

COMMITTEE DATE: 13/06/2018

APPLICATION No. **17/02130/MJR** APPLICATION DATE: 08/11/2017

ED: **SPLOTT**

APP: TYPE: Outline Planning Permission

APPLICANT: Parc Calon Gwyrdd Limited

LOCATION: LAND AT ROVER WAY, PENGAM

PROPOSAL: THE REMOVAL OF FILL MATERIAL AND THE CONSTRUCTION OF A BIOMASS POWER PLANT (UP TO 9.5MW) AND A MAXIMUM OF 130,000 SQ. FT. OF INDUSTRIAL ACCOMMODATION (B8 USE CLASS), NEW ACCESS ROADS AND ASSOCIATED LANDSCAPING WORKS

RECOMMENDATION 1 : That, having taken the environmental information into consideration, planning permission be **GRANTED** subject to the following conditions:

1.
 - A. Approval of the details of the layout, scale, and appearance of the buildings and the landscaping of the site (hereinafter called "the reserved matters") shall be obtained from the Local Planning Authority in writing before any development is commenced.
 - B. Plans and particulars of the reserved matters referred to in condition 1A above, relating to the layout, scale, and appearance of the buildings and the landscaping of the site shall be submitted in writing to the local planning authority and shall be carried out as approved.
 - C. Application for approval of the reserved matters shall be made to the Local Planning Authority before the expiration of three years from the date of this permission.
 - D. The development hereby permitted shall be begun either before the expiration of five years from the date of this permission or before the expiration of two years from the date of the last of the reserved matters to be approved, whichever is the later.

Reasons:

A. In accordance with the provisions of Article (3)1 of the Town and Country Planning (General Development Procedure) Order 1995.

B. and C. In accordance with the provisions of Section 92 of the Town and Country Planning Act 1990.

PLANS AND DOCUMENTS

2. The development hereby approved shall be carried out in broad accordance with following approved plans:
 - (i) Location Plan (A(P)-01);
 - (ii) Site Plan (A(P)-02);
 - (iii) Site Existing (A(P)-03);
 - (iv) Proposed Site Sections (A(P)-04);

- (v) Landscape Plan (A(P)-07);

The development hereby approved shall be carried out in accordance with following approved plan:

- (vi) Ghost Island Junction Arrangement With 16.5m Articulated Vehicle Swept Path Analysis (173097/SK/11 Revision A);

The development hereby approved shall be carried out in accordance with following approved document:

- (i) Parameter Schedule, Downs Merrifield Architects, 8 November 2017;

Reason: The plans and documents form part of the permission.

PHASING STRATEGY

- 3. No reserved matters shall be approved until a phasing strategy for the development of the site (including the removal of fill material) has been submitted to and approved in writing by the Local Planning Authority. The development shall be carried out in accordance with the approved phasing strategy.

Reason: To ensure an orderly form of development.

VIRGIN WOOD FUEL

- 4. The total tonnage of virgin wood treated at the plant hereby approved shall not exceed 75,000 dry tonnes per annum (Virgin wood includes trees, branches and bark derived from forestry work, woodland management, tree surgery and other similar operations including sawmills). No material other than virgin wood shall be processed at the Power Plant. Records of the amount of fuel processed shall be retained and made available to the Local Planning Authority on request.

Reason: The application has been assessed on the basis of this tonnage limit.

ENVIRONMENTAL PERMIT

- 5. No processing or removal of the 'overburden' material (that above the membrane underlying the original capping layer) shall take place until an appropriate assessment/waste classification of the material has been undertaken and an appropriate Environmental Permit has been granted by the relevant Permitting Authority. All subsequent works to process and remove this material shall be undertaken in accordance with the permit conditions, and all necessary additional sampling requirements of the material as required under the permit, for which evidence of their approval shall first be submitted to the Local Planning Authority.

Reason: To ensure that any unacceptable risks from land contamination to the future users of the land, neighbouring land, controlled waters, property and ecological systems are minimised, and to ensure that the development can be carried out safely without unacceptable risks to workers, neighbours

and other offsite receptors.

GROUND GAS PROTECTION

6. Following the completion of the reworking of materials in Zone 2, and prior to the construction of any building in Zone 2 (see 'Profile Makeup', Environmental Statement, Appendix 7.5), the developer shall submit to the Local Planning Authority a scheme to investigate and monitor the site for the presence of gases* including a plan of the area to be monitored. The monitoring shall be carried out in accordance with the approved scheme prior to the construction of any building in Zone 2.

Following completion of the approved monitoring scheme details of appropriate gas protection measures to ensure the safe and inoffensive dispersal or management of gases and to prevent lateral migration of gases into or from land surrounding the application site shall be submitted to and approved in writing by the Local Planning Authority. If no protection measures are required than no further actions will be required.

All gas protection measures required by the Local Planning Authority shall be installed and appropriately verified prior to the occupation of any part of the approved development and the approved protection measures shall be retained and maintained until such time as the Local Planning Authority agrees in writing that the measures are no longer required.

* 'Gases' include landfill gases, vapours from contaminated land sites, and naturally occurring methane and carbon dioxide, but does not include radon gas. Gas Monitoring programmes shall be designed in line with current best practice as detailed in CIRIA 665 and or BS8485 year 2007 Code of Practice for the Characterization and Remediation from Ground Gas in Affected Developments.

Reason: To ensure that the safety of future occupiers is not prejudiced.

CONTAMINATED LAND MEASURES – ASSESSMENT

7. No works below the membrane underlying the original capping layer or elsewhere below the overburden shall take place until an assessment of the nature and extent of contamination of the underlying material has been submitted to and approved in writing by the Local Planning Authority. This assessment shall be carried out by or under the direction of a suitably qualified competent person * in accordance with BS10175 (2011) Code of Practice for the Investigation of Potentially Contaminated Sites and shall assess any contamination on the site, whether or not it originates on the site. The report of the findings shall include:
 - (i) a desk top study to identify all previous uses at the site and potential contaminants associated with those uses and the impacts from those contaminants on land and controlled waters. The study shall establish a 'conceptual site model' (CSM) which identifies and assesses all identified potential source, pathway, and receptor linkages;
 - (ii) an intrusive investigation to assess the extent, scale and nature of

contamination which may be present, if identified as required by the desk top study;

- (iii) an assessment of the potential risks to:
- human health
 - groundwaters and surface waters
 - adjoining land
 - property (existing or proposed) including buildings, crops, livestock, pets, woodland and service lines and pipes
 - ecological systems
 - archaeological sites and ancient monuments; and
 - any other receptors identified at (i)
- (iv) an appraisal of remedial options, and justification for the preferred remedial option(s).

All work and submissions carried out for the purposes of this condition shall be conducted in accordance with DEFRA and the Environment Agency's 'Model procedures for the Management of Land Contamination, CLR 11' (September 2004) and the WLGA / WAG / EA guidance document 'Land Contamination: A guide for Developers' (2012), unless the Local Planning Authority agrees to any variation in writing.

* A 'suitably qualified competent person' would normally be expected to be a chartered member of an appropriate professional body (such as the Institution of Civil Engineers, Geological Society of London, Royal Institution of Chartered Surveyors, Institution of Environmental Management) and also have relevant experience of investigating contaminated sites.

Reason: To ensure that information provided for the assessment of the risks from land contamination to the future users of the land, neighbouring land, controlled waters, property and ecological systems is sufficient to enable a proper assessment.

CONTAMINATED LAND MEASURES – REMEDIATION & VERIFICATION PLAN

8. No works below the membrane underlying the original capping layer or elsewhere below the overburden shall take place until a detailed remediation scheme and verification plan to bring the site to a condition suitable for the intended use by removing any unacceptable risks to human health, controlled waters, buildings, other property and the natural and historical environment has been submitted to and approved in writing by the Local Planning Authority. The scheme shall include all works to be undertaken, proposed remediation objectives and remediation criteria, a timetable of works and site management procedures. The scheme shall ensure that the site will not qualify as contaminated land under Part 2A of the Environmental Protection Act 1990 in relation to the intended use of the land after remediation.

All work and submissions carried out for the purposes of this condition shall be conducted in accordance with DEFRA and the Environment Agency's 'Model procedures for the Management of Land Contamination, CLR 11' (September 2004) and the WLGA / WAG / EA guidance document 'Land Contamination: A guide for Developers' (July 2006), unless the Local

Planning Authority agrees to any variation in writing.

Reason: To ensure that any unacceptable risks from land contamination to the future users of the land, neighbouring land, controlled waters, property and ecological systems are minimised, and to ensure that the development can be carried out safely without unacceptable risks to workers, neighbours and other offsite receptors.

9. The remediation scheme approved by Condition 8 (Remediation & Verification Plan) shall be carried out in accordance with the approved details prior to the occupation of any permanent structure of the approved development unless otherwise agreed in writing by the Local Planning Authority. The Local Planning Authority shall be given two weeks written notification of commencement of the remediation scheme works.
Within 6 months of the completion of the measures identified in the approved remediation scheme, a verification report that demonstrates the effectiveness of the remediation carried out shall be submitted to and approved in writing by the Local Planning Authority.
All work and submissions carried out for the purposes of this condition shall be conducted in accordance with DEFRA and the Environment Agency's 'Model procedures for the Management of Land Contamination, CLR 11' (September 2004) and the WLGA / WAG / EA guidance document ' Land Contamination: A guide for Developers' (July 2006), unless the Local Planning Authority agrees to any variation in writing
Reason: To ensure that any unacceptable risks from land contamination to the future users of the land, neighbouring land, controlled waters, property and ecological systems are minimised, and to ensure that the development can be carried out safely without unacceptable risks to workers, neighbours and other offsite receptors.

CONTAMINATED LAND MEASURES – UNFORESEEN CONTAMINATION

10. In the event that contamination is found at any time when carrying out the approved development that was not previously identified it must be reported in writing within 2 days to the Local Planning Authority. All associated works must stop, and no further development shall take place unless otherwise agreed in writing until a scheme to deal with the contamination found has received the Local Planning Authority's written approval. An investigation and risk assessment shall be undertaken and where remediation is necessary a remediation scheme and verification plan shall be submitted to and approved in writing by the Local Planning Authority. Following completion of measures identified in the approved remediation scheme a verification report shall be submitted to and approved in writing by the Local Planning Authority. The timescale for the above actions shall be agreed with the Local Planning Authority within 2 weeks of the discovery of any unsuspected contamination.
Reason: To ensure that any unacceptable risks from land contamination to the future users of the land, neighbouring land, controlled waters, property and ecological systems are minimised, and to ensure that the development can be carried out safely without unacceptable risks to workers, neighbours and other offsite receptors.

IMPORTED SOIL

11. Any topsoil [natural or manufactured], or subsoil, to be imported shall be assessed for chemical or other potential contaminants in accordance with a scheme of investigation which shall be submitted to and approved in writing by the Local Planning Authority in advance of its importation. Only material approved by the Local Planning Authority shall be imported. All measures specified in the approved scheme shall be undertaken in accordance with the relevant Code of Practice and Guidance Notes.

Subject to approval of the above, sampling of the material received at the development site to verify that the imported soil is free from contamination shall be undertaken in accordance with a scheme and timescale to be agreed in writing by the Local Planning Authority.

Reason: To ensure that the safety of future occupiers is not prejudiced.

IMPORTED AGGREGATES

12. Any aggregate (other than virgin quarry stone) or recycled aggregate material to be imported shall be assessed for chemical or other potential contaminants in accordance with a scheme of investigation which shall be submitted to and approved in writing by the Local Planning Authority in advance of its importation. Only material approved by the Local Planning Authority shall be imported. All measures specified in the approved scheme shall be undertaken in accordance with the relevant Code of Practice and Guidance Notes.

Subject to approval of the above, sampling of the material received at the development site to verify that the imported material is free from contamination shall be undertaken in accordance with a scheme and timescale to be agreed in writing by the Local Planning Authority.

Reason: To ensure that the safety of future occupiers is not prejudiced.

USE OF SITE WON MATERIALS

13. Any site won material including soils, aggregates, recycled materials shall be assessed for chemical or other potential contaminants in accordance with a sampling scheme which shall be submitted to and approved in writing by the Local Planning Authority in advance of the reuse of site won materials. Only material which meets site specific target values approved by the Local Planning Authority shall be reused.

Reason: To ensure that the safety of future occupiers is not prejudiced.

INTEGRITY OF THE MDPE MEMBRANE

14. Upon completion of the investigation into material underlying the membrane below the original capping layer, a weekly scheme of repairs to restore/maintain the integrity of the membrane where necessary shall be submitted to and approved in writing by the Local Planning Authority. The repairs shall be carried out in accordance with the approved details within a

timescale that shall be agreed in writing with the Local Planning Authority.
Reason: To ensure that any unacceptable risks from land contamination to the future users of the land, neighbouring land, controlled waters, property and ecological systems are minimised, and to ensure that the development can be carried out safely without unacceptable risks to workers, neighbours and other offsite receptors.

NO PILING

15. Piling or any other foundation designs using penetrative methods shall not be permitted other than with the express written permission of the Local Planning Authority, which may be given for those parts of the site where it has been demonstrated that there is no resultant unacceptable risk to groundwater.
Reason: There is an increased potential for pollution of controlled waters from inappropriate methods of piling.

DRAINAGE DETAILS

16. No development shall take place until a drainage scheme for the site has been submitted to and approved in writing by the Local Planning Authority. The scheme shall demonstrate how the site will be effectively drained; the means of disposal of surface water and indicate how foul flows will communicate to the public sewerage system. Thereafter, the scheme shall be implemented in accordance with the approved details prior to the occupation of the development and no further surface water or land drainage shall be allowed to connect directly or indirectly with the public sewerage system.
Reason: To prevent hydraulic overloading of the public sewerage system, to protect the health and safety of existing residents and ensure no pollution of or detriment to the environment.

