



Planning Statement

Energy Recovery Centre and Data Reading Quarry, Land off
Berrys Lane, Reading, RG30 3XH

J Mould

CRM.1144.010.PL.R.001



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Planning Statement

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For:	J Mould
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Contents

1.0 Introduction	6
1.1 Introduction.....	6
2.0 Site Description	9
2.1 Site Location	9
2.2 Site Context	10
2.3 Site History	11
2.4 Site Access	12
2.5 Sensitive Receptors in the Vicinity of the Site	14
2.6 Flood Risk	15
2.7 Planning Allocations / Designations.....	16
3.0 Proposed Development.....	18
3.1 Introduction.....	18
3.2 Background Information and Context	18
Energy Recovery Centre.....	18
Data Centre	19
3.3 Proposed Development.....	20
3.4 Site Layout and Design	21
Storage and Internal Conveying	23
Step 3 – Combustion and Ash Removal.....	24
Step 4 - Steam Cycle.....	25
Step 5 – Heat Recovery	26
3.5 Parking, Access and Internal Circulation.....	26
Energy Recovery Centre.....	26
Data Centre	27
3.6 Site Security and External Lighting	27

3.7	Hours of operation	28
	Energy Recovery Centre.....	28
3.8	Construction	29
3.9	Employment	29
3.10	Environmental Impact Assessment (EIA)	29
3.11	Pre-Submission Consultation.....	30
4.0	Planning History	31
4.1	Planning History	31
4.2	Within the Application Site.....	31
5.0	Planning Policy	34
5.1	Introduction.....	34
5.2	European Policy	35
5.3	National Planning Policy	36
5.4	The National Planning Policy Framework (2019).....	36
	National Planning Policy for Waste (NPPW).....	39
	Local Policy.....	39
5.5	West Berkshire Local Planning policy	39
5.6	West Berkshire District Local Plan Saved Policies.....	44
5.7	Waste Local Plan for Berkshire (Joint Strategic Planning Unit).....	45
5.8	Conclusion	46
6.0	Assessment of Environmental Impacts	47
6.1	Introduction.....	47
6.2	Flood Risk Assessment and Drainage	47
6.3	Noise Impact Assessment.....	48
6.4	Ecology	48
6.5	Landscape and Visual Impact Assessment.....	49
6.6	Traffic and Highways	51

6.7 Air Quality, Dust and Odour	52
Process Emissions	52
Dust and Odour	53
Cumulative Impacts.....	54
Summary	54
6.8 Preliminary Risk Assessment	55
6.9 Arboricultural Impacts.....	56
6.10 Human Health Risk Assessment (HHRA)	56
7.0 Conclusion	58

Tables and Figures

Figure 1: Site Location	9
Figure 2: Relevant Planning Applications within the application Site Boundary	12
Figure 3: Aerial view of the application site and indicative access and egress update plan	13
Figure 4: Existing access and egress off Berrys Lane	13
Figure 5: Berrys Lane / Burghfield Road junction	14
Figure 6: Flood Risk Map	16
Figure 7: West Berkshire Council Development Plan Proposals Map (2012)	17
Figure 8: Material in-feeder unit	24
Figure 9: Step grate combustion process	25
Figure 10: Wet conveyor ash	25
Figure 11: Steam turbine	26
Figure 12: Existing perimeter fence which will be modernised.....	28
Figure 13: The Waste Hierarchy	36

Drawings and Appendices

Plans and Drawings	Reference
Site Location Plan	CRM.1144.010.PL.D.001 Location Plan
Site Boundary Plan	CRM.1144.010.PL.D.002 Site Boundary
Site Layout	P4009 - J Mould - Sheet - 2000 - Proposed Site Plan
Internal Access Route	CRM.1144.010.PL.D.004 HGV Access Route
Elevations	Reference
P4009 - J Mould - Sheet - 2010 - ERC Floor Plan	
P4009 - J Mould - Sheet - 2020 - Roof Plan	
P4009 - J Mould - Sheet - 2030 - ERC Elevations	
P4009 - J Mould - Sheet - 2040 - ERC Elevations	
P4009 - J Mould - Sheet - 2050 - Data Centre Ground Floor Plans	
P4009 - J Mould - Sheet - 2060 - Data Centre First Floor Plan	
P4009 - J Mould - Sheet - 2070 - Data Centre Second Floor Plan	
P4009 - J Mould - Sheet - 2080 - Data Centre Elevations	
P4009 - J Mould - Sheet - 2090 - ERC and Data Centre Views	
P4009 - J Mould - Sheet - 2100 - Green Park Wind Turbine Comparison	

1.0 Introduction

1.1 Introduction

1.1.1 This Planning Statement supports a planning application by J Mould (Reading) Limited (J Mould) for the development of a for the development of a 40MWth Energy Recovery Centre (ERC) and adjacent data centre under one full planning application.

1.1.2 The ERC will intake up to 150,000 tonnes per annum of Refuse Derived Fuel (RDF) from non-hazardous municipal, commercial and industrial waste sources from the on-site Reading Quarry Waste Recycling and Transfer Facility (WRTF) and other sites in the locality. Material will then be combusted within the ERC to generate electricity that will be exported both to the grid and the proposed adjacent data centre along with excess heat from the ERC. By utilising the excess thermal output, the co-located development will enable the ERC facility to both harness energy from the incoming residual waste, along with the benefit of the data centre being able to utilize the excess thermal output produced by the Energy Recovery Centre to provide the required cooling system within the adjacent data centre.

1.1.3 The ERC will be modelled on HoSt Technology, a company that specialises in Bio-energy Installations.

1.1.1 The proposed ERC will provide local capacity to process post recycling residual materials which are currently destined for landfill or exported to Europe as RDF. By providing a facility at a scale appropriate to manage locally produced residual waste, the facility will complement existing recycling and waste management facilities within West Berkshire and the surrounding area, thus supporting the circular economy. The generation of electricity and the recovery of a large proportion of the heat from the process will ensure the facility represents an efficient use of resources, contributing to energy decentralisation and security, and a reduced dependency on fossil fuels.

1.1.2 Adjacent to the proposed ERC will be a data centre and associated infrastructure including an ancillary office, parking, back-up generators and air chillers. Data centres are where computing facilities and networking equipment are stored, located and centralized. They are tasked to collect, store, process and distribute large amounts of data. The centres connect communication networks so end-users can access information remotely. With the ever increasing technologization of society, comes an exponential growth of data. This development seeks to help meet the existing and future demand for data storage. As such, the development

is vital for enabling communities, businesses and individuals to continue using technology as it is used today.

- 1.1.3 Data centres require a large amount of electricity to operate and cool. This proposed development will be able to utilise power and residual heat from the adjacent ERC and the design of the data centre will also incorporate roof mounted solar panels and backup generators. This strategic approach of the proposed development of combining an ERC and data centre is therefore entirely sustainable.
- 1.1.4 The application site is located at Reading quarry, on land off Berrys Lane, Reading, RG30 3XH (grid reference SU 68542 69715). The planning application boundary amounts to circa 6.44ha. (64,400m² including access route and landscape mitigation). The development site is within an existing wider consented waste management facility at the J Mould Reading Quarry site, which is designated as a waste management facility as set out within the Waste Local Plan for Berkshire (appendix 5). As such, the current Reading Quarry site consists of a comprehensive waste management facility where a wide range of materials are currently being processed to produce recycled products. Waste management activities associated with this part of the site will be relocated approximately 400m westwards to the consented Waste Recycling Transfer Facility (16/03253/COMIND).
- 1.1.5 The site is relatively isolated from sensitive receptors including residential receptors and relevant designations. The only Statutory designation within 1km of the site is Amner's Farmhouse (Grade II Listed Buildings), approximately 580m south west of the western boundary.
- 1.1.6 The proposed development will enable a complete waste management service to be provided at the Reading Quarry site as existing incoming J Mould waste can be processed and recyclables removed via the existing Waste Recycling Transfer Facility (WRTF) with the residual waste delivered to the ERC. The proposed ERC will ensure that a wider range of materials can be recovered and utilised internally between the two facilities.
- 1.1.7 The ERC will comprise of a building containing plant and equipment (primarily comprising a waste reception hall, thermal hall, turbine hall and room for electrical switchgear), with office space, control rooms and amenities located at first and second floor levels. The existing access road will be utilised and upgraded.

1.1.8 The data centre will include a main data centre at the rear of the building, an ancillary office at the front of the building, an external plant area which contains backup generators and car parking and sheltered cycle storage spaces for staff and visitors.

1.1.9 Further infrastructure to be included on the site includes a weighbridge, portacabin type office for weighbridge operator, a water storage tank and pump house and water attenuation pond. These are shown within the accompanying plans and elevations submitted as part of this planning application.

1.1.10 The development proposes to utilise an existing internal access route off Berrys Lane which will be widened to accommodate two-way HGV movements and vehicle movements associated with the ERC and data centre. The development also utilises the former route of Pingewood Road North, which was severed and stopped up as part of the M4 construction over 50 years ago for pedestrian and cyclist access. By separating HGVs and pedestrians (and cyclists), the development ensures safe access and egress for staff and visitors attending both developments. A cycle and pedestrian access route are also proposed along the western side of the ERC, leading to the office at the rear of the building.

1.1.11 A security fence divides the ERC and data centre and perimeter fencing encloses the whole development.

1.1.12 The submitted plans and elevations illustrate in greater detail both the data centre and ERC.

1.1.13 This Planning statement sets out the following:

- Details of the background and application site;
- Details of the proposed development;
- Consideration of national, regional and local planning policy relevant to the application; and
- Environmental considerations, highlighting the outcome of technical assessments which accompany the application.

2.0 Site Description

2.1 Site Location

2.1.1 The application site is located within the administrative boundary of West Berkshire Council and south of the boundary with Reading Borough Council and Wokingham Borough Council. The site is located on land off Berrys Lane, Reading, RG30 3XA (grid reference SU 68542 69715). The site location is illustrated in figure 1 below.



Figure 1: Site Location

2.1.2 The application site is located approximately 5km south west of Reading, within an operational existing waste management facility, adjacent to the western boundary of a landfill site. An existing Tarmac construction material site is located to the north east of the application site and to the east and north of Berrys Lane lies several lakes and recreational water sport clubs. The M4 runs parallel to the southern boundary of the application site.

2.1.3 The site currently comprises brownfield land and is consented for a recycling facility for inert wastes and ancillary buildings in July 2003 (ref 02/02267/COMIND). Consent was granted for an extension to the workshop, in April 2010 (10/00145/FUL). More recently, consent was granted for the development of a waste recycling transfer facility and 1MW biomass boiler (16/03253/COMIND) on a separate part of the wider Reading Quarry waste complex to the west. The existing operations on the application site will be relocated to consented western part of the ownership site.

2.1.4 Figure 2 below shows the wider site with the ERC/Data Centre application footprint amounting to 6.41ha (including internal access route and landscape mitigation).



Figure 2: Aerial view of existing site (Source: Google Earth 2020)

2.2 Site Context

2.2.1 The application site is allocated as a waste management facility, as set out within the Waste Local Plan for Berkshire (1998) (Appendix 5). West Berkshire is currently in the process of developing a new Minerals and Waste Local Plan (MWLP), which will set out the planning policies for minerals and waste development within West Berkshire. The West Berkshire MWLP Preferred Options Consultation Response Report (2018) highlights that it is requested that the application site is covered entirely by Policy 5 and Policy 9 and is therefore safeguarded as a waste management site. The proposed ERC would be entirely consistent with this allocation and allow an efficient use of the allocated site.

