opposed to individual receptor level, and consideration of effects on health inequalities and vulnerable groups. Wherever possible, the impacts identified in the assessment will

⁶¹ Wakefield Joint Strategic Needs Assessment, 2023. Available at: <https://www.wakefieldjsna.co.uk/population/resident-population>

⁶² North Yorkshire County Council, 2021. North Yorkshire Joint Strategic Needs Assessment, Selby District Summary Profile.

⁶³ IEMA (2022) Determining significance for human health in environmental impact assessment. Available at <https://www.iema.net/resources/blog/2022/11/17/launch-of-the-eia-guidance-for-considering-impacts-on-human-health> (Accessed 23 August 2024)

⁶⁴ IEMA (2022) IEMA guide: Scoping Human Health in Environmental Impact Assessment. Available at <https://www.iema.net/resources/blog/2022/11/17/launch-of-the-eia-guidance-for-considering-impacts-on-human-health> (Accessed 23 August 2024)

be appraised against relevant national standards. Where relevant standards do not exist, professional experience and expert judgement will be applied and justified.

This chapter will identify the communities that will be subject to impacts associated with the Proposed Development and will identify the potential effects on the health and wellbeing of those communities in the following Wards: Knottingley, Monk Fryston and South Milford, Thorpe Willoughby and Hambleton, and Camblesforth and Carlton; and the wider area where relevant, as a consequence of the Proposed Development.

This chapter will consider the Proposed Development in the context of established national and local policy standards and best practice benchmarks. This will include alignment of the Proposed Development with human health policy.

If a change in a wider determinant of health is likely, it should be scoped into the human health assessment. The assessment must present the 'likely significant' human health effects of the project. These may include both physical and mental health effects. At the scoping stage, there are uncertainties and there is limited insight into significance, so scoping identifies whether health effects are 'potentially significant' or not. Therefore, the list of determinants that could potentially be significantly impacted during construction, operation, and decommissioning is provided in Table 27 below. A number of determinants have been scoped out for further assessment as the nature of the Proposed Development is not considered to be able to influence these determinants either positively or negatively.

Other relevant EIA technical topics will inform the population and human health assessment. These are as follows:

- Air Quality;
- Noise and Vibration;
- Traffic and Transport;
- Water Environment and Flood Risk;
- Landscape and Visual Amenity;
- Socio-Economics;
- Geology, hydrogeology and land conditions; and
- Climate Change.

Potential impacts on human health, as a result of decommissioning the Proposed Development, will not be separately assessed as part of the Population and Human Health assessment. This is on the basis that the effects of decommissioning are likely to be similar to, or no worse than, the effects from construction.

16.3. Summary of matters proposed to be scoped in or out of the ES

Table 27: Summary of the scope of assessment for health

Matter	Construction	Operation	Decommissioning
Access to healthcare and other social infrastructure services	In	In	Out
Community safety	In	In	Out
Community identity and social participation	In	In	Out
Radiation	In	In	Out
Wider societal infrastructure and resources	In	In	Out
Diet and nutrition	Out	Out	Out
Risk taking behaviour	Out	Out	Out
Housing	Out	Out	Out
Relocation	Out	Out	Out

17. Materials and Waste

This section will outline the proposed approach to assessing the likely significant effects on materials and waste associated with construction, operation and decommissioning of the Proposed Development.

17.1. Baseline Conditions

The study areas for the assessment of impacts related to materials and waste are defined in line with IEMA Guide to: Materials and Waste in Environment Assessment, Guidance for a Proportionate Approach (referred from herein as the 'IEMA Guidance')⁶⁵.

The Site is located within the administrative boundaries of WMDC and NYC. There are no authorised or permitted landfill sites within the Site and Proposed Pipeline Corridors. There are historic landfill sites within and beyond 5km and from the Site and are considered to be material to this assessment. The nearest historic landfill site is 'Ferrybridge C Power Station' (EAHLD03726) which is located approximately 270m north of the Main Site. This is shown on Figure 3.2.

Baseline data within the Site will be gathered and presented in the Materials and Waste chapter for:

- Impacts on any safeguarded mineral (e.g. quarries) and waste sites;
- Presence of historic and permitted landfills; and
- Presence of permitted waste sites and waste site applications.
- Non-hazardous and inert landfill void capacity (Yorkshire);
- Hazardous waste landfill void capacity (England);
- Waste management facility capacity (liquid waste only) (England); and
- Availability of key construction materials (UK/Great Britain (GB) and Yorkshire).

There are safeguarded mineral zones within the Site. These include:

- Siniat Gypsum Works (a safeguarded area for Mineral Production (Ref: SMP06));
- Building Stone Safeguarding Area Region;
- Coal Shallow Safeguard Area Region;
- Limestone Safeguard Area Region;
- Brick Clay Safeguard Area; and

⁶⁵ Materials and Waste in Environmental Impact Assessment - March 2020, <https://www.iema.net/resources/reading-room/2020/03/30/materials-and-waste-in-environmental-impact-assessment>

- Sand and Gravel Safeguard Area.

Baseline conditions relevant to a materials and waste assessment include:

- The available capacity for managing waste from the Proposed Development, at an appropriate scale (regional for inert and non-hazardous waste, and national for hazardous waste);
- Relevant waste management policies at national, regional and local level;
- Locations of sites currently used, or safeguarded in planning policies, for waste management or minerals extraction and processing; and
- Availability of major materials used by the Proposed Development.

17.1.1. Future baseline

The future baseline will assume the likely future conditions in the study area in the absence of the Proposed Development. It will assume that the land remains undeveloped and (where relevant) part of the wider Ferrybridge Site.

The future baseline for the materials and waste assessment will consider natural population growth and how predicted climate change might affect existing conditions at the Site.

17.2. Scope of the Assessment

The assessment will follow the methodology set the IEMA Guidance (IEMA, 2020).

For the purpose of this scoping report, 'materials and waste' comprises:

- The consumption of materials (key construction materials only e.g. concrete, aggregate, asphalt and steel); and
- The generation and management of waste.

Materials are defined in the IEMA Guidance materials as “physical resources that are used across the lifecycle of a development. Examples include key construction materials such as concrete, aggregate, asphalt and steel.”

Other material assets considered include built assets such as landfill void capacity and safeguarded mineral and waste sites.

Waste is defined as per the Waste Framework Directive (European Union, 2008) as “any substance or object which the holder discards or intends or is required to discard”.

The sensitive receptors for this assessment of impacts are:

- Landfill void capacity in the expansive study areas of the Yorkshire and the Humber (non-hazardous landfill void capacity) and England (hazardous landfill void capacity) – as defined in the IEMA guidance “landfill is a finite resource, and

hence – through the ongoing disposal of waste – there is a continued need to expand existing and develop new facilities, This requires the depletion of natural and other resources which, in turn, adversely impacts the environment.”; and

- Materials (construction only), national consumption of key construction materials – as outlined in the IEMA guidance *“materials are, in their own right, sensitive receptors. Consuming materials impacts upon their immediate and (in the case of primary material) long-term availability; this results in the depletion of natural resources and adversely impacts the environment.”*.

The IEMA guidance *“does not consider waste processing and recovery facilities as sensitive receptors, rather: they are part of a system that has the potential to reduce the magnitude of adverse impacts associated with waste generation and disposal. Waste processing and recovery facilities are, hence, different to landfills, in that the latter are finite resources.”*

The assessment criteria for determining sensitivity, magnitude and significance as set out by the IEMA Guidance will be used in the assessment.

The sensitivity of receptors and magnitude of impacts on materials and waste will be assessed through the following:

17.2.1. Waste

- Establishing the baseline landfill void capacity in the non-hazardous (including inert) and hazardous waste study areas;
- Assessing the sensitivity of landfill void capacity;
- Establishing the quantities of construction, demolition, excavation and operational waste to be generated during the construction and operation of the Proposed Development; and
- Comparing the total waste arising from the construction and operation of the Proposed Development against the landfill void capacity (utilising a percentage approach). Where operational wastes are identified that are not suitable for landfill disposal these wastes will be considered in the context of national waste management facility capacity rather than landfill void capacity.

17.2.2. Materials (construction only)

- Establishing the baseline for national and regional consumption of key construction materials by weight;
- Assessing the sensitivity of materials as related to the availability and types of materials to be consumed by the Proposed Development in construction;
- Establishing the quantities of key construction materials required for the construction of the Proposed Development; and

- Comparing the total quantities of key construction materials with the most recent national and regional consumption (utilising a percentage approach).

Due to the limitation on information available at this stage, and the uncertainty about the nature of mitigation(s) and the method by which mitigation(s) would be secured, material use and waste generation during the construction and waste generation during operation of the Proposed Development is scoped into the assessment.

The following matters will be scoped out of the assessment of materials and waste:

- Waste arising from extraction, processing and manufacture of construction components and products. This is based on the assumption that these products and materials are being developed in a manufacturing environment with their own waste management plans, facilities, and supply chain, which are potentially in different regions of the UK or the world and therefore outside of the geographical scope of this study. Such matters cannot be accurately predicted and assessed in the ES as they relate to procurement decisions that cannot be assured;
- Changes in available landfill void capacity. Due to the nature of the scheme, it is likely to generate negligible quantities of waste during operation and therefore changes in available landfill void capacity are scoped out.
- Other environmental impacts associated with the management of waste from the Proposed Development e.g., on water resources, air quality, noise or traffic resulting from the generation, handling, on-Site temporary storage or off-Site transport of materials and waste are addressed separately in other relevant chapters;
- Changes to safeguarded mineral and waste sites, as there are no such sites within the Proposed Development Site;
- Changes in availability of maintenance materials during the operation of the Proposed Development. Forecast materials effects are (using professional judgement) considered negligible in relation to the scale and nature of the Proposed Development; and
- Effects associated with decommissioning as the Proposed Development has a long design life and such it is not considered possible to reliably forecast decommissioning requirements. Potential impacts, as a result of decommissioning the Proposed Development, will not be separately assessed as part of the Materials and Waste assessment. This is on the basis that the effects of decommissioning are likely to be similar to or no worse than the effects from construction.

17.3. Summary of matters proposed to be scoped in or out of the ES

Table 28 Summary of the scope of assessment for materials and waste

Matter	Construction	Operation	Decommission
Changes to safeguarded mineral Site	In	In	Out
Changes to safeguarded waste Site	Out	Out	Out
Changes in availability of construction materials	In	-	-
Changes in available landfill void capacity	In	Out	Out
Changes in availability of maintenance materials	-	Out	-
Changes in available waste management facility capacity (liquid waste only)	Out	In	Out

18. Major Accidents or Disasters Vulnerability

This section will outline the proposed approach to assessing the likely significant effects on Major Accidents and Disasters (MA&D) associated with construction, operation and decommissioning of the Proposed Development.

A summary of the key terms used in this MA&D assessment is provided in Table 29 and will be developed further within the ES.

Table 29: Summary of the key terms used in the MA&D assessment

Term	Definition
Vulnerability	Vulnerability describes the susceptibility of an individual, a community, assets or systems to the impacts of hazards, either in terms of the likelihood of that experience or the extent to which an impact might result in an effect (and how reversible that effect might be). Within MA&D assessment, the term ‘vulnerability’ is used to describe the ability of the Proposed Development to plan, control, resist and recover from a MA&D event in a timely manner.
Hazard	A hazard is defined as an event that may cause harm. Hazards for the purposes of the MA&D assessment are defined as non-malicious events including natural disasters, industrial accidents and industrial action.
Threat	Threats for the purposes of the MA&D assessment are defined as malicious attacks.
Serious damage	Serious damage includes the potential loss of life or permanent injury and/or permanent or long-lasting damage to an environmental receptor that cannot be restored through minor clean-up and restoration efforts and which requires the use of resources beyond those of the Proposed Development or its contractors to manage.
Major accident	A major accident, in the context of a MA&D assessment, means an uncontrolled event caused by a man-made activity or asset that may result in immediate or delayed serious damage to human health, welfare and/or the environment and requires the use of resources beyond those of the Proposed Development or its contractors to

Term	Definition
	<p>manage. It should be noted that malicious intent is not accidental, however the outcome of such an incident, e.g. aeroplane crash, may be the same and, therefore, the same mitigation measures may apply to both deliberate and accidental events.</p>
Disaster	<p>A disaster, in the context of MA&D assessment, is a naturally occurring phenomenon such as an extreme weather event (e.g. storm, flood, extreme temperatures) or ground-related hazard event (e.g. subsidence, landslide, earthquake) with the potential to cause an event or situation that leads to immediate or delayed serious damage to human health, welfare and/or the environment and requires the use of resources beyond those of the Applicant or its contractors to manage.</p>

Guidance that is relevant to the assessment of MA&D are as follows:

- Chapter 4 of the Cabinet Office (2006) Emergency Preparedness guidance on part 1 of the Civil Contingencies Act (CCA) (hereafter referred to as the ‘CCA risk assessment framework’);
- Chemicals and Downstream Oil Industries Forum (CDOIF) 2016 Guidelines, Environmental Risk Tolerability for COMAH Establishments (CDOIF, 2016);
- European Commission’s 2017 Guidance on EIA (European Commission, 2017);
- PINS’s 2017 Annex G to Advice Note eleven: Working with public bodies in the infrastructure planning process (PINS, 2017);
- European Commission’s 2017 Overview of Natural and Man-made Disaster Risks the European Union May Face (European Commission, 2017b);
- Health and Safety Executives (HSE)s 2001 Reducing Risks Protecting People decision-making process (HSE, 2001);
- IEMAs 2020 MA&D in EIA: A Primer (IEMA, 2020);
- HSEs Major Hazard Regulatory Model: Safety Management in Major Hazard Sectors (HSE, n.a.);
- Defra’s 2011 The Green Leaves III Guidelines for Environmental Risk Assessment; and
- The Department for the Environment, transport and regions (1999) Guidance on the Interpretation of Major Accidents to the Environment for the purposes of COMAH Regulations.

Additional guidance may be applicable during the EIA, and this will be referred to as appropriate in the MA&D chapter.

Ferrybridge Next Generation Power Station

18.1. Baseline Conditions

The study area for assessment of MA&D is not defined within regulatory guidance or standardised methodology. Therefore, for the purpose of this Scoping Report, potential MA&D have been identified through the use of professional judgement and previous assessments of similar, comparable projects.

A number of external factors will be taken into consideration for the MA&D assessment. An outline of these factors is set out below, with further detail to be provided within the ES.

WMDC local authority area has a population of 361,786 people as of 2021⁶⁶ and North Yorkshire local authority area has a population of 615,400 people as of 2021⁶⁷

There are no airfields within 20km of the Site. A railway line previously used for transporting coal is located east of the Main Site and water abstraction area is no longer in use but may be used in the future for as part of the Proposed Development.

The Site is situated in an industrial area. According to the HSE website, there are no COMAH establishments located within 5km of the Site.

There are existing nearby facilities (National Grid Ferrybridge B & C Substations, Enfinity Ferrybridge 1 (85 MW energy from waste facility) and Enfinity Ferrybridge 2 (85 MW energy from waste facility) which may present a risk of MA&D that require consideration, particularly given their close proximity to the Proposed Development. It is assumed that each of these facilities operates an environmental management system and a safety, health and environmental (SHE) management system.

18.1.1. Main Site

There are no international designated sites (Ramsar sites, SACs, SPAs) located within 15km of the Main Site. There are no ancient woodlands located within 2km of the Main Site.

The River Aire flows along the eastern boundary of the Main Site and coincides with the cooling water intake and outfall structures. The Fryston Beck also coincides with the Main Site and is a minor watercourse in an artificially aligned channel.

⁶⁶ Local Government (n.a) Key facts about Knottingley Ward. Available at: <https://reports.esd.org.uk/reports/shared?encryptedId=65B97B846071150E4F8B0B327B790056F73B1CE549B53463A36A2873C6F0DF36> (Accessed August 2024).

⁶⁷ Census population profiles, 1981 to 2021, Available at: <https://bothness.github.io/censusprofiles/E10000023/?year=2021>, (Accessed September 2024)

18.1.2. Proposed Pipeline Corridors

There are no international designated sites (Ramsar sites, SACs, SPAs) located within 5km of the Main Site. There are no ancient woodlands located within 2km of the Proposed Pipeline Corridors (See Section 2.4.2).

Natural hazards relevant to the Site (including meteorological hazards, geological hazards and other types of hazards) include:

- Flooding;
- Ground instability;
- Storms;
- Drought;
- Earthquakes;
- Heatwave;
- Cold and snow;
- Wildfire;
- Lightning and electrical storms;
- Events of reduced visibility (e.g. due to volcanic ash, dust sand or fog); and
- Extreme humidity (high and low).

18.1.3. Future baseline

The future baseline will assume the likely future conditions in the study area in the absence of the Proposed Development. It will assume that the land remains undeveloped and (where relevant) part of the wider Ferrybridge Site.

The future baseline for the MA&D assessment will consider natural population growth and how predicted climate change might affect existing conditions at the Site.