POTABLE WATER SCHEME

17. No building shall be constructed until a potable water scheme to serve the site has been submitted to and approved in writing by the Local Planning Authority. The scheme shall demonstrate that the existing water supply network can satisfactorily accommodate the proposed development site. If necessary a scheme to upgrade the existing public water supply network in order to accommodate the site shall be delivered prior to the occupation of any building. Thereafter, the agreed scheme shall be constructed in full and remain in perpetuity.
Reason: To ensure the site is served by a suitable potable water supply.

AIR QUALITY ASSESSMENT

18. No reserved matters application shall be approved until an Air Quality Assessment (AQA) for the detailed design of the Biomass Plant has been submitted to and approved in writing by the Local Planning Authority. The AQA shall include an assessment of the impact of the plant emissions and

any necessary mitigation measures to ensure the overall impacts of the plant are acceptable. The plant shall be constructed in accordance with the approved details and maintained thereafter.

Reason: To ensure air quality is maintained to satisfactory levels.

PLANT NOISE ASSESSMENT

19. Prior to beneficial occupation of the Biomass Power Plant a noise assessment shall be carried out and submitted to the Local Planning Authority to ensure the noise emitted from fixed plant and equipment on the site achieves a rating noise level of background -10dB at the nearest noise sensitive premises (Rover Way Traveller Site) when measured and corrected in accordance with BS 4142: 2014 (or any British Standard amending or superseding that standard). This assessment shall include an assessment of the impact of the noise from this proposed development after the removal of material from the site which may currently act as a noise barrier to the nearest noise sensitive receptors at the traveller site on Rover Way.

Reason: To ensure that the amenities of occupiers of other premises in the vicinity are protected.

DELIVERY TIMES

20. Deliveries shall only take place at the site between the hours of 08:00 and 18:00 Monday to Saturday and at no time on Sundays or Bank Holidays.

Reason: To ensure that the amenities of occupiers of other premises in the vicinity are protected.

ODOUR ASSESSMENT

21. No material shall be removed from the site until an odour assessment has been submitted to and approved in writing by the Local Planning Authority. The assessment shall detail any potential adverse impact from odours during the removal of material and shall quantify the potential impact of generated odour upon business users and residents in the vicinity utilising methodology set out in the Institute of Air Quality Management's (IAQM) best practise guidance; "Guidance on the assessment of odour for planning." In the event that the assessment indicates a negative impact upon local residents or businesses then the assessment shall include appropriate mitigation measures that shall be implemented to the written satisfaction of the Local Planning Authority prior to the development commencing.

Reason: To safeguard the amenity of nearby and future residents.

NO CHIPPING ON SITE

22. No wood chipping shall take place on the application site.

Reason: To safeguard the amenity of nearby and future residents.

STORAGE OF MATERIALS

23. There shall be no open storage of materials of any kind outside any approved buildings on the site.
Reason: To safeguard the amenity of nearby and future residents.

CHP ARRANGEMENTS

24. Prior to the construction of the Biomass Power Plant hereby approved, details of the creation of electricity and thermal energy, arrangements for establishing a connection to the local grid and the timing for such energy provision shall be submitted to and approved in writing by the Local Planning Authority. The development shall be carried out in accordance with the approved details.
Reason: To maximise the potential for renewable energy in accordance with LDP Policy EN12 (Renewable Energy and Low Carbon Technologies)

FUEL ASH

25. Prior to the approval of any reserved matters application for the Biomass Power Plant, details of a scheme for the management and disposal of fuel ash arising from the development shall be submitted to and approved in writing by the Local Planning Authority. The disposal of the fuel ash shall be carried out in accordance with the approved scheme.
Reason: In order to ensure the disposal of waste from the site without harm to local amenity,

CONSTRUCTION AND ENVIRONMENTAL MANAGEMENT PLAN (CEMP)

26. Prior to the commencement of any removal of existing material, construction works or development on any phase, a Construction Environmental and Management Plan (CEMP) for that phase shall be submitted to and approved in writing by the Local Planning Authority in order to manage the impacts of construction on that phase. The CEMP shall include:
- (ii) The parking of vehicles of site operatives and visitors;
 - (iii) Loading and unloading of plant and materials;
 - (iv) Storage of plant and materials;
 - (v) The erection and maintenance of security hoarding including decorative displays and facilities for public viewing, where appropriate;
 - (vi) Details of highways/footway closures;
 - (vii) Wheel washing facilities;
 - (viii) Measures to monitor and control the emission of dust and dirt during material removal and construction;
 - (ix) A scheme for the recycling/disposing of waste resulting from the removal of fill material and construction works;
 - (x) A plan showing the routes for vehicles undertaking material removal, construction and operational activity (i.e. delivery of Biomass Fuel) and the destination of any material removal. No routes through

- residential areas will be permitted;
- (xi) A list of on-site contacts and their responsibilities;
 - (xii) A Construction Drainage Scheme indicating how surface water and land drainage flows will be controlled to prevent contamination, nuisance, subsidence or flooding to land, buildings, watercourses or highways within that phase (or part thereof) or adjacent land, buildings, watercourses and highways during the construction period;

The details so approved and any subsequent amendments as shall be agreed in writing by the Local Planning Authority and shall be complied with in full throughout the construction period for that phase.

Reason: In the interests of highway safety, and protection of the environment and public amenity.

SITE WASTE MANAGEMENT PLAN (SWMP)

27. Prior to the commencement of any removal of existing material, construction works or development on any phase, a Site Waste Management Plan (SWMP) shall be submitted to and approved in writing by the Local Planning Authority. The SWMP shall include (where relevant):
- (i) Details for the transportation of all excavated material, including the type of vehicles to be used;
 - (ii) Details of how contaminated material will be treated and disposed;
 - (iii) Measures to reduce environmental impacts of construction waste.

The development shall be carried out in accordance with the approved SWMP for that phase. Transfer/consignment notes of all material transported off-site shall be made available upon request to the Local Planning Authority.

Reason: To reduce environmental impacts of construction waste.

PROVISION OF ROVER WAY JUNCTION

28. No development shall take place, including the removal of overburden down to the level of the existing membrane, until the Rover Way/Site Access priority junction hereby approved (Drawing No. 173097/SK/11 Revision A) has also been approved in writing by the overseeing highway authority and implemented to their written satisfaction.

Reason: To facilitate safe and efficient access to and egress from the proposed development in the interests of highway and pedestrian safety.

PEAK HOUR RESTRICTIONS

29. No vehicles shall access or egress the site during the morning and afternoon peak periods of 8am to 9am and 5pm to 6pm.

Reason: To avoid congestion on the local highway network.

AUTOMATED TRAFFIC COUNTERS

30. Prior to the commencement of development details of Automated Traffic Counters (ATCs) to be installed to both the Rover Way and Tide Fields

Road access/egresses shall be submitted to and approved in writing by the Local Planning Authority. The approved ATCs shall be installed prior to the commencement of development and shall be retained thereafter. The ATCs shall record the number of vehicles accessing and egressing the site. Records of the number, arrival time and departure time of each vehicle shall be submitted to the Local Planning Authority upon request.

Reason: To monitor the number of vehicles accessing and egressing the site

OPERATIONAL TRAFFIC MANAGEMENT PLAN

31. Prior to the operation of the Biomass Plant and associated industrial floorspace, a detailed Operational Traffic Management Plan (OTMP) shall be submitted to and approved in writing by the Local Planning Authority. The OTMP shall include details of the times of operation of the Biomass Plant and commercial units, a schedule of operational related vehicle movements to and from the site as described in Chapter 10 of the Environmental Statement and Technical Appendix 10.1 (para 5.15), any restrictions of movements on the highway network, and the routing of operational related traffic on the local highway network to avoid sensitive receptors as indicated in the Outline Planning Application Environmental Statement and technical Appendix 10.1 (Transport Statement). The development shall operate in accordance with the approved OTMP.

Reason: In the interests of highway safety, and protection of the environment and public amenity.

ECOLOGY DATA SHELF LIFE

32. If site clearance in respect of the development hereby approved does not commence (or, having commenced, is suspended for more than 12 months) within 2 years from the date of the most recent survey, the approved ecological measures secured through (other planning conditions) shall be reviewed and, where necessary, amended and updated. The review shall be informed by further ecological surveys commissioned to i) establish if there have been any changes in the presence and/or abundance of habitats and species and ii) identify any likely new ecological impacts that might arise from any changes.

Where the survey results indicate that changes have occurred that will result in ecological impacts not previously addressed in the approved scheme, the original approved ecological measures will be revised, and new or amended measures, and a timetable for their implementation, shall be submitted to and approved in writing by the Local Planning Authority prior to the commencement of development. Works shall then be carried out in accordance with the new approved ecological measures and timetable.

Reason: To ensure that the assessment of the impacts of the development upon the species concerned, and any measures to mitigate those impacts, are informed by up-to-date information.

GREEN INFRASTRUCTURE STRATEGY (GIS)

33. A comprehensive Green Infrastructure Strategy (GIS) for the site detailing measures to avoid, mitigate and compensate for impacts upon ecological interests, together with measures to provide habitat enhancement shall be submitted to and approved in writing by the Local Planning Authority prior to the approval of any reserved matters applications. The GIS shall incorporate other elements of green infrastructure including trees, a soil resource survey, landscaping and public rights of way, as well as ecology. It shall also encompass each phase of the development as well as the future management of habitats.

The ecological element of the GIS shall include, but not be limited to:

- (i) Timing of works to avoid visual and noise disturbance to overwintering and migratory wetland birds;
- (ii) Landscaping details, based upon pages 19 to 21 inclusive of the Ecology Survey Report 2017, to ensure that the current open mosaic habitats and species-rich grassland form the majority of the semi-natural habitat on site, such that they continue to support the present range of invertebrates and plants;
- (iii) Long-term management prescriptions for buddleia and other invasive scrub species to prevent species-rich grassland and open mosaic habitats from becoming overgrown;
- (iv) Timing of works to avoid destruction of bird nests where possible, and contingency in the event that nesting birds are detected if works need to take place during the nesting season;
- (v) Contingency in the event that reptiles are discovered during site clearance / construction;
- (vi) Eradication plan for Japanese Knotweed and other invasive non-native plant species;
- (vii) Details of green roofs and birds boxes, especially Swift nest boxes, on the new buildings;
- (viii) Details of other enhancement measures such as a pond, reptile habitat piles / hibernacula, bug hotels and bee banks etc.

The development shall be carried out in accordance with the approved GIS.
Reason: To maintain and enhance green infrastructure provision on the site.

WALES COAST PATH

34. Details submitted in pursuance of Condition 1A shall include a scheme of improvements to the Wales Coast Path. The submitted details shall include, but not be limited to, resurfacing and clearer way marking. The approved scheme shall be implemented in accordance with the approved details prior to the occupation of the development.

Reason: To maintain and enhance the Wales Coast Path.

SEVERN ESTUARY COASTAL BUND AND SCREEN

35. No development shall take place until details of measures to construct a coastal bund and screen to shield earth movements and construction

activities from the Severn Estuary European Sites has been submitted to and approved in writing by the Local Planning Authority. The bund and screen shall be constructed in accordance with the approved details and shall be retained and maintained for the entire construction period. The approved details shall include:

- (i) full details of the design of the bund and screen;
- (ii) line-of sight sections to demonstrate that all aspects of the construction including the biomass power plant and industrial buildings, cranes, scaffolding, site operatives and piling rigs are not visible to wetland birds on the foreshore within 200 metres of the application site;
- (iii) a timetable for their provision;
- (iv) a written commitment to only construct the bund and screen between April to September;
- (v) outside of April to September, a written commitment to avoid any construction activity between two hours before high tide and two hours after;

Reason: To avoid any adverse effect upon the integrity of the Severn Estuary European Sites and the SSSI.

EXTERNAL LIGHTING

36. Prior to their installation on site details of all external lighting shall be submitted to and approved in writing by the Local Planning Authority. The development shall be carried out in accordance with the approved details and retained thereafter.

Reason: To safeguard nature conservation interests.

FINISHED FLOOR LEVELS

37. Details submitted in pursuance of condition 1A shall include the proposed floor levels of any building in relation to the existing ground level and the finished levels of the site. The development shall be constructed and completed in accordance with the approved details.

Reason: Confirmation of the ground and floor levels are required to ensure an orderly form of development.

RECOMMENDATION 2 : To protect the amenities of occupiers of other premises in the vicinity attention is drawn to the provisions of Section 60 of the Control of Pollution Act 1974 in relation to the control of noise from demolition and construction activities. Further to this the applicant is advised that no noise audible outside the site boundary adjacent to the curtilage of residential property shall be created by construction activities in respect of the implementation of this consent outside the hours of 0800-1800 hours Mondays to Fridays and 0800 - 1300 hours on Saturdays or at any time on Sunday or public holidays. The applicant is also advised to seek approval for any proposed piling operations.

RECOMMENDATION 3 : The contamination assessments and the effects of unstable land are considered on the basis of the best information available to the Planning Authority and are not necessarily exhaustive. The Authority takes due

diligence when assessing these impacts, however you are minded that the responsibility for

- (i) determining the extent and effects of such constraints and;
- (ii) ensuring that any imported materials (including, topsoils, subsoils, aggregates and recycled or manufactured aggregates / soils) are chemically suitable for the proposed end use. Under no circumstances should controlled waste be imported. It is an offence under section 33 of the environmental Protection Act 1990 to deposit controlled waste on a site which does not benefit from an appropriate waste management license. The following must not be imported to a development site:
 - Unprocessed / unsorted demolition wastes.
 - Any materials originating from a site confirmed as being contaminated or potentially contaminated by chemical or radioactive substances.
 - Japanese Knotweed stems, leaves and rhizome infested soils. In addition to section 33 above, it is also an offence under the Wildlife and Countryside Act 1981 to spread this invasive weed; and
- (iii) the safe development and secure occupancy of the site rests with the developer.