2.2.2 West Berkshire policies map designates the application site as a local wildlife site (Burghfield Gravel Pit), within the curtilage of Burghfield Neighbourhood Area and within Kennet Lower River with open water. A full review of the proposed development against planning policy is provided within the Planning Statement supporting the application.

2.2.3 The landscape context of the operational waste site surrounding the application site is defined as a typical waste management site with stockpiles of inert material. The site is well enclosed with existing mature planted boundaries. Additional planting along the southern and western boundary are proposed to mitigate potential visual impacts from the M4 and Berrys Lane. The developable area is open, and the site is relatively flat topography.



Figure 2: Existing Site - Looking South towards the M4 from the centre of the Site

2.3 Site History

2.3.1 A review of West Berkshire Council's planning application webpage has been undertaken to obtain details on historic planning applications within the site. These are detailed within Table 1 below. This confirms that the application site is an existing waste management site and has been for some time. The use for the proposed ERC is therefore consistent with the existing use of the site.

Reference Number	Description of Development	Decision Date	Decision
10/00145/FUL	Retrospective – Extension to workshop	April 2010	Approved
06/01795/OUTMAJ	7,500 dwellings; social infrastructure including schools, health centres and indoor recreation facilities; utilities and infrastructure, including an Energy Centre incorporating a combined heat and power plant and wind turbine; clubhouses and facilities for angling, sailing and water skiing uses; excavation of bulk fill material; creation of a development platform through infilling; the stripping and movement of soil to form a Country Park; use of land for soil blending; construction of new access points to the A4 and A33, including bridges; the formation of a reservoir and associated intake and outfall arrangements.	November 2006	Withdrawn
02/02267/COMIND	Recycling facility for inert wastes and ancillary buildings.	July 2003	Approved.

Figure 2: Relevant Planning Applications within the application Site Boundary

2.4 Site Access

2.4.1 The application site benefits from an existing internal access route to the north-west of the application site, off Berrys Lane (see figure 3 and 4 below). Both the data centre and ERC intend to utilise this primary route which already accommodates HGVs associated with the ongoing waste management and recycling activities of J Mould. The internal access route will be widened and surfaced so that it can accommodate two-way HGVs and smaller vehicles associated with the data centre.

2.4.2 The development also utilises the route of the former Pingewood Road North for pedestrians and cyclist access the former Road was severed and stopped up as part of the M4 construction over 50 years ago. By re-utilising the former road, the development ensures separate access for HGVs and pedestrians (and cyclists), thus ensuring safe access and egress for staff and visitors attending both developments. Furthermore, Pingewood Road North has attracted anti-social behaviour and littering in the past. By utilising it as a safe pedestrian and cycle route, along with

the landscape enhancement along the former road, the application will provide an environmental betterment to the site.

2.4.3 More information relating to this is provided within the Design and Access Statement.



Figure 3: Aerial view of the application site and indicative access and egress update plan

2.4.4 Figure 4 illustrates the existing HGV access route off Berrys Lane. This will be widened in sections in order to accommodate two HGVs travelling in opposite directions to pass.



Figure 4: Existing access and egress off Berrys Lane

2.4.5 Vehicles accessing the site would travel from Burghfield Road into Berrys Lane. The HGVs exporting and importing material will be 50:50 split between Junction 12 M4/A4 (Bath Road) and Junction 11 M4/A33.

2.4.6 Figure 5 below shows Berrys Lane, looking southwards off Burghfield Road.



Figure 5: Berrys Lane / Burghfield Road junction

2.4.7 A Transport Assessment and Transport and Traffic ES Chapter has been submitted in support of this planning application.

2.5 Sensitive Receptors in the Vicinity of the Site

2.5.1 The site is located away from sensitive receptors, the nearest residential properties are located approximately 400m to the north west of the site, along Berrys Lane. The closest commercial receptor is Tarmac concrete batching plant which lies adjacent to the proposed site boundary, east of the data centre. Burfield golf course which is located approximately 550m to the north west of the application site. Reading M4 service station lies approximately 900m to the west of the site. Numerous commercial receptors are located approximately 2.5km to the east of the application site including Green Park Business Park, Reading Gate Retail Park, Madjski Stadium and Costco Wholesalers.

2.5.2 The nearest residential receptors are as follows:

1. Linnets, Berrys Lane (approximately 330m to the north-west of the northern site boundary)

2. Properties on Kirton's Farm Road (approximately 420m to the east)
3. Amner's Farm (approximately 500m to the south-west).

2.5.3 All residential properties are separated from the application site by significant development and in the case of those to the south of the site, the M4 Motorway.

2.5.4 The nearest surface watercourse is the River Kennet located approximately 1km to the north of the site.

2.5.5 A review of the Multi Agency Geographical Information for the Countryside (MAGIC) database demonstrated that the following receptors are within the vicinity of the application site (table 1).

Table 1: Statutory and non-statutory designations within the vicinity of the application

location	Site of interest
Statutory designations within the site	n/a
Statutory designations within 1km	Listed buildings Nitrate Vulnerable Zones 2017 Designations(England)
Statutory designations within 3km	Listed buildings
Non-statutory designations within the site	n/a
Non-statutory designations within 1km	n/a
Non-statutory designations within 3km	Registered Parks and Gardens (England)

2.6 Flood Risk

2.6.1 The Environment Agency Flood Map for Planning identifies that the proposed application site and surrounding area is located partially within flood zone 2, where there is between 0.1 – 1% annual probability of river flooding. This planning application is supported by a Flood Risk Assessment, inclusive of outline drainage strategy details.



Figure 6: Flood Risk Map

2.7 Planning Allocations / Designations

2.7.1A full review of relevant planning policy is provided within Chapter 5 of this Planning statement.

In summary, there is no specific planning policy designated on the site application, within the West Berkshire Council Development Plan Proposals Map (2012). However, there are several policies within the application site, including: Local Wildlife Site (Burghfield Gravel Pit (non-statutory site)), Biodiversity Opportunity Area (Kennet Valley East), Burghfield Neighbourhood Development Plan, Landscape Character Assessment (Lower River with Open Water), Landfill Site (Reading quarry) and Drift Geology (Valley Gravel). See Figure 7 for further information.

2.7.2 Within the joint Waste Local Plan for Berkshire (1998) the application site is allocated as a waste management facility under appendix 5 and has been recommended as a safeguarded waste management facility within the Emerging West Berkshire Waste Local Plan. The proposed ERC is entirely consistent with these local planning policy allocations for this site. In terms of the proposed data centre, an Alternative Site Assessment has been submitted in support of this application, demonstrating that there are no suitable alternative sites within West Berkshire.

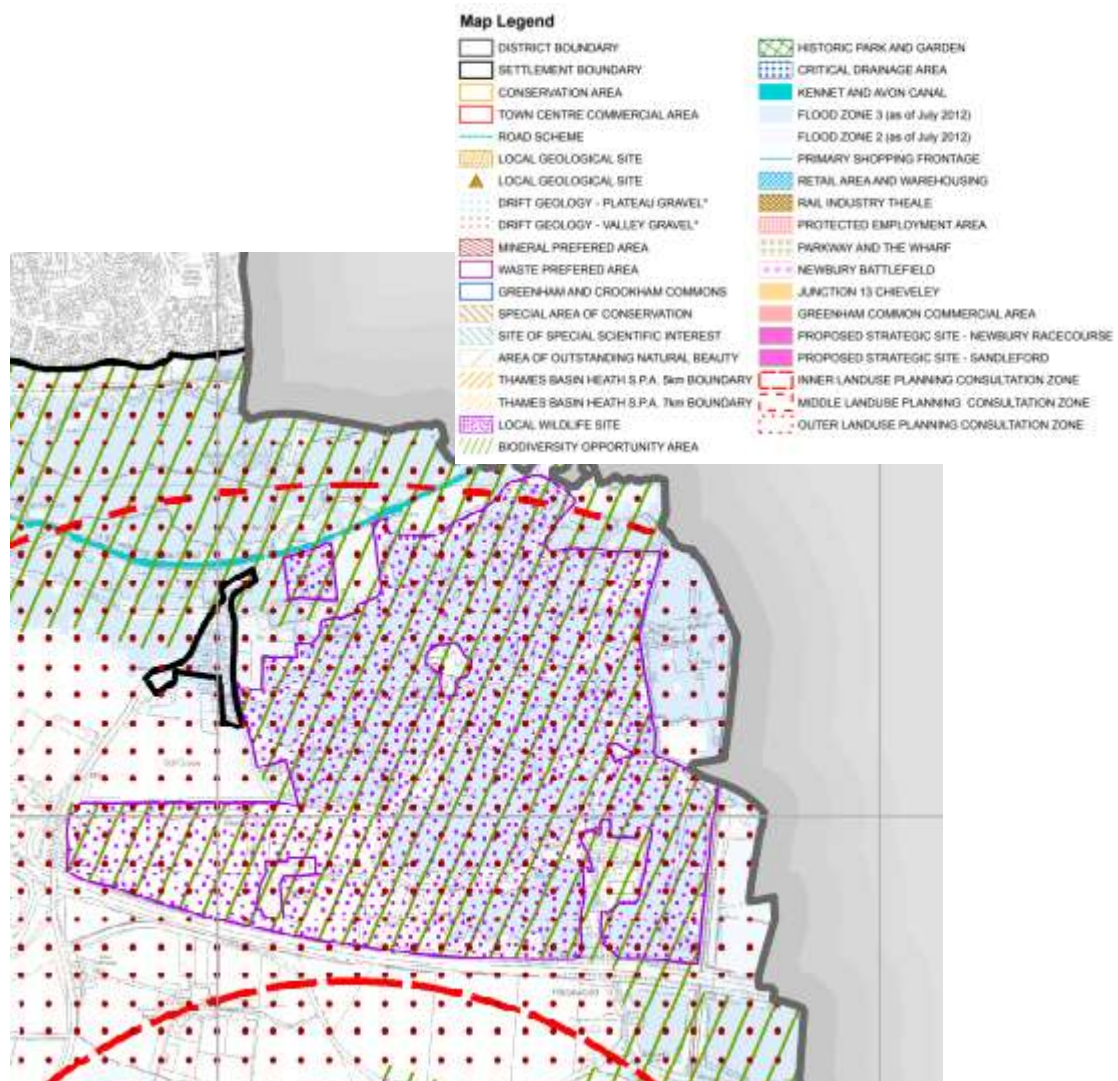


Figure 7: West Berkshire Council Development Plan Proposals Map (2012)

3.0 Proposed Development

3.1 Introduction

3.1.1 This chapter provides a detailed review of the proposed development, including the technology and built development proposed, and operational aspects of the development. It also sets out the context of the development proposed, and why the applicant is promoting this scheme in this location.

3.2 Background Information and Context

Energy Recovery Centre

3.2.1 England currently exports approximately 3 million tonnes of waste as Refuse Derived Fuel (RDF) every year, which is transported (normally by road) to export markets in the Netherlands, Germany and Scandinavia. The recent introduction of a €32 import tax by the Netherlands, and restrictions on the export of waste to China, has led to an increase of residual waste being sent to landfill in the U.K. The need for the proposed development has come around in response to this - to address the ongoing requirement for additional waste management capacity to process materials that are economically and technically challenging to recycle. Overall, there is a net Carbon saving of approximately 200kg CO₂ equivalent per tonne of residual waste diverted from landfill to ERC¹.

3.2.2 The next generation of ERC's in the U.K is focused on smaller, local -scale facilities that can source material locally and export the heat and electricity produced to local users.

3.2.3 Reading Quarry is an existing comprehensive waste management facility where a wide range of materials are already processed to produce recyclable products.