18.2. Scope of Assessment

The methodology adopted for the MA&D assessment differs from the generic EIA methodology (as set out in Section 21: EIA Process) in that the MA&D assessment focuses on risk (i.e. the combination of the consequence (impact magnitude) arising from a potential event and its likelihood of occurrence), rather than the magnitude of impact only. The MA&D assessment will also consider the findings of the Population and Human Health assessment.

This section provides a summary of the MA&D assessment methodology. The scope of assessment considers the impacts and resultant effects during the construction and operation of the Proposed Development.

Potential impacts as a result of decommissioning the Proposed Development, will not be separately assessed as part of the MA&D assessment. This is on the basis that the Ferrybridge Next Generation Power Station

effects of decommissioning are likely to be similar to or no worse than the effects from construction.

18.2.1. Overview

The MA&D assessment will consider the potential for risks to occur due to the:

- Vulnerability of the Proposed Development to a natural disaster;
- Potential for the Proposed Development to create a new or alter an existing source of a major accident;
- Potential for the Proposed Development to create a new pathway between a source of a MA&D and receptor; and
- Potential for the Proposed Development to impact on the vulnerability of a receptor to a MA&D risk event.

In accordance with guidance provided by IEMA, the MA&D assessment will focus on the high consequence, low probability events and therefore will not consider the risk events which will be suitably assessed, regulated and controlled by other legislative frameworks. For example, the potential for construction-related accidents, causing harm to construction workers, are not within the scope of the EIA, unless these could also cause harm to an environmental receptor including members of the public beyond the boundaries of the construction Site. Existing legislation around safe working practices and Construction Design and Management (CDM) would ensure that such risks are mitigated appropriately without the need for further assessment.

In addition, with regards to 'disasters', there are a number of potential impacts which will be assessed within other topic-specific sections of the ES. For example, extreme weather events may result in disasters such as flooding and pollution. The potential for flooding disasters will be covered by the Flood Risk Assessment as part of the Water Environment impact assessment. Pollution to groundwater resources and contaminated land will be considered within the Geology, Hydrogeology and Land Contamination assessment. Accidental spillage of contaminants such as hydrocarbons and their subsequent release into the drainage system will also be considered in the Water Environment and Flood Risk section. Events that could occur as a result of a flood (i.e. are triggered by a flood) will be considered within the MA&D assessment.

It is assumed that existing safety precautions at neighbouring industrial sites, along with the implementation of a CEMP at the Site, will mitigate the risk of domino effects occurring. If further specific mitigation is required as a result of the introduction of the Proposed Development, this will be identified through the COMAH licence application and will be reported in the ES, if available at the time of assessment, as either embedded or additional mitigation. Safety measures will be implemented during the

operation of the Proposed Development in accordance with relevant standards and guidance.

Potential impacts on MA&D, as a result of decommissioning the Proposed Development, will not be separately assessed as part of the MA&D assessment. This is on the basis that with appropriate controls implemented through the DEMP the effects of decommissioning are likely to be similar to, or no worse than the effects from construction.

18.2.2. Study area

Each identified MA&D hazard and threat (a 'risk event') will be assigned an individual study area taking consideration of hazard or threat source, any identified impact pathways, potential receptors and the reasonably foreseeable worst-case environmental consequence if the event occurred. The study area is determined on the basis of a worst-case impact area of a similar incident that has previously occurred if information on this is available, or on the basis of professional judgement if not available.

18.2.3. Establishment of baseline and definition of surveys

The baseline for identifying source-pathway-receptor link for MA&D risk events has been established through the identification of:

- Potential natural hazards that may impact the Site, including meteorological hazards, geological hazards and other types of hazards;
- Existing major accident hazard sources that may impact the Site;
- Risk events identified within the UK National Risk Register; and
- Sensitive environmental receptors within the study area at risk of MA&D hazards associated with the Proposed Development.

North Yorkshire Local Resilience Forum and West Yorkshire Local Resilience Forum prepared a Community Risk Register^{68, 69} that details risk relevant to the areas surrounding the Site.

The baseline that will be presented within the MA&D assessment will build upon that set out above, using baseline information presented within other technical assessments of

⁶⁸ York and North Yorkshire Local Resilience Forum (2023) York and North Yorkshire Community Risk Register. Available at: https://www.northyorks.gov.uk/sites/default/files/2023-11/NYC%20Community%20Risk%20Register%20Brochure%20Nov%202023%20-%20accessible_1.pdf (Accessed 29 August 2024)

⁶⁹ West Yorkshire Prepared (2021) Community Risk Register. Available at: <https://www.westyorkshireprepared.org.uk/> (Accessed 29 August 2024).

the of the ES where relevant. The information will be used to establish existing risk events at the Site that may impact the Proposed Development and to identify the relevant receptors.

Other information relevant to the baseline assessment that will inform the identification of potential MA&D source-receptor-pathway linkages within the defined study areas include:

- Sites with existing COMAH and/or a Hazardous Substance Consents;
- Sites permitted by the EA for landfill or mining;
- Utilities; and
- Other key infrastructure, such as railway lines and main roads.

Operation of the Proposed Development will require number of consents and licences (such as an Environmental Permit). The appropriate consents and licenses will be identified as the design and application progresses

18.2.4. Assessment Methodology

The assessment methodology follows the below stages process.

- Stage 1: Identification of risk events
 - All MA& risk events will be collated into an Environmental Risk Assessment.
- Stage 2: Screening of risk events
 - Each risk event will be reviewed to determine whether a source-pathway-receptor linkage exists to any of the identified environmental receptors;
 - For each risk event with a linkage pathway, the reasonably foreseeable worst-case environmental consequence (i.e. the likely significant effect) will be identified; and
 - The reasonably foreseeable worst-case consequence of risk events will be identified and categorised based on the 'severity of harm' and 'duration' as set out in the Environmental Risk Assessment. The criteria for the assessment of both 'severity of harm' and 'duration' are based on the Chemical and Downstream Oil Industries Forum (CDOIF) and HSE Guidelines.
- Stage 3: Identification of mitigation
 - Primary and tertiary mitigation measures that are either embedded within design, required for compliance with legislation, other regulatory regimes, or represent standard practice, and reduce the risk of risk event will be identified; and
 - Following the consideration of primary and tertiary mitigation, the likelihood of the risk event occurring will be determined on the basis of the probability criteria.
- Stage 4: Identification of residual risks and their significance

- Following the consideration of all mitigation proposed, a residual risk category will be assigned, and the significance of the residual risks determined.

In summary, the approach will consider the reasonably foreseeable worst-case environmental consequences of the identified risk events (i.e. the likely significant effect), the probability of these consequences occurring, embedded and specific mitigation to be implemented and the acceptability of the subsequent risk to the environment. The assessment process is iterative with the aim to identify sufficient controls to mitigate all MA&D risks to a level such that no significant MA&D effects are predicted.

The proposed assessment criteria drawn upon the approach set out within CDOIF Guidelines on Environment Risk Tolerability for COMAH Establishments, which is a common approach adopted in MA&D assessments in recent comparable applications. However, for clarity, throughout the assessment criteria adopted within the ES reference will be made to the criteria provided within the CCA risk assessment framework to allow for consistency with future emergency planning at a local level.

18.2.5. Assessment Criteria

Table 30: Assessment criteria for major accident and disaster assessment

Criteria	Explanation
Severity of harm	The criteria that will be used in the MA&D has been developed from CDOIF Guidelines and HSE guidelines. Reference is also made to the criteria provided within the CCA risk assessment framework.
Duration	The criteria for the assessment of the duration of harm is also based on CDOIF and HSE. The CCA risk assessment framework only provides guidance on the duration of harm under social (population) receptors.
Level of consequences (Impact Magnitude)	The level of consequence matrix for the MA&D assessment will be defined using CDOIF Guideline. Level of consequence will consider the severity of harm and the duration of the harm to separate risk events into five categories ('Not a MA&D' and categories A to D). 'Not a MA&D' represents the lowest level of consequence and category 'D' the highest.

Criteria	Explanation
	<p>The ES will provide a comparison of the level of consequence between the criteria set out within the CCA risk assessment framework and the CDOIF Guidelines.</p> <p>For the purposes of this assessment, those hazards or threats which are considered to be a level 1 event under the CCA risk assessment framework are not considered to constitute a MA&D and will be screened out of further assessment. Risk events considered to be a level 2 event, whilst not considered an emergency under the CCA risk assessment framework, are considered to constitute a MA&D as they could result in serious damage as defined for the purposes of this assessment.</p>
Probability of risk event occurring	The probability of a risk event occurring has been assessed in accordance with the definitions which are based on CDOIF Guidelines and the CCA risk assessment framework.
Classification of risk	Following CDOIF guidelines, the tolerability of a risk is identified by considering the consequence of a risk event and the probability of the risk event occurring. This is similar to the CCA risk assessment framework that classifies risks using 'impact' and 'likelihood'. The matrix below (Table 12) identifies how risks are classified in the MA&D assessment.

Table 31: Classification of risk

Consequence	Probability					
	Extremely improbable	Extremely remote	Remote	Rare	Unlikely	Likely
D	Tolerable	TifALARP	Intolerable	Intolerable	Intolerable	Intolerable
C	Tolerable	Tolerable	TifALARP	Intolerable	Intolerable	Intolerable
B	Tolerable	Tolerable	Tolerable	TifALARP	Intolerable	Intolerable
A	Tolerable	Tolerable	Tolerable	Tolerable	TifALARP	Intolerable
Not a MA&D	Not within the scope of MA&D assessment					

Following the classification of a risk, a clear statement is made as to whether the risk is 'significant' or 'not significant'. As a general rule, intolerable risks are considered to be significant and tolerable or 'Tolerable if As Low As Reasonably Practicable' (TifALARP) risks are considered to be not significant. However professional judgement is also applied where appropriate.

18.2.6. Significance of effects

A significant adverse effect for the Proposed Development is an event that has the potential to cause permanent injury or loss of human life and/ or permanent or long-lasting damage to an environmental receptor which cannot be restored without clean-up or restoration efforts. The determination of significance takes into account a number of other factors and will be determined based on professional judgement.

Furthermore, reference will be made to the tolerability criteria of MA&D risk events established within existing guidance documents to conclude whether an effect is considered to be significant.

Through compliance with health and safety legislation, risks to employees will be mitigated to as low as reasonably practicable (ALARP). Appropriate security measures including a secure boundary fence for the Proposed Development will reduce the likelihood of trespass to ALARP.

18.3. Summary of matters proposed to be scoped in or out of the ES

Table 32: Summary of the scope of assessment for major accidents and disasters

Matter	Construction Assessment	Operational Assessment	Decommissioning Assessment
Major accidents and disasters	In	In	Out

19. Matters to be Scoped Out

This section provides a summary of topics that are proposed to be scoped out of the EIA with justification following professional judgement and guidance from PINS Advice Note 7. Topics scoped out follow from an initial assessment indicating significant effects are unlikely. A summary table is provided at the end of the section Table 33).

19.1. Operational Road Traffic (including related air quality and noise and vibration effects)

At this stage the volume of traffic associated with the operational phase of the Proposed Development has not been quantified. However, it is reasonably anticipated that the effects of operational traffic would be considerably lower than those generated during the construction phase. Depending on the forecast volumes of operational traffic, a detailed environmental assessment of this phase would potentially be scoped out following agreement on the TA scope with the relevant highway authorities.

Using the operational forecast traffic flows from the TA scoping report, relevant screening criteria for air quality and noise and vibration will be applied in order to determine the potential for significant effects from the Proposed Development. Depending on the forecast volumes of operational traffic, a detailed assessment of this phase would potentially be scoped out with Local Planning Authority for air quality and noise and vibration.

19.2. Biodiversity and Nature Conservation (surveys not required)

The potential biodiversity constraints and associated survey requirements have been screened with reference to the differing contexts of the Main Site and the Proposed Pipeline Corridors to determine the matters to be scoped in (refer to Section 9) and scoped out (as identified and explained below).

The Main Site is within the control of the Applicant and is largely vacant previously-developed land of low biodiversity interest. However, it is also where most of the permanent above ground infrastructure for the Proposed Development will be focussed.

In comparison, the Proposed Pipeline Corridors are located on land owned by third parties and the Applicant would have no long-term control over how the land is managed after it is handed back at the end of construction. As such, and particularly noting implications arising from the statutory BNG regime, the Applicant has a strong interest in avoiding and minimising losses of important habitats, and restricting impacts to locations (such as arable fields) that can be easily reinstated within a reasonable timeframe such that any impact can be considered temporary. Given this, the scoping of survey work for the Proposed Pipeline Corridors has given appropriate attention to the need to maximise impact avoidance through sensitive design, the temporary nature and duration of the construction activities, and the restriction of construction activities largely

to within intensively managed arable fields. As such, the survey scope for the Proposed Pipeline Corridors (refer to section 9.1) is considered proportionate to meet good practice and requirements for planning policy and legislative compliance, whilst avoiding unnecessary survey work for ecological features that are not be likely to experience significant ecological impacts and effects.

Taking account of the above rationale, the following species and types of survey have been scoped out:

Bats (foraging) - permanent losses of foraging habitat would be restricted to the minimum needed to construct the Proposed Development. The Main Site is largely previously developed land, so any foraging habitat losses would be restricted to small stands of trees, scrub and grassland with no implications for wider habitat availability and connectivity for bats. Similarly, any impacts to bat habitats will be minimised and negligible along the Proposed Pipeline Corridors to minimise implications arising from the statutory BNG regime. Consequently, bat activity survey are not required to inform impact assessment as habitat availability for bats is not likely to be meaningfully affected.

Great crested newt – presence/absence surveys were completed in 2024 and the data gathered is considered sufficient for determination of the Application. Given just one pond was found that supported great crested newt and its location relative to the relevant elements of the Proposed Development (the Proposed Pipeline Corridors), it is considered that an unlicensed Reasonable Avoidance Measures Methods Statement (RAMMS) based approach would be sufficient to achieve legislative compliance. Therefore, population size class data does not need to be obtained to inform determination of the Application.

Reptiles - the PEA has demonstrated that the Main Site (which was occupied by a power station dominated by hard landscaping until relatively recently) does not contain habitats that would be likely to support a reptile population. Similarly, the intensively farmed context of the landscape along the Proposed Pipeline Corridors makes it unlikely that resident reptile populations would occur as there is insufficient suitable habitat to sustain a resident population. In relation to the latter, no substantive impacts on higher value habitats that could support reptiles are anticipated given the need to minimise losses of non-arable habitats during construction and to reinstate affected habitats back to their baseline condition after construction. Survey data is not needed to inform impact assessment, as there is no potential to adversely affect the conservation status of any reptile species.

Terrestrial invertebrates - the PEA has demonstrated that the habitats present across the Site are not likely to support notable invertebrate assemblages. Terrestrial invertebrate surveys are therefore not considered necessary to inform impact assessment.

White clawed crayfish (*Austropotamobius pallipes*) – there are no known records of this species in the lower reaches of the River Aire, and it is reasonable to assume that the species is absent given the widespread occurrence of the non-native signal crayfish (*Pacifastacus leniusculus*) and the associated crayfish plague in the Aire catchment.

Breeding birds – no survey work is proposed in relation to the Proposed Pipeline Corridors given that considerations in relation to statutory BNG regimes (as identified in section 9) necessitate that all available options be taken to avoid impacts to habitats of likely importance for breeding birds (woodland, wetlands etc). Detailed desk study data has been obtained and reviewed in support of this position (refer to Appendix A.1).

Whilst certain bird species will utilise arable fields the locations of breeding activity will not be in the exact same locations in any given year, the issues associated with such species are well understood, mitigation can be defined based on the assumption of presence without a need to recourse to survey, the duration of the temporary impact on any specific stand of suitable habitat would be restricted to a single breeding season followed by reinstatement, and construction activities would otherwise need to comply with the relevant legislative regimes protecting birds.

Consequently, it is not considered proportionate to undertake breeding bird surveys of arable farmland for the Proposed Pipeline Corridors as the data is not materially necessary to understand the likely impacts and effects. There would be no reasonable likelihood of significant adverse effects after considering and application of the standard mitigation needed to achieve legislative compliance. This rationale does not preclude the option of focussed pre-commencement bird surveys to obtain data to inform the final specification of mitigation (e.g. for the correct application of stand-off distances or to confirm the absence of nesting bird constraints).

Wintering and passage birds - the habitat survey work completed to date has confirmed that the Main Site does not contain habitats (refer to Section 9.1 for a summary of the habitat baseline) suitable for relevant species of wintering and passage birds (these are usually considered to be waders and waterfowl), and the surrounding landscape of woodland, urban development and large roads is also unsuitable. So construction of the Main Site is not likely to affect wintering and passage birds.

In relation to the Proposed Pipeline Corridors, detailed desk study data has been obtained and reviewed and this indicates that wintering and passage water birds are not likely be dependent on or occur in notable numbers in association within the affected landscape (refer to Appendix A.1). While the data indicates the presence of notable populations of waterbirds (geese, ducks, swans) and wading birds within the 10km grid square crossed by the Proposed Pipeline Corridors these are of species that are strongly associated with wetland habitats. Indeed, it is likely that most of the notable species identified were recorded at (and therefore the dataset is inherently biased towards) Fairburn and Newton Ings SSSI, given this occurs in the study area and is designated for its water birds. The bird interest of the SSSI and the habitat conditions

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underpinning it are not representative of the wider landscape. The prevailing habitat along the Proposed Pipeline Corridors is intensively managed arable fields and these would not be favoured by wintering and passage birds that are strongly associated with wetland habitats.