Proposals for areas of possible land instability should take due account of the physical and chemical constraints and may include action on land reclamation or other remedial action to enable beneficial use of unstable land.

The Local Planning Authority has determined the application on the basis of the information available to it, but this does not mean that the land can be considered free from contamination.

RECOMMENDATION 4: Prior to the commencement of development, the developer shall notify the Local Planning Authority of the commencement of development, and shall display a site notice and plan on, or near the site, in accordance with the requirements of Article 12 of the Town & Country Planning (Development Management Procedure) (Wales) (Amendment) Order 2016.

RECOMMENDATION 5 : That the applicant be advised that the Wales Coast Path cannot be closed or worked on at any point without the necessary license. If investigative works or new apparatus is to be installed on the right of way or temporary closures are required, an application must be made to Cardiff Council's PROW Team and Network Management for the appropriate licenses.

RECOMMENDATION 6 : That the applicant be advised that the works to Rover Way approved under this permission will require the approval of the Highways Authority under a Section 278 Agreement. The applicant is also advised that if they intend to adopt the internal access roads a Section 38 Agreement will be necessary.

1. **DESCRIPTION OF PROPOSED DEVELOPMENT**

- 1.1 Outline planning permission is sought for the construction of the removal of fill material and the construction of a c.9.5MW biomass power plant and 12,000 square metres of industrial accommodation (Use Class B8), new access roads and associated landscaping works on land at Rover Way, Splott (see attached location plan).
- 1.2 A pre-application enquiry for the proposed was submitted by the applicant in May 2017. The Council provided its written response on 8 September 2017. This application has been made in outline with all matters except access reserved.
- 1.3 Development is envisaged to take place in the following phases:
 - (i) Phase 1: Progressive removal of the overburden;
 - (ii) Phase 2: Automotive Shredded Residue (ASR) re-processing;
 - (iii) Phase 3: Site re-profiling using residual overburden;
 - (iv) Phase 4: Construction phase.
- 1.4 The Power Plant will produce electricity and thermal energy via steam. It would be constructed on a development plateau at 12 metres AOD with a maximum flue height of 51 metres and a maximum building height of approximately 32 metres (44 metres AOD).
- 1.5 The plant will burn virgin timber, which will be transported to the site by road and/or rail from either Liverpool docks or Felixstowe, having been shipped from overseas (possibly Latvia).
- 1.6 The industrial accommodation will be Low to Zero Carbon and will be predominantly powered by the Biomass Plant. The units will range in size from 15,000 sqft to 25,000 sqft, each accessible by articulated lorry. The units would be constructed on a development plateau at 14 metres AOD.
- 1.7 A re-profiled landscaped bund would be provided around the development along both the southeast and northwest site boundaries to a height of approximately 20 – 22 metres AOD. The application includes a commitment to make improvements to the Wales Coast Path.
- 1.8 A new vehicular access is proposed onto Rover Way which would be the primary access/egress serving the development. A second/emergency access/egress would utilise the existing entrance via Tide Fields Road at the southern end of the site.
- 1.9 Parking would be provided in accordance with the Council's stated parking standards (Access, Circulation and Parking Standards Jan 2010) as follows:
 - (i) Warehousing: 40 operational spaces and 100 staff parking spaces; and
 - (ii) Biomass Plant: 11 staff parking spaces (based upon the provision at a similar biomass plant in Barry) and 2 HGV spaces;

- (iii) 24 no. cycle parking spaces would be provided in accordance with the Council's standards.
- 1.10 The Council issued its screening opinion on 10th August 2017 which determined that the development would constitute EIA development under The Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017. Therefore, an Environmental Statement would be required to accompany any future application for planning permission (ref: SC/17/00005/MJR). A subsequent scoping opinion was issued by the Council on 12 October 2017 (ref: SC/17/00008/MJR).
- 1.11 The application is accompanied by an Environmental Statement (ES) which considered whether the development would be likely to have significant effects on the environment. The ES included chapters on the following topics:
- (i) Ecology
 - (ii) Land Contamination
 - (iii) Air Quality
 - (iv) Visual;
 - (v) Transport
 - (vi) Noise
 - (vii) Hydrology
 - (viii) Health
- 1.12 A copy of the non-technical summary of the ES is appended to this report which provides a summary of the findings of the assessment and the conclusions made on each topic.

2. **DESCRIPTION OF SITE**

- 2.1 The site previously accommodated a non-domestic land fill site and extends to approximately 17 hectares. It is currently used by as an off-road motorcycle facility which is managed by the Council. The site contains earth mounds to a height approximately 30 metres above sea level. Rover Way is approximately 8 metres above sea level.
- 2.2 The site is known as the former 'frag tip' site and adjoins the Severn Estuary to the south east. A traveller site abuts the site to the northeast, with Rover Way/existing industrial operations to the northwest and southwest.
- 2.3 Further away to the northwest are the existing residential communities of Tremorfa and Pengam Green.
- 2.4 The Wales Coast Path adjoins the southeast boundary to the Severn Estuary, which is designated as a Special Area of Conservation (SAC), a Special Protection Area (SPA), RAMSAR site, and a Site of Special Scientific Interest (SSSI). A Site of Importance for Nature Conservation also exists beyond Rover Way at Pengam Moors.
- 2.5 The majority of the site, including the indicative area of built development,

would be located within Zone B as defined by the Development Advice Map (DAM) referred to under Technical Advice Note 15: Development and Flood Risk (TAN15) (July 2004). However part of the site to the North East includes an access road within DAM zone C2.

3. **SITE HISTORY**

- 3.1 14/01765/DCI: Permission granted in March 2015 for a single 500kW wind turbine with associated electrical infrastructure and crane hardstanding.
- 3.2 06/02438/E: Permission granted in December 2006 for the construction of an off-road motorcycle track using recycled aggregate (electric arc slag), sub soil and top soil, provide containerised facilities for office, first aid, training and drying.
- 3.3 97/02263/R: Permission granted in March 1998 to create a new landform to be used for informal public recreation and nature conservation.

4. **POLICY FRAMEWORK**

- 4.1 Planning Policy Wales, Edition 9 (November 2016):

4.1.3 The Well-being of Future Generations (Wales) Act 2015 places a duty on public bodies (including Welsh Ministers) that they must carry out sustainable development. In carrying out this duty, actions which public bodies must take include:

- *setting and publishing objectives (“well-being objectives”) that are designed to maximise its contribution to achieving each of the well-being goals; and*
- *taking all reasonable steps (in exercising its functions) to meet those objectives.*

4.1.4 The Act puts in place seven well-being goals to help ensure that public bodies are all working towards the same vision of a sustainable Wales:

- *A prosperous Wales*
- *A resilient Wales*
- *A healthier Wales*
- *A more equal Wales*
- *A Wales of cohesive communities*
- *A Wales of vibrant culture and thriving Welsh language*
- *A globally responsible Wales*

4.2.2 The planning system provides for a presumption in favour of sustainable development to ensure that social, economic and environmental issues are balanced and integrated, at the same time, by the decision-taker when...taking decisions on individual planning applications.

4.2.4 Legislation secures a presumption in favour of development in accordance with the development plan for the area unless material considerations indicate otherwise.

4.3.1 *The Well-being of Future Generations (Wales) Act establishes a 'sustainable development principle' which means that a defined public body must act in a manner which seeks to ensure that the needs of the present are met without compromising the ability of future generations to meet their own needs. In order to achieve this principle we expect all those involved in the planning system to adhere to:*

- *putting people, and their quality of life now and in the future, at the centre of decision-making;*
- *taking a long term perspective to safeguard the interests of future generations, whilst at the same time meeting needs of people today;*
- *respect for environmental limits, so that resources are not irrecoverably depleted or the environment irreversibly damaged. This means, for example, mitigating climate change, protecting and enhancing biodiversity, minimising harmful emissions, and promoting sustainable use of natural resources;*
- *tackling climate change by reducing the greenhouse gas emissions that cause climate change and ensuring that places are resilient to the consequences of climate change;*
- *applying the precautionary principle. Cost-effective measures to prevent possibly serious environmental damage should not be postponed just because of scientific uncertainty about how serious the risk is;*
- *using scientific knowledge to aid decision-making, and trying to work out in advance what knowledge will be needed so that appropriate research can be undertaken;*
- *while preventing pollution as far as possible, ensuring that the polluter pays for damage resulting from pollution. In general the Welsh Government will seek to ensure that costs are met by those whose actions incur them;*
- *applying the proximity principle, especially in managing waste and pollution. This means solving problems locally rather than passing them on to other places or to future generations; and*
- *taking account of the full range of costs and benefits over the lifetime of a development, including those which cannot be easily valued in money terms when making plans and decisions and taking account of timing, risks and uncertainties. This also includes recognition of the climate a development is likely to experience over its intended lifetime.*

4.4.1 *The following sustainability objectives for the planning system reflect our vision for sustainable development and the outcomes we seek to deliver across Wales. These objectives should be taken into account...in taking decisions on individual planning applications in Wales. These reflect the sustainable development outcomes that we see the planning system facilitating across Wales.*

4.4.3 *In contributing to the Well-being of Future Generations Act goals planning policies, decisions, and proposals should (inter alia):*

- *Foster improvements to transport facilities*

- *Foster social inclusion.*
- *Promote resource-efficient and climate change resilient settlement patterns that minimise land-take and urban sprawl, especially through preference for the re-use of suitable previously developed land and buildings, wherever possible avoiding development on greenfield sites;*
- *Locate developments so as to minimise the demand for travel, especially by private car;*
- *Support the need to tackle the causes of climate change by moving towards a low carbon economy.*
- *Play an appropriate role to facilitate sustainable building standards (including zero carbon) that seek to minimise the sustainability and environmental impacts of buildings.*
- *Contribute to the protection and improvement of the environment, so as to improve the quality of life, and protect local and global ecosystems.*
- *Promote access to employment, shopping, education, health, community, leisure and sports facilities and open and green space, maximising opportunities for community development and social welfare.*
- *Play an appropriate role in securing the provision of infrastructure to form the physical basis for sustainable communities (including water supplies, sewerage and associated waste water treatment facilities, waste management facilities, energy supplies and distribution networks and telecommunications), while ensuring proper assessment of their sustainability impacts*
- *Foster improvements to transport facilities and services which maintain or improve accessibility to services and facilities, secure employment, economic and environmental objectives, and improve safety and amenity.*
- *Foster social inclusion by ensuring that full advantage is taken of the opportunities to secure a more accessible environment for everyone that the development of land and buildings provides. This includes helping to ensure that development is accessible by means other than the private car.*
- *Maximise the use of renewable resources, including sustainable materials (recycled and renewable materials and those with a lower embodied energy). Where it is judged necessary to use non-renewable resources they should be used as efficiently as possible. The use of renewable resources and of sustainably produced materials from local sources should be encouraged and recycling and re-use levels arising from demolition and construction maximised and waste minimised.*
- *Encourage opportunities to reduce waste and all forms of pollution and promote good environmental management and best environmental practice. Waste arising from demolition and construction should be minimised, and opportunities to recycle and re-use this waste promoted.*
- *Promote a low carbon economy and social enterprises.*
- *Minimise the risks posed by, or to, development on or adjacent to unstable or contaminated land and land liable to flooding. This includes managing and seeking to mitigate the consequences of climate change by building resilience into the natural and built environment*
- *Contribute to the protection and, where possible, the improvement of people's health and wellbeing... Consideration of the possible impacts of developments – positive and/or negative – on people's health*

- *Support the need to tackle the causes of climate change by moving towards a low carbon economy. This includes facilitating development that reduces emissions of greenhouse gases in a sustainable manner, provides for renewable and low carbon energy sources at all scales and facilitates low and zero carbon developments*

4.2 Technical Advice Notes (TANs):

5	Nature Conservation and Planning
8	Renewable Energy
11	Noise
12	Design
14	Coastal Planning
15	Development and Flood Risk
16	Sport, Recreation and Open Space
18	Transport
21	Waste

4.3 Local Development Plan (January 2016):

KP1	Level of Growth
KP4	Masterplanning Approach
KP5	Good Quality and Sustainable Design
KP6	New Infrastructure
KP7	Planning Obligations
KP8	Sustainable Transport
KP9	Responding to Evidenced Economic Needs
KP12	Waste
KP13	Responding to Evidenced Social Needs
KP14	Healthy Living
KP15	Climate Change
KP16	Green Infrastructure
KP18	Natural Resources
EC1	Existing Employment Land
EC7	Employment Proposals on Land Not Identified for Employment Use
EN5	Designated Sites
EN6	Ecological Networks and Features of Importance for Biodiversity
EN7	Priority Habitats and Species
EN8	Trees, Woodlands and Hedgerows
EN10	Water Sensitive Design
EN11	Protection of Water Resources
EN12	Renewable Energy and Low Carbon Technologies
EN13	Air, Noise, Light Pollution and Land Contamination
EN14	Flood Risk
T1	Walking and Cycling
T2	Strategic Rapid Transit and Bus Corridor Enhancement
T5	Managing Transport Impacts
T6	Impact on Transport Networks and Services
T7	Strategic Transportation Infrastructure

T8	Strategic Recreational Routes
R7	Retail Provision Within Strategic Sites
C3	Community Safety/Creating Safe Environments
C6	Health
W2	Provision for Waste Management Facilities in Development

- 4.4 The following guidance documents were supplementary to the City of Cardiff Local Plan (1996), now superseded by the Local Development Plan (LDP). They remain a material consideration insofar as they are consistent with LDP policy:

Access, Circulation and Parking Standards (January 2010)
Open Space (March 2008)

- 4.5 Supplementary Planning Guidance:

Green Infrastructure (November 2017)
Waste Collection and Storage Facilities (October 2016)
Planning Obligations (January 2017)
Planning for Health and Well-Being (November 2017)

5 **INTERNAL CONSULTEES RESPONSES**

- 5.1 The **Operational Manager, Transportation**, through consideration of the application and additional information, has reached an agreed understanding consensus with the applicant in the absence of an amended Transport Assessment (TA). He expresses some concern that an incorrect understanding of the assumptions may lead to confusion. This is important as some of the background information provided shows differences between the assertions directly presented in support of the application in the TS and provided as back-up of the assertions. For example, the back-up material provided from other sites in the UK indicates that the quantum of fuel required to feed a similar plant would equate to some 85/95,000 tonnes a year. However, as indicated in the council's note, it is accepted that the assumption that the proposed 9MW plant would operate with circa 75,000 tonnes per annum.