3.2.4 The proposed ERC will enable a complete waste management service to be provided at the Reading Quarry site. The current operations at the site involves aggregate recycling materials and aggregate washing plant biomass plant inert recycling and the importation of co-mingled non-hazardous waste, which is then processed, and recyclables are removed via a Waste Recycling Transfer Facility (WRTF). The proposed development will allow residual waste materials from the WRTF to be accepted and transferred between the two facilities. The proposed ERC intends to take up to 30% (45,000 tonnes per annum) of the annual import of RDF from J Mould (Reading), thus enabling a complete waste management service to be

¹ <http://researchbriefings.files.parliament.uk/documents/CDP-2020-0029/CDP-2020-0029.pdf>

provided at the site. Not only will the proposed development ensure that a wider range of materials will be accepted and transferred internally between the two facilities, but less waste will be exported from the waste management facility, thus reducing HGV movements on the strategic road network.

3.2.5 The proposed ERC and data centre combined location will also provide an opportunity to utilise the recovery of heat and power from residual materials arising from other sites in the locality. The heat and power generated will be utilised for the proposed data centre. In 2018, only 10 ERC's in the UK exported heat for beneficial use alongside power², thus making this an efficient and sustainable development.

3.2.6 The provision of heat and electricity to the proposed data centre will reduce the burden on constrained electricity networks, and the reliance on fossil fuels for heating. This is crucial given that data centres require large intakes of electricity. The remaining electricity generated by the ERC will be exported into the National Grid, further reducing emissions associated with extracting virgin fossil fuels for energy generation within the national grid.

Data Centre

3.2.7 Data centres are where computing facilities and networking equipment are stored, located and centralized. They are tasked to collect, store, process and distribute large amounts of data. The centres connect communication networks so end-users can access information remotely. With the ever increasing technologization of society, comes an exponential growth of data. International Data Corporation (IDC) state that the exponential growth of data will mean from 2018, the world's data will grow from 33 zettabytes to 175ZB by 2025³. Furthermore, with over half the world's population online with 3.9bn internet users, this connected world is generating an enormous digital economy covering all spheres of society. By 2019 this will generate two zettabytes of data traffic annually, equivalent to transmitting 250bn DVDs. Making just three pence on every gigabyte of that data would generate more income than the entire global GDP in 2014⁴.

3.2.8 Whilst the development of data centres offers economic advantages in regard to the digital economy, another key advantage for such development is cyber-security. A multitude of

² https://www.tolvik.com/wp-content/uploads/2019/06/Tolvik-EfW-Statistics-2018-Report_July-2019-final-amended-version.pdf

³ <https://www.seagate.com/files/www-content/our-story/trends/files/idc-seagate-dataage-whitepaper.pdf>

⁴ https://photonicsuk.org/wp-content/uploads/2016/12/ktn_a4_big-data_v9_released.pdf

different institutions store personal and confidential information within these data centres, and whilst many financial institutions operate their own data centres (co-located facilities), cloud-based strategies across all sectors continue to blur the lines between dedicated and co-located facilities. For UK companies that store and collect data that is especially sensitive, it is crucial that the UK has the capacity to store such information, as opposed to storing overseas. The proposed data centre therefore helps increase the UK's cyber-security, something of which is imperative in the 21st century.

3.2.9 Data centres require a large amount of electricity to operate and cool in order to prevent servers and equipment from overheating. UK data centres use ~1.5 nuclear power stations' worth of electricity, enough to power ~3.8m UK homes or 14% of all UK households. For both environmental and cost reasons, reducing this energy consumption is essential⁵. As such, the data centre has been strategically located adjacent to the ERC to enable electrical output from the ERC to be utilised to generate the data centre. Where possible, waste heat utilization from the ERC will be converted to cool. The close proximity of the two buildings means that excess thermal output from the ERC can be used efficiently and sustainably. Not only will the data centre rely on excess output from the ERC, but it will also be supported by roof solar panel installations and back-up generators.

3.2.10 This development seeks to help meet the existing and future demand for data storage. As such, the development is vital for enabling communities, businesses and individuals to continue using technology as it is used today. The strategic location of the proposed data centre adjacent to an ERC (an electrical and thermal heat source), makes this development an innovative and sustainable development.

3.3 Proposed Development

3.3.1 The proposed ERC is designed to process up to a maximum of 150,000 tonnes of loose RDF per annum. The net rated thermal input of the proposed plant is 40MWth, generating a thermal output of 28MW and an electrical output of 11MW at full load.

3.3.2 RDF is delivered to the furnace before being combusted to create high pressure steam. The steam drives a turbine which produces electricity for export off site, before being led to a condenser/heat exchanger to heat water for export off site. Further information on the processes undertaken is provided within this section.

⁵ https://photonicsuk.org/wp-content/uploads/2016/12/ktn_a4_big-data_v9_released.pdf

3.3.3 The proposed data centre is located adjacent to the ERC. Tier 3 data centres are large warehouse style developments with redundant and dual-powered servers, storage, network links and other IT components. The IT components are powered with multiple, active and independent sources of power and cooling resources.

3.4 Site Layout and Design

3.4.1 The application site boundary comprises approximately 64,400m² (including access route and landscape mitigation area). The net commercial floorspace of the ERC and data centre is 4,661m² and 9,992m² respectively. The application boundary and site layout can be seen on the accompanying plans provided as part of the planning application.

3.4.2 The ERC is comprised of:

- The main building on the western part of the site measures approximately 78.15m in length and 57.5m wide (along the rear of the building at the southern boundary wall) and 63.5m in width along the front of the building (northern boundary wall). The highest part of the centre of the roof will be 24.4m high, with the highest part of the roof on the eastern side of the building measuring 18.8m and 21.8m on the western side.
- There is also a bay (which is where the material is unloaded into the ERC), which measures 10.4m to the eaves and connects to the ERC's main building at 11m. There will be two stacks, the height of which is determined by dispersion modelling and is expected to be 50 metres high. Overall, the footprint of the ERC is approximately 4,661m².
 - The building is internally divided into four key sections, which include:
 - Fuel Reception Area where material is unloaded;
 - Grab Maintenance Area;
 - Fuel Storage;
 - Turbine Hall housing a high-pressure steam powered turbine and condenser;
 - Process Area Line 1;
 - Process Area Line 2;
 - Balance of Plant

3.4.3 Additional ancillary equipment to be located outside of the main building on site include:

- 1 no. storage tank and pumps;
- 7 no. parking spaces comprised of 1 disabled space, 1 EV charging space, 1 car share space, 2 stands of secure cycle parking, 1 motorcycle space.
- 14 coolers
- Fuel delivery bays
- Pedestrian cycle path along the western boundary towards the rear of the building
- Hot load area

3.4.4 The data centre is comprised of:

- Main data centre which measures approximately 65.85m in length (N-S), 115.95m in width and 17.1m high.
- An ancillary office is positioned adjacent to the northern wall of the main data centre room (front of the building) and is 13.98m in width and approximately 21m metres in length. The external plant area is 65.52m width and 35.73m in length. The height of the external plant area is 10m high.
- Overall, the footprint of the data Centre, including the office, main building and external plant area containing back-up generators is approximately 9,992m² and is comprised of three floors.
- 18 parking spaces (including 2 accessible, 4 EV charging spaces, 1 car share, 1 motorcycle and secure cycle parking)

3.4.5 The dimensions of all on site equipment are provided in Table 2 below. Indicative details of building colours, materials and finishes are provided on the elevation drawings, with exact details to be determined by a suitably worded planning condition.

Table 2: Dimensions of Building and Equipment

Site Element	Length (m)	Width (m)	Height (m)
Energy Recovery Centre Main Building Footprint			
Fuel Reception Area (Height to ridge of roof)	16m	27m	21.5m
Fuel Reception Bay	44.4m	6m	11m
Grab Maintenance Area	6.4m	7.3m	21.5m
Fuel Storage	62m	27.4m	21.5m

Turbine Hall	19.4m	9.3m	21.5m
Process Area Line 1	29m	29.4m	21.5m
Process Area Line 2	49m	29.4m	21.5m
Balance of Plant	19m	10m	18.8m
Total Footprint ERC	4661m ²		
Ancillary Equipment			
Water Tank	D = 6m		5m
Pump House	3.59m	2.15m	3.5m
Cycle storage shed	2.1m	1.73m	2.2m
14 no. Coolers	11.5m	2.4m	1.6m
Data Centre Building Footprint			
Main Data Centre area	116m	65.85m	17m
Office	21.3m	14m	10m
External Plant Area (includes backup generators)	65.6m	35.8m	10m
Total Footprint Data Centre	9,992m ²		

Step 1 – Delivery of Feedstock Material

3.4.6 Material delivered to the site will comprise Refuse Derived Fuel (RDF) created from post recycling residual non-hazardous municipal solid waste and commercial Industrial waste. Material will be sourced from within West Berkshire and surrounding area. Waste will be imported into the ERC site by walking-floor articulated HGVs and internally from the on-site WRTF.

3.4.7 Access to the site is from Berrys Lane. Upon arrival vehicles will weighed and paperwork checks will be undertaken at the site office. Vehicles will then be directed to the Waste Reception Hall, where fast opening/closing roller shutter doors will allow the vehicles to reverse into the building and tip material into the waste reception pit. Visual screening will be undertaken by trained site operatives to identify recyclable and/ non-confirming waste materials with material received. This will be removed and temporarily segregated where necessary.

Storage and Internal Conveying

3.4.8 Material will be moved from the reception pit using an internal crane and placed within the fuel storage area, sized to contain material for up to 3 days to ensure plant operations are not affected if for any reason material deliveries are temporarily halted.

3.4.9 Material is fed from the storage area by a walking floor system and steel 'ladders' onto a belt conveyor. The conveyor leads to the hydraulic in-feeder unit which feeds material into the furnace at a controlled rate.



Figure 8: Material in-feeder unit

Step 3 – Combustion and Ash Removal

3.4.10 The material passes through the furnace by way of a hydraulically driven moving metal grate (known as a step grate). Material is dried and then gasified on the grate before being combusted. The temperature in the furnace is strictly controlled by controlling air flow and can be raised to 1000°C ensuring complete combustion with low emissions.

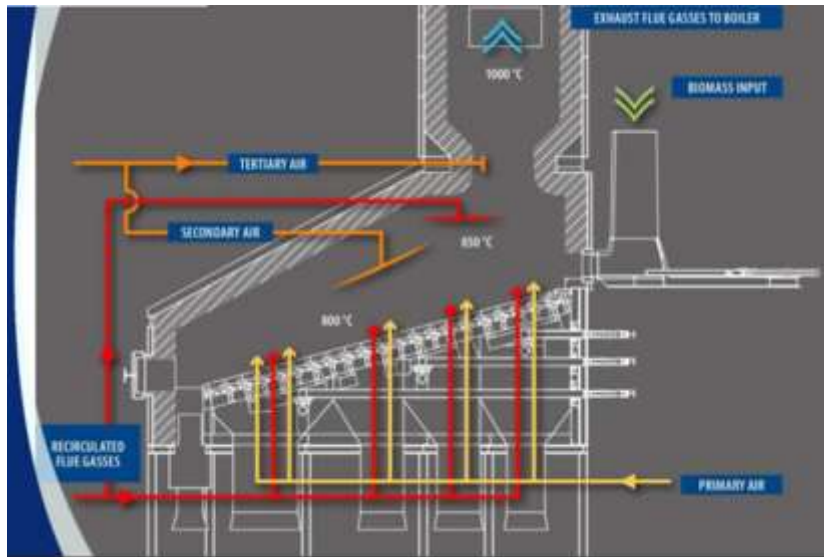


Figure 9: Step grate combustion process

3.4.11 The majority of the ash created passes to the end of the moving grate and into the enclosed wet ash conveyor. Fine ash falls through the grate directly into the conveyor. The wet ash conveyor passes through the wall of the Thermal Hall and into the ash containers outside. This system ensures that the fugitive emission of dust both within the Thermal Hall and outside is minimised.