Furthermore, given the localised and temporary nature of the impacts associated with the incremental daytime construction of buried pipelines for the Proposed Pipeline Corridors it is not likely that significant effects would arise even if some of the identified bird species make incidental use of arable fields. This is because the construction activities (excavation and earth movement) are not likely to be particularly noisy or disturbing, there would be a need to reinstate habitats back to a comparable condition (farmland), and there would remain widespread availability of comparable habitats at a landscape level for any birds temporarily displaced whilst works are taking place. Given this, wintering and passage bird surveys are not considered proportionate given there are no Habitats Sites designated for birds in the zone of influence of the Proposed Development, and data is not needed to understand the relevant issues for ecological impact assessment and definition of suitable mitigation. Therefore, further survey is not considered necessary to inform impact assessment.

19.3. Population and Human Health Determinants

All relevant population and human health determinants are scoped into the assessment as set out in Section 16, but the following determinants have been scoped out of the population and human health assessment because the Proposed Development is not anticipated to have any effects on these determinants:

- Diet and nutrition;
- Risk taking behaviour;
- Housing; and
- Relocation.

19.4. Cultural Heritage

All relevant cultural heritage determinants are scoped into the assessment as set out in Section 13, but the following have been scoped out of the assessment as no significant effects are anticipated from the construction of the Proposed Development:

- It is assumed that the gas pipeline would be installed below ground with landscape restoration of the easement area to limit visual change. Therefore, temporary and permanent effects arising from changes within the setting of assets as a result of the construction of the Southern Pipeline Corridor, Northern Pipeline Corridor, and the AGI on the Gas Transmission System will be scoped out. This would be reassessed should the pipeline be installed above ground or landscape restoration not be proposed.

19.5. Materials and Waste Matters

As set out in Section 17 the following matters are proposed to be scoped out of the materials and waste assessment:

- Waste arising from extraction, processing and manufacture of construction components and products. This is based on the assumption that these products and materials are being developed in a manufacturing environment with their own waste management plans, facilities, and supply chain, which are potentially in different regions of the UK or the world and therefore outside of the geographical scope of this study. Such matters cannot be accurately predicted and assessed in the ES as they relate to procurement decisions that cannot be assured;
- Changes in available landfill void capacity. Due to the nature of the scheme, it is likely to generate negligible quantities of waste during operation and therefore changes in available landfill void capacity are scoped out.
- Other environmental impacts associated with the management of waste from the Proposed Development e.g., on water resources, air quality, noise or traffic resulting from the generation, handling, on-Site temporary storage or off-Site transport of materials and waste are addressed separately in other relevant chapters;
- Changes to safeguarded mineral and waste sites, as there are no such sites within the Proposed Development Site; and
- Changes in availability of maintenance materials during the operation of the Proposed Development. Forecast materials effects are (using professional judgement) considered negligible in relation to the scale and nature of the Proposed Development;

19.6. Agricultural land

The Northern Pipeline Corridor is predominantly through land classified as Grade 2 agricultural land. The Southern Pipeline Corridor predominantly runs through Grade 3 agricultural land. During construction of the pipeline, the agricultural land will be disturbed. Soil management plans will be implemented and will detail how soils will be protected and reinstated, this will be in line with the relevant industry guidance. During operation of the Proposed Development, the land along the Proposed Pipeline Corridors will be reinstated. The land for the AGI on the Gas Transmission System will change in land use from agriculture to areas of hardstanding with AGIs. However, this will be a small area of land and will have insignificant effects on agricultural productivity. Therefore, potential impacts on agriculture as a result of the Proposed Development is proposed to be scoped out of this EIA.

19.7. Decommissioning Phase Assessment

Potential impacts as a result of decommissioning the Proposed Development, will not be separately assessed as part of the ES (with the exception of the climate assessments). Decommissioning will be considered throughout the design process and will be a factor in influencing design choices such as material selection. The principles of circular economy will be applied to the design of the Proposed Development.

19.8. Electronic Interference

Analogue signals have ceased to be transmitted and have been replaced by digital signals. As such, the Proposed Development's potential to interfere with television, radio (both analogue and digital) and mobile phone reception is considered negligible.

19.9. Aviation

It is proposed to scope out impacts on aviation based on the height of the stacks and buildings associated with the Proposed Development as these are anticipated to be comparable to the heights of structures and stacks within the wider Ferrybridge Site (approximately 90m maximum height). On this basis, the Applicant considers that a stand-alone chapter is not required.

The Civil Aviation Authority will however be consulted on the Proposed Development to review any requirements for aviation lighting on the stack(s) and enable the Proposed Development to be charted in future. Should taller stacks or cranes be required than currently expected the need for an aviation assessment will be reviewed accordingly.

19.10. Summary of matters proposed to be scoped out of ES

The following matters are proposed to be scoped out of the ES that accompanies the Application:

Table 33: Matters proposed to be scoped out of the ES

Matter	Construction Assessment	Operational Assessment	Decommissioning Assessment
Operational road traffic	-	Out	-
Biodiversity and nature conservation: <ul style="list-style-type: none"> • Bats (foraging); • Great Crested Newts; • Reptiles; • Terrestrial invertebrates; • White clawed crayfish; • Breeding birds; and • Wintering and passage birds 	Out	Out	Out
Population and human health: <ul style="list-style-type: none"> • Diet and nutrition; • Risk taking behaviour; • Housing; • Relocation 	Out	Out	Out
<ul style="list-style-type: none"> • Waste arising from extraction, processing and manufacture of construction components and products. This is based on the assumption that these products and materials are being developed in a manufacturing environment with their own waste management plans, facilities, and supply chain, which are potentially in different regions of the UK or the world and therefore outside of the geographical 	Out	Out	Out

Matter	Construction Assessment	Operational Assessment	Decommissioning Assessment
<p>scope of this study. Such matters cannot be accurately predicted and assessed in the ES as they relate to procurement decisions that cannot be assured;</p> <ul style="list-style-type: none"> Changes in available landfill void capacity. Due to the nature of the scheme, it is likely to generate negligible quantities of waste during operation and therefore changes in available landfill void capacity are scoped out. Other environmental impacts associated with the management of waste from the Proposed Development e.g., on water resources, air quality, noise or traffic resulting from the generation, handling, on-Site temporary storage or off-Site transport of materials and waste are addressed separately in other relevant chapters; Changes to safeguarded mineral and waste sites, as there are no such sites within the Proposed Development Site; and Changes in availability of maintenance materials during the operation of the Proposed Development. Forecast materials effects are (using professional judgement) considered negligible in relation to the scale and nature of the Proposed Development. 			
Agricultural land	Out	Out	Out
Decommissioning phase assessment (with the exception of biodiversity and climate assessments)	-	-	Out
Electronic interference	-	Out	-
Aviation	Out	Out	-

20. Cumulative and Combined Effects

Cumulative impacts are those that accrue over time and space from a number of development activities. The impact of the Proposed Development will be considered in conjunction with the potential impacts from other projects or activities which are both reasonably foreseeable in terms of delivery (e.g. have planning consent) and are located within a relevant geographical scope where environmental impacts could act together to create a more significant overall effect.

The requirement for cumulative effects assessment (CEA) is set out in the EIA Directive (EIA Directive 2014/52/EU which amends EIA Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment). For NSIPs under the Planning Act 2008 (as amended) (“the PA2008”), the requirements of the Directive are implemented through the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (“the EIA Regulations”).

PINS Advice Note 17 provides guidance on the assessment of cumulative effects, noted a staged and proportional CEA. The Stages approach which will be followed are outlined as below and will be used in this assessment.

- Stage 1: Establishing the long list;
- Stage 2: Establishing the short list;
- Stage 3: Information gathering; and
- Stage 4: Assessment.

A number of other proposed developments have been identified in the vicinity of the Proposed Development that could potentially result in cumulative impacts during its construction and operation. For the purposes of scoping, major developments which have either been submitted or determined and approved under the TCPA 1990 have been identified within 2km of the Proposed Development Site. Projects listed on the PINS National Infrastructure Planning website (PINS, 2024) within 10km of the Proposed Development Site have also been identified. Relevant projects identified are shown in Table 34.

Consultation with WMDC and NYC will be undertaken in respect of identifying any additional proposals or planning applications submitted under the TCPA 1990 that may also have the potential to produce significant cumulative environmental effects. NSIP and projects submitted under other consenting regimes will also be considered in line with PINS Advice Note 17: Cumulative Effects Assessment (PINS, 2019).

Combined effects will also be assessed. The combination of predicted environmental impacts resulting from a single development on any one receptor that may collectively cause a greater effect (such as the combined effects of noise and air quality/ dust impacts during construction on local residents), are referred to as combined effects.

Table 34: Long List of cumulative developments located within 10km of the Proposed Development Site

ID	Application Reference	Local Planning Authority	Applicant for 'other development' and brief description	Approximate distance from Proposed Development Site	Status
1	24/00394/FU L	WMDC	One Planet Developments Limited Scheme comprises construction of and operation of battery energy storage system together with all associated works, equipment, necessary infrastructure, including sustainable urban drainage system and landscaping.	Directly adjacent to the Main Site	Validated 11/03/2024
2	23/00100/HY B	WMDC	Mountpark Logistics Scheme comprises full permission sought for site infrastructure works including alterations to existing rail infrastructure, construction of an estate road, highways improvements to Kirkhaw Lane, the Kirkhaw Lane/B6136 junction, works to the Old Great North Road/B6136/A162 northbound slip road junction, and a new all-movement traffic light junction on the A162, with associated landscaping, drainage, infrastructure and engineering works, and the demolition of existing buildings. PID 21013674 - 6 Employment Units.	Crosses the boundary of the Northern Pipeline Corridor; and Located adjacent to the Main Site	Approved 19/07/2024
3	EN07010002	WMDC	Enfinium scheme to install Carbon Capture Storage technology at Ferrybridge 1 and processes residual waste to generate electricity for UK homes and businesses.	Adjacent to the Main Site	Pre-Application

ID	Application Reference	Local Planning Authority	Applicant for 'other development' and brief description	Approximate distance from Proposed Development Site	Status
4	EN020024	WMDC	Yorkshire Green Energy Enablement Project Scheme comprises application for DCO under the Planning Act 2008	4.3km north east of the Main Site	Approved 14/03/2024
5	24/00263/FUL	WMDC	Stoelzle Flaconnage and Havercroft Construction Alterations to existing manufacturing buildings, and erection of new warehouse building; new decorations building and staff amenity block; creation of new car park and landscaping	565m south of the Northern Pipeline Corridor; and 2.2km south east of Main Site.	Approved 23/08/2024
6	23/00929/FUL	WMDC	Big Atom Ltd Scheme comprises the construction of a tyre recycling facility for the recovery of raw materials (steel, pyrolysis oil and recovered carbon black) to be used to create second generation products. This project also includes associated infrastructure works and access roads.	3.1km south east of Main Site; and 633m south of the Southern Pipeline Corridor.	Approved 02/05/2024
7	ZG2023/0938/FULM	North Yorkshire Council	Scheme comprises installation of a battery storage facility.	1.1km south of the Southern Pipeline Corridor; and 4.3km south east of the Main Site.	Validated 16/09/2023
8	ZG2023/1293/FULM	North Yorkshire Council	Erection of 12no units for uses within Class E(g)(iii), B2, B8 and F2 uses with ancillary offices, Class E and F1 ancillary amenity space, an EV charging station, parking provision, a new access road from Weeland Road, internal access roads,	1.2km south of the Southern Pipeline Corridor; and 4.1km south east of the Main Site.	Validated 22/12/2023

ID	Application Reference	Local Planning Authority	Applicant for 'other development' and brief description	Approximate distance from Proposed Development Site	Status
			associated infrastructure, and landscaping		
9	23/01426/EI ASO	WMDC	Greenpower Consultants Scheme comprises request for screening opinion under regulation 6 of the town and country planning (environmental impact assessment) regulations 2017 (as amended). Construction of and operation of a battery energy storage facility for the storage of up to 100 megawatts electricity together with associated infrastructure, substation, security fencing, cctv, security light.	406m west of the Main Site	EIA Not Required 03/08/2023
10	22/00345/FU L	WMDC	Persimmon Homes West Yorkshire Residential development comprising 298 new dwellings (Use Class C3) with communal public space, associated landscaping, and infrastructure works.	845m south of the Southern Pipeline Corridor; and 2.9km south east of Main Site.	Validated 03/03/2022
11	15/00627/HY B	WMDC	Caddick Developments Limited. A hybrid application seeking: Permission in full for a distribution building (Use Class B8) with a maximum floorspace of 127,662sq.m and associated ancillary structures, car parking, landscaping and areas dedicated to construction activities (Phase One). Outline permission, with all matters reserved, over 10.7 hectares for employment development (Use Class B8)	1.7km south of Main Site.	Approved 30/06/2015

ID	Application Reference	Local Planning Authority	Applicant for 'other development' and brief description	Approximate distance from Proposed Development Site	Status
			with maximum floorspace of 55,500sq.m (Phase Two).		
13	22/02485/HY B	WMDC	Axiom Yorkshire Limited Hybrid planning application seeking: (i) full planning permission for enabling works including incidental coal extraction to create development platforms along with off-site highways improvements and site access and installation of other supporting infrastructure, in addition to: (ii) outline planning permission for 141,085 sq. m employment development of which 105,834 sq. m of B8 floorspace and 35,251 sq. m (E(g)(ii), E(g)(iii), B2 or B8 floorspace together with ancillary offices and an electrical vehicle charging station (Sui generis), and hard and soft landscaping.	1.8km west of the Main Site.	Validated 05/12/2022

21. EIA Process

21.1. EIA Methodology and Reporting

The ES will set out the process followed during the EIA including the methods used for the collection of data and for the identification and assessment of impacts. Any assumptions made will be clearly identified.

The EIA process is designed to be capable of, and sensitive to, changes that occur as a result of changes to the design, including any mitigation measures that are incorporated during the EIA. This will be particularly important for the Proposed Development as the design and layout is still being refined, and minor changes are likely to be made following submission of this EIA Scoping Report. The EIA will follow the requirements as set out in the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017.

Where, at the time of the DCO Application, alternatives still exist for any particular element of the Proposed Development, the assessments to be included within the EIA and presented in the ES will consider and assess the 'worst-case' impacts, in accordance with the Rochdale Envelope approach outlined in the PINS Advice Note 9: Using the Rochdale Envelope (PINS, 2018).

The EIA is based on a number of related activities, as follows:

- Establishing existing baseline conditions;
- Consultation with statutory and non-statutory consultees throughout the DCO application process;
- Consideration of relevant local, regional and national planning policies, guidelines and legislation relevant to EIA and where relevant for topics, the application of recent case law will be considered, e.g. Finch Ruling
- Consideration of technical standards for the development of significance criteria;
- Review of secondary information, previous environmental studies and publicly available information and databases;
- Physical surveys and monitoring;
- Desk-top studies;
- Computer modelling;
- Reference to current legislation and guidance; and
- Specialist opinion.

Impacts will be considered on the basis of their magnitude, duration and reversibility. Cumulative, combined and intra-project effects will also be considered where appropriate. Significance will be evaluated on the basis of the scale of the impact and the importance or sensitivity of the receptors, in accordance with standard assessment

methodologies (major, moderate, minor and negligible). For the purpose of the EIA, moderate and major effects will be deemed 'significant'.

Where likely significant environmental effects are identified in the assessment process, measures to mitigate these effects will be put forward in the form of recommendations to be undertaken as part of the project development.

21.2. Structure of the ES

The ES will address the direct effects of the Proposed Development in addition to the likely indirect, cumulative, short, medium and long term, permanent, temporary, beneficial and adverse effects. The mitigation measures envisaged in order to prevent, reduce or where possible offset significant adverse effects will also be described. The concluding chapters will provide a summary of the cumulative and combined effects and likely significant residual environmental effects.

The ES will comprise the following set of documents:

- Non-Technical Summary: this document will provide a summary of the key issues and findings of the EIA in non-technical language;
- Volume I Environmental Statement: this will contain the full text of the EIA;
- Volume II Technical Appendices: these will provide supplementary details of the environmental studies conducted during the EIA including relevant data tables, figures and photographs; and
- Volume III Figures.

21.2.1. Structure of Technical Chapters

The technical chapters will be structured based on the following sub-headings:

Introduction

The Introduction will describe the format of the assessment presented within the chapter.

Legislation and planning policy context

The Legislation and Planning Policy Context section of the technical chapters will provide an overview of the relevant legislation, planning policy and technical guidance relevant to the assessment.

Assessment methodology and significance criteria

The methods used in undertaking the technical study will be outlined in this section with references to published standards (e.g. British Standards, Building Research Establishment), guidelines (e.g. DMRB and Institute of Environmental Management & Assessment guidelines) and relevant significance criteria.