- 5.2 The Vectos response note (21 March 2018) appears to confirm that the Council's understanding of the transportation assumptions is correct, namely that;

- (i) The derivation of potential traffic movements during the site clearance stage is based upon the premise that overburden material (estimated at 1,000,000 tonnes) and contaminated material (estimated at 1,000,000 tonnes) will need to be removed;
- (ii) Material removal vehicles would be tipper vehicles with a 20 tonne payload. No other assumptions have been made relating to any restrictions associated with the removal of contaminated waste / material.
- (iii) The material removal phase would require a minimum of 100 HGV trips (200 movements) a day for a period of four years assuming that the

estimated material to remove does not exceed the 2,000,000 tonnes indicated.

- (iv) All vehicles removing material would exit the site via M4/A48/Rover Way (and possibly Tide Fields Road) from the east, or via M4/A4232/Eastern Bay Link, Rover Way (and possibly Tide Fields Road) to/from the west.
- (v) The construction phase for the CHP unit, divided between major civil engineering works (taking 12 months) and subsequent construction, M&E and commissioning, followed by construction of the B8 units (two years) would generate between 30 and 50 vehicles a day (or 60 to 100 vehicle movements) assuming a 5.5 day working week.
- (vi) That the CHP biomass will require a maximum of 75,000 tonnes of fuel each year to operate (confirmed 9 April email);
- (vii) Vehicles delivering fuel material (wood chip) to the operational biomass site would be via either the Stobart rail facility on Lamby Way, or via Cardiff Docks. Both options would make use of Rover Way (from Lamby Way including the gyratory or from the docks) and possibly Tide Fields Road.
- (viii) The access points (Rover Way and Tide Fields Road) and facilities within the site would be connected by an appropriate internal road network.
- (ix) That the overall additional HGV traffic on Rover Way would be acceptable, with the proviso that the road is at, or exceeds, acceptable capacity during and adjacent to the peak hours.
- (x) It is accepted that the access junctions at Tide Fields Road (existing) and Rover Way (proposed) would be acceptable. Swept path analysis has been provided.

5.3 The Council would determine a number of conditions to facilitate acceptance of the proposal, based primarily upon the agreed assumptions. In reaching this position, he makes the following comments and observations which are summarised as follows:

5.4 The section of Rover Way between the Tesco access junction in the east and the Eastern Bay Link in the west experiences congestion during both the morning and evening peak periods. It is anticipated that vehicular deliveries/collections from elsewhere in the UK/from the site would use the site via M4/A48/Rover Way from the east, or via M4/A4232/Eastern Bay Link from the west. These would increase vehicular pressure on the Cardiff road network at a number of sensitive locations and network interchanges.

5.5 The site has the opportunity for people to walk or cycle to the site for work and limited public transport (bus) connections. The site is served by a number of public highways from the M4/A48/Rover Way in the east, the M4/A4232 from the west and Ocean Way.

5.6 Rover Way, from the west, has undergone a number of developments including the construction of a section of the Eastern Bay Link in June 2017. Rover Way “forms one of the main commuter routes into Cardiff” and has a daily traffic profile (shown in Chart 2.1). The data was collected during a 4 day survey period (Saturday to Tuesday) in October 2017. The TS illustrates Monday data.

The survey illustrates that the peak period on Rover Way extends beyond the traditional Cardiff-wide 5pm to 6pm evening period. It could also be noted that the 5pm to 6pm period on Rover Way recorded fewer vehicles than its shoulders as the road experiences significant congestion at this time.

5.7 A review of the traffic data presented in the TS indicates:

- (i) twelve hour weekday two way flows (7am to 7pm) are 20,740 vehicles, or an average of 1,728 per hour;
- (ii) local morning peak hour (7am to 8am) 2,088 vehicles (with a 46/54 directional split);
- (iii) Cardiff background morning peak (8am to 9am) 1,996 vehicles (with a 41/59 directional split);
- (iv) local evening peak hour (4pm to 5pm) 1,780 vehicles (with a 47/53 directional split);
- (v) Cardiff background morning peak (5pm to 6pm) 1,605 vehicles (with a 43/57 directional split)

5.8 There are three phases associated with the preparation and development of the site: clearance of overburden (estimated at 1,000,000 tonnes), clearance of contaminated material (estimated at 1,000,000 tonnes) and construction. During the first two phases, the TA states that “no noticeable impact” would be experienced on Cardiff’s road network. It was confirmed during the discussions that the site would be cleared utilising 8 wheel tipper lorries with an approximate 20 tonne payload. The works would be undertaken Monday to Friday 8am to 6pm and Saturday morning (8am to 1pm). The quantum of vehicle movements to remove material would be thus for a period of four years. There would also be a number of journeys to work for on-site based staff associated with the site clearance. Therefore, it would be anticipated that:

- (i) 90 to 100 vehicles will be used per day to collect the material, equating to 200 vehicle movements per day.
- (ii) An average of 10 vehicles per hour (20 vehicle movements per hour)
- (iii) Equating to 1% of average daily traffic on Rover Way.

5.9 It should be noted that during discussions it was indicated that should the peak periods be avoided then it would be anticipated that the hourly flow would be 12.5 per hour (25 vehicle movements). It is assumed that the waste material will be removed from site to an appropriate location via one of the routes identified above.

5.10 It is anticipated that the construction phase (of the biomass plant and warehousing) would take some three years. No indication of the anticipated traffic movements associated with the construction phase are provided. The TS states construction “will not generate the amount of traffic movement as that anticipated from the pre-construction traffic. It is therefore reasonable to suggest that there is no adverse impact upon the local highway network” (para. 5.27).

- 5.11 There are two aspects to consider during the operational phase of the development. It is stated that some 75,000 tonnes of biomass material would be delivered to the site per annum (email dated 8 February 2018) (The TS V6 assumed 130,000 tonnes of material). The biomass plant would anticipate “20 two-way trips per day” (email dated 8 February 2018) equating to 40 vehicle movements, to service the biomass plant with fuel. It is stated that these would be spread throughout the day, resulting in less than one trip per hour. In addition to the fuel supply movements there would be some 22 vehicle movements associated with staff operating the plant (based on 11 on-site parking spaces).
- 5.12 The ash created by burning the fuel would be removed from site via road. It is understood that the intention would be to use purpose built skips. It is understood that typically biomass feedstock is rendered to 10% of its weight in ash. Therefore from 75,000 tonne of fuel material the ash production would be expected to be 7,500 tonnes. It is proposed that specialist 20t skips would be employed. This would equate to some 375 two-way trips (or 750 vehicle movements) per year, or approximately 7.5 two-way trips (15 vehicle movements) per week.
- 5.13 It is stated following application of TRICS that 332 vehicles movements would be generated a day (5am to 9pm) by the proposed warehousing (or 213 movements 7am to 7pm). It is considered that the early (pre-7am) and late (post 7pm) vehicle movements would primarily be staff arriving / departing from work. It is assumed that the site would generate some 278 vehicle movements during a 12 hour day, of which some 250 could be assumed to be daily HGV operations. These would comprise:
- (i) 40 associated with fuel delivery;
 - (ii) 3 associated with ash collection;
 - (iii) 22 biomass plant operatives;
 - (iv) 213 associated with the warehousing.
- 5.14 The pedestrian public access would be provided from the new junction on Rover Way through the site. There are existing footways along Tide Fields Road that enable access into the site. An outline of works for the Coastal Path is contained in the Design and Access Statement.

Review

- 5.15 Site access – The proposed access points, the existing access from Tide Fields Road and the new access from Rover Way appear to be acceptable. It should be noted that both junctions would be accessed from Rover Way, making the local traffic on Rover Way a significant consideration.
- 5.16 Delivery routes – The identified routes to/from the site via M4/A48/Rover Way from the east; M4/A4232/Eastern Bay Link/Rover Way, from the west; or via Rover Way from Cardiff docks are acceptable. No other HGV routes to/from the proposed site should be considered as appropriate during site clearance, site construction and operation.

- 5.17 Biomass Plant Traffic generation – The traffic generation associated with the development during the four year clearance stages (overburden and contaminated material) is accepted as an appropriate estimate (assuming that 1,000,000 tonnes of material is to be removed at each stage. No estimation has been provided for site based staff during the clearance stages of the development.
- 5.18 The pre-construction phase would entail a minimum of 100 HGV trips (200 movements) a day for a period of four years.
- 5.19 No estimate is provided during the three year construction stage, therefore no assessment can be made. It is however assumed that the construction stage would generate similar numbers of vehicles to the clearance stages. The comparative data provided cannot be utilised to provide an estimate of vehicle movements. No estimation has been provided/made for site based staff during the construction phase of the development.
- 5.20 No estimation can be made for the three year construction phase.
- 5.21 The operational traffic generation estimates for the warehousing, derived by application of TRICS database, is accepted. The operational estimates for the biomass plant (accepting that the type of plant and type of fuel is unknown at this stage) has been considered. It is assumed that the plant will operate using biomass chips. However, due to the varying composition of biomass material (in terms of pelletised / a mix of pelletised and non-pelletised woodchip, density and moisture) it is difficult to accurately quantify the number of delivery vehicles required.
- 5.22 In addition to the basic fuel other deliveries (including, flue gas treatment reagents, sand, dosing chemicals for cooling system, boiler and water treatment plant chemicals, reagents and chemicals for use in the flue gas treatment process) would be required whilst the plant is operational. Ash would also need to be removed from the site.
- 5.23 The assessment has been based on a 5.5 day working week, as it is anticipated that road deliveries and ash removal would take place Monday to Friday (between 7am and 7pm) and on Saturday (between 7am and 1pm). It is also likely that other operational delivery/collection restrictions would also apply. No abnormal loads would be anticipated during normal operation.
- 5.24 A review of the comparative data provided indicates that on a pro-rata basis the expected quantum of biomass fuel to operate the facility would be in the region of 85,000 / 95,000 tonnes would be required to operate a 9MW plant. However, as indicated above variance may occur depending on the type and moisture (etc) of the biomass fuel. For assessment purposes it has been assumed by the applicant (and accepted by the council at this stage) that 75,000 tonnes of wood chip pellets would be delivered by road, using 20 tonne payload tippers during a year.

5.25 The anticipated daily flow of vehicles to supply a biomass plant is shown in the table below:

	Anticipated annual tonnage	Anticipated vehicle payload	Total annual HGVs	Average daily HGV trips	Average daily HGV movements
INPUT					
biomass	75,000	20 tonnes	3,750	13.6	27.3
lime	750	23 tonnes	33	0.1	0.2
carbon	30	7.5 tonnes	4	0.0	0.0
chemicals	1,500	16 tonnes	94	0.3	0.7
					28.2
EXPORT					
ash	2,400	20 tonnes	120	0.4	0.9
flue residue	1,000	20 tonnes	50	0.2	0.4
					1.3
TOTAL					29.5

5.26 It is, therefore assumed that 30 daily HGV movements would be associated with maintaining an operational biomass plant. It should be considered that if less calorific/more moist wood chip were to be utilised the anticipated delivery schedule could double.

5.27 In addition to the delivery needs of the plant there would be operational staff traffic movements associated with the plant. It is assumed that three shifts would operate across the day to manage the plant. It is assumed that the daytime shift would include nine vehicles using the staff car park.

5.28 Warehouse Units Traffic Generation – No estimate is provided during the three year construction stage, therefore no assessment can be made. No estimation has been provided for site based staff during the construction stage of the development. An estimation based upon the TRICS database has been provided and is accepted by the council. This estimates that 332 trips would be generated during the day (5am to 9pm), or 213 during a twelve hour day (7am to 7pm).

5.29 Therefore the operational aspects of the development would generate at least 360 trips during the day (5am to 9pm), or 243 HGV trips during a twelve hour day (7am to 7pm).

5.30 Local road network capacity – There is some concern that the traffic generated during both the four year pre-construction and the operational periods may have a detrimental impact upon the surrounding road network. It is accepted that the additional traffic movements would appear to constitute less than 2% of the existing daily traffic flow. However, it should be considered that the existing road network along Rover Way is already operating at its design capacity, as

evidenced by the queueing during the peak periods. It is considered that additional traffic on the local network could be expected to exacerbate the situation.