Figure 10: Wet conveyor ash

Step 4 - Steam Cycle

3.4.12 The combustion process heats water within the boiler to produce high pressure steam. Steam is fed to the turbine which generates electricity for export off site.



Figure 11: Steam turbine

Step 5 – Heat Recovery

3.4.13 The flue gases pass through a condenser where heat is recovered. This process heats water to circa. 100°C to be exported off site.

Step 6 - Treatment of Flue Gases and Removal of Ash

3.4.14 The cooled flue gases pass through a cyclone where dust is removed. Bicar and active carbon is injected in the flue gas to reduce hydrogen chloride, oxides of sulphur, dioxins and heavy metals. Emissions of oxides of nitrogen are reduced with Urea injection in the furnace. Continuous Emissions Monitoring (CEMS) ensures all abatement techniques are effective.

3.4.15 The ash removed from both the boiler and the cyclone is transported to the wet ash system and conveyed to the containers outside. All of the ash will be stored in sealed units in accordance with Environment Agency guidelines, before being exported off site by road.

3.5 Parking, Access and Internal Circulation

3.5.1 The proposed ERC and Data Centre are separated by paladin fencing and have separate car parks. When accessing the main compound, visitors and staff will have to go through security post and barrier, which will separate the vehicles associated with the different developments.

Energy Recovery Centre

3.5.27 no. parking spaces have been provided for the ERC, as shown on the site layout plan. 1 of these spaces is marked for blue badge holders. This is sufficient for the operator and meets the Council's parking standards. A cycle store for 2 no. bicycles has also been provided as well as 2 car share space, 1 EV charging space and 1 motor cycle spaces.

3.5.3 HGV's will enter the site from Berrys Lane and follow an internal access route to the main compound, before turning within the ERC yard and reversing into the waste reception building. The required turning circles are illustrated on the site layout plan. Vehicles will then drive forward and out of the site.

3.5.4 Other than site operatives, cars and vans are not routinely required to enter the site.

Data Centre

3.5.5 18 no. of parking spaces have been provided for the data centre, as shown on the site layout plan. 2 no. of these spaces is marked for blue badge holders, 4 spaces have EV charging points, 1 car share space and 1 motorcycle space is provided. A cycle store for 2 no. bicycles has also been provided. This is sufficient for the operator and meets the Council's parking standards.

3.5.6 Similar to the proposed ERC - other than site operatives - cars and vans are not routinely required to enter the site.

3.6 Site Security and External Lighting

3.6.1 The site is well enclosed with existing mature boundary vegetation around most of the boundaries. Security fencing also separates the application site with the existing Tarmac concrete batching site which is located adjacent to the north east boundary (see figure 12).

3.6.2 External lighting will be provided around pedestrian accesses to the new buildings. All lighting will be motion activated only to reduce light pollution. The stacks will be fitted with an infra-red light for safety of air traffic.



Figure 12: Existing perimeter fence which will be modernised.

3.7 Hours of operation

Energy Recovery Centre

3.7.1 The facility will operate 24 hours a day, 360 days a year. 3 staff members will be on site at any one time – one manager working normal office hours and two shift staff working 8-hour shifts:

- 06:00 to 14:00;
- 14:00 to 22:00; and
- 22:00 to 06:00.

3.7.2 Material deliveries will be restricted to the following hours:

- Monday – Saturday – 06:00 – 19:00; and
- No deliveries on Sundays or Public Holidays.

Data Centre

3.7.3 The data centre will operate 24 hours a day, 365 days a year. Eight members of staff will be on site at any one time, working 8-hour shifts:

- 06:00 to 14:00;
- 14:00 to 22:00; and
- 22:00 to 06:00.

3.8 Construction

3.8.1 Construction activities at the site will be restricted to the following hours:

- Monday – Sunday – 07:00 – 21:00; and
- Working on Public Holidays to be agreed with the local authority in advance.

3.8.2 The construction phase will take between 18 – 24 months.

3.8.3 Further information on vehicle movements for both the Construction and Operational phases is provided within the Transport Assessment.

3.9 Employment

3.9.1 During the construction phase of the proposed development, circa. 50 no. construction jobs will be created.

3.9.2 Once the site is operational, circa 10 no. full time site operatives will be employed at both the proposed ERC and data centre, thus equalling approximately 20 highly skilled employment opportunities.

3.10 Environmental Impact Assessment (EIA)

3.10.1 The Regulations specify certain types of development for which an EIA is mandatory (Schedule 1 Developments) and categories of development where an EIA may be required (Schedule 2 Developments) *‘if it is likely to have significant effects on the environment by virtue of factors such as its size, nature or location’*.

3.10.2 It is our view that the proposed ERC falls within Schedule 1, paragraph 10 of the 2017 EIA Regulations. This section covers; *‘Waste disposal installations for the incineration, chemical treatment (as defined in Annex I to Directive 2008/98/EC under heading D9) of non-hazardous waste with a capacity exceeding 100 tonnes per day’*.

3.10.3 The proposed data centre falls within Schedule 2, column *‘3 Energy Industry (a) Industrial installations for the production of electricity, steam and hot water’* and the area of development exceeds 0.5 hectare. The proposal also relates to column *‘3 (c) the surface storage of natural gas and (i) the area of any new building, deposit or structure exceeds 500 square meters; or (ii) a new building, deposit or structure is to be sited within 100 metres of any controlled waters’*.

3.10.4 As an EIA is a mandatory requirement for Schedule 1 applications, a Screening Opinion Request has not been submitted to the Council. A Scoping Opinion request has been submitted to agree the scope of the EIA.

3.10.5 An Environmental Statement has been submitted as part of this planning application.

3.11 Pre-Submission Consultation

3.11.1 This Planning Application has been prepared and submitted during the Covid-19 pandemic. As a result, the pre-submission consultation event could not take place prior to the submission of the application, due to social distancing measures and the UK wide restriction on public gatherings.

3.11.2 In light of the pandemic, J Mould and Enzygo have prepared a virtual 3D website which includes several boards that: details the proposed development, provides a context to the application site, explains the environmental impacts of the proposed development (in non-technical language) and illustrates the proposed development by showcasing the proposed layout and elevations.

3.11.3 The applicant has also prepared an online video, explaining the process of ERC's and the benefits to these facilities.

3.11.4 The consultation website also provides contact details of members of staff from Enzygo, in which members of the community can get in touch and comment on the proposed development. The comments will be fully considered by the applicant during the consultation process prior to determination.

3.11.5 Given the social distancing restrictions imposed by the UK and the inability to host a consultation event, we seek to submit a Statement of Consultation Involvement (SCI) post submission to enable members of the public to have more time to view the online consultation website and provide more time for the community to comment on the proposed development.

3.11.6 As part of the planning application and EIA process, detailed consultation has taken place between technical consultants and relevant officers. These discussions are detailed within the supporting technical reports and are reflected within the approach to the relevant assessments.

4.0 Planning History

4.1 Planning History

4.1.1 This chapter provides a summary of relevant planning history within and around the site. This provides useful context to the application site and confirms what has previously been considered acceptable in planning terms, within the site and wider area.

4.2 Within the Application Site

4.2.1 Images of the wider site from Google Earth dating back to 2003 shows the site being used in a similar manner to today, with stockpiles of material from the wider Jay Mould Waste Management Facility, albeit, the waste recycling facility in the eastern part of the site boundary was not developed. A review of the site's planning history (table 3 below) suggests that waste facility was consented in 2003, and Google earth images show the consented building onsite from 2004. The wider plot appears to have been used for waste management purposes since this time.

Table 3: Site Planning History

Reference Number	Description of Development	Decision Date	Decision
10/00145/FUL	Retrospective – Extension to workshop	April 2010	Approved
06/01795/OUTMAJ	7,500 dwellings; social infrastructure including schools, health centres and indoor recreation facilities; utilities and infrastructure, including an Energy Centre incorporating a combined heat and power plant and wind turbine; clubhouses and facilities for angling, sailing and water skiing uses; excavation of bulk fill material; creation of a development platform through infilling; the stripping and movement of soil to form a Country Park; use of land for soil blending; construction of new access points to the A4 and A33, including bridges; the formation of a reservoir and associated intake and outfall arrangements.	November 2006	Withdrawn

02/02267/COMIND	Recycling facility for inert wastes and ancillary buildings.	July 2003	Approved.
17/01943/FUL	Section 73A: Variation of Condition 1: Approved plans, Removal of Condition 9: Schedule of Materials of planning permission 13/01466/FUL.	Sept 2017	Approved
16/03253/COMIND	The development of waste recycling facility and 1MW biomass boiler located within an existing waste management site. The development will comprise a waste reception building, a picking station, a biomass boiler, skips and metal shredding area. The site will process up to 50,000 tonnes per annum of material.	March 2017	Approved
16/03152/SCREEN	EIA Screening Opinion request.	Dec 2016	n/a
16/03110/NONMAT	Non-material amendment to planning permission 15/02082/FULC: Erection of recycled offices for J Mould (Reading). AMENDMENT: Substitution of external materials already approved.	Jan 2016	Approved
16/02085/FULC	Section 73: Variation of Condition 4 – BREEAM of approved application 15/02082/FULC – Erection of recycled offices for J Mould (Reading).	Oct 2016	Approved
16/01737/COND1	Application for approval of details reserved by Condition 3 – CMS, Condition 5 -Materials and Condition 7 – Landscape, of approved application 15/02082/FULC -Erection of recycled offices for J Mould (Reading).	Aug 2016	Approved
15/02082/FULC	Erection of recycled offices for J Mould (Reading).	Oct 2015	Approved
14/01932/MINMAJ	Proposed sand washing and recycling plant.	Nov 2014	Approved
14/01698/SCREEN	EIA Screening Opinion Request	Jul 2014	n/a

13/01466/FUL	Section 73 – Variation of Condition 2 – amendment of drawing 2d (Phase 4) dated September 2009 and consequential amendments to other drawings of approved reference 08/02401/FUL – Part Retrospective – Extension of recycling facility for construction, demolition and excavation materials including the partial infilling of former quarry with inert waste, erection of workshop and office/weighbridge and retention of open storage area.	Aug 2013	Approved
10/02521/COND1	Application for approval of details reserved by conditions 8, 10, 11, 13, 20, 21, 22, 25, 26, 27, 30, 31 and 32 of planning permission reference 08/02401/FUL.	June 2011	Approved
08/02401/FUL	Part Retrospective – Extension of recycling facility for construction, demolition and excavation materials including the partial infilling of former quarry with inert waste, erection of workshop and office/weighbridge and retention of open storage area.	Dec 2009	Approved

5.0 Planning Policy

5.1 Introduction

5.1.1 This chapter considers the proposed development against relevant European, National, Regional and Local planning policy, and confirms that the proposal is compliant with relevant policies. The proposed ERC will play a role in directing waste from landfill and reducing reliance on fossil fuels for energy and heat and therefore, Planning Policy regarding waste from a European level and National level will be analysed. Relevant policy is detailed below for both development and table 4 illustrates the different policies relating to each development.

5.1.2 **European policy** sets out requirements that member states must comply with in terms of waste management. The following Directive is relevant to the proposed ERC:

- The Waste Framework Directive (2008/98/EC).