The significance of effects before and after mitigation will be evaluated with reference to definitive standards, accepted criteria and legislation where available. Where it is not possible to quantify impacts, qualitative assessments will be carried out, based on available knowledge and professional judgment. Where uncertainty exists, this will be noted in the relevant technical assessment chapter.

Specific criteria for each technical assessment will be developed, giving due regard to the following:

- extent and magnitude of the impact;
- impact duration (whether short, medium or long term);
- impact nature (whether direct or indirect, reversible or irreversible);
- whether the impact occurs in isolation, is cumulative or interactive;
- performance against environmental quality standards where relevant;
- sensitivity of the receptor; and
- compatibility with environmental policies and standards.

For issues where definitive quality standards do not exist, significance will be based on the:

- local, district, regional or national scale or value of the resource affected;
- number of receptors affected;
- sensitivity of these receptors; and
- duration of the impact.

In order to provide a consistent approach to expressing the outcomes of the various studies undertaken as part of the EIA, and thereby enable comparison between effects upon different environmental components, the following terminology will be used throughout the ES to define effects:

- adverse – detrimental or negative effect to an environmental resource or receptor; or
- beneficial – advantageous or positive effect to an environmental resource or receptor;

and

- negligible – imperceptible effect to an environmental resource or receptor; or
- minor – slight, very short or highly localised effect of no significant consequence; or
- moderate – more than a slight, very short or localised effect (by extent, duration or magnitude) which may be considered significant; or
- major – considerable effect (by extent, duration or magnitude) of more than local significance or in breach of recognised acceptability, legislation, policy or standards.

As indicated above, for the purpose of this EIA moderate and major effects will be deemed 'significant', and where possible mitigation measures will be identified to reduce the residual effects to 'not significant'.

Each of the technical chapters will provide the criteria, including sources and justifications, for quantifying the different levels of residual effect. Where possible, this has been based upon quantitative and accepted criteria (for example, the National Air Quality Strategy objectives or noise assessment guidelines), together with the use of value judgement and expert interpretation to establish to the scale of an effect.

Baseline conditions

In order to assess the potential impacts and effects of the Proposed Development, it is necessary to determine the environmental conditions that currently exist on site and in the surrounding area, for comparison. These are known as the 'existing baseline conditions'. Baseline conditions are determined using the results of site surveys and investigations or desk based data searches, or a combination of these, as appropriate.

Future baseline conditions', which are the likely future conditions in the study area in the absence of the Proposed Development, will also be considered and described.

For the purposes of assessment, each chapter will identify a reasonable 'worst case scenario' with regards these future baseline scenarios.

Development design and impact avoidance

Measures that have been integrated into the Proposed Development in order to avoid or reduce adverse environmental effects will be described. Such measures may include refinement of the design and layout of the Proposed Development to avoid impacts on sensitive receptors, implementation of CEMPs, and adherence of relevant legislation, guidance and best practice. The assessment of impacts and effects will take account of these measures already being in place.

Likely impacts and effects

This section will identify the likely impacts resulting from the Proposed Development. The magnitude of impacts is defined with reference to the relevant baseline conditions (existing or future, as appropriate), and effects are determined in accordance with the identified methodology.

Mitigation and enhancement measures

The Mitigation and Enhancement Measures section will describe the measures that will be implemented by the Applicant to reduce any significant adverse effects identified by the assessment and enhance beneficial effects during construction and operation of the Proposed Development.

Monitoring

The EIA Regulations make provision for post-consent monitoring of significant adverse effects on the environment in appropriate cases. Where post-consent monitoring is considered necessary to secure the success of mitigation measures, this will be described and included in the Schedule of Commitments (ES Volume II). The Applicant will work with the relevant responsible authorities to develop appropriate monitoring, where required.

Residual effects and conclusions

Effects of the Proposed Development remaining following the implementation of available mitigation measures are known as 'residual effects'. These will be discussed for each of the potential effects, and their significance level identified.

21.3. Scoping and Consultation

The process of consultation is critical to the development of a comprehensive and balanced ES. The views of statutory and non-statutory consultees serve to focus the environmental studies and to identify specific issues that require further investigation. Consultation is an ongoing process, which enables mitigation measures to be incorporated into the project design thereby limiting adverse effects and enhancing environmental benefits.

Following the publication of this EIA Scoping Report, a project website will be launched. The website will be maintained throughout the construction and operational phases of the Proposed Development to provide up-to date information.

As required by Section 47 of the 2008 Act, the Applicant will prepare a Statement of Community Consultation (SoCC). The SoCC will outline the methods and timescales for the statutory consultation with the local community. WMDC and NYC will be fully as to what is to be in the statement before it is prepared.

The PEI Report will be provided for statutory consultation, which will take place in early 2025. A range of methods including newsletters and ongoing use of the project website will be considered.

All responses received during consultation will be carefully considered and taken into account in the development of the project and the terms of any proposed application, in accordance with Section 49 of the 2008 Act. Details of any responses received during consultation and the account taken of those responses will be included in a Consultation Report, as required by Section 37 of the 2008 Act. This Consultation Report will be submitted with the DCO Application to PINS and will be available for public review at that point.

The Consultation Report will demonstrate how the Applicant has complied with the consultation requirements of the 2008 Act and will be considered by PINS, both when

determining whether to accept the Application, and then in examining the completed Application.

21.4. Combined Heat and Power (CHP) Assessment

Although not formally part of the EIA, it is a requirement of the NPS that applicants for all new power stations explore and develop feasible CHP opportunities. This is in order to maximise the use of waste heat and in turn the thermal efficiency of the Proposed Development.

A CHP investigation will be undertaken as part of the DCO application, building on the CHP assessment previously undertaken which will involve identifying and contacting potential CHP users in the local area in accordance with the Environment Agency CHP Ready Guidance (Environment Agency, 2013). This will initially be based on examining a map around the Site based on a predetermined economic radius for heat transportation. Should any potential uses be identified, a 'heat map' of the local area would be produced incorporating community, commercial and industrial heat uses and opportunities. Within this 'heat map' area the identified users would then be classified into user sectors. Community opportunities would mainly consider industrial, residential and housing opportunities, though would also include any hotels, leisure centres, large corporate buildings, hospitals, universities, prisons, defence installations and accommodation complexes. Industrial opportunities would be readily identified by the industrial sector of those industries inside the 'heat map' radius.

The CHP feasibility review will consider the heat availability from the Proposed Development together with future CCS implications and the heat demand opportunities in the locality to justify the approach that will be taken for maximising CHP opportunities for the plant.

21.5. Carbon Capture Readiness (CCR) Assessment

CCR needs to be demonstrable for all new combustion generating stations with a generating capacity at or over 300 MW in accordance with the Carbon Capture Readiness (Electricity Generating Stations) Regulations 2013. Until the new Decarbonisation Readiness Guidance is formally adopted (currently at consultation stage) and this legislation is updated accordingly, the requirement to demonstrate CCR applies to hydrogen fired power stations, even though hydrogen fired power stations do not produce CO₂.

The Applicant will therefore provide a standalone CCR Report to satisfy the current legislation, however it is envisaged that this document would primarily be a signposting document for the purpose of demonstrating that the requirements have been met through the compilation of the Application, including the allocation of a suitably sized area of CCR land within the Site. In future when the new Decarbonisation Readiness

Guidance is adopted the Applicant will be in a position to demonstrate Hydrogen Readiness.

22. Summary

This EIA Scoping Report has identified the potential for significant effects to arise from the construction and operation of the Proposed Development. The following specialist assessments are proposed:

- Air Quality;
- Noise and Vibration;
- Traffic and Transportation (including Transport Assessment);
- Biodiversity and Nature Conservation;
- Water Environment and Flood Risk (including Flood Risk Assessment);
- Geology, Hydrogeology and Land Contamination;
- Landscape and Visual Amenity;
- Cultural Heritage;
- Socio-economics;
- Climate Change and Sustainability (including greenhouse gas emissions assessment, climate change resilience and ICCI);
- Population and Human Health;
- Waste and Material Resources;
- Major Accidents and Disaster Vulnerability; and
- Cumulative and Combined Effects.

The detailed assessments for each of these topics will be undertaken in accordance with standard guidance and best practice and reported in the ES. Where significant effects are identified, mitigation measures will be described where possible to reduce the residual effects.

This EIA Scoping Report is now submitted to PINS with a formal request for a Scoping Opinion in accordance with Regulation 10 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 as amended.

Appendices

Appendix 1: Bird Technical Note

Purpose of this Technical Note

The purpose of this technical note is to provide further information on the breeding and wintering bird species associated with the Proposed Pipeline Corridors for the Proposed Development in support of the scoping of further ecological survey needs within the Scoping Report. The reasons for discounting the Main Site are explained in the main text of the Scoping Report and relate to its geographically constrained urban setting. This technical note utilizes robust data obtained as a British Trust for Ornithology (BTO) Data Report, as appended in full to this technical note.

The purpose of a BTO Data Report is to provide rigorous scientific information to inform fieldwork decisions and desk studies for ecological impact assessment of potential development sites in the UK, and this product is considered particularly relevant and applicable to linear projects. The reports are advised as providing:

“comprehensive and contemporary bird distribution and abundance data from BTO's high quality ornithological datasets to identify species associated with the site at different spatial scales, and to put these in wider contexts to identify key features.”

The BTO Data Report confirms good data coverage for the study area, including the winter period, and over a broad time period. So, the results record the bird species present historically whilst also be representative of those reasonable likely to occur with an regularity in the future.

Data Interpretation

The BTO Data Report contains a range of data and analyses but place little weight on the status of the bird species concerned. For example, non-native species (e.g. Canada goose) are treated in the same way as natives. Further, chance incidental occurrences of rare species might be accorded weight within the analysis even though the record concerned is distant from that species typical range and habitat (these species are more likely to occur during the passage and wintering period and many ornithologists take great interest and expend considerable effort finding and recording such vagrants).

Therefore, it is considered that interpretation of the Data Report should still involve some form of further screening and application of professional judgement. The primary purpose of this technical note is therefore to filter the Data Report down to pull out the core species of potential relevance so that the potential impacts arising from the Proposed Development can be considered further.

The data obtained has been filtered for interpretation in accordance with the following approach:

- the analysis within the BTO Data Report for West Yorkshire and East Yorkshire has been ignored. The Proposed Pipeline Corridors for the Proposed

Development are not within these areas, instead the BTO interpretation for North Yorkshire and Yorkshire and the Humber covers the relevant area;

- all datasets have been combined to identify all bird species that could occur irrespective of the age of the dataset concerned;
- all records of non-native and native but unthreatened ('Green List') bird species have been discounted as they are not relevant to the scope of an ecological impact assessment;
- for the breeding season interpretation, all species that do not breed within the region have been discounted e.g. various northern and arctic breeders such as green and wood sandpiper. The records returned will have been of post-wintering or vagrant individuals;
- similarly, for the breeding season species are discounted if there is no breeding habitat present e.g. species that only breed in the uplands (golden plover, merlin), or on the coast (eider, kittiwake), or at other well understood discrete locations (common crane);
- for the wintering season interpretation, records of summer migrants (i.e. species absent in winter) have been discounted. These records relate to late or early brief movements of birds through the landscape in autumn or late winter, rather than representing reliable regular occurrences; and
- for the wintering season interpretation, likely vagrant occurrences of native species away from their core habitats have been identified and discounted from the summary interpretation but are maintained in the supporting table for purposes of transparency. These species are clearly identified and encompasses species with a largely marine and coastal distribution in winter (e.g. scaup and smew) or other chance vagrants (e.g. various gulls and snow bunting).

At the time of data purchase, it was not clear that the data for individual 10km grid squares would be combined into one species list, and therefore what a significant influence the presence of Fairburn and Newton Ings SSSI, as a very well recorded bird designation, with the study area would have on the results obtained. However, it is anticipated that local biodiversity stakeholders will have a good understanding of the specific interest of the SSSI and that also understand that it is not typical of the wider landscape. The relevance of this designation is flagged later in this technical note where it is considered to have a bearing on the interpretation and rationale presented.

Summary for the Data Obtained for the Breeding Season

The BTO Bird Report identifies that the tetrads and grid squares within which the Proposed Pipeline Corridors for the Site falls are not notable at the UK level for the abundance or presence of any populations of bird species during the breeding season.

The tetrads and grid squares that coincide with the Proposed Pipeline Corridors for the Proposed Development⁷⁰ are deemed to be notable at a national or regional level for the following 21 nationally threatened species during the breeding season:

- At a national level for England – feral greylag goose, shoveler, gadwall, wigeon, mallard, teal, pochard, grey partridge, moorhen, little ringed plover, kingfisher, sedge warbler, grasshopper warbler, tree sparrow, yellow wagtail, corn bunting and reed bunting; and additionally; and
- At a regional level for Yorkshire and the Humber and/or North Yorkshire - shelduck, cuckoo, whitethroat and bullfinch.

This summary mainly identifies bird species that are primarily associated with wetland habitats and larger waterbodies (geese, ducks, swans and wading birds). These species will breed in association with the complexes of lakes and wetlands associated with former collieries and mineral workings along the River Aire, particularly Fairburn and Newton Ings SSSI. In addition, little ringed plover is a species that is dependent on extensive areas of bare ground such as active quarries and vacant urban land, as well as using wetland habitats for foraging.

In contrast, the Proposed Pipeline Corridors for the Proposed Development cross a prevailing arable landscape and do not pass through or near any substantive areas of wetland habitats of importance for waterbirds, or habitats suitable for little ringed plover. Arable farmland will not be used as breeding habitat by these species, and it will be of no more than incidental value as foraging habitat during the breeding season.

The species that could use the arable landscape during the breeding season are grey partridge, yellow wagtail, corn bunting, tree sparrow, whitethroat and bullfinch. Of these, only the first three are specifically associated with the arable fields where most of the work for the Proposed Pipeline Corridors will take place.

Given the limited suite of species of relevance during the breeding season, breeding bird surveys are not necessary or proportionate to inform robust impact assessment. Instead, it can be assumed that these species (and others that also use arable fields such as skylark) are present and standard mitigation can be defined to protect them during construction. After construction all habitats will be reinstated back to the baseline and would remain suitable for these species. This approach does not preclude targeted surveys for other species, for example little ringed plover within the Main Site for the Proposed Development (as completed in Spring 2024), or barn owl where there is potential for disturbance of nest sites.

⁷⁰ After filtering to remove (a) non-native species, (b) species that do not breed in lowland England or that are otherwise restricted to specific well understood breeding sites e.g. common crane, (c) unprotected and unthreatened ('Green List') breeding species, and (d) other inarguably chance incidental breeding season occurrences.

Summary for the Data Obtained for the Wintering and Passage Season

The BTO Bird Report identifies that the tetrads and grid squares within which the Proposed Pipeline Corridors for the Site falls are not notable at the UK level for the abundance or presence of any populations of bird species during the wintering/passage season.

The tetrads and grid squares that coincide with the Proposed Pipeline Corridors for the Proposed Development⁷¹ are deemed to be notable at a national or regional level for the following 18 nationally threatened species during the wintering/passage season:

- At a national level for England – feral greylag goose, whooper swan, shoveler, gadwall, mallard, teal, pochard, grey partridge, water rail, moorhen, hen harrier, long-eared owl, kingfisher, merlin, rook, willow tit, tree sparrow; and additionally; and
- At a regional level for Yorkshire and the Humber and/or North Yorkshire - black-headed gull.

The species that are most likely to be disturbed and displaced by construction being undertaken during the winter are waterbirds (geese, ducks, swans and wading birds). These species are primarily associated with wetland habitats and larger waterbodies, and particularly Fairburn and Newton Ings SSSI. Hen harrier and willow tit would also fall into the category of species broadly associated with wetland habitats.

In contrast, the Proposed Pipeline Corridors for the Proposed Development cross a prevailingly arable landscape and do not pass through or near any substantive areas of wetland habitats of importance for waterbirds. For most of the listed species, arable farmland will not be foraging habitat or otherwise any usage will be incidental and opportunistic with the relevant bird species moving at the landscape scale to access foraging habitat, and with variation year by year in accordance with cropping regimes. This includes the four qualifying wintering bird species (mallard, gadwall, shoveler, whooper swan) of Fairburn Ings SSSI, the closest statutory bird designation. The affected landscape does not coincide with the impact risk zones⁷² of any Habitats Sites so is not functionally linked land for which birds are a qualifying feature.

⁷¹ After filtering to remove (a) non-native species, (c) unprotected and unthreatened ('Green List') species, and (d) other inarguably chance incidental breeding season occurrences.

⁷² The Impact Risk Zones (IRZs) are a GIS tool developed by Natural England to make an initial assessment of the likely risk of impacts posed by developments. Natural England states the IRZs tool "*specifies the types of development which, at that distance, have the potential to have adverse impacts.*" Therefore if a development is not located within the IRZs for a specific designation then there is not likely to be a pathway for impact and there would be no Likely Significant Effects on that designation.

The species that could make substantive use of the arable landscape during the wintering season are grey partridge, rook and tree sparrow.