- 5.31 The design flows for Rover Way would, in accordance with the DfT's TA 79/99 Traffic Capacity on Urban Roads (Tables 1 and 2), indicate that Rover Way would fall into the UAP1 category with a typical carriageway width of 6.75m. The design capacity for such a road (assuming a 60/40 directional split and HGVs constituting less than 15% of the vehicles) would be 2,200 during an hour. The capacity would reduce if the directional split were different, or the percentage of HGVs greater than 15%.
- 5.32 During the local morning peak (07:00 – 08:00) the recorded flow on a Tuesday (October 2017) was 2,129. The percentage of HGVs (including generated traffic) would be less than 15%. The directional split during the local peak is 45/55.
- 5.33 During the Cardiff Peak (08:00 – 09:00) the recorded flow on a Tuesday (October 2017) was 2,063. The percentage of HGVs (including generated traffic) would be less than 15%, but the directional split during the Cardiff peak is 42/57.
- 5.34 In summary, due to the level of information provided with the application and the future operations, his assessment of the application is based upon a number of assumptions as follows: No assumption has been provided, or made, for the construction phase and timing.
 - (i) That a bio fuel storage facility would be provided to mitigate against transportation delays (weather impacted ships, weather impacted road deliveries, unforeseen delays, etc). It is assumed that the storage facility could store up to 5 days' supply (2000 tonnes);
 - (ii) The pre-construction phase would entail a minimum of 100 HGV trips (200 movements) a day for a period of four years assuming that the estimated material to remove does not exceed the 2,000,000 tonnes indicated.
 - (iii) No estimation of traffic generation or programme can be made for the three year construction phase as no information provided, except that it is envisaged to create less traffic generation than the pre-construction period.
 - (iv) The operational aspects of the development (biomass plant & warehousing) would generate at least 360 trips a day (5am to 9pm), or 243 HGV trips during a twelve hour day (7am to 7pm).
 - (v) The biomass operation is dependent upon the type of biofuel utilised. It is assumed in the proposal that no more than 75,000 tonnes of fuel would be required requiring 30 HGV movements per day. These HGV movements would take place during the day (outside the peak periods) resulting in an average of between 3 or 4 movements per hour.
 - (vi) Delivery and material removal vehicles would be tipper vehicles with a 20 tonne payload. No other assumptions have been made relating to any

restrictions associated with the removal of contaminated waste / material.

- (vii) The internal road network would be provided to an adequate standard;
- (viii) Whatever the route taken to deliver goods and remove waste (ash) the vehicles would use Rover Way. The background traffic is at capacity on Rover Way during the peak periods.
- (ix) All HGVs would be limited to the main routes outlined in the submission. These are from the docks via Rover Way (and possibly Tide Fields Road); from the M4 either A48/ Rover Way (and possibly Tide Fields Road) or A4232/Eastern Bay Link/Rover Way (and possibly Tide Fields Road).

5.35 The **Operational Manager, Environment (Contaminated Land)**, notes that this development will be achieved in various phases: removal of the overburden; ASR assessment; ASR processing/treatment; reforming of zones 1 & 2 for development plateau; and the construction phase. It is appreciated that at this stage not all the necessary investigations/assessments have been undertaken due to the nature of the site and thus it has not been possible to provide full remediation design and methodologies etc in order to mitigate the risks to the identified receptors. As per best practice a phased approach to the assessment, design and remediation of land affected by contamination will be required for this site. The Welsh Land Contamination Working Group's most up to date guidance has been provided in order to ensure that best practice is followed.

5.36 Therefore owing to the fact that a phased assessment and remediation approach will be required for this site, standard land contamination conditions must be attached to any approval in order to ensure that the necessary information is provided to demonstrate that all contamination issues have been considered and assessed adequately and that appropriate remedial measures are designed/implemented to mitigate any unacceptable risks to the identified receptors.

5.37 At this stage details of the Environmental Permit to process and remove the overburden material have not been provided. In a meeting with the developer (13/03/2018) the applicant indicated that they are in discussions with appropriate officers in NRW regarding the permit. However no application has yet been made and it is understood that the issuing of such a permit could take some 4 months

5.38 The Council's **Tree Officer** assumes that that planting soils will be imported unless a Soil Resource Survey (SRS) and Plan (SRP), prepared in accordance with the 2009 DEFRA Construction Code of Practice for the Sustainable Use of Soils on Construction Sites, demonstrates that site won soil is available and is suitable to be re-used for the proposed landscaping functions. The landscaping scheme should be submitted at the earliest opportunity and comprise a scaled planting plan, plant schedule, tree pit section (as appropriate), topsoil and subsoil specification (informed by an SRS & SRP as appropriate), planting methodology, aftercare methodology and implementation programme.

- 5.39 The **Operational Manager, Waste Management**, advises that current site plans make no reference to the storage of waste and recycling. Future plans will need to show the storage area for the industrial accommodation. They request that the agent/applicant be reminded that a commercial contract is required for the collection and disposal of all commercial waste. By law (Environmental Protection Act, 1990, section 34) all commercial premises have a duty of care to ensure that their waste is transferred to and disposed of by a registered waste carrier. Owners or developers of commercial developments/properties can make arrangements for Cardiff County Council to collect and dispose of their waste. They refer the agent/architect to the Waste Collection and Storage Facilities Supplementary Planning Guidance for further relevant information.
- 5.40 The Council's **Ecologist**, in commenting on this application, has taken into account the Ecology Survey report by Sturgess Ecology dated August 2017 and the Environmental Statement Chapter 8 dated October 2017. He makes these comments without prejudice to any further comments that he may make in the light of any new information or of alterations to the plans as submitted.
- 5.41 In respect of internationally designated sites, he advises that an **Appropriate Assessment (AA)** of this project has been undertaken, and is appended to this report. Natural Resources Wales must be consulted on this AA, and the Local Planning Authority should have regard to their comments.
- 5.42 The proposed development site also borders the **Severn Estuary Site of Special Scientific Interest (SSSI)**. However, the features for which the SSSI is designated are broadly the same as the SAC, SPA and Ramsar features. Therefore, measures to avoid, mitigate and compensate for impacts upon the SAC, SPA and Ramsar will be taken as having the same effect upon the SSSI. This being the case, no further consideration will be given as to the impact of the proposed scheme upon the SSSI, on the assumption that these impacts will be the same as those considered in the HRA.
- 5.43 He would not say that the proposed project is likely to impact any other SSSI in the region, subject to control of emissions from the biomass plant by NRW.
- 5.44 There are no existing **Sites of Importance for Nature Conservation (SINCs)** nearby which may be affected directly by the proposed scheme. However, based upon the Ecology Survey Report and Chapter 8 of the Environmental Statement (ES), the site itself would qualify as a SINC in accordance with the Guidelines for the Selection of Wildlife Sites in South Wales 2004 (The 'SINC Selection Criteria').
- 5.45 The species lists for this site were compared with the SINC selection criteria, and the results are set out below:

SINC Selection Criterion	Qualifying threshold number of indicator species	– of recorded	Number of indicator species recorded	Qualifies? Yes / No
H1 Woodland	12		6	No
H4 Neutral Grassland	8		21	Yes
H5 Calcareous Grassland	8		20	Yes
H7 Marshy Grassland	12		10	No
H18 Post-industrial Land	20		49	Yes
S7 Vascular plants 'A' list	1		Great Lettuce	Yes
S7 Vascular plants 'A' list	1		Dittander	Yes
S7 Vascular plants 'B' list	5		8	Yes
S6 Invertebrates 'A' list	1		Long-winged Conehead	Yes
Environment Act Section 7 species	1		Brown-banded Carder Bee	Yes
Environment Act Section 7 species	1		Cinnabar Moth	Yes

- 5.46 Therefore it can be seen that the proposed development site could qualify as a SINC under any one of 9 criteria. In many cases, the indicator species qualifying threshold is vastly exceeded.
- 5.47 The Ecology section of the ES has identified the presence of Open Mosaic Habitat on Previously Developed Land as defined by the UK BAP, at this site. This equates broadly to the 'H18 Post-industrial Land' SINC selection criterion above.
- 5.48 As a precedent in cases such as these reference is made to the Planning Inspectorate's comments on the Monmouthshire Unitary Development plan, wherein: *'The Council will assess sites proposed for development to ascertain whether they fulfil the criteria for designation and may request information from applicants to assist in that process. If a site satisfies the criteria it will, for planning purposes, be treated as if it were a SINC.'* In other words, even if a site has yet formally to be designated as a SINC, if it meets the qualifying thresholds, it should be treated as a SINC for planning purposes.
- 5.49 In accordance with Section 5.5.3 of Technical Advice Note (TAN) 5, the conservation and enhancement of locally designated sites (such as SINC)s is an important contribution to the implementation of Biodiversity Action Plans and

to the management of features of the landscape of major importance for wild flora and fauna; developers should avoid harm to those interests where possible. Where harm is unavoidable it should be minimised by mitigation measures and offset as far as possible by compensation measures designed to ensure there is no reduction in the overall nature conservation value of the area or feature.

- 5.50 In this instance, of particular importance are the species-rich neutral and calcareous grassland communities, the post-industrial land habitat, certain species of vascular plant, and important terrestrial invertebrate communities.
- 5.51 He is satisfied that the policy requirements of Section 5.5.3 of TAN 5 as above can be addressed at this site, however this is dependent upon the final landscaping scheme of the proposed development incorporating substantial areas of open mosaic habitat, calcareous and neutral grassland, and suitable habitats for a range of terrestrial vertebrates. Equally importantly, management provisions must be in place to maintain these habitats in the long term.
- 5.52 Turning to **protected species**, he notes that no **reptiles** were detected during surveys at this site. In this case, no specific mitigation measures are required, beyond a contingency for the event that reptiles are discovered during site clearance and preparation.
- 5.53 Birds which are features of the SPA do not nest at this site, so the issue of **nesting birds** does not relate to the SPA. However, other species may nest in the scrub on this site or indeed in the areas of open ground in the case of ground-nesting species such as Skylark, Oystercatcher or Lapwing. This being the case, any site clearance or clearance of vegetation will either have to avoid the main nesting season, roughly March to August inclusive, or be preceded by a survey immediately beforehand.
- 5.54 A number of species of **invasive non-native plant** were detected on site, and there will need to be a strategy in place to eradicate and avoid spreading these species.
- 5.55 He supports the recommended **enhancement measures** set out on page 21 of the Ecology Survey Report, and would add that new buildings should support bird boxes, specifically Swift nest boxes, in accordance with the advice given in 'Designing for Biodiversity: A Technical Guide for New and Existing Buildings, Second Edition. RIBA Publishing, London. Gunnell, K. et al., 2013', or most recent subsequent edition thereof.
- 5.56 As a general principle, survey work which is more than 2 years old will be regarded with caution, as certain species may colonise or leave an area in the interim period. This is referred to on page 22 of the Ecology Survey Report. A planning condition should therefore be attached stating that survey work should be repeated if works which may affect the species concerned haven't taken place within two years of the date of the most recent survey.

- 5.57 All measures to avoid, mitigate and compensate for impacts upon ecological interests, together with measures to provide habitat enhancement, should be brought together in a comprehensive Green Infrastructure Strategy (GIS) for the site. This should be required by a planning condition and submitted prior to the submission of reserved matters. The GIS should incorporate other elements of green infrastructure such as trees, soils and landscaping and public rights of way, as well as ecology. It should also encompass the construction phase, the implementation phase, and the ongoing management of habitats.
- 5.58 The ecological element of a Green Infrastructure Strategy for this site should include, but not be limited to, the following elements, most of which are set out in section 5 of the Ecology Survey Report:
- (i) Timing of works to avoid visual and noise disturbance to overwintering and migratory wetland birds
 - (ii) Landscaping details, based upon pages 19 to 21 inclusive of the Ecology Survey Report 2017, to ensure that the current open mosaic habitats and species-rich grassland form the majority of the semi-natural habitat on site, such that they continue to support the present range of invertebrates and plants
 - (iii) Long-term management prescriptions for buddleia and other invasive scrub species to prevent species-rich grassland and open mosaic habitats from becoming overgrown
 - (iv) Timing of works to avoid destruction of bird nests where possible, and contingency in the event that nesting birds are detected if works need to take place during the nesting season
 - (v) Contingency in the event that reptiles are discovered during site clearance / construction
 - (vi) Eradication plan for Japanese Knotweed and other invasive non-native plant species
 - (vii) Details of green roofs and birds boxes, especially Swift nest boxes, on the new buildings.
 - (viii) Details of other enhancement measures such as a pond, reptile habitat piles / hibernacula, bug hotels and bee banks etc.
- 5.59 These comments contribute to this Authority's discharge of its duties under Section 6 of the Environment (Wales) Act 2016. This duty is that we must seek to maintain and enhance biodiversity in the exercise of our functions, and in so doing promote the resilience of ecosystems, so far as is consistent with the proper exercise of those functions. In complying with this duty we will have to have taken account of the resilience of ecosystems, in particular the diversity between and within ecosystems; the connections between and within ecosystems; the scale of ecosystems; the condition of ecosystems and the adaptability of ecosystems.
- 5.60 The **Noise Pollution Officer** advises that baseline data regarding a noise assessment undertaken as part of the Environmental Statement has been submitted by the applicant. He recommends that conditions requiring a further

noise assessment, plant noise, delivery times, and fuel type be attached to any permission granted.

- 5.61 The **Air Quality Officer** has reviewed the air quality technical note submitted by Air Quality Consultants as further information to the original Environmental Statement. He is satisfied by the report's approach to the further analysis, outcomes and suggested condition.
- 5.62 He does query the use of the critical level and quantifying the level of significance. As correctly indicated the process contribution for 24-hour mean NO_x is below 10% of the critical level and therefore can be screened out in accordance with the EA guidance – Air Emissions Risk Assessment for the Environmental Permit, 2018. Guidance suggests that regardless of the baseline concentration if the short term (24- hour) process contribution is less than 10% of the critical level the process contribution is therefore deemed insignificant. However, he seeks further clarification from Natural Resources Wales (NRW) to understand what is deemed best practise when faced with a baseline concentration that already exceeds the critical level. In this instance the 24-hour mean NO_x Critical Level of 75µg/m³ is already exceeded before consideration is given to process contribution. The biomass plant as a stand-alone process shows no adverse impact, however the current scenario without the biomass plant already exceeds the critical level. Provided NRW are satisfied with this scenario then he is content to condition the application.
- 5.63 The **Operational Manager, Drainage Division**, advises that there are three major areas of concern relating to this application from a drainage and flood risk perspective, which the current documents have not adequately covered:
1. The knowledge of ground contamination;
 2. The management of leachate; and
 3. The risk from coastal erosion.
- 5.64 Concerning ground contamination, the 'Frag' tip is a large contaminated industrial waste tip, that currently has no effective sealed liner, and nor is there clarity about what it contains. The documents as part of this application do not refer to a large underground fire within the tip, which continued for months if not years. It was eventually extinguished using chemical techniques used to put out colliery waste tip fires, but he does not believe the implications of this fire have been fully investigated, from a perspective of the chemical compounds contained. As the liner around the known 'zone 1' waste has been compromised, this also means that some of the ground around and most certainly under the waste, will also be exposed to the leachate from it.
- 5.65 In respect of leachate management, leachate from the current 'zone 1' waste is being produced, due to the liner around the waste being compromised. It can be seen seeping out of the side of the tip along the coastal path, as well as out through the remnants of the coastal protection. There is no detail in this application of how the existing leachate shall be managed during construction (as part of the CEMP). The segregation of this leachate from the surface water run-off will be critical, but there is not yet any proposal for this. Furthermore,

the documents refer to the 'zone 1' material being taken off site for treatment, but there is no more information on this. Ensuring that leachate does not leak during transport or causes problems wherever the material is taken, needs clarification. Finally, the report is assuming fairly precise levels and locations for the 'zone 1' waste, which does not appear to be backed up by any detailed S.I. Whilst it is understandable that much of the S.I. work has yet to take place, both the area and depth of ground contamination will be critical to the viability of the proposal.