5.1.3 **National and Regional Planning Policy.** The following national documents, papers and competitions are relevant to the proposed application:

- National Planning Policy Framework (NPPF) 2019 – *relevant to both proposed developments; and*
- National Planning Policy for Waste, 2014 – *relevant to the proposed Energy Recovery Centre.*

5.1.4 **Local Planning Policy** identifies where new developments will go and provides a framework for local decision-making. The following documents are relevant to this application:

- West Berkshire Local Plan, which is the overall Development Plan for West Berkshire, setting out the local planning policies up to 2026 – *relevant to both proposed developments; and*
- Waste Local Plan for Berkshire, which was adopted in 1998 – *relevant to the proposed Energy Recovery Centre*
- Emerging Waste Local Plan for Berkshire – West Berkshire are in the process of developing a new Minerals and Waste Local Plan. The Preferred Options Plan was published in 2017 and the Preferred Options Consultation Response Report was published in 2018 – *relevant to the proposed ERC.*

Table 4: Planning Policy

Planning Policy	Energy Recovery Centre	Data Centre
European Policy	The Waste Framework Directive (2008/98/EC)	
National Planning Policy	- National Planning Policy Framework, 2019 - National Planning Policy for Waste, 2014	National Planning Policy Framework, 2019
Local Planning Policy	- West Berkshire Local Plan - West Berkshire District Local Plan 1991 – 2006 (Saved Policies 2007) - Waste Local Plan for Berkshire (1998) - Emerging Waste Local Plan for Berkshire	West Berkshire Local Plan

5.1.5 The following section considers how the proposed development complies with the European, National and Local planning policies outlined above.

5.2 European Policy

The Waste Framework Directive (2008/98/EC)

5.2.1 The Waste Framework Directive (2008/98/EC) is the principal piece of EU legislation relating to waste. It requires measures to be implemented to ensure that waste is recovered or disposed of without endangering human health or causing harm to the environment. A key principle of the directive is the waste hierarchy, with the objective to manage waste as near to the top of the hierarchy as possible and improve resource efficiency across all E.U. member states.



Figure 13: The Waste Hierarchy

5.2.2 Article 16 requires member states to establish an integrated and adequate network for the disposal of wastes. This should include all necessary supporting waste management facilities such as waste transfer stations and processing facilities.

5.2.3 Article 28 requires all EU Member States to draw up a waste management plan. This should cover the entire geographical territory of the Member State, and be in line with the provisions of:

- Article 1 WFD (protection of environment and human health by preventing or reducing the adverse impacts of the generation and management of waste and by reducing overall impacts of resource use and improving the efficiency of such use);
- Article 4 WFD (the waste management hierarchy);
- Article 13 WFD (protection of human health and environment); and
- Article 16 WFD (principles of self-sufficiency and proximity).

5.2.4 There are no specific European planning policies relating to data centres.

5.3 National Planning Policy

5.3.1 The Waste Management Plan for England (2013) and National Planning Policy for Waste (NPPW) (2014) set out the National Planning Policy context for the management of waste. The National Planning Policy Framework (2019) sets out the government's planning policies for England and how these are expected to be applied. These, along with other relevant guidance are considered below.

5.4 The National Planning Policy Framework (2019)

5.4.1 The NPPF sets out the National Planning Policy for England and introduces a presumption in favour of sustainable development. Sustainable development must consider the environmental, economic, and social aspects of development. The proposed development would provide several environmental, economic and social benefits.

5.4.2 In terms of **environmental benefits**, the proposed ERC provides two key environmental benefits:

- Firstly, in 2018, London alone was exporting 6 million tonnes of waste to other parts of the U.K and 1.3 million tonnes abroad. England currently exports approximately 3 million tonnes of waste as Refuse Derived Fuel (RDF) every year, which is transported (normally by road) to export markets in the Netherlands, Germany and Scandinavia. The recent introduction of a €32 import tax by the Netherlands, and restrictions on the export of waste to China, has led to an increase of residual waste being sent to landfill in the U.K. The diversion of material sent to landfill is estimated to save approximately 200g of CO₂ per tonne of material.
- Secondly, the proposed development will provide an opportunity to utilise the recovery of heat and power from residual materials arising from other sites in the locality. The heat and power generated will be utilised by the proposed adjacent data centre and the remaining electrical output will be exported into the national grid, thus reducing dependency on fossil fuels and further constraints on the local electricity grid.

5.4.3 In terms of environmental benefits regarding the proposed data centre, such facilities require large amounts of electricity to operate and cool in order to prevent servers and equipment from overheating. Therefore, the proposed data centre has been strategically located adjacent to the ERC to enable electrical output from the ERC to be utilised to generate the proposed data centre. The close proximity of the two buildings means that excess thermal output from the Energy Recovery Centre can be used efficiently and sustainably. Not only will the data centre utilise excess heat output from the Energy Recovery centre, but it will also be supported by roof solar panel installations and back-up generators.

5.4.4 As touched upon, the provision of heat and electricity to the proposed data centre will reduce the burden on constrained electricity networks, and the reliance on fossil fuels for heating. The remaining electricity generated by the ERC will be exported into the National Grid, further reducing emissions associated with extracting virgin fossil fuels for energy generation within

the national grid. Overall, there is a net Carbon saving of approximately 200kg CO₂ equivalent per tonne of residual waste diverted from landfill to ERC.

5.4.5 In terms of **economic benefits** regarding the proposed ERC and data centre there are several key benefits:

- the developments will create local investment and a number of jobs during both construction and operations in the local area.
- It will also create indirect jobs, associated with the workforce at local shops, and those providing services at Burghfield, Calcot and the wider area.
- The generation of heat and power associated with the ERC will allow further development in the area and create new opportunities for energy and waste related activity.
- The development of a data centre will support the UK's digital economy. Sufficient digital infrastructure is required to ensure companies, government and individuals can continue using technology by providing sufficient space for data storage, which will continue to exponentially grow in the future.

5.4.6 In terms of **social benefits**, the creation of new jobs contributes to wider social benefits. The location of the site away from sensitive receptors reduces the potential impacts associated with Energy and Data Centres.

5.4.7 Chapter 12 of the NPPF considers the requirement for good design. The design of both facilities is based on the form-follows-function principle, by which the shape and layout of the facility supports its intended function. The developments are industrial in nature, and within a location identified as suitable for this type of development (see supporting Alternative Site Assessment (ASA) in regard to the proposed data centre). The choice of colour has been selected to reflect other high-quality development in the area. The height of structures has been minimised to accommodate the volume required only. The height of the stack for the ERC has been informed and is driven by air quality modelling considerations and Environment Agency requirements.

5.4.8 Chapters 13-16 of the NPPF considers environmental aspects of development, including protecting Green Belt land, meeting the challenges of climate change and flooding; conserving and enhancing the natural environment; and conserving and enhancing the historic environment.

5.4.9 The proposed developments are located within a wider site consented and safeguarded for waste management activities. Therefore, the site is considered appropriate for a waste management use of this type. An Alternative Site Assessment (ASA) has been submitted in support of the proposed data centre. A wide range of technical assessments have been undertaken to assess environmental impacts associated with both the ERC and data centre, and these are summarised within Chapter 6 of this Planning Statement. These demonstrate that the development will not result in significant environmental impacts which cannot be mitigated to an acceptable level.

National Planning Policy for Waste (NPPW)

5.4.10 The National Planning Policy for Waste sets out the Government's ambitions to work towards a more sustainable and efficient approach to resource use and management. This includes ensuring the delivery of sustainable development and resource efficiency; and allowing the provision of modern infrastructure. The guidance is mainly provided for Local Authorities when allocating sites for waste management and considering relevant planning applications.

5.4.11 The policy document identifies the importance of identifying suitable sites and areas for waste management facilities. This requires local authorities to identify suitable sites within their Local Plan and sets out guidance which Local Authorities should follow when identifying sites.

5.4.12 The Development Plan sets out future requirements for waste facilities, as detailed within the Local Policy section of this Chapter. Overall, the proposed ERC is consistent with the Local Plan, and thus is consistent with the NPPW.

Local Policy

5.5 West Berkshire Local Planning policy

5.5.1 The West Berkshire Local Plan is part of the overall Development Plan for West Berkshire, setting out the Council's local planning policies. The Development Plan is made up of a number of documents. Those related to the proposed development include:

- Core Strategy Development Plan Document (2006 – 2026) (adopted July 2012);
- West Berkshire District Local Plan 1991 – 2006 (Saved Policies 2007) as amended May 2017;
- Waste Local Plan for Berkshire (Adopted 1998)

5.5.2 The Emerging Local Planning Policy include:

- Minerals and Waste Local Plan;
- West Berkshire Local Plan Review to 2036.

5.5.3 Given the advanced stage of these emerging Plans, a review of these documents will also be provided.

5.5.4 The key adopted document is the Core Strategy (2012). In addition, the Proposal Map provides site specific allocations.

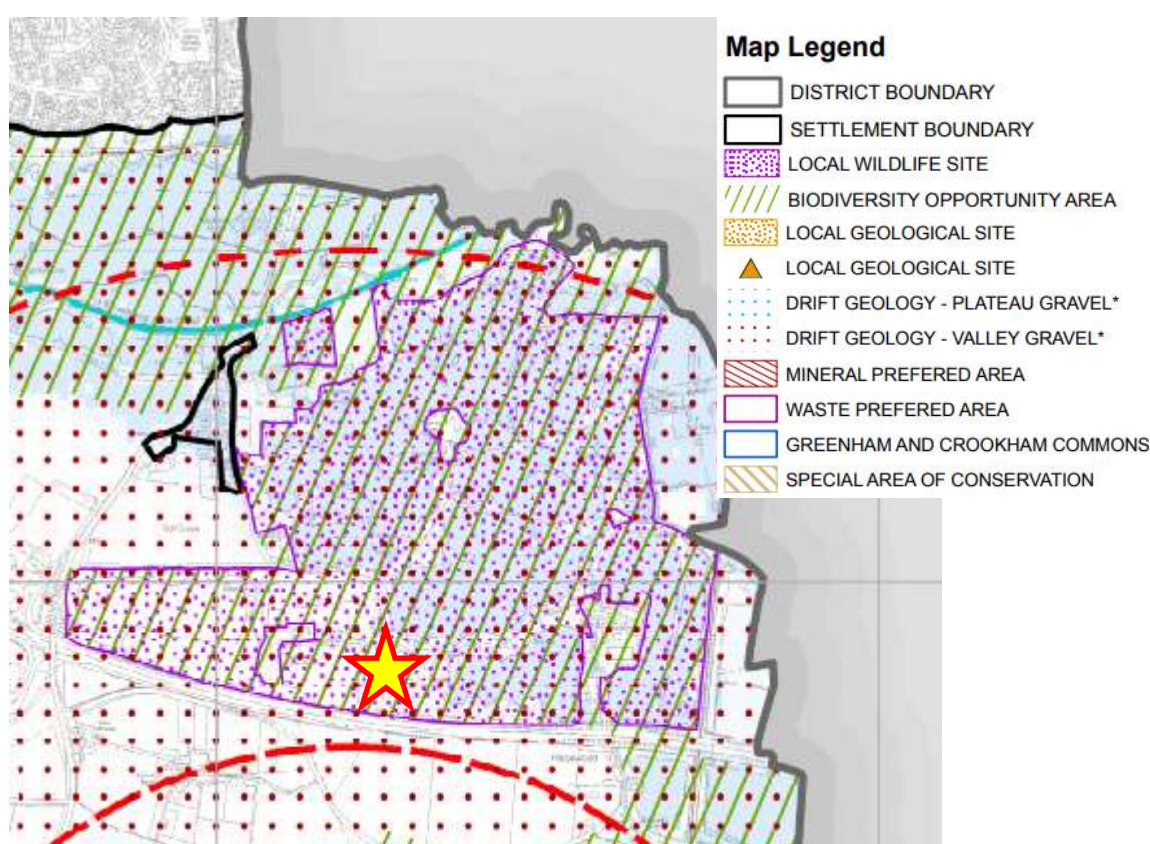


Figure 5.5.1: Development Site within the Local Plan

5.5.5 The proposed development lies within a Local Wildlife Site (Burghfield Gravel Pit (non-statutory site)), Biodiversity Opportunity Area (Kennet Valley East), Burghfield Neighbourhood Development Plan, Landscape Character Assessment (Lower River with Open Water), Landfill Site (Reading quarry) and Drift Geology (Valley Gravel).