Given the limited suite of species of relevance, wintering bird surveys are not necessary or proportionate to inform robust impact assessment as no significant effects (above the local level) would be anticipated and consequently there would be no impact on the nature conservation status of any bird species.

The potential for temporary displacement of birds (including the named notable species and other unthreatened species present in large numbers in winter such as gold plover) from fields where works are taking place is not disputed. However, these works will progress incrementally and at any one point in time they will only be performed within a small (relative to the wider resource of comparable habitat) linear footprint. Works will also be constrained to prescribed working hours, outside which habitats can be re-occupied by birds, including at night when some species roost and actively feed in arable fields. So, the construction activities will not meaningfully affect the availability of habitat for birds, and as construction works move on, they will leave behind disturbed arable farmland that may have an elevated foraging value over the short term (due to the potential to bring seeds and invertebrates to the surface). After construction, all habitats will be reinstated back to the baseline and would remain suitable for these species.

Filtered Summary of Birds Occurring in Study Area

The following tables summarise the notable bird species identified within the BTO Data Report for the breeding (Table A1.1) and wintering/passage (Table A2.2) seasons in accordance with the parameters defined above. The tables also identify the typical habitat associations of these bird species that have informed the appraisal (above) of the likely value of the study area to these species.

Threatened species are highlighted using the BTO classifications of **Red** and **Amber**. Likely vagrant occurrences of species typically located elsewhere in that season are not colour-coded in the tables. Unthreatened ('**Green** List') species that are not specifically protected are omitted from the tables, but those with specific legal protection are included.

Table A1.1. Breeding bird species

Species	Period 2007-11		Period 2020-2024				Breeding Habitat Preference
	Present at Tetrad?	Present at 10-km/20-km/50-km?	Present at 1-km?	Present at 2-km?	Present at 10-km	Present at >10-km?	
Greylag Goose (feral)	Yes	Yes	Yes	Yes	Yes	Yes	Wetland
Shelduck	Yes	Yes	No	Yes	Yes	Yes	Wetland
Garganey	Possibly	Possibly	No	Possibly	Possibly	Possibly	Wetland
Shoveler	Probably	Probably	No	Probably	Probably	Probably	Wetland
Gadwall	Yes	Yes	No	Yes	Yes	Possibly	Wetland
Wigeon	Probably	Probably	No	Probably	Probably	Yes	Wetland
Mallard	Yes	Yes	Yes	Yes	Yes	Yes	Wetland
Pintail	No	No	No	Yes	Yes	No	Wetland
Teal	Probably	Probably	No	Probably	Probably	Possibly	Wetland
Pochard	Yes	Yes	No	Yes	Yes	Yes	Wetland
Grey Partridge	Yes	Yes	Yes	Probably	Probably	Yes	Farmland

Species	Period 2007-11		Period 2020-2024				Breeding Habitat Preference
	Present at Tetrad?	Present at 10-km/20-km/50-km?	Present at 1-km?	Present at 2-km?	Present at 10-km	Present at >10-km?	
Quail	No	Possibly	No	No	No	Yes	Farmland
Cuckoo	Probably	Probably	Yes	Yes	Yes	No	Wetland
Stock Dove	Confirmed	Confirmed	Yes	Probably	Probably	Probably	Farmland
Woodpigeon	Yes	Yes	Yes	Yes	Yes	Yes	Farmland
Turtle Dove	Possibly	Probably	No	No	No	No	Farmland
Moorhen	Yes	Yes	Yes	Yes	Yes	Yes	Wetland
Black-necked Grebe	No	No	No	No	Yes	Yes	Wetland
Oystercatcher	Yes	Yes	No	Yes	Yes	Yes	Wetland
Black-winged Stilt	No	No	No	Yes	Yes	No	Wetland
Avocet	Probably	Probably	No	Yes	Yes	Yes	Wetland
Lapwing	Yes	Yes	Yes	Yes	Yes	Yes	Wetland and farmland

Species	Period 2007-11		Period 2020-2024				Breeding Habitat Preference
	Present at Tetrad?	Present at 10-km/20-km/50-km?	Present at 1-km?	Present at 2-km?	Present at 10-km	Present at >10-km?	
Ringed Plover	No	Probably	No	Possibly	Possibly	No	Wetland
Little Ringed Plover	Probably	Yes	No	Probably	Probably	No	Wetland
Curlew	Possibly	Probably	No	Probably	Probably	No	Wetland and farmland
Woodcock	Possibly	Possibly	No	Yes	Yes	No	Woodland
Snipe	Probably	Probably	No	Probably	Probably	Yes	Wetland
Common Sandpiper	No	No	No	Probably	Probably	Yes	Wetland
Redshank	Yes	Yes	No	Yes	Yes	Yes	Wetland
Black-headed Gull	Yes	Yes	Yes	Yes	Yes	Yes	Wetland
Mediterranean Gull	No	No	No	Yes	Yes	No	Wetland
Common Gull	No	No	No	Probably	Probably	Yes	Wetland

Species	Period 2007-11		Period 2020-2024				Breeding Habitat Preference
	Present at Tetrad?	Present at 10-km/20-km/50-km?	Present at 1-km?	Present at 2-km?	Present at 10-km	Present at >10-km?	
Great Black-backed Gull	No	No	No	Yes	Yes	Yes	Wetland
Herring Gull	No	No	Yes	Yes	Yes	Yes	Wetland
Yellow-legged Gull	No	No	No	Yes	Yes	No	Wetland
Lesser Black-backed Gull	No	No	No	Probably	Probably	Yes	Wetland
Arctic Tern	No	No	No	Yes	Yes	Yes	Wetland
Common Tern	Probably	Yes	No	Yes	Yes	Yes	Wetland
Spoonbill	No	No	No	No	Yes	Yes	Wetland
Bittern	No	Probably	No	No	Yes	Yes	Wetland
Cattle Egret	No	No	No	No	No	Yes	Wetland
Honey-buzzard	No	Possibly (50-km)	No	No	No	No	Woodland

Species	Period 2007-11		Period 2020-2024				Breeding Habitat Preference
	Present at Tetrad?	Present at 10-km/20-km/50-km?	Present at 1-km?	Present at 2-km?	Present at 10-km	Present at >10-km?	
Osprey	No	No	Yes	Yes	Yes	Yes	Wetland
Sparrowhawk	Yes	Yes	No	Probably	Probably	Probably	Woodland
Goshawk	No	Possibly	No	No	No	No	Woodland
Marsh Harrier	No	No	No	No	Probably	No	Wetland
Red Kite	No	No	No	No	Probably	Probably	Woodland
Barn Owl	Yes	Yes	No	Yes	Yes	Yes	Farmland
Tawny Owl	Possibly	Possibly	No	Yes	Yes	Yes	Woodland
Kingfisher	Possibly	Yes	No	Yes	Yes	Possibly	Wetland
Lesser Spotted Woodpecker	Possibly	Possibly	No	No	No	No	Woodland
Kestrel	Yes	Yes	Yes	Yes	Yes	Yes	Farmland
Hobby	No	No	No	No	Probably	Yes	Wetland

Species	Period 2007-11		Period 2020-2024				Breeding Habitat Preference
	Present at Tetrad?	Present at 10-km/20-km/50-km?	Present at 1-km?	Present at 2-km?	Present at 10-km	Present at >10-km?	
Peregrine	No	Yes	No	No	Yes	Yes	Farmland and wetland
Rook	Yes	Yes	Yes	Yes	Yes	Yes	Farmland
Marsh Tit	Probably	Probably	No	No	No	No	Woodland
Willow Tit	Yes	Yes	No	Yes	Yes	Possibly	Wet woodland
Skylark	Yes	Yes	Yes	Yes	Yes	Probably	Farmland
House Martin	Yes	Yes	Yes	Yes	Yes	Yes	Farmland
Cetti's Warbler	No	No	No	Probably	Probably	Possibly	Wetland
Willow Warbler	Yes	Yes	No	Yes	Yes	Yes	Farmland and woodland
Sedge Warbler	Yes	Yes	No	Yes	Yes	Yes	Wetland
Grasshopper Warbler	Probably	Probably	Yes	Yes	Yes	Possibly	Wetland

Species	Period 2007-11		Period 2020-2024				Breeding Habitat Preference
	Present at Tetrad?	Present at 10-km/20-km/50-km?	Present at 1-km?	Present at 2-km?	Present at 10-km	Present at >10-km?	
Whitethroat	Yes	Yes	Yes	Yes	Yes	Yes	Farmland
Wren	Yes	Yes	Yes	Yes	Yes	Yes	Farmland and woodland
Starling	Yes	Yes	Yes	Yes	Yes	Yes	Farmland
Song Thrush	Yes	Yes	Yes	Yes	Yes	Yes	Farmland and woodland
Mistle Thrush	Yes	Yes	Yes	Probably	Probably	Yes	Farmland and woodland
Spotted Flycatcher	No	No	No	Yes	Yes	No	Woodland
Black Redstart	No	No	No	No	No	Yes	Urban
Redstart	No	Probably	No	Yes	Yes	Yes	Woodland
Whinchat	No	No	No	Yes	Yes	Yes	Moorland

Species	Period 2007-11		Period 2020-2024				Breeding Habitat Preference
	Present at Tetrad?	Present at 10-km/20-km/50-km?	Present at 1-km?	Present at 2-km?	Present at 10-km	Present at >10-km?	
Wheatear	No	No	No	Yes	Yes	Yes	Moorland
Tree Sparrow	Yes	Yes	No	Yes	Yes	Yes	Farmland
House Sparrow	Yes	Yes	Yes	Yes	Yes	Yes	Farmland
Dunnock	Yes	Yes	Yes	Yes	Yes	Yes	Farmland and woodland
Yellow Wagtail	Yes	Yes	Yes	Possibly	Possibly	Yes	Farmland
Grey Wagtail	No	Probably	No	Probably	Probably	Possibly	Wetland
Meadow Pipit	Possibly	Probably	Yes	Possibly	Possibly	Probably	Farmland
Tree Pipit	No	No	No	Yes	Yes	Yes	Woodland
Hawfinch	Possibly	Possibly	No	No	No	No	Woodland
Bullfinch	Yes	Yes	Yes	Yes	Yes	Probably	Woodland
Greenfinch	Yes	Yes	Yes	Yes	Yes	Yes	Farmland

Species	Period 2007-11		Period 2020-2024				Breeding Habitat Preference
	Present at Tetrad?	Present at 10-km/20-km/50-km?	Present at 1-km?	Present at 2-km?	Present at 10-km	Present at >10-km?	
Linnet	Yes	Yes	Yes	Yes	Yes	Yes	Farmland
Common Redpoll	No	No	No	Yes	Yes	No	Woodland
Corn Bunting	Probably	Probably	Yes	Probably	Probably	Probably	Farmland
Yellowhammer	Yes	Yes	Yes	Probably	Probably	Yes	Farmland

Table A1.2. Wintering/passage bird species

Species	2007-11		2020-2024			Typical Habitat Association in Winter
	Present at Tetrads?	Present at 10-km/20-km/50-km	Present at 2km?	Present at 10-km?	Present at >10km?	
Brent Goose	Yes	Yes	No	No	No	Wetland
Barnacle Goose	No	Yes	Yes	Yes	No	Wetland, mainly coastal
Greylag Goose (feral)	Yes	Yes	Yes	Yes	Yes	Wetland
Pink-footed Goose	Yes	Yes	Yes	Yes	Yes	Wetland, will feed on arable farmland
White-fronted Goose	Yes	Yes	No	No	Yes	Wetland
Bewick's Swan	Yes	Yes	Yes	Yes	Yes	Wetland
Whooper Swan	Yes	Yes	Yes	Yes	Yes	Wetland, will feed on arable farmland
Shelduck	Yes	Yes	Yes	Yes	Yes	Wetland

Species	2007-11			2020-2024		Typical Habitat Association in Winter
	Present at Tetrad?	Present at 10-km/20-km/50-km	Present at 2km?	Present at 10-km?	Present at >10km?	
Shoveler	Yes	Yes	Yes	Yes	Yes	Wetland
Gadwall	Yes	Yes	Yes	Yes	Yes	Wetland
Wigeon	Yes	Yes	Yes	Yes	Yes	Wetland
Mallard	Yes	Yes	Yes	Yes	Yes	Wetland
Pintail	Yes	Yes	Yes	Yes	No	Wetland
Teal	Yes	Yes	Yes	Yes	Yes	Wetland
Pochard	Yes	Yes	Yes	Yes	Yes	Wetland
Scaup	Yes	Yes	Yes	Yes	Yes	Wetland, mainly coastal
Common Scoter	No	No	Yes	Yes	Yes	Wetland, mainly coastal
Long-tailed Duck	No	No	No	No	Yes	Wetland, mainly coastal
Goldeneye	Yes	Yes	Yes	Yes	Yes	Wetland

Species	2007-11			2020-2024		Typical Habitat Association in Winter
	Present at Tetrad?	Present at 10-km/20-km/50-km	Present at 2km?	Present at 10-km?	Present at >10km?	
Smew	No	No	No	No	Yes	Wetland, mainly coastal
Red-breasted Merganser	Yes	Yes	Yes	Yes	Yes	Wetland, mainly coastal
Grey Partridge	Yes	Yes	Yes	Yes	Yes	Farmland
Stock Dove	Yes	Yes	Yes	Yes	Yes	Farmland
Woodpigeon	Yes	Yes	Yes	Yes	Yes	Farmland
Moorhen	Yes	Yes	Yes	Yes	Yes	Wetland
Crane	No	No	Yes	Yes	Yes	Wetland
Black-necked Grebe	No	Yes	Yes	Yes	Yes	Wetland
Oystercatcher	Yes	Yes	Yes	Yes	Yes	Wetland
Lapwing	Yes	Yes	Yes	Yes	No	Wetland, will feed on arable farmland

Species	2007-11			2020-2024		Typical Habitat Association in Winter
	Present at Tetrad?	Present at 10-km/20-km/50-km	Present at 2km?	Present at 10-km?	Present at >10km?	
Grey Plover	Yes	Yes	Yes	Yes	No	Wetland, mainly coastal
Curlew	Yes	Yes	Yes	Yes	No	Wetland, will feed on arable farmland
Bar-tailed Godwit	Yes	Yes	Yes	Yes	Yes	Wetland, mainly coastal
Black-tailed Godwit	No	Yes	No	No	Yes	Wetland
Turnstone	No	No	Yes	Yes	Yes	Wetland, mainly coastal
Knot	No	No	Yes	Yes	No	Wetland, mainly coastal
Ruff	No	No	Yes	Yes	No	Wetland
Sanderling	No	No	Yes	Yes	No	Wetland, mainly coastal

Species	2007-11			2020-2024		Typical Habitat Association in Winter
	Present at Tetrad?	Present at 10-km/20-km/50-km	Present at 2km?	Present at 10-km?	Present at >10km?	
Dunlin	Yes	Yes	Yes	Yes	No	Wetland, mainly coastal
Woodcock	Yes	Yes	Yes	Yes	Yes	Wetland
Snipe	Yes	Yes	Yes	Yes	Yes	Wetland
Common Sandpiper	Yes	Yes	Yes	Yes	No	Wetland
Redshank	Yes	Yes	Yes	Yes	No	Wetland
Kittiwake	No	No	Yes	Yes	No	Seabird
Black-headed Gull	Yes	Yes	Yes	Yes	Yes	Wetland, will feed on arable farmland
Mediterranean Gull	Yes	Yes	Yes	Yes	No	Wetland, will feed on arable farmland

Species	2007-11			2020-2024		Typical Habitat Association in Winter
	Present at Tetrad?	Present at 10-km/20-km/50-km	Present at 2km?	Present at 10-km?	Present at >10km?	
Common Gull	Yes	Yes	Yes	Yes	Yes	Wetland, will feed on arable farmland
Great Black-backed Gull	Yes	Yes	Yes	Yes	Yes	Wetland, will feed on arable farmland
Iceland Gull	No	No	No	Yes	No	Wetland, will feed on arable farmland
Glaucous Gull	No	Yes	No	No	No	Wetland, will feed on arable farmland
Herring Gull	Yes	Yes	Yes	Yes	Yes	Wetland, will feed on arable farmland
Caspian Gull	No	No	Yes	Yes	No	Wetland, will feed on arable farmland

Species	2007-11			2020-2024		Typical Habitat Association in Winter
	Present at Tetrad?	Present at 10-km/20-km/50-km	Present at 2km?	Present at 10-km?	Present at >10km?	
Yellow-legged Gull	No	No	Yes	Yes	No	Wetland, will feed on arable farmland
Lesser Black-backed Gull	Yes	Yes	Yes	Yes	Yes	Wetland, will feed on arable farmland
Arctic Skua	No	No	Yes	Yes	No	Wetland, mainly coastal
Red-throated Diver	No	No	No	No	Yes	Wetland, mainly coastal
Gannet	No	No	Yes	Yes	No	Seabird
Spoonbill	No	No	Yes	Yes	Yes	Wetland
Bittern	Yes	Yes	Yes	Yes	No	Wetland
Cattle Egret	No	No	Yes	Yes	Yes	Wetland
Great White Egret	No	No	Yes	Yes	Yes	Wetland