- 5.66 Regarding coastal erosion risk, the current site boundary includes two areas of tipping and a storm beach composed largely from blast furnace slag, washed away from the remnants coastal defence for the main tip. There is also another tip of different material to the south of the frag tip, which has absolutely no coastal protection and is periodically undermined by every high tide. The whole tip coastline within the site is effectively nothing more than a receding conglomerate of industrial waste, but there is no reference to this as an issue within the reports. The storm beach is of concern in terms of flooding from the sea due to its level and having little form of engineered defence.
- 5.67 He advises that the Council is currently in a position to proceed with detailed design for the coastal defences, pending approval from Welsh Government. The outline business case has identified rock armour as the preferred option at this location and the defences will need to be in place in order to defend the proposed development. His preference is that the development, if permitted, and the coastal defences are constructed at the same time although he states that the sea defences must happen prior to the construction of the plant.
- 5.68 He concludes that there are there are significant challenges in delivering this proposal from a drainage and flood risk perspective. Although not insurmountable, they will require far greater clarity - primarily in terms of leachate management and coastal protection.
- 5.69 The **Public Rights of Way Officer** considers that the site will impact on the Wales Coast Path which skirts the perimeter of the building site. Currently the path at this location is rough terrain and needs improvement, especially from the east end of the path closest to the Traveller site. As part of the landscaping for the proposed development, it is recommended that the path is considered for improvements through resurfacing and clearer way marking. Currently the footpath to the eastern side of the site is very rough underfoot with graduated steps linking down towards the Traveller's site. As part of the landscaping plans, the PROW Team is requesting the applicant to construct a path with a stone dust finish, or an alternative option to be agreed with PROW Officers, to enhance the overall experience and accessibility for walkers. Currently there is an information board and bench which will need to be retained along this section. The site will need to be secure to prevent illegal motorbike access or potential fly tipping therefore both ends of the site will need to have barriers to allow access only for walkers. As the footpath is a Public Right of Way, the footpath cannot be closed or worked on at any point without a license. If investigative works or new apparatus is to be installed in the right of way or temporary closures are required, the applicant must contact PROW Team and

Network Management within Cardiff Council to apply for the appropriate licenses.

5.70 Following the guidance provided in the *Public Rights of Way Strategic Planning Guidance* there are several points to highlight regarding work carried out on a development site as referenced below:

- (i) The granting of planning permission does not give a developer any right to interfere with, obstruct or move a public right of way.
- (ii) Temporary Diversions/Stopping up orders can be applied for, to Cardiff Council, to allow works to be undertaken or prevent a danger to the public. This restriction is only temporary and the route must be reopened. These orders cannot be used in lieu of a permanent order and again the developer will be expected to pay the costs of producing and implementing the order.
- (iii) Should any Temporary Traffic Order be required on a PRoW (Public Right of Way), the developer is required to submit a plan providing a temporary alternative route for path users for PRoW Officers' approval. The maximum length of time a PRoW path can be temporarily closed is 6 months and extensions must be applied to Welsh Government for their consent.
- (iv) Where a development affects a highway and it appears to the Council that the highway may become damaged as a result of construction or operation of the new development, the Council will seek to cover the additional expense of repairs under Section 59, Highways Act 1980) which is recovery of expenses due to extraordinary traffic.
- (v) The developer and the Highway Authority shall carry out a joint condition survey before the development commences and after the development has been completed, or at an interval to be agreed. The developer shall in conjunction with the Council make an assessment of the extra over damage caused to the fabric of the highway and agree on compensation for making good the additional damage caused by the extra ordinary traffic and load.

6 **EXTERNAL CONSULTEES RESPONSES**

6.1 The **Welsh Government Transport Division**, advise that as highway authority for the A48(M) trunk road, does not issue a direction in respect of this application.

6.2 **Dwr Cymru Welsh Water** advises that potable water and sewerage strategies should preferably be 'front-loaded' though they are willing to condition the undertaking of a Hydraulic Modelling Assessment (HMA) and control the need for any identified reinforcement works to be completed prior to occupation. They advise that the HMA will take several weeks to complete so the applicant should allow sufficient time to avoid any delays to their programme. They are available to liaise and progress matters though the control to comply with the HMA would come through the planning permission.

- 6.3 They confirm that the water mains serving this area are known to have minimal pressures at times of peak demand. Any increased demand will exacerbate the situation and would adversely affect their service to existing customers and potential users of this proposed development. It may be possible for the developer to fund the accelerated provision of essential improvements by way of water requisition under Sections 40-41 of the Water Industry Act 1991 or through planning obligations of the Town and Country Planning Act 1990.
- 6.4 Within the Flood Consequences Assessment (FCA) and Drainage Strategy under the heading existing drainage, the report acknowledges that there are a number of public assets located within the site boundary. A number of these are of strategic importance to the business and should be awarded sufficient attention/protection during and post construction. They note the proposed protection zones, however those offered are not sufficient to ensure they can maintain future access and avoid risk of damage to the sewer. They have previously had the opportunity to provide comments on this proposal via their own pre planning advice service and the mandatory Article 2D process where they recommended the following easements would apply. 12 metres either side of the centreline of the 2400mm public combined sewer 12 metres either side of the centreline of the 2500 public combined sewer overflow. 8 metres either side of the centreline of the 1850mm public combined sewer 6 metres either side of the centreline of the 1200 public surface water sewer They acknowledge that the only operational development in the vicinity of the assets is a new access road. Further details will need to be provided to ensure the sewers are protected at all times.
- 6.5 Concerning surface water, the report identifies that the method to dispose of surface water is to drain to the nearby sea, however drawing reference A(P)-02 shows two infiltration ponds which are positioned in close proximity to public sewers. This aspect needs to be clarified and if used the pond shall be located away from the public sewers.
- 6.6 In respect of foul water they recommended that foul water can drain to the 225mm public combined sewer between manholes ST21766601 and ST21767604 located either side of Rover Way to the North East of the site. The drainage works to achieve this connection point would need to avoid crossing the strategic assets within close proximity and a route should be chosen carefully to avoid damage or restrict future access to these assets.
- 6.7 The submitted Drainage Strategy relies upon further correspondence and will need to be updated accordingly. They also request that a plan be submitted to show the proposed route of the foul water drainage in order to make the connection point in Rover Way. Therefore, if minded to grant planning permission, they request that the relevant conditions and advisory notes are included.
- 6.8 **Glamorgan Gwent Archaeological Trust (GGAT)** advises that information in the Historic Environment Record notes that the application area is formed from industrial material placed to reclaim ground from the Severn Estuary during the 1970s. The ground is formed from layers of material tipped in different events

since then, which now comprises a deep formation which has created a 30m AOD land surface. If the proposal were to involve any works which would significantly penetrate beneath the dumped material, essentially entering the estuarine deposits, then there would be the potential for archaeological deposits to be encountered. However, the details provided state that whilst some material will be removed, enough will remain to provide a foundation level at between 12m and 14m to allow enabling works for platforms for the various elements of the development.

- 6.9 Archaeological works adjacent to the south west have not shown any significant archaeological features or finds. There has been no change to their understanding of the archaeological resource since their last letter and therefore they reiterate their previous opinion, that the proposed development will not adversely impact on any archaeological resource, and that consequently they do not recommend any mitigation measures.
- 6.10 **Natural Resources Wales** (NRW) advise that a Habitat Regulations Assessment (HRA) is required to be undertaken that demonstrates that the development will not have an adverse effect on site integrity.
- 6.11 The Severn Estuary Special Area of Conservation (SAC), Special Protection Area (SPA), Wetland of International Importance (Ramsar Site) and Site of Special Scientific Interest (SSSI) lie adjacent to the application boundary. They note that aspects of the construction works will be undertaken within the designated sites' boundary. The Gwent Levels – Rumney and Peterstone SSSI lies approximately 1.5km from the application boundary.
- 6.12 From the information provided (prior to their consideration of the AA), they are unable to conclude that the proposed development would have no likely significant effect on the Severn Estuary SAC and SPA. They recommend that Cardiff Council, as the competent authority, carry out an 'appropriate assessment' of the proposal in accordance with Regulation 63(1) of the Conservation of Habitats and Species Regulations 2017. This should not be an onerous task. They can provide additional advice and guidance on the HRA process and the undertaking of appropriate assessments if required.
- 6.13 The purpose of the appropriate assessment is to assess the implications of the proposed development, with respect to the conservation objectives of the Severn Estuary SAC and SPA. The conclusions of the appropriate assessment should enable Cardiff Council to ascertain whether or not the proposed development would adversely affect the integrity of the Severn Estuary SAC and SPA. R
- 6.14 Regulation 63(6) states that, as part of the appropriate assessment processes, the competent authority 'shall have regard to the manner in which it (the development) is proposed to be carried out or to any conditions or restrictions subject to which they propose that the consent, permission or other authorisation should be given'. In addition, there is a need to consider this proposal 'in combination' with other developments in the vicinity, particularly

the possible in-combination impacts from other proposed developments along this stretch of the Severn Estuary.

- 6.15 Their main concerns relate to the possible adverse impacts of the proposed development on the features of the Severn Estuary SAC and SPA, in particular with respect to:
- (i) Site drainage and release of any existing land contamination causing pollution of the Severn Estuary during construction;
 - (ii) Disturbance to bird features arising from construction activities;
 - (iii) Aerial emissions causing pollution of the Severn Estuary during operation.
- 6.16 In respect of (i), the reworking and removal of contaminated material, particularly along the foreshore, and the potential to create/reopen pathways through the retained material may cause polluted material to enter the Severn Estuary and adversely impact the habitat and species features of the sites. Whilst they welcome reference in Chapter 7 of the Environmental Statement (ES) to mitigation measures to be detailed in the site Construction and Environmental Management Plan (CEMP), they advise the appropriate assessment needs to detail specific measures to prevent adverse impact on the Severn Estuary SAC and SPA.
- 6.17 Regarding (ii), they welcome the measures stated to minimise disturbance to SPA bird features during construction, such as the phasing of works and the creation of a bund (Chapter 8 of the ES and supporting documents). However, winter working at the construction site behind the bund is likely to require additional mitigation measures such as temporary screening along the top of the bund. They note and welcome the intention to agree a working method with NRW in advance. All measures to avoid detrimental impact on the SPA features need to be detailed in the appropriate assessment.
- 6.18 They note the intention to re-route the Wales Coast Path along the foreshore only in summer and, once the bund is completed, the intention to route the path along the top of the bund. This should also be referred to within the appropriate assessment.
- 6.19 Finally, concerning (iii), they have reviewed the information provided in Chapter 9 of the ES - Air Quality and the Air Quality Assessment Report (Appendix 9.6 of the ES). They welcome the inclusion of the Severn Estuary SAC as a potential receptor in addition to the Severn Estuary SPA in the revised air quality assessment. From the information provided, the emissions of NO_x and nitrogen deposition at the designated site exceed the criteria of significance, based on the appropriate critical levels and critical loads. Therefore, they cannot concur with a conclusion of no likely significant effect; they consider the emission of nitrogen oxide and the deposition of nitrogen on the features of the Severn Estuary Ramsar/SPA/SAC to be significant and that an appropriate assessment needs to be completed by the Council.

- 6.20 They welcome the mitigation, to avoid adverse effects on the features of the Severn Estuary SAC and SPA, as proposed in the Air Quality Assessment Report (Appendix 9.6 of ES, paragraph 7.1, p.30), including emission abatement technologies to reduce NOx and PM emissions, and an appropriate stack height and exhaust exit velocity to maximize dispersion. These measures need to be detailed in the appropriate assessment.
- 6.21 (A copy of the Appropriate Assessment (AA), undertaken by the Council as the competent authority, is attached. NRW have been consulted on its contents and their final comments will be reported to Planning Committee).
- 6.22 They advise that it is Welsh Government policy to treat developments potentially affecting Ramsar sites in the same way as for SACs and SPAs. Their concerns for the Severn Estuary Ramsar Site are the same as for the Severn Estuary SPA and SAC highlighted above.
- 6.23 The application site lies adjacent to the Severn Estuary Site of Special Scientific Interest (SSSI). Their concerns for the Severn Estuary SSSI are the same as those for the SAC and SPA outlined above.
- 6.24 Providing the HRA demonstrates that there is no adverse effect on site integrity, they would raise no objection to the application, subject to appropriate conditions being attached to any future permission. This list is not exhaustive, providing that the above matter is satisfactorily resolved they will provide a final list of conditions at that point. They currently recommend a set of conditions to prevent **contamination and pollution** including requirements for a remediation strategy, verification report, long-term monitoring, maintenance, and contingencies, unforeseen contamination, surface water drainage, and piling prevention.
- 6.25 Concerning **flood risk** management, the application site lies partially within Zone C2 as defined by the Development Advice Map (DAM) referred to under Technical Advice Note 15: Development and Flood Risk (TAN15) (July 2004). Their Flood Map, which is updated on a quarterly basis, confirms the site to be partially within the 0.5% (1 in 200 year) and 0.1% (1 in 1000 year) annual probability flood outlines. The Flood Consequences Assessment (FCA) dated August 2017 by Vectos indicates that the majority of the site is located within DAM Zone B. The proposed built development is to be located in Zone B. As such, they have no adverse comments to offer in this regard. It should be noted that the FCA suggests an area of the site to the North East includes an access road within DAM zone C2, which could be at risk from a tidal event. As such, the Council may wish the applicant to further consider site access and egress, in terms of potential depths and velocities of floodwaters in this area and the implications of this should a flood event occur. If so, they would be happy to provide further advice. However, they note there is an alternative access route at the western end of site which is shown to be outside zone C2 and therefore they have no adverse comments from a flood risk perspective.
- 6.26 They note the comments in the ES regarding **European Protected Species** and accordingly have no further comment on the proposals.