5.5.6 West Berkshire's Core Strategy Spatial Vision describes how West Berkshire should look in 2026. This vision states West Berkshire will play a full role in reducing carbon emissions, through

increased generation of renewable energy and the incorporation of community heat and power systems.

5.5.7 Policy CS5 relates to *'Infrastructure Requirements and Delivery'*. This states *'The Council will work with infrastructure providers and stakeholders to identify requirements for infrastructure provision and services for new development and will seek to co-ordinate infrastructure delivery, whilst protecting local amenities and environmental quality'*. Energy from Waste Facilities and data centres are not listed within the Core strategy Appendix D *'Critical infrastructure Schedule of the Infrastructure Delivery Plan'*. However, paragraph 97 of the NPPF urges Local Planning Authorities to consider identifying suitable areas for low carbon energy sources. The proposed development would provide low carbon energy in a suitable location and is therefore a key infrastructure. Moreover, the every growing need to store data due to the technologization of society further increases the need for data centres within West Berkshire and UK-wide.

5.5.8 Policy CS 9 *'Employment and the Economy'* states *'A range of types and sizes of employment sites and premises will be encouraged throughout the District to meet the needs of the local economy. Proposals for business development should be in keeping with the surrounding environment, not conflict with existing uses, and promote sustainable transport'*. The proposed development is isolated from sensitive receptors and the site location is therefore entirely appropriate.

5.5.9 Policy CS9 further states that *'More efficient use of existing sites and premises should be made in order to attract inward investment, respond to modern business requirements, and meet the demand for employment land over the plan period'*. The proposed development is unique in that the data centre will utilise both heat and power from the proposed ERC. As such, the development not only makes use of efficient land, but by locating the two facilities in close proximity to one another, the development is therefore more sustainable and responds to modern business requirements. The proposed development will also be located on previously developed land and will utilise existing infrastructure – such as the existing site entrance and access road.

5.5.10 The Core Strategy seeks to direct industrial proposals to the District's defined Protected Employment Areas and existing suitably located employment sites and premises. The ERC is located within a safeguarded waste management facility and is therefore appropriately located. The proposed data centre is located outside of a Protected Employment Area. Nonetheless, an

ASA has been submitted in support of the proposed data centre and the site criterion has been agreed with West Berkshire Council, prior to submitting the planning application.

5.5.11 Policy CS 13 'Transport' states 'Development that generates a transport impact will be required to... minimise the impact of all forms of travel on the environment and help tackle climate change'. The key aim of this policy is to reduce the need to travel, minimise the impact of all forms of travel on the existing network, minimise the impact of new development on the environment, and to help tackle climate change.

5.5.12 The proposed ERC will utilise a maximum of 150,000 tonnes per annum of residual waste material within the Council. Up to 30% (45,000 tonnes per annum) of the 150,000 tonnes of annual import of RDF will originate from the existing on-site WRTF operated by J Mould. The proposed development will therefore enable a complete waste management service to be provided at the Reading Quarry site with existing incoming J Mould non-hazardous waste collections delivered to the site to be processed and recyclables removed via the existing Waste Recycling Transfer Facility (WRTF) and the residual waste currently destined for landfill delivered to the ERC for energy recovery. Not only will the proposed development ensure that a wider range of materials will be accepted and transferred internally between the two facilities, but less waste will be exported from the existing waste management facility, thus reducing HGV movements on the strategic road network.

5.5.13 Furthermore, England currently exports approximately 3 million tonnes of waste as Refuse Derived Fuel (RDF) every year, which is transported (normally by road) to export markets in the Netherlands, Germany and Scandinavia. The proposed development will limit the need for RDF to be transported via HGV's over such long distances.

5.5.14 The recent introduction of a €32 million import tax by the Netherlands, and restrictions on the export of waste to China, has also led to an increase of residual waste being sent to landfill in the U.K. The proposed ERC will limit the transport movements associated with exporting material to UK landfill.

5.5.15 The proposed data centre only employs approximately 10 full time members of staff and there are no HGV movements associated with the development once it has been constructed. As such, the proposed development will have a negligible impact on the strategic road network.

5.5.16 A Transport Statement and Transport ES Chapter has been submitted in support of this planning application.

5.5.17 Policy CS 14 *'Design Principles'* states *'new development must demonstrate high quality and sustainable design that respects and enhances the character and appearance of the area'*. Both facilities have been designed in light of form-follows-function principle, as discussed previously, and is therefore entirely consistent with this policy.

5.5.18 Policy CS 15 *'Sustainable Construction and Energy Efficiency'* states *'all new non-residential development from 2013 will meet BREEAM Excellent'*. The policy also highlights that Carbon reduction is a key issue for the Council. This policy requires new development proposals to consider energy efficient and sustainable design from the outset. The proposed development will have a positive impact on energy efficiency by enabling energy to be generated from waste material. The proposed data centre will utilise the thermal and electrical output from the proposed ERC.

5.5.19 Policy CS 16 *'Flooding'* states *'Development within areas of flood risk from any source of flooding, including Critical Drainage Areas and areas with a history of groundwater or surface water flooding, will only be accepted if it is appropriate at that location, and that there are no suitable and alternative sites at a lower flood risk'*.

5.5.20 The Environment Agency Flood Map for Planning identifies that the proposed application site and surrounding area is located partially within flood zone 2, where there is between 0.1 – 1% annual probability of river flooding. This planning application is supported by a Flood Risk Assessment, inclusive of outline drainage strategy details.

5.5.21 Policy CS 17 *'Biodiversity and Geodiversity'* states *'Biodiversity and geodiversity assets across West Berkshire will be conserved and enhanced'*. The policy requires designated habitats and species to be protected and where possible enhanced. The proposed development is located away from most designated sites. An ecological assessment has been undertaken to consider the ecological value of the existing site and the ecological impact associated with developing the site.

5.5.22 The Preliminary Ecological Appraisal demonstrates that biodiversity net gain can be achieved, should the proposed development be consented.

5.5.23 Policy CS 19 *'Historic Environment and Landscape Character'* seeks to ensure that the diversity and local distinctiveness of the landscape character of the District is conserved and enhanced, the natural, cultural and functional components of its character will be considered as a whole. The proposed development is located within a Landscape Character Assessment (Lowe River with Open Water). A Landscape and Visual Impact Assessments has been submitted as part of

this planning application in order to assess the existing landscape character of the site and consider the impact of the proposed development on visual and landscape impacts.

5.5.24 Other policies within the Core Strategy relate to: Delivering new homes (CS 1); Racecourse Strategic Site Allocation (CS 2); Sandleford Strategic Site Allocation (CS 3); Housing Type (CS 4); Provision of affordable housing (CS 6); Gypsies, Travellers and Travelling Show people (CS 7); Nuclear Installations (CS 8); Rural economy (CS 10); Hierarchy of Centres (CS 11); Equestrian/Racehorse Industry (CS 12); Green Infrastructure (CS 18); and, Historic Environment and Landscape Character (CS 19) and are therefore not relevant to the proposed development.

5.6 West Berkshire District Local Plan Saved Policies

5.6.1 The saved policies of the West Berkshire District Local Plan 1991 – 2006 forms part of the current Local Plan for the District. The saved policies that are relevant to the proposed development are listed below.

5.6.2 Policy OVS.5 Environmental Nuisance and Pollution Control states *'The council will only permit development proposals where they do not give rise to an unacceptable pollution of the environment'*.

5.6.3 The ERC is equipped with the latest technology to ensure complete combustion with low emissions. The ERC also treats flue gas by injecting bicar and active Carbon into the flue gas to reduce hydrogen chloride, oxides of sulphur, dioxins and heavy metals. Emissions of oxides of nitrogen are reduced with Urea injection in the furnace. Continuous Emissions Monitoring (CEMS) ensures all abatement techniques are effective.

5.6.4 The ash removed from both the boiler and the cyclone is transported to the wet ash system and conveyed to the containers outside. All of the ash will be stored in sealed units in accordance with Environment Agency guidelines.

5.6.5 The Energy and Sustainability Statement prepared to support the application for both developments details the proposed specification for heating and cooling equipment and consideration of renewable energy. An Air Quality Assessment, odour assessment and Human Health Risk Assessment has been submitted in support of this planning application.

5.6.6 Policy OSV6 considers Noise Pollution, and states that the council will require appropriate measures to be taken in the location, design, layout and operation of proposals to minimise adverse impacts as a result of noise generated. A Noise Assessment has been submitted as part

of this planning application and demonstrates that the proposed development will have no significant impact on nearby receptors.

5.6.7 Policy Trans.1 states *'The transportation needs of new development should be met through the provision of a range of facilities associated with different transport modes including public transport, walking, cycling and parking provision. The level of parking provision will be depending on the availability of alternative modes, having regard to the maximum standards adopted by West Berkshire Council'*. The proposed development has good transport links to the strategic road network. Sufficient parking is provided in accordance with West Berkshire parking standards.

5.7 Waste Local Plan for Berkshire (Joint Strategic Planning Unit)

5.7.1 The current planning policy for waste comes from the Replacement Minerals Local Plan for Berkshire (RMLP) and the Waste Local Plan for Berkshire and were produced jointly by the unitary authorities that make up the former Berkshire County area.

5.7.2 The Waste Local Plan for Berkshire was adopted in 1998 and covers up to 2006. The Council are currently in the process of creating a new Local Plan for Minerals and Waste planning policy, which will cover up to 2036. The emerging Local Plan will be considered alongside currently adopted policy in the Waste Local Plan for Berkshire (1998).

5.7.3 Policy WLP1 sets out guiding policy principles, and states that *'...Local Planning Authorities will have regard to the extent to which the development is sustainable in form and location and helps to conserve natural resources and the human and natural environment, and minimise traffic congestion, travel distances, waste generation and pollution, and adverse impacts on humans and the natural environment...'*

5.7.4 The proposed development will contribute to enhancing the natural environment by minimising the amount of material sent to landfill, and by producing energy from waste, thus reducing dependency on natural resources and fossil fuels. In addition, the location of the site is away from residents and sensitive receptors reduces impacts associated with the proposed development.

5.7.5 WLP27 states that planning applications for waste management development will only be permitted if the LPA are satisfied that *'...there are wider environmental benefits resulting from the development...the development and its associated traffic would not give rise to any unacceptable environmental impacts...'*

5.7.6 The proposed development would have wider environmental benefits by accepting material which might otherwise have been sent to landfill. A Transport Statement has been submitted in support of the proposed development and ensures and significant transport impacts are mitigated.

5.7.7 Policy WLP30 states that the merits of waste management development proposals will be assessed having regard to all relevant considerations, and in particular '*...the likely effects of the traffic and traffic-related impacts...the need to safeguard health and living conditions...the likely effects of the proposal on the surrounding population and environment...the visual impacts...the need to safeguard the character, setting and amenity....*'

5.7.8 A range of technical assessments have been submitted as part of the planning application to ensure significant impacts are mitigated to an acceptable level; details of which are provided in chapter 6.