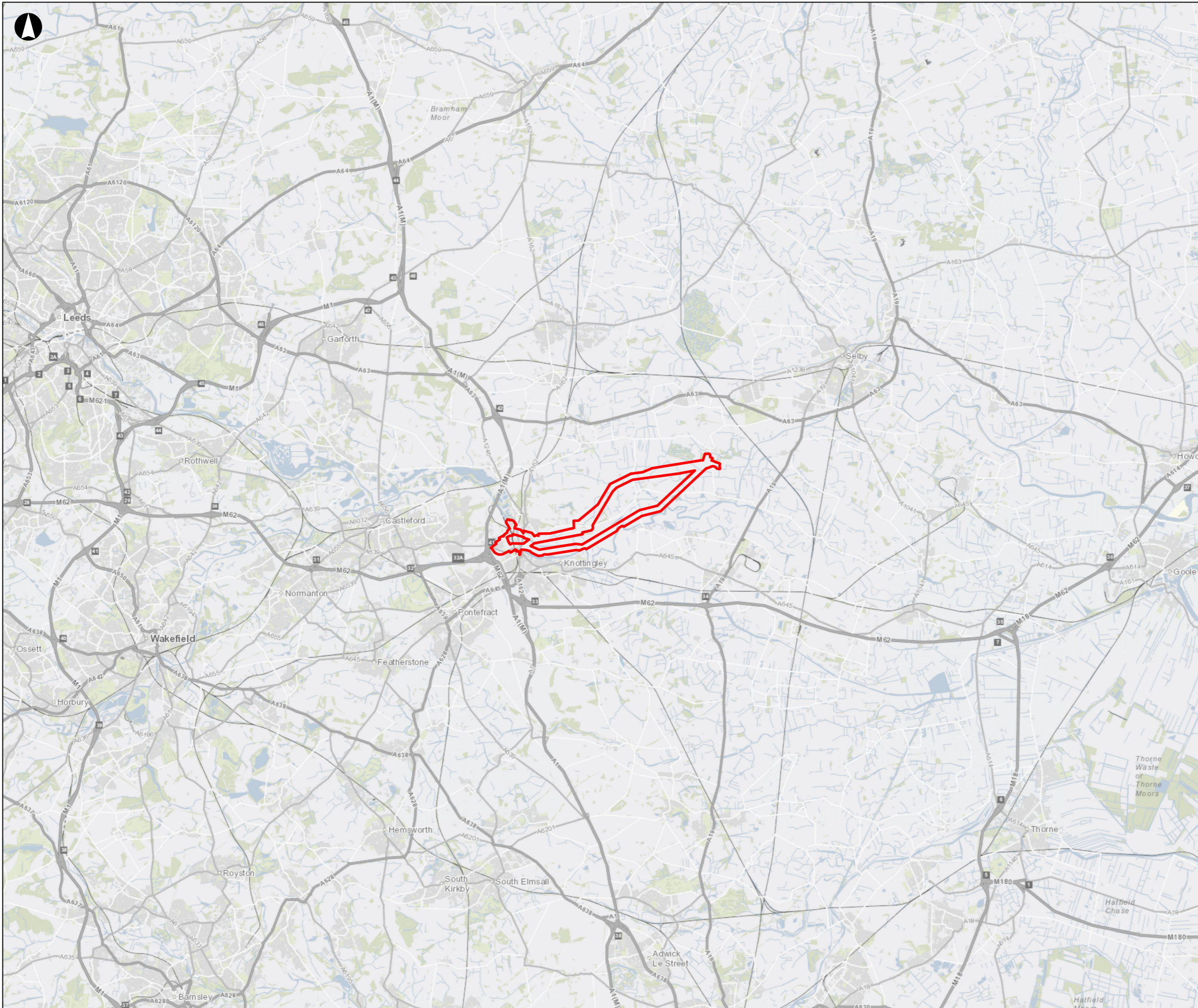
Species	2007-11			2020-2024		Typical Habitat Association in Winter
	Present at Tetrad?	Present at 10-km/20-km/50-km	Present at 2km?	Present at 10-km?	Present at >10km?	
Sparrowhawk	Yes	Yes	Yes	Yes	Yes	Farmland and woodland
Marsh Harrier	No	Yes	Yes	Yes	Yes	Wetland
Hen Harrier	Yes	Yes	Yes	Yes	No	Wetland, will feed on arable farmland
Red Kite	Yes	Yes	Yes	Yes	Yes	Farmland and woodland
Barn Owl	Yes	Yes	Yes	Yes	Yes	Farmland
Short-eared Owl	Yes	Yes	Yes	Yes	No	Farmland
Tawny Owl	Yes	Yes	Yes	Yes	Yes	Woodland
Kingfisher	Yes	Yes	Yes	Yes	Yes	Wetland
Lesser Spotted Woodpecker	Yes	Yes	No	No	No	Woodland
Kestrel	Yes	Yes	Yes	Yes	Yes	Farmland

Species	2007-11			2020-2024		Typical Habitat Association in Winter
	Present at Tetrad?	Present at 10-km/20-km/50-km	Present at 2km?	Present at 10-km?	Present at >10km?	
Merlin	Yes	Yes	Yes	Yes	Yes	Wetland, will feed on arable farmland
Peregrine	Yes	Yes	Yes	Yes	No	Wetland, will feed on arable farmland
Rook	Yes	Yes	Yes	Yes	Yes	Farmland
Marsh Tit	Yes	Yes	Yes	Yes	No	Woodland
Willow Tit	Yes	Yes	Yes	Yes	Yes	Wet woodland
Skylark	Yes	Yes	Yes	Yes	Yes	Farmland
Cetti's Warbler	No	No	Yes	Yes	Yes	Wetland
Wren	Yes	Yes	Yes	Yes	Yes	Farmland and woodland
Starling	Yes	Yes	Yes	Yes	Yes	Farmland and wetland

Species	2007-11			2020-2024		Typical Habitat Association in Winter
	Present at Tetrad?	Present at 10-km/20-km/50-km	Present at 2km?	Present at 10-km?	Present at >10km?	
Song Thrush	Yes	Yes	Yes	Yes	Yes	Farmland and woodland
Mistle Thrush	Yes	Yes	Yes	Yes	Yes	Farmland and woodland
Redwing	Yes	Yes	Yes	Yes	Yes	Farmland
Fieldfare	Yes	Yes	Yes	Yes	Yes	Farmland
Black Redstart	No	No	Yes	Yes	Yes	Wetland
Wheatear	No	No	Yes	Yes	No	Farmland
Tree Sparrow	Yes	Yes	Yes	Yes	No	Farmland
House Sparrow	Yes	Yes	Yes	Yes	Yes	Farmland
Dunnock	Yes	Yes	Yes	Yes	Yes	Farmland
Grey Wagtail	Yes	Yes	Yes	Yes	No	Wetland
Meadow Pipit	Yes	Yes	Yes	Yes	Yes	Farmland

Species	2007-11			2020-2024		Typical Habitat Association in Winter
	Present at Tetrad?	Present at 10-km/20-km/50-km	Present at 2km?	Present at 10-km?	Present at >10km?	
Water Pipit	No	Yes	Yes	Yes	No	Wetland, mainly coastal
Bullfinch	Yes	Yes	Yes	Yes	Yes	Farmland and woodland
Greenfinch	Yes	Yes	Yes	Yes	Yes	Farmland and woodland
Linnet	Yes	Yes	Yes	Yes	Yes	Farmland and woodland
Common Redpoll	Yes	Yes	Yes	Yes	No	Farmland and woodland
Snow Bunting	Yes	Yes	No	No	No	Mainly coastal
Corn Bunting	Yes	Yes	No	Yes	Yes	Farmland
Yellowhammer	Yes	Yes	Yes	Yes	Yes	Farmland
Reed Bunting	Yes	Yes	Yes	Yes	Yes	Wetland

Appendix 2: Figures



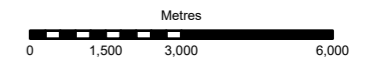
Legend

 The Site



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Drawing Title
Figure 1: Site Location Plan

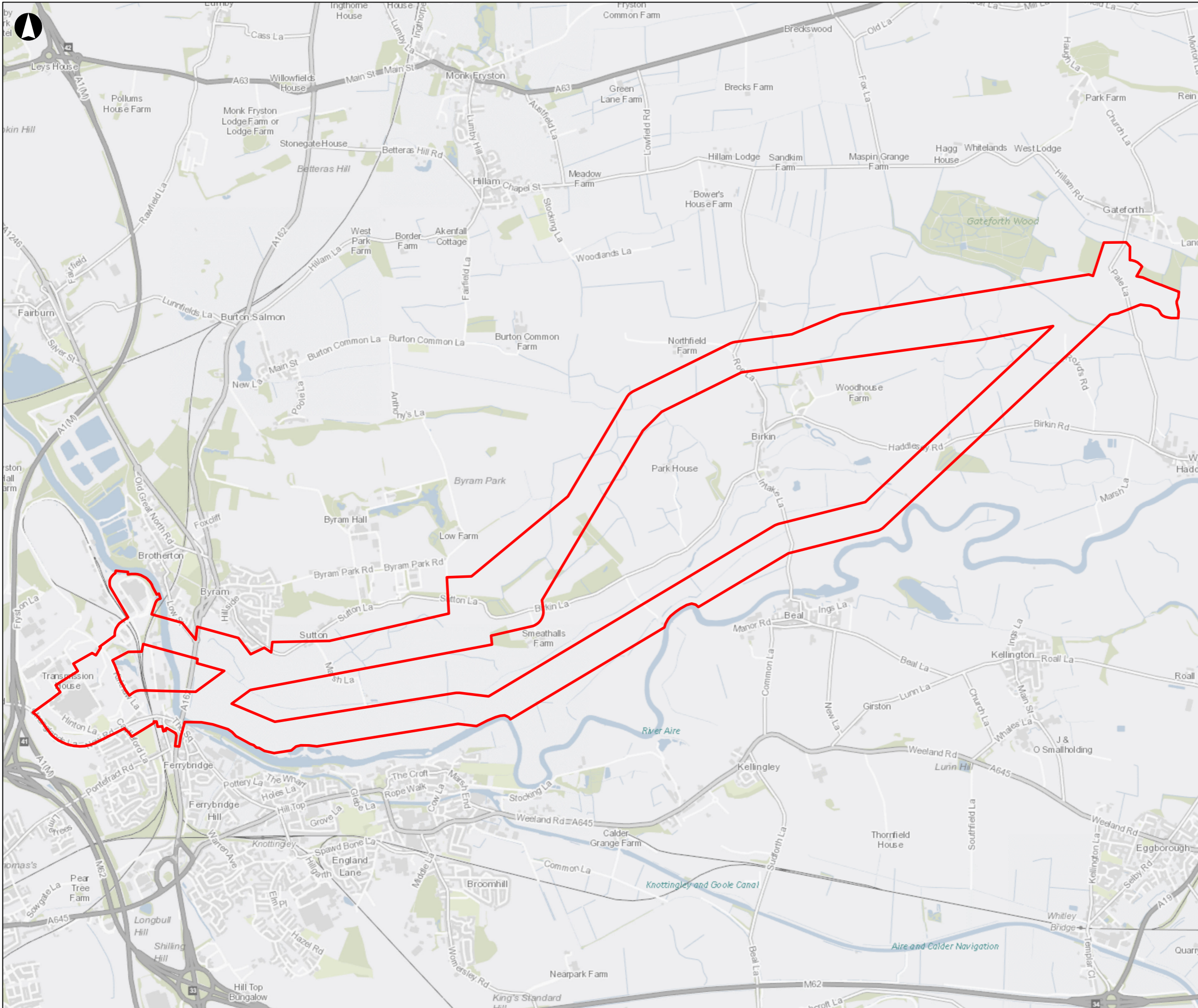
Client
SSE 

Project Name
Ferrybridge Next Generation Power Station

Scale at A3
1:150,000

Project Number 304192-00	Rev P01
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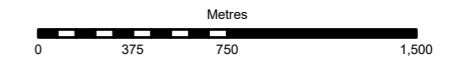
Drawing Number
01



Legend
 The Site



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Figure 2: Proposed Development Site

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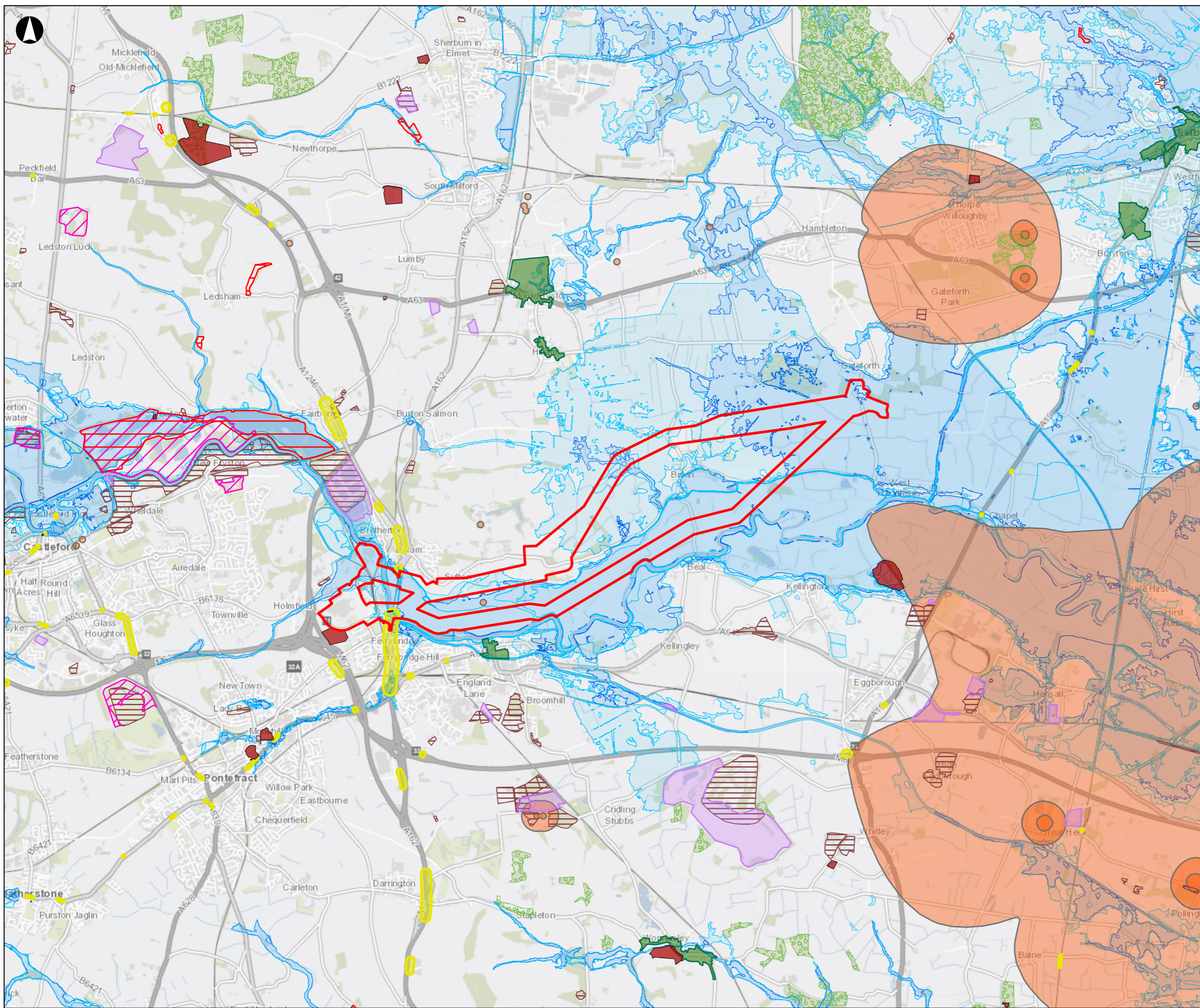
Project Name
Ferrybridge Next Generation Power Station

Scale at A3
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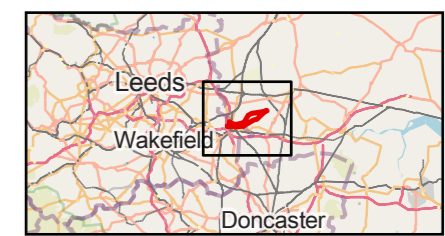
Project Number
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02

Rev
P01



- Legend**
- The Site
 - Sites of Special Scientific Interest
 - Scheduled Monuments
 - Conservation Areas
 - Authorised Landfill Site
 - Historic Landfill Sites
 - Noise Important Areas
 - Local Nature Reserves
 - Ancient Woodland
 - Source Protection Zones
 - Flood Risk Zone 2
 - Flood Risk Zone 3



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Drawing Title
Figure 3.1: Environmental Constraints