- 6.27 The scoping opinion referred to the site as being a non-domestic landfill site with capping, leachate collection and gas venting. Any material removed from the landfill site will need to be regarded as a **waste** with appropriate considerations and transfer / consignment notes. For non-landfill material, there needs to be a suitable treatment facility to transfer the material to, which is permitted to accept that material.
- 6.28 Due to the location of the site, consideration should be given to **surface water discharges**. This will need to consider spillages on site as well as firewater containment in the case of an incident.
- 6.29 The site will need to be connected to mains sewerage due to the locality of sensitive sites.
- 6.30 Should an **Environmental Permit** be required a Fire Risk and Management Plan will need to be submitted with the permit application. Noise from the site would be required to be assessed taking into consideration other noise sources in the locality. Any activities on site that have the potential to generate high noise levels, such as chipping, should have considerations for alternative techniques. With regard to energy efficiency, it should be confirmed what arrangements are to be put in place to ensure that the waste heat and steam generated are to be used and not discharged to atmosphere.
- 6.31 **CADW**, having carefully considered the information provided with this planning application, consider that the proposed development will have no more than a negligible effect on the two scheduled monuments in the vicinity. Within 3km are Penylan Roman Site (GM296), which is not inter visible with the proposed development, and Relict Seawall on Rumney Great Wharf (GM474), where they consider that the proposed development would have a negligible effect on the setting of the monument. They therefore have no objections to the impact of the proposed development on the scheduled monuments.
- 6.32 Their statutory role in the planning process is to provide the local planning authority with an assessment concerned with the likely impact that the proposal will have on scheduled monuments, registered historic parks and gardens, registered historic landscapes where an Environmental Impact Assessment is required and development likely to have an impact on the outstanding universal value of a World Heritage Site. They do not provide an assessment of the likely impact of the development on listed buildings or conservation areas, as these are matters for the local authority. It is for the local planning authority to weigh their assessment against all the other material considerations in determining whether to approve planning permission.
- 6.33 Applications for planning permission are considered in light of the Welsh Government's land use planning policy and guidance contained in Planning Policy Wales (PPW), Technical Advice Notes and guidance. PPW (Chapter 6 – The Historic Environment) explains that the conservation of archaeological remains is a material consideration in determining a planning application, whether those remains are a scheduled monument or not. Where nationally

important archaeological remains, whether scheduled or not, and their settings are likely to be affected by proposed development, there should be a presumption in favour of their physical protection in situ. It will only be in exceptional circumstances that planning permission will be granted if development would result in an adverse impact on a scheduled monument (or an archaeological site shown to be of national importance) or has a significantly damaging effect upon its setting. Technical Advice Note 24: The Historic Environment elaborates by explaining that when considering development proposals that affect scheduled monuments or other nationally important archaeological remains, there should be a presumption in favour of their physical preservation in situ, i.e. a presumption against proposals which would involve significant alteration or cause damage, or would have a significant adverse impact causing harm within the setting of the remains.

7. **REPRESENTATIONS**

- 7.1 **Local Members** have been consulted and any comments received will be reported to Planning Committee.
- 7.2 The application was publicised by **press and 9 no. site notices** on 23 November 2017 and 28 December 2017 under Regulation 18 (Environmental Statements) of The Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017 and Article 12 (Publicity for Applications for Planning Permission) of The Town and Country Planning (Development Management Procedure) (Wales) Order 2012. The application was subsequently publicised in the press on 3 May 2018 and by 9 no. site notices on 10 May 2018 under Regulation 24 (Further Information and Evidence in Respect of Environmental Statements) of the aforementioned EIA Regulations.
- 7.3 The site notices were displayed adjacent to the application site at Rover Way and Tide Fields Road, as well nearby on Seawall Road and at 6 no. other locations in the nearby residential communities at Tremorfa, and Pengam Green including Tesco and Willows High School.
- 7.4 **Neighbouring occupiers** adjoining and in the vicinity of the site were also sent written notification by post at each consultation stage.
- 7.5 **Celsa Steel** express a number of concerns as follows:
- (i) Potential smells from the power station. They are concerned about "polycyclic aromatic hydrocarbons" (PAH) and sulphur dioxide (SO₂), which can be generated in biomass plants depending on type of source material and on combustion conditions. These chemical compounds can generate smells and other consequences to people. They think there should be Air Quality Assessments regarding those compounds to evaluate their impact;
 - (ii) Comments on the Air Quality Assessment undertaken. They think there should be a more accurate calculation of Annual Mean Nitrogen Oxides (µg/m³): 23.9 and 24-Hour Mean Nitrogen Oxides (µg/m³): 75.1, which

are both included in Table 11 of the Air Quality Assessment, in order to define more clearly the contributions of existing emitters to those values. The meteorological conditions of Cardiff Airport, at 17km distance, has been used for the assessment. They understand that those conditions include wind directions and intensity. They think more accurate data in the ADMS-5 dispersion model should be used to evaluate concentrations and changes.

- (iii) Noise levels. Additional background noise measurements should be taken at the border between Mineral land (neighbouring slag handling) and new Biomass site, in order to define baseline conditions to compare with new conditions in the future generated by new industrial incomers.
- (iv) Treatment and destination of contaminated soils. In Chapter 7 GEOTECHNICAL CONDITIONS & CONTAMINATED LAND the ground conditions have been analysed, their effect during development and operational phases, and mitigation strategies. It has been mentioned that a Construction Environmental Management Plan (CEMP) and Site Waste Management Plan (SWMP) will be developed. They think that those plans should be a precondition for a permit and also they should have the option to study them. Because part of the site is made up of slag or shredded residues, they are concerned that the moving of these materials may be wrongly construed as being part of the CELSA operation and problems associated with these movements could be wrongly addressed to CELSA.
- (v) Risk analysis of the activity and potential effect on their workers needs to be undertaken e.g. explosion.
- (vi) How CELSA's activities on its adjoining Mineral Site are considered. Both the Biomass Power Plant and future occupants of the site should be made aware of the adjacent CELSA activities to avoid any future claims or objections.
- (vii) Effect of deliveries to and from this proposed site on traffic flows on Units will affect future layout of Eastern Bay Link Road to the East and deliveries to and from the CELSA plant. The proposed new junction will be only at 73 m from the existing one to Seawall road which appears impractical. They suggest the consideration of a roundabout solution, integrated into the future solution of Eastern Bay Link Road extension;
- (viii) Drainage and sewage systems, which may have an effect on the adjoining Celsa Mineral Site Land. They understand that details of the solution will be developed during detailed design phase of the project and will require approval from Welsh Water but they would wish to be involved in those discussions.

7.6 The occupier of **30 Cae Syr Dafydd, Canton**, requests that the planning department notes their concern whether all of the fuel will be waste, and whether it will continue to be, and how the council will monitor that. Concern was expressed that the use of wood as a biofuel can and often does turn out to be worse for climate change than burning fossil fuel. Subsequently, it was also stated that "biomass" can mean anything from sustainable to biomass to thoroughly unsustainable biomass and further information can be provided if required.

7.7 **Gypsy and Traveller Wales** write on behalf of the residents of Rover Way Caravan Site. They met with residents on two separate occasions as well as going door to door on the site over two days. They would like to offer feedback on the concerns expressed and discussed with the residents.

7.8 Firstly, they need to address this public consultation. It is difficult to imagine that ordinary residents should be expected to read through, never mind understand, the documentation that has been made available for the public consultation process let alone a community known to suffer low literacy. The information should be available in a format that can be understood to the layman as well as the expert. Surely there is a duty to ensure understanding and effective participation by the public? At the meeting with the residents there were also questions around why the council (planning office) were not leading the meeting. The main concerns of the residents are:

- (i) Fire risks: Where is the fire assessment? This was of great concern, the residents on site are living in chalets and caravans in very close quarters right next door. They could not find a fire risk assessment in the available documentation;
- (ii) Traffic: There is concern that 40 daily HGV movements to transport the biomass, plus all the staff and other traffic generated by the industrial units would have a negative impact on air quality as well as noise. The road is already extremely busy and many of the resident's pitches back on to this road.
- (iii) Noise: The planning documents say that the maximum noise levels at the Gypsy and Traveller Site would be 20 decibels. In reality, noise levels endured by people living near a biomass power plants are often much higher. They would appreciate further clarification of how this estimate was made and if current noise levels have been measured. It was suggested that current noise levels already exceed this so surely the proposed development would increase that?
- (iv) Air pollution: The proposal argues that no residents (including those on the Traveller Site) will be exposed to unlawful air pollution levels if the plant is built. There are a few concerns around this claim:
 - Firstly, particulate concentrations are not being monitored anywhere nearby even though there are steel works, already likely sources of particulates, together with traffic.
 - Secondly, legal limits for small particulates in England and Wales are already far higher than what the World Health Organisation recommends.
 - Thirdly, legal nitrogen dioxide limits are being breached at Ocean Way which isn't that far away, yet the consultants for the developer has ran their model using the figures from monitoring stations elsewhere with lower reading, rather than the Ocean Way one;
 - There are a significant number of Gypsies and Travellers living on the Rover Way Caravan site that have a long-term illness, health

- problem or disability, many of which include respiratory problems.
- There is concern that the proposed development would result in significant impacts on air quality and would consequently harm the health and well-being of residents living next to the site.

7.9 **Cardiff Heliport** objects to the proposed Biomass Plant on the grounds that they require further clarification on the following issues:

- (i) The emissions that are likely to be expelled through the chimney. They would appreciate assurances that these emissions will not affect the pilots and helicopters on final approach to runway 20 at Cardiff Heliport;
- (ii) The exact location of the chimney stack as well as confirmation of its maximum height;
- (iii) The proposed plan appears to indicate that the Chimney stack is on the extended runway centre line to the heliport and could jeopardize any future developments for Cardiff Heliport so far as mission critical services (e.g. Air Ambulance, SAR etc...) in terms of future GPS let down approaches.

8. **ANALYSIS**

8.1 The key issues for the consideration of this outline application are the principle of development, pollution issues in respect of noise, air quality and contaminated land, transportation and access, ecology, hydrology and drainage, visual impact, third party representations, and residential amenity including health considerations.

Principle of Development

8.2 The site is located within the settlement boundary as defined by the Local Development Plan (LDP) Proposals Map and, whilst the majority of the site has no specific land use allocation or designation, part of the site (the Tide Fields Road access) falls within land identified as existing employment land. Therefore LDP Policies EC1 (Existing Employment Land) and EC7 (Employment Proposals on Land Not Identified for Employment Use) are therefore also relevant. In addition, the Wales Coast Path traverses the site along the southeast boundary, for which LDP Policy T8 (Strategic Recreational Routes) applies.

8.3 The proposed use of the site for a Biomass Power Plant and new industrial floorspace would be consistent with LDP Policy EC1. LDP Policy EC7 permits proposals for employment use on unallocated sites provided that:

- (i) The proposal cannot reasonably be accommodated on existing employment land and in the case of offices in the Central Enterprise Zone (Policy KP2) and the Central and Bay Business Areas (Policy EC4);

- (ii) The site falls within the settlement boundary and has no specific policy designation;
 - (iii) The use is compatible with uses in the surrounding area and;
 - (iv) The proposal is well related to the primary highway network and accessible to sustainable modes of transport
- 8.4 It would appear reasonable to locate a new Biomass Power Plant and industrial accommodation on this site, which is partly within recognised employment land and is adjacent to comparable uses in a location that is well-served by the primary highway network. According to these policies the principle of the proposed development would appear to be acceptable.
- 8.5 LDP Policy T8 makes a commitment to maintain and develop the coast path as one of the City's Strategic Recreational Routes, facilitating access to them by the local communities which will form an integral part of the City's walking and cycling routes. This aspect of the application is considered in the Transport and Access section below.
- 8.6 The site is currently being used as an off-road motorcycle track in line with the planning permission granted in December 2006 (see paragraph 3.2). This facility is operated by the Council and opportunities to relocate the facility to another site are being investigated. In any event, there is no planning policy protection afforded to the facility.

Contaminated Land

- 8.7 The removal of the overburden and partial removal of the contaminated material below the membrane is estimated to require the removal of approximately 2 million tonnes of fill material. The removal of this material would take place in phases across a number of years. LDP Policy EN13 (Air, Noise, Light Pollution and Land Contamination) states that development will not be permitted where it would cause or result in unacceptable harm to, amongst other things, health, local amenity, or interests of nature conservation or landscape through the presence of unacceptable levels of land contamination.
- 8.8 Through a dialogue that commenced at the beginning of the consultation process, and has included face to face meetings between the applicant, the Council's Contaminated Land team, and Natural Resources Wales, the information contained in the application in respect of land contamination has been carefully considered, mindful of the existing site conditions. It is recognised that removal of such a large volume of fill material is difficult to comprehensively assess through site surveys. In considering the environmental information and the ensuing dialogue with the Council's Contaminated Land Team and Natural Resources Wales (NRW), it has been agreed that further surveys will be required as the development progresses. A set of conditions has therefore been agreed between the relevant consultees to control the removal of the fill material. Subject to compliance with relevant conditions, they consider that pollution through land contamination can be avoided.