5.7.9 A detailed Environmental Statement has been submitted along with technical assessments, and these consider potential environmental impacts of the development. The ES concludes that the development will not result in significant, adverse impacts that cannot be reduced to an acceptable level.

5.8 Conclusion

5.8.1 The proposed development will provide a modern, efficient waste management facility within an existing waste management site. The heat and electrical output from the ERC will be utilised to operate and maintain an adjacent data centre. The remaining electrical energy will be exported into the national grid, thus reducing the reliance on fossil fuels used for electricity.

5.8.2 The site is allocated for the use proposed ERC and would increase the Council's ability to manage its waste sustainably and within its boundary. An Alternative Site Assessment has been submitted, justifying the location for the proposed data centre.

5.8.3 In terms of environmental impacts, the site's location is appropriate for the type and scale of development proposed.

6.0 Assessment of Environmental Impacts

6.1 Introduction

6.1.1 In this chapter, the potential environmental impacts of the proposed development are set out and considered in the context of the nature of the development, the characteristics of the proposed site, and in the context of the earlier review of national and local planning policies.

6.2 Flood Risk Assessment and Drainage

6.2.1 A Flood Risk Assessment (FRA) has been prepared in accordance with the National Planning Policy Framework (NPPF) and National Planning Policy Guidance ID:7. The report includes an assessment of the surface water drainage requirements of the site.

6.2.2 The FRA has demonstrated the following:

- The majority of the site is relatively flat, falling gently in an eastern direction from 41m AOD located along the toe of the embankment to 40.2m AOD along the eastern boundary. The approximate fall of 0.8m over 200m gives a gradient of 1:250.
- The risk of flooding is assessed as follows:
 - **Fluvial flooding:** The Environment Agency online flood map shows most of the Site is located within flood zone 1; outside the 1 in 1000-year probability of fluvial (river) flooding (0.1% Annual Exceedance Probability [AEP]), at 'low' risk. There is an area in the north-east corner of the Site which resides in flood zone 2; land between the 1 in 100-year (1% AEP) and 1 in 1000-year (0.1% AEP) probability of fluvial flooding, at 'medium' risk. Overall, the risk of fluvial flooding is assessed as negligible for most of the site, and medium in the north, adjacent to where the historic pond is.
 - **Groundwater flooding:** The risk of groundwater flooding is assessed as moderate for most of the site and low to negligible for the raised mounds of material along the west boundary and in the middle of the site. Mitigation measures against groundwater flooding are discussed in greater detail below.
 - **Surface water flooding (ponding and flow pathway):** The risk of surface water flooding is assessed as negligible for most of the Site, with areas of low to medium risk associated with the surface water flow pathways within/bounding the Site. There is a low, medium and high surface water ponding flood risk associated with the historic pond located in the north-east corner of the Site and a low risk of ponding mid-way near the south boundary of the Site. Mitigation measures against surface water flooding are discussed in below.
 - All other sources of flooding are defined as negligible.

6.3 Noise Impact Assessment

6.3.1 Sound levels generated by the proposed development have been predicted using CadnaA, and an assessment has been made in accordance with the guidance contained in: BS4142, BS8233, WHO Guidelines for Community Noise, Design Manual for Roads and Bridge (LA 111), AQTAG09, ISO9613-2. Reference has also been made to the noise exposure hierarchy described in the planning practice guidance.

6.3.2 The baseline assessment considers the potential noise impact of the proposed development at the nearest noise-sensitive receptors to the development. Whilst undertaking the baseline noise survey it was noted that the main source of noise in the area was road traffic noise from the M4.

6.3.3 Noise levels during construction operations would remain below the levels derived in accordance with the guidance contained in BS5228.

6.3.4 Vibration levels during construction operations would remain well below the level at which vibration might just be perceptible in residential environments.

6.3.5 The BS4142 assessment of operational noise levels, including site operations and vehicle movements, would remain below the prevailing background noise levels at all residential receptors assessed during the daytime. However, overnight, predicted noise levels would exceed the prevailing background noise levels, mitigation measures to reduce this exceedance to a minimum have been considered.

6.3.6 The BS833 assessment of operational noise levels at nearby receptors has shown that predicted internal noise level at the nearby residential receptors would meet the guideline values for sleeping in bedrooms prior to the application of the mitigation measures suggested.

6.3.7 The cumulative impact assessment has shown that the proposed development would have no significant impact on the ambient noise levels at the receptors assessed.

6.3.8 Based on the results of the assessment and conclusions drawn, noise and/or vibration should not pose a material constraint for the proposed development.

6.4 Ecology

6.4.1 An Ecological Impact Assessment (EclA) been undertaken to assess the ecological value of the site and surrounding area and assess the potential direct and indirect impacts of the development on ecological receptors.

6.4.2 The following key ecological features and associated recommendations have been identified:

- **Burghfield Gravel Pits LWS, Kennet Valley East BOA, Deciduous Woodland HPI, and Green Infrastructure** (partially on and surrounding application footprint) – Protection of parts outside application & southern M4 boundary re-landscaping as part of the recently consented WRTF;
- **Breeding, Wintering and Migratory Birds** (general nesting potential within scrub & wintering off-site) – Sensitive clearance outside bird nesting period or Ecological Clerk of Works (ECOW) to check. Additionally, screening of off-site gravel pits;
- **Common Reptiles** (potential for low numbers to be encountered at site edges) – Sensitive clearance with ECOW checks; and
- **Invasive Flora** (Japanese Knotweed historically recorded immediately off-site) – Invasive weed contractor to be consulted where not historically treated.

6.4.3 Proposals present opportunities for biodiversity enhancement in order to demonstrate an overall biodiversity net gain in accordance with national and local policies through providing enhanced opportunities for additional green infrastructure along southern M4 boundary, and 3x informal hibernacula.

6.4.4 Suitable mitigation measures can be incorporated into the proposed application to avoid/mitigate/ compensate any potential impacts to ecological features and to demonstrate ‘no biodiversity net loss’ in accordance with NPPF and local planning policy. It can therefore be stated that no significant residual impact can be expected which would prevent determination of a planning application or development of this site.

6.4.5 Given the size of the site (land resource available within the application ownership) and the type and scale of the proposals, it is considered there is significant opportunity to mitigate for the likely impacts. The client is fully committed to incorporating all necessary mitigation into the site design as shown on the proposed landscape layout/masterplan.

6.4.6 Additionally, the site extent allows the opportunity to provide wide-ranging enhancements to demonstrate a ‘biodiversity net gain’.

6.5 Landscape and Visual Impact Assessment

6.5.1A Landscape and Visual Impact Assessment (LIVA) has been undertaken to consider the potential effects of the development on landscape features and elements; landscape character; and visual amenity. This is based on a review of baseline data; a consideration of potential for how the development could affect landscape and visual amenity; an assessment of impacts arising from the proposed development; and preparation of strategic mitigation proposals to assist in reducing adverse landscape and visual effects.

6.5.2 The site is considered to be in a suitable sustainable location which has the capacity to accommodate the proposed development without any much adverse effects on the landscape and visual amenity of the area with significant secondary mitigation in the form of soft landscaping.

6.5.3 The existing character of the area is mixed and typical of urban fringes where there are varied land uses and features. Land to the south of the motorway is more rural and land is predominantly agricultural, although this area is also interspersed with substantial development including a solar farm and AWE Burghfield further south. The proposed development is consistent with this existing pattern and will incorporate landscape enhancements as far as practical to minimise effects.

6.5.4 There are natural landscape features in the local area which include mature trees, field boundary hedges adjacent to Berry's Lane and wetlands to the north/east. These will be unaffected by the development and the proposed planting shown at Figure 8.21 will enhance overall tree coverage and the characteristic pockets of woodland present in the surroundings. There are existing trees on the site perimeters and adjacent to the access road/cycleway on the application site, most of which will be retained and protected during construction. These include a small number of good quality trees which have been accommodated in the design of the development layout. Tree and hedges will be enhanced to site perimeters and considerable areas of new planting adjacent to the motorway and new access road will provide positive long-term landscape benefit. The development is predicted to have few overall effects on landscape features.

6.5.5 Views generally from locations in the surrounding area will comprise an increased amount of built form of industrial character and tall vertical elements on the skyline. There will be long term residual visual effects as a result, mainly affecting receptors in close proximity, (effects are judged to be at worst moderate adverse). Effects will reduce slightly in future years with the establishment of mitigation planting which will provide additional filtering in views toward the development. The new features will be seen typically appearing in spaces between existing vegetation and woodland which will screen some views (except for the stacks which will remain partly visible above tree canopies).

6.5.6 Built development is commonplace in views from locations through the study as is typical of this urban fringe location on the edge of Reading. There are various prominent and detracting features in most views from the surrounding area, these include the M4 motorway with

associated frequent traffic movement and service areas to the west of the site. Also, overhead lines and supporting steel lattice towers crossing the landscape, cranes and buildings on higher ground in the urban area of Reading, the existing J. Mould recycling facility to the west of the site and development including a 120m turbine at Green Park Business to the northeast. The extent of change in views is limited by the existing urban fringe character and nature of views in the locality, on the whole changes beyond the immediate surroundings are anticipated to be minor adverse. The provision of inherent design mitigation and soft landscaping to provide filtering of views and for general amenity have been incorporated into the scheme and will benefit in reducing residual effects.

6.6 Traffic and Highways

6.6.1 The Traffic and Transportation ES chapter concludes that there are no highway links that need to be assessed within the EIA for the construction or operational stages of the development. It is assumed that the likely impacts of the proposed development are neutral.

6.6.2 A Transport Statement (TA) incorporating a Travel Plan Statement (TP) and a Transport ES Chapter has been prepared in support of this planning application.

6.6.3 The TS (and TP) states that it is likely that few employees of the proposed developments will be likely to walk to site however, the proposed pedestrian and cycle route along the former Pingewood Road North ensure the development is accessible for these modes of transport.

6.6.4 The proposed car and cycle parking are based on the proposed staff numbers and shift patterns and is considered to be suitable for the proposed developments. The proposed parking is, where standards are provided, in broad accordance with the West Berkshire Council parking standards. The parking includes the provision of electric charging points.

6.6.5 Overall, the additional traffic flows arising from the proposed development are considered to be low and would not make a material difference to the operation of the Burghfield Road/Berrys Lane and A4 Bath Road/Burghfield Lane junctions, or on the alternate way traffic controlled signals on Burghfield Road, in the morning and evening peak hours. No junction capacity tests are considered necessary to examine the impact of an additional three HGVs at these junctions. The increase in daily traffic flows arising from the proposed development would also be low and would not make a material difference to the daily operation of the junctions.

6.6.6 The proposed HGV routes include the use of Burghfield Road north of the site and A4 Bath Road. These routes are in accordance with the Freight Route Network for West Berkshire.

6.6.7 A Travel Plan Coordinator will be appointed and will be responsible for the effective implementation of the Travel Plan measures, liaising with staff and promoting sustainable travel and for liaison with West Berkshire Council as necessary.

6.6.8 Consequently, we conclude that there are no transport related grounds why the proposed developments should not be approved.

6.7 Air Quality, Dust and Odour

6.7.1 A detailed Air Quality Assessment has been prepared to assess potential impacts of the operational development of the facility on local air quality. The type, source and significance of potential impacts are identified and the measures that are employed to minimise these impacts are described. Impacts are compared with relevant air quality standards and guidelines for the protection of human health and sensitive habitats.

6.7.2 The air quality assessment is presented in three parts which comprise:

1. Consideration of road traffic emissions;
2. Emissions from the stack serving the proposed facility; and
3. The consideration of potential dust and odour impacts, and the in-combination effects from the proposed development alongside other schemes in the area.