Client
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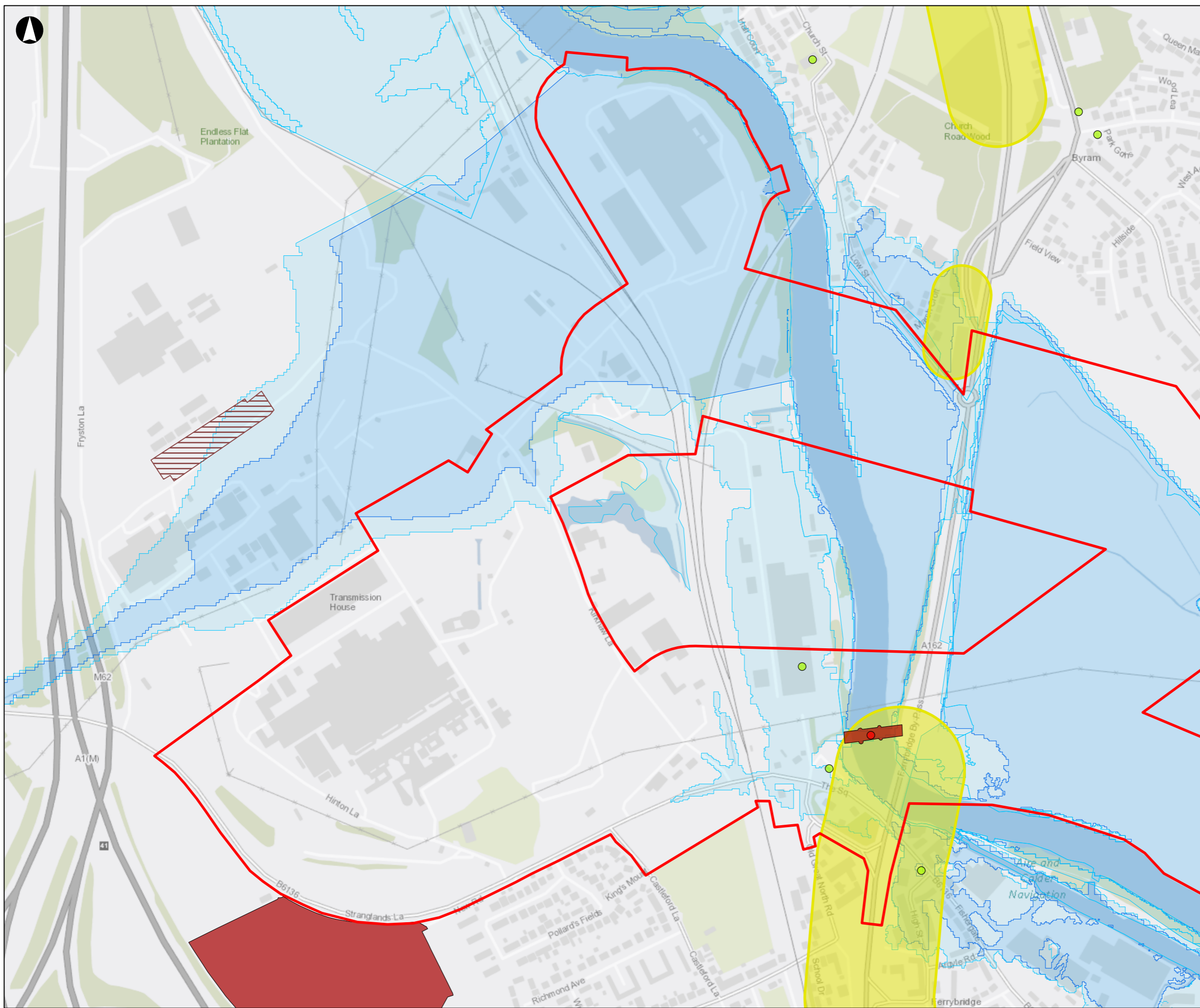
Project Name
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Scale at A3
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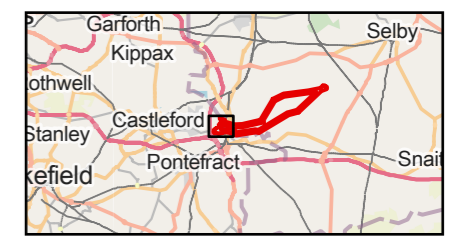
Project Number
304192-00

Rev
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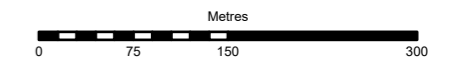
Drawing Number
03



- Legend**
- The Site
 - Listed Building Grade:
 - I
 - II
 - Scheduled Monuments
 - Noise Important Areas
 - Historic Landfill Sites
 - Flood Risk Zone 2
 - Flood Risk Zone 3



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Figure 3.2: Environmental Constraints - Main Site

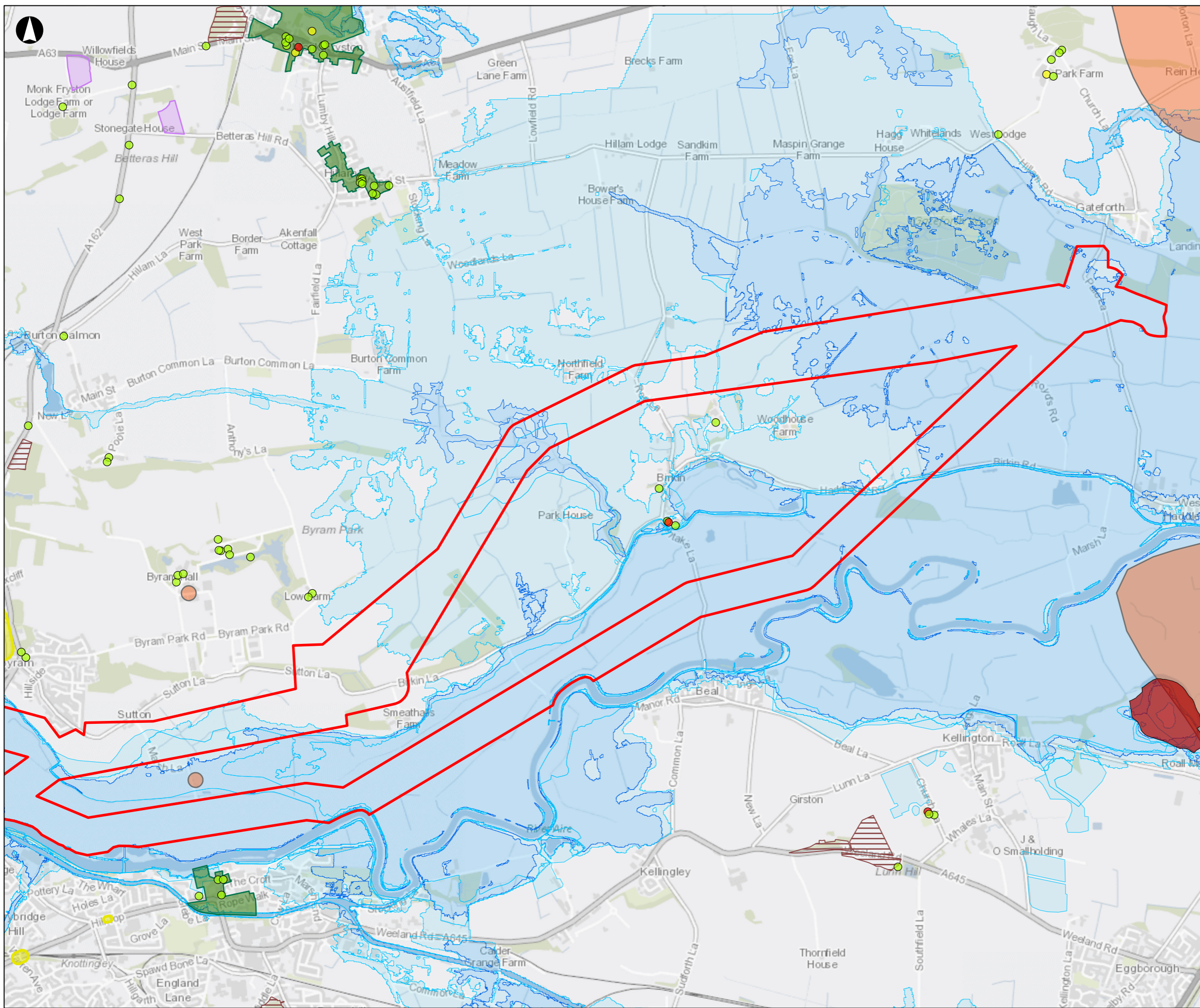
Client
SSE

Project Name
Ferrybridge Next Generation Power Station

Scale at A3
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Project Number 304192-00	Rev P01
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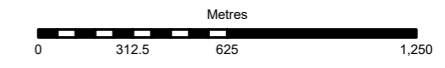
Drawing Number
04



- Legend**
- The Site
 - Listed Building Grade:
 - I
 - II*
 - II
 - Scheduled Monuments
 - Conservation Areas
 - Authorised Landfill Site
 - Historic Landfill Sites
 - Noise Important Areas
 - Source Protection Zones
 - Flood Risk Zone 2
 - Flood Risk Zone 3



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Figure 3.3: Environmental Constraints - Proposed Pipeline Corridor

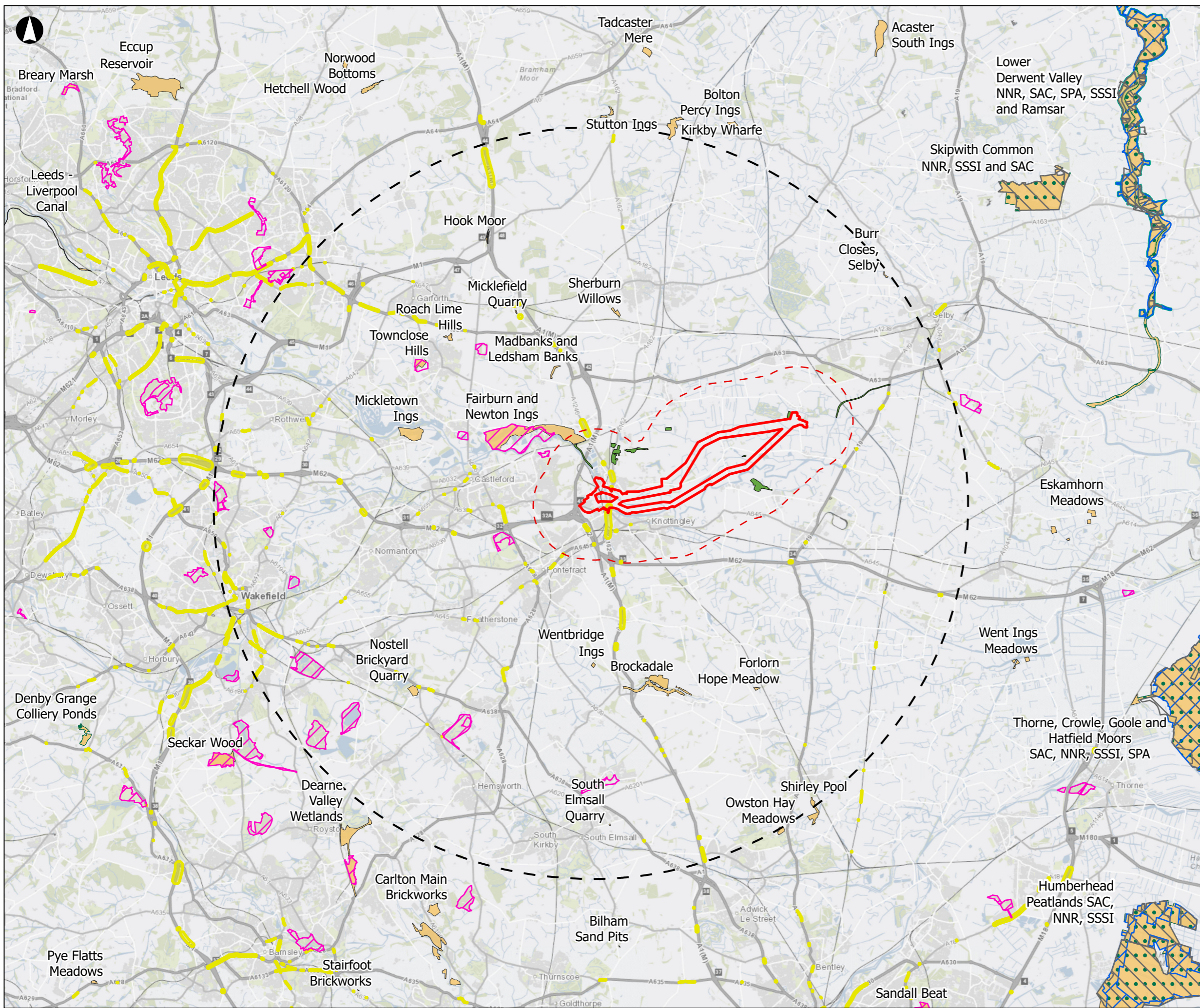
Client: **SSE**

Project Name: **Ferrybridge Next Generation Power Station**

Scale at A3: **1:25,000**

Project Number: **304192-00** Rev: **P01**

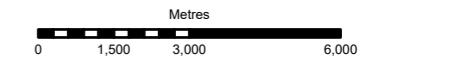
Drawing Number: **05**



- Legend**
- The Site
 - 2km Zone of Influence
 - 15km Zone of Influence for Air Quality Impacts
 - Sites of Special Scientific Interest (SSSI)
 - Special Protection Areas (SPA)
 - Special Areas of Conservation (SAC)
 - National Nature Reserves (NNR)
 - Ramsar Sites
 - Noise Important Areas
 - Sites of Importance for Nature Conservation
 - Local Nature Reserves



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Drawing Title
Figure 4.1: Biodiversity and Nature Conservation Constraints

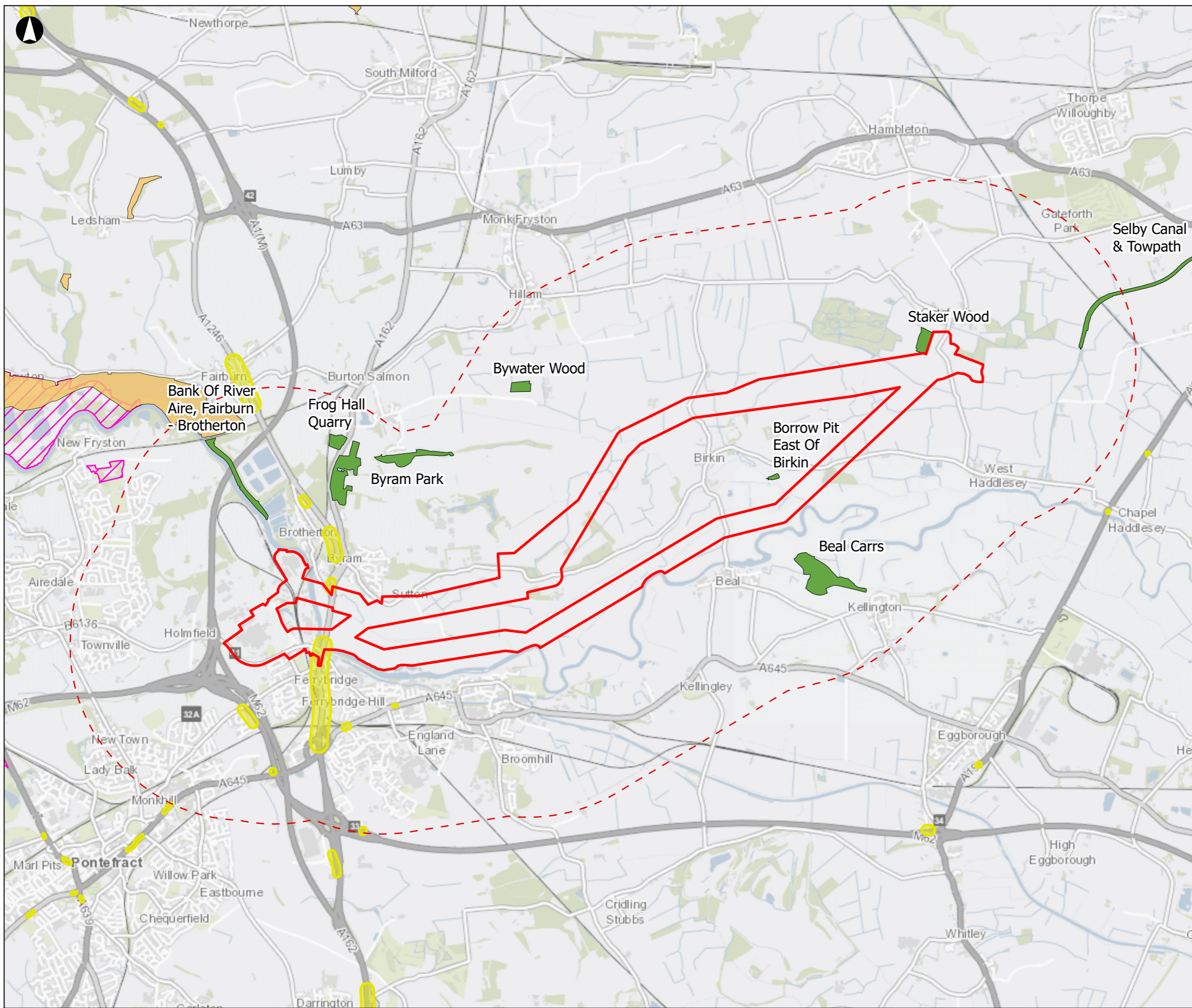
Client
SSE

Project Name
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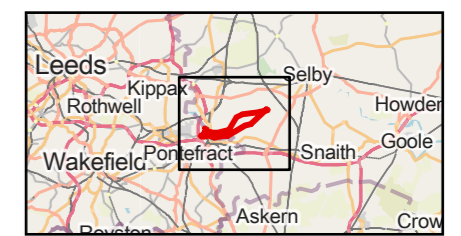
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Project Number **304192-00** Rev **P01**

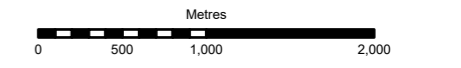
Drawing Number **06**



- Legend**
- The Site
 - 2km Zone of Influence
 - Sites of Special Scientific Interest (SSSI)
 - Special Protection Areas (SPA)
 - National Nature Reserves (NNR)
 - Ramsar Sites
 - Noise Important Areas
 - Sites of Importance for Nature Conservation
 - Local Nature Reserves



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Figure 4.2: Biodiversity and Nature Conservation Constraints

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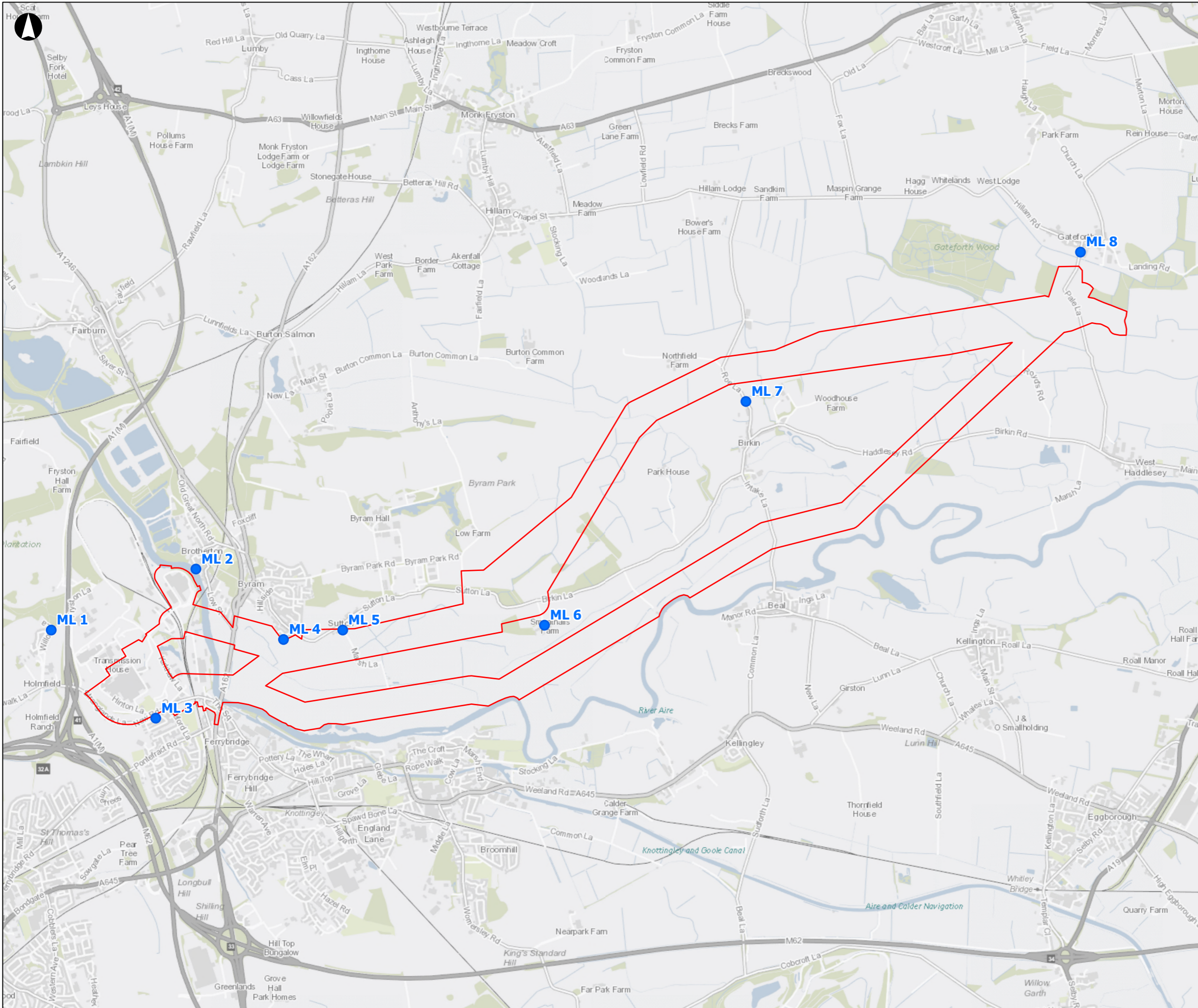
Project Name
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Scale at A3
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Rev
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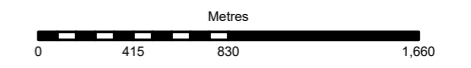
Drawing Number
07



- Legend**
- The Site
 - Proposed Noise Monitoring Locations



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Figure 5.1: Proposed Noise Monitoring Locations

Client					
Project Name	Ferrybridge Next Generation Power Station				
Scale at A3	1:33,000				
Project Number	304192-00			Rev	P01
Drawing Number	08				



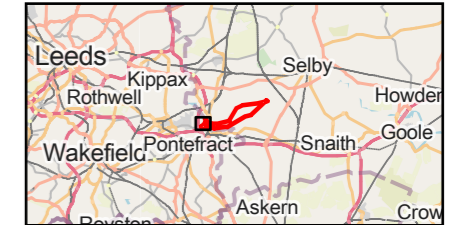
Fryston Park



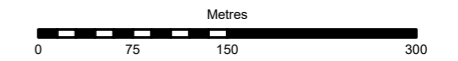
Legend

- The Site
- Proposed Noise Monitoring Locations

A3



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Drawing Title
Figure 5.2: Proposed Noise Monitoring Locations - Main Site

Client
SSE

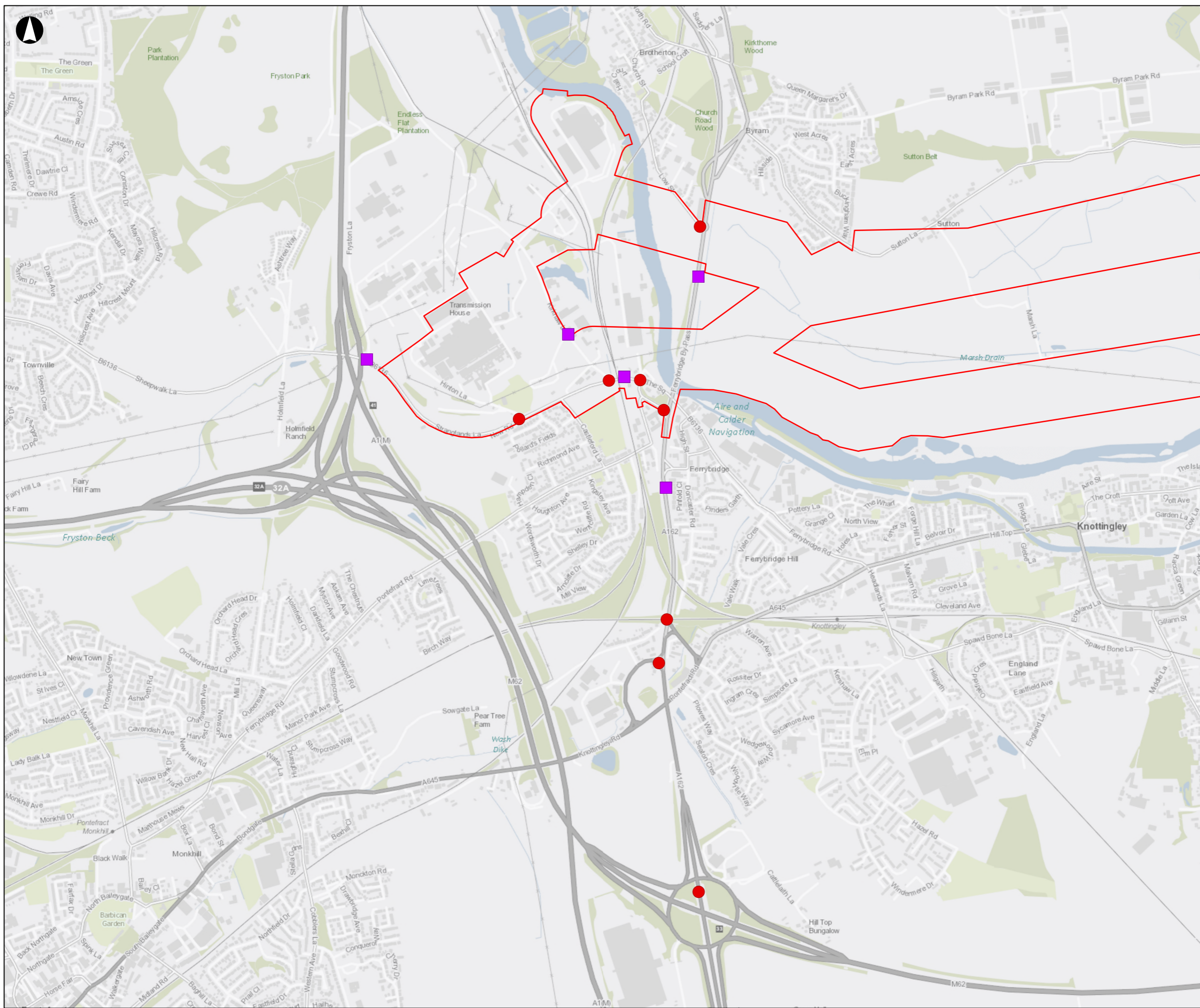
Project Name
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Scale at A3
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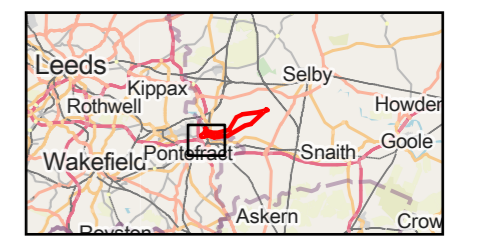
Project Number
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Rev
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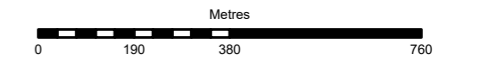
Drawing Number
09



- Legend**
- The Site
 - Automated Traffic Count Location
 - Manual Classified Turning Count Location



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Drawing Title
Figure 6: Proposed Traffic Count Locations

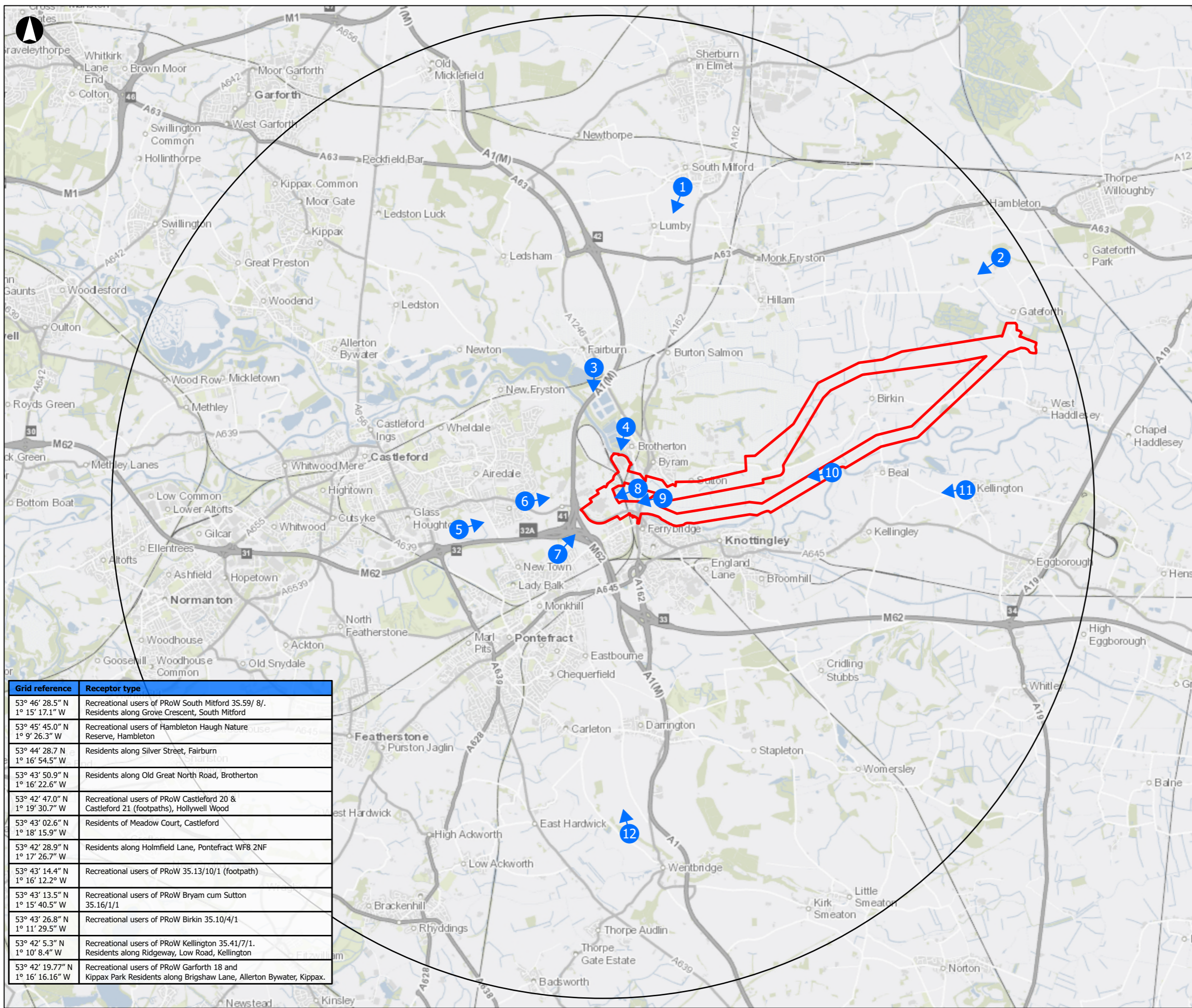
Client
SSE

Project Name
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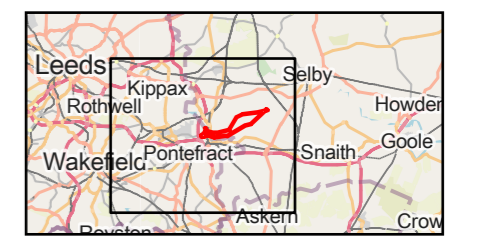
Scale at A3
1:15,000

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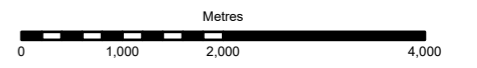
Drawing Number **10**



- Legend**
- The Site
 - Proposed Assessment Viewpoints
 - Study Area (10km)



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Figure 7: Proposed Viewpoint Locations

Client		SSE	
Project Name			
Ferrybridge Next Generation Power Station			
Scale at A3			
1:75,000			
Project Number			Rev
304192-00			P01
Drawing Number			
11			

Grid reference	Receptor type
53° 46' 28.5" N 1° 15' 17.1" W	Recreational users of PRow South Mitford 35.59/ 8/ Residents along Grove Crescent, South Mitford
53° 45' 45.0" N 1° 9' 26.3" W	Recreational users of Hambleton Haugh Nature Reserve, Hambleton
53° 44' 28.7" N 1° 16' 54.5" W	Residents along Silver Street, Fairburn
53° 43' 50.9" N 1° 16' 22.6" W	Residents along Old Great North Road, Brotherton
53° 42' 47.0" N 1° 19' 30.7" W	Recreational users of PRow Castleford 20 & Castleford 21 (footpaths), Hollywell Wood
53° 43' 02.6" N 1° 18' 15.9" W	Residents of Meadow Court, Castleford
53° 42' 28.9" N 1° 17' 26.7" W	Residents along Holmfield Lane, Pontefract WF8 2NF
53° 43' 14.4" N 1° 16' 12.2" W	Recreational users of PRow 35.13/10/1 (footpath)
53° 43' 13.5" N 1° 15' 40.5" W	Recreational users of PRow Bryam cum Sutton 35.16/1/1
53° 43' 26.8" N 1° 11' 29.5" W	Recreational users of PRow Birkin 35.10/4/1
53° 42' 5.3" N 1° 10' 8.4" W	Recreational users of PRow Kellington 35.41/7/1. Residents along Ridgeway, Low Road, Kellington
53° 42' 19.77" N 1° 16' 16.16" W	Recreational users of PRow Garforth 18 and Kippax Park Residents along Brigshaw Lane, Allerton Bywater, Kippax.