- 8.9 It should also be noted that the applicant, in addition to acquiring planning permission for the development, will also need to apply to Natural Resources Wales for an Environmental Permit for the removal of the material as well as the operation of the Biomass Plant itself.

Noise

- 8.10 The Environmental Statement accompanying the application includes a chapter assessing the likely noise impacts of the proposed development and concludes that they are unlikely to have significant environmental effects. Noise Pollution Officers from Shared Regulatory Services, having considered the submitted baseline survey, consider that conditions are required to ensure compliance with LDP Policy EN13. Conditions are recommended to control plant noise, delivery times, and confirmation of the use of virgin timber only.

Air Quality

- 8.11 The key source of emissions with the potential to harm air quality are the emissions from the Biomass Power Plant.
- 8.12 Following the receipt of the Environmental Statement, which includes a chapter examining air quality impacts, further information was submitted in the form of a technical note, following a request by the Council's Air Quality Officer.
- 8.13 Although the Environmental Statement concluded that the Biomass Plant would not lead to any significant impacts on human health, it did identify the potential for significant impacts in relation to concentrations of nitrogen oxide in the Severn Estuary Special Protection Area (SPA) bordering the application site, specifically an area of salt marsh habitat at the mouth of the River Rhymney, approximately 350 metres northeast of the application site and 900 metres northeast of the proposed siting of the Biomass Power Plant. The technical concluded the following:
- (i) Emissions from the plant on the saltmarsh habitat are judged to be not significant;
 - (ii) Stack height modelling confirms that a 51 metre high stack as proposed is sufficient to ensure that the air quality impacts of the Biomass Plant are not significant and a taller stack is therefore not considered to be necessary;
 - (iii) In the event that mitigation is required in future, emissions reduction technologies can be incorporated into the plant design to safeguard interests. They recommend a relevant condition to this effect.
- 8.14 The Council's Air Quality Officer, having reviewed the further information provided in the technical note, is satisfied with the approach taken and the conclusions therein. A condition is recommended to require a further Air Quality Assessment to be undertaken once the final Biomass Plant Design is known. It is considered that this approach will ensure unacceptable harm from air pollution will be avoided.

- 8.15 It is not considered that the traffic generated by the development will result in unacceptable levels of air pollution, mindful of the level of traffic already using Rover Way on a daily basis and the nature of the existing neighbouring industrial operations.

Ecology

- 8.16 The application site, being adjacent to the Severn Estuary Marine Sites, and the Severn Estuary Site of Special Scientific Interest (SSSI), amongst other interests, must be carefully considered in respect of its impact upon these nature conservation interests which are of international and national importance.
- 8.17 The Council's Ecologist has undertaken an 'Appropriate Assessment' (AA) on behalf of the Council as the 'competent authority' which concludes that, based upon the submitted application, the proposed development will not have an adverse effect upon the integrity of the Severn Estuary sites, provided certain conditions are attached to any permission. The AA has been forwarded to Natural Resources Wales (NRW) for their comments which will be reported to Planning Committee to consider prior to their determination of this application. A copy of the AA is appended to this report.
- 8.18 The surveys undertaken to inform the Ecology Chapter of the Environmental Statement (ES) identify that the site would comfortably qualify as a Site of Importance for Nature Conservation (SINC) in accordance with 9 no. of the 11 no. Guidelines for the Selection of Wildlife Sites in South Wales 2004 (The 'SINC Selection Criteria') (see paragraph 5.45). The Council's Ecologist refers to an appeal decision which states that, in such circumstances, a site displaying the criteria should be treated as a SINC even if it has not officially been designated as such. It is recognised that the landscaping proposals for this development, which are a reserved matter requiring future approval by the Local Planning Authority, will be important in the future protection of the existing habitats.
- 8.19 The Council's Ecologist is satisfied that the policy requirements of Section 5.5.3 of TAN 5 as above can be addressed at this site, however this is dependent upon the details of the final landscaping scheme of the proposed development.
- 8.20 The Ecologist recommends that a comprehensive Green Infrastructure Strategy (GIS) for the site is secured via condition to secure details of all measures to avoid, mitigate and compensate for impacts upon ecological interests, together with measures to provide habitat enhancement. The GIS will need to cover all phases of the development from the first phase of removal of fill material to the construction, and future operations of the development, to guarantee the ongoing management of habitats.

Transport and Access

- 8.21 The creation of a new vehicle access/egress into the site from Rover Way, to function as the main route for vehicles and pedestrians entering the site, is a

matter for detailed consideration at this outline stage. During the course of the application process the junction design has been amended to reflect the comments of the Council's Highways Authority, who required the creation of a right turn filter lane for vehicles entering the site from the east in order to avoid congestion on the is part of Rover Way. The Council's Highways Officers are satisfied with the amended junction design that has been submitted by the applicant and a relevant condition is attached to secure its details to the satisfaction of the Highways Authority. A Section 278 Agreement under the Highways Act would also be required for these works.

- 8.22 Rover Way is an important route for traffic serving the operational dock and city centre, as well as commuter traffic from the east. It will eventually accommodate the future extension to the Eastern Bay Link. The impacts of the proposed development upon this important highway network must therefore be given careful consideration.
- 8.23 The Council's Highways Officer, in commenting on the application (from paragraph 5.1), has had to make certain assumptions to understand the likely traffic impacts of the development on the existing road network. His assumptions include the estimated volume of fill material requiring transportation (2,000,000 tonnes), the use of 20 tonne tippers, 100 HGV trips per day for four years (200 vehicle movements), vehicle routes to avoid residential communities and the city centre, 30 – 50 daily HGV trips during the construction period assuming a 5.5 day working week, and a maximum fuel amount of 75,000 tonnes per annum for the Biomass Power Plant. On the basis that these assumptions are correct, he considers that the overall additional HGV traffic on Rover Way would be acceptable, with the proviso that the roads is at, or exceeds, acceptable capacity during and adjacent to the peak hours.
- 8.24 During the removal of fill material and the construction of buildings and infrastructure he anticipates that an average of 10 no. 20 tonne tippers will access the site per hour which equates to 1% of the average daily traffic on Rover Way. If peak hours were avoided the hourly flow would increase to 12.5 tippers per hour.
- 8.25 During the operational phase of the development the applicant has estimated that 20 two-way trips per day would be required in respect of fuel delivery, and would be spread throughout the day resulting in less than one trip per hour. In addition to the fuel supply movements there would be some 22 vehicle movements associated with staff operating the plant (based on 11 on-site parking spaces).
- 8.26 The transfer of ash from the Biomass would also occur by road and, at an estimate of ash being 10% of the weight of the feedstock, 7,500 tonnes of ash would be generated per annum. This ash would be transferred by road using purpose built skips and would equate to some 375 two-way trips (or 750 vehicle movements) per year, or approximately 7.5 two-way trips (15 vehicle movements) per week.

- 8.27 TRICS has been used to calculate that 332 vehicles movements would be generated a day (5am to 9pm) by the proposed warehousing (or 213 movements 7am to 7pm). It is considered that the early (pre-7am) and late (post 7pm) vehicle movements would primarily be staff arriving / departing from work.
- 8.28 In summary, it is assumed that the site would generate some 278 vehicle movements during a 12 hour day, of which some 250 could be assumed to be daily HGV operations. These would comprise:
- (i) 40 associated with fuel delivery;
 - (ii) 3 associated with ash collection;
 - (iii) 22 biomass plant operatives;
 - (iv) 213 associated with the warehousing.
- 8.29 The traffic generated during both the four year pre-construction and the operational periods may have a detrimental impact upon the surrounding road network. It is accepted that the additional traffic movements would appear to constitute less than 2% of the existing daily traffic flow. However, it should also be considered that the existing road network along Rover Way is already operating at its design capacity, as evidenced by the queueing during the peak periods. It is considered that additional traffic on the local network could be expected to exacerbate the situation.
- 8.30 Although Rover Way is identified as being the route for the future extension to the Eastern Bay Link (EBL), no details on the precise route are available. The route will have to avoid private land in any event and therefore the future EBL extension is not considered to be an issue that could reasonably prevent the delivery of this development.
- 8.31 In respect of non-car modes of travel car and cycle parking provision would be provided for commuters in accordance with the Council's adopted guidelines. There are limited opportunities for bus connections. Pedestrian public access would be provided from the new junction on Rover Way through the site.
- 8.32 The Wales Coast Path crosses the site and the application makes a commitment to improve and enhance this important recreational route in accordance with LDP Policy T8. A relevant condition is attached. This enhancement of this route complies with national and local planning policies to encourage active forms of travel.

Hydrology and Drainage

- 8.33 The site is complex in respect of its hydrology due to its location immediately adjacent to the Severn Estuary. There is an opportunity through this development to introduce sustainable drainage solutions and address existing site issues which will protect the Severn Estuary marine sites from contaminated material known to be in the ground.

- 8.34 Dwr Cymru Welsh Water (DCWW) recommend conditions be attached to any planning permission that will be granted to secure a hydraulic modelling assessment and full details of the proposals for foul and surface water drainage. The indicative site plans suggest the creation of attenuation ponds in the southeast corner of the site which may be an acceptable solution. DCWW have advised of opportunities for foul connection to existing sewers in the vicinity of the application site.
- 8.35 The coastal defences along this part of the Severn Estuary are due to be upgraded through a project between Welsh Government and the Council. Although the precise details are still being finalised, it is likely that rock armour would be used to improve the defences along this section of coastline (from the River Rhymney to south of the application site) to prevent further erosion of the site. The applicant has been advised of this project which will take place on land adjacent to the application site.
- 8.36 The leaching of material from the site into the estuary was also identified as a cause for concern by the Council's Drainage Division due to the failure of the membrane covering the contaminated material. He advises that further details of the management of this leachate during construction and segregating this from the surface water run-off will be important. Relevant conditions are attached to secure these details.
- 8.37 The part of the site that falls within Zone C2 on flood defence maps includes part of the access road that could be affected by a tidal event. However, the site has a secondary/emergency access at Tide Fields Road in the southwest which could be utilised in an extreme tidal event. Natural Resources Wales have no objection in this regard.
- 8.38 It is considered that satisfactory drainage solutions can be designed to ensure compliance with LDP Policies EN11 (Protection of Water Resources) and EN14 (Flood Risk).

Landscape and Visual Impact

- 8.39 The existing site contains significant earth bunds to a height of approximately 30 metres AOD and therefore the site is potentially more visible from the surrounding area than would be otherwise be the case. In considering the visual impacts of the proposed development the neighbouring heavy industrial uses to the north and west form an important context.
- 8.40 As a result of the development the removal of fill material will facilitate the creation of a development plateau at approximately 12 – 14 metres AOD. The indicative site plans show the formation of bunds along the southeast and northwest boundaries to screen the development and provide enhanced landscaping features. The bunds would be a maximum of 22 metres AOD, thus creating approximately 8 to 10 metres screening to the development. The height parameters provided on the submitted schedule confirm the stack height would be between 35 and 55 metres above the ground level, therefore the final development would likely be visible above the landscaped bunds. However,

this in itself is not considered to be an issue as the final building designs and the landscaped bunds will be subject to detailed reserved matters approval. It is considered that these bunds have the potential to provide significant screening to the proposed development, subject to their detailed design.

- 8.41 It is considered that the proposed development, whilst being visible from various viewpoints in the locality, is likely to have a negligible visual impact, mindful that the detailed design has not yet been finalised and the site will largely be viewed in the context of the existing heavy industrial operations immediately north and west of the site.
- 8.42 Views will also be possible from the Wales Coast Path, which will be upgraded as a result of this development. The precise route of the path through the development is again subject to detailed design. It currently runs along the foot of the existing bunds adjacent to the foreshore and from this point the site would not be visible. However, if it were to be routed higher on the bund the development may become visible. In any event it is considered that through the sensitive landscaping of the site, any views from this Public Right of Way would not have be significantly harmful.

Third Party Representations

- 8.43 In respect of issues raised during the public consultation process which have not already been addressed in this analysis:
- (i) A risk analysis of the activity and potential effect on the workers of the neighbouring steel plant is not required for this planning application.
 - (ii) Any future occupier of the development would be responsible for understanding the existing neighbouring site operations prior to taking up their occupancy. Any existing operations by neighbouring occupiers could not be prejudiced by the proposed development.
 - (iii) The applicant has confirmed that the Biomass Power Plant will burn virgin timber, which will be transported to the site by road and/or rail from either Liverpool docks or Felixstowe, having been shipped from overseas (possibly Latvia);
 - (iv) By publicising the application in the press, by site notice and sending letters to neighbouring occupiers and other properties in close proximity, the Local Planning Authority has exceeded the minimum requirements for publicising applications as set out in the relevant legislation (see paragraphs 7.2 and 7.3).
 - (v) A fire assessment is not a requirement for planning permission. This is a matter for building control;
 - (vi) It is recognised that the development would generate increased traffic, however compared to the existing situation on Rover Way, it is not considered that an objection on traffic grounds would be sustainable as the impacts are not likely to be significant;
 - (vii) The parameter schedule in the application confirms that the chimney stack height for the Biomass Plant would be between 35 and 55 metres. Although an indicative site layout is included with this application, matters relating to appearance, scale and layout are reserved for

subsequent approval therefore the precise location of the stack cannot be confirmed at this outline stage. The precise relationship between the proposed development and the Heliport will be considered during the consideration of reserved matters when full details of the plant design will be submitted.

Other Considerations

- 8.44 *Crime and Disorder Act 1998* – Section 17(1) of the Crime and Disorder Act 1998 imposes a duty on the Local Authority to exercise its various functions with due regard to the likely effect of the exercise of those functions on, and the need to do all that it reasonably can to prevent, crime and