Process Emissions

6.7.3 Detailed air quality modelling using the AERMOD 8 dispersion model has been undertaken to predict the impacts associated with stack emissions from the ERC. As a worst-case, emissions from the stacks have been assumed to occur for 8760 hours of the year when comparing against both long term air quality limits and all hours when comparing against short term limits. All emission rates are based on BREF-BAT limits and release parameters for the twin 50m stacks supplied by the client.

6.7.4 Based on the model assumptions used in this assessment, all impacts at human and ecological receptors are predicted to be below limit values at locations where the Air Quality Directive states that they must be applied:

- Residences; and
- Locations where the public may reasonably be expected to be present.

6.7.5 In relation to ecological sites, the process contribution cannot be regarded as 'insignificant' at all sites, hence further ecological consideration of the impact is required. This is discussed in the separate ecological assessment report prepared on behalf of the applicant.

6.7.6 It can be seen that there is no realistic potential for a breach of the air quality objectives at any location.

Dust and Odour

6.7.7 During the construction phase of the proposed development there is the potential for air quality impacts as a result of fugitive dust emissions throughout the construction phase. Vehicles movements both on-site and on the local road network also have the potential to result in the re-suspension of dust from haul roads and highway surfaces. The greatest dust impact would be associated with a short period when the existing site is cleared and the footings installed for the ERC and data centre.

6.7.8 In terms of dust from construction at the site and in accordance with the IAQM Guidance, it is suggested that dust mitigation associated with the potential for re-suspension of dust from haul roads and highway surfaces is considered during the construction stages if vehicles are not able to use the existing measures on site. This is typically subject to a planning condition for a Construction Environmental Management Plan (CEMP) or similar.

6.7.9 The proposed development only represents a 'low risk' of dust effects associated with construction, which are easily mitigated using the measures described in the IAQM Guidance, to include:

- Keeping records of complaints;
- Regular visual assessment of dust risks;
- Operation of the site in accordance with a Considerate Constructors Scheme (or similar).

6.7.10 With these simple measures in place, impacts are predicted to be negligible and no further assessment is required.

6.7.11 In terms of operational dust, there are no sensitive receptors within the IAQM screening distances with the potential to be impacted by operational dust, with the surrounding uses being classed as 'Low sensitivity receptors'. The ERC will be Permitted by the EA and the operations associated with the proposed development are predicted to be no worse than for

the existing J Mould recycling site in relation to operational dust. Impacts and effects are predicted to be negligible and no further assessment is required.

Potential odour effects associated with the development are therefore predicted to be negligible at all receptors and impacts are not significant. The primary method of extraction would be via the ERC, supplemented with the odour control unit. The odour control unit has itself sufficient capacity to achieve greater than 3 air changes per hour within the reception hall meaning that negative pressure will be maintained even if the ERC wasn't operating.

Cumulative Impacts

6.7.12 No major proposed developments within the vicinity of the project have been identified which would lead to a significant change in either the baseline situation or introduce sensitive receptors into an area which would be impacted by the proposed development.

Summary

6.7.13 To summarise, the conclusions of the assessment are as follows:

- Appropriate mitigation against dust impacts should be adopted throughout the construction phase. These will be detailed in an EMS for the site and include simple measures given the predicted small magnitude of dust impacts and the low sensitivity of the area;
- Potential impacts on annual mean NO₂ and PM₁₀ concentrations associated with additional vehicle emissions from the development (construction and operation) are predicted to be negligible at all receptors. As such, impacts are not significant;
- Potential odour impacts associated with waste handling at the development are predicted to be negligible at all receptors as the scheme is likely to be an improvement on the existing operations given the capture and treatment of air in the process building. As such, impacts are not significant; and
- there is no realistic potential for a breach of the air quality objectives, critical levels or critical loads as a result of operation of the ERC. The impacts can be regarded as 'insignificant' at below 1% of the that limit. The ecological assessment describes that air quality impacts are not resulting in existing adverse impacts, and it is considered the proposed scheme will not result in a significant effect which compromises the designation features of the SPA, meaning that these effects are not significant.

6.7.14 There is no realistic potential for a breach of the air quality objectives, critical levels or critical loads as a result of operation of the facility. In relation to ecological sites, the process contribution is regarded as 'insignificant' at all sites.

Table 5: Air Quality Assessment Impacts

Phase	Nature of Effect	Significance of Impact	Magnitude of Impact	Duration	Mitigation	Residual	Level
Construction dust	Human and ecological	Not significant	negligible	temporary	EMS	negligible	local
construction traffic	Human and ecological	Not significant	negligible	temporary	None required	negligible	Local / regional
Operational dust	Human and ecological	Not significant	negligible	temporary	None required (EPR permit)	negligible	local
Operational odour	Human	Not significant	negligible	Permanent	None required (EPR permit)	negligible	local
Operational traffic	Human and ecological	Not significant	negligible	temporary	None required	negligible	Local / regional
Operational stack emissions	Human	Not significant	negligible	Permanent	EPR permit	negligible	Local / regional
Operational stack emissions	ecological	Not insignificant	negligible	Permanent	EPR permit	low	Local / regional

6.8 Preliminary Risk Assessment

6.8.1A Preliminary Risk Assessment has been undertaken to assess the implications of any potential environmental risks, liabilities and development constraints associated with the proposed development.

6.8.2Risk to surface waters and groundwater are dismissed due to the proposed development will use a concrete hardstanding with dedicated drainage. This will reduce infiltration at the site and so reduce potential mobilisation of any unforeseen contamination.

6.8.3In the unlikely event that unforeseen contamination is encountered during construction works removal of the material will lead to environmental betterment.

6.8.4There are no recorded spillages and the proposed site will be covered with hardstanding.

6.8.5 Overall, a landfill (although restored) is located on the western boundary of the site, Made Ground is present and there is potential for contamination to be present. As such, a Ground Investigation is recommended to allow contamination testing, gas and groundwater assessment and foundation parameters for the underlying Lambeth beds.

6.9 Arboricultural Impacts

6.9.1 An Arboricultural Survey Report has been prepared and submitted in support of this planning application. The Arboricultural Survey has assisted the preparation of the site layout, allowing the designer to consider arboricultural constraints on site, including the retention of desirable trees and the protection of above and below ground parts of retained trees.

6.9.2 The Arboricultural Survey Report lists several design recommendations which describe the constraints posed by existing trees and outline the potential conflict between proposed structures and retained trees and how these can be avoided or minimised. These design recommendations include:

- **Minimise residual effect on trees of development:** It is advised to consider the impacts any retained trees would have on the development, including excessive shading. The development footprint has been located away from any sensitive trees and the design incorporates an appropriate buffer zone from existing and proposed trees.
- **Earthworks:** underground services and any proposed design elements requiring foundations should be placed outside of Root Protection Areas.
- **Construction operations:** Where possible, the design should allow for reasonable distances between new structures and above ground parts of retained trees, including sufficient clear working areas around those structures. The construction phase plans should ensure that site access routes, site compounds and internal routes are proposed outside the Root Protection Areas (RPA) of retained trees.
- **U Category Assets:** It is recommended that the following Category U assets G18 and H3 be managed for eco/environmental values. G18 is a hazard issue but standing deadwood is very important for wildlife and therefore it is recommended that this be retained safely as far as practical.

6.10 Human Health Risk Assessment (HHRA)

6.10.1 A HHRA has been carried out in order to identify any potential health risks associated with emissions of dioxins and furans from the proposed ERC. The assessment draws on the dispersion modelling presented in the Air Quality Chapter of the Environmental Statement prepared to support the planning application, and additionally uses the United States Environmental Protection Agency's Human Health Risk Assessment Protocol (HHRAP). A range of worst-case assumptions has been applied and thus the assessment is very precautionary.

6.10.2 The assessment has shown that the risks to health comply with the relevant benchmarks. All of the impacts are assessed to be insignificant. No specific mitigation measures are required beyond those incorporated into the design of the facility.

6.10.3 Overall, the HHRA demonstrates that:

- **Cancer risk:** all of the predicted process contributions are less than the assessment criterion. They are at levels which are conventionally considered to be acceptable and are thus discounted as insignificant;
- **Hazard risk:** all of the predicted process contributions are less than 1 and the risk of effects can be discounted as insignificant;
- **Oral intake of all congeners:** the predicted process contributions at residential locations are extremely small, while those at farmer locations represent an extreme worst-case. The impacts are judged to be insignificant;
- **Infant exposure through breast milk:** all of the predicted process contributions are less than 1% of the relevant assessment criterion and can thus be discounted as insignificant; and
- **Concentrations in soils:** all of the predicted process contributions are less than 1% of the relevant assessment criterion and can thus be discounted as insignificant.

6.10.4 These conclusions are on the basis that the Reading Quarry Energy Recovery Centre will emit dioxins and furans constantly at the maximum level permitted by the European Directive (2010/75/EU, 2010). In practice, emissions are expected to be a small fraction of those assessed; meaning that the impacts will have been grossly over-stated.

6.10.5 This assessment has found no requirement for specific mitigation measures beyond those incorporated into the design of the facility.

7.0 Conclusion

- 7.1.1 This planning statement supports a planning application by J Mould (Reading) for the development of an Energy Recovery Centre (ERC) and adjacent data centre. The development will provide an ERC that will displace landfill-destined material, and instead this will be used to generate electricity and heat.
- 7.1.2 In doing so, the proposed development will enable a complete waste management service to be provided at the Reading Quarry site as existing incoming non-hazardous waste can be processed and recyclables removed via the existing Waste Recycling Transfer Facility (WRTF). The proposed ERC will ensure that a wider range of materials can be accepted and transferred internally between the two facilities, thus reducing the number of HGV movements which currently exports residual waste off site.
- 7.1.3 The application site is located within an existing safeguarded waste management site currently used for waste management activities and consented for this use. Within the Waste Local Plan for Berkshire (1998), the site is identified as a Strategic Industrial Location and a waste management site. West Berkshire is currently in the process of developing a new Minerals and Waste Local Plan (MWLP), which will set out the planning policies for minerals and waste development within West Berkshire. The West Berkshire MWLP Preferred Options Consultation Response Report (2018) highlights that it is requested that the application site is covered entirely by Policy 5 and Policy 9 and is therefore safeguarded as a waste management site. The proposed ERC would be entirely consistent with this allocation and allow an efficient use of this allocated site.
- 7.1.4 The proposed development is located within an operating waste management site and co-locates with end users and as such is in conformity with the locational policies of the NPPW and the emerging West Berkshire Minerals and waste Local Plan.
- 7.1.5 The proposed development contributes towards the Government's renewable energy and low carbon targets whilst providing infrastructure to address the waste management capacity deficit within West Berkshire.
- 7.1.6 The current waste related activities at the site will be fully transferred to an available alternative part of the wider Reading Quarry complex. The previous operation and associated allocation demonstrates the suitability of the site for waste management uses.
- 7.1.7 The proposed development seeks to move the management of waste up the waste hierarchy, by extracting value from residual waste which otherwise cannot be reused or recycled.
- 7.1.8 The electrical and thermal output from the proposed ERC will be able to be used to power and maintain the proposed data centre.
- 7.1.9 Sustainable and sensitive design of the Energy Recovery Centre addresses site-specific planning considerations, in particular, potential impacts on noise, air quality and odour.
- 7.1.10 The technical assessments carried out in support of this proposal provide evidence that the proposal would not have an unacceptable adverse impact on the site or surrounding area.
- 7.1.11 It is therefore concluded that the proposed development complies with national and local planning policy and should therefore be consented.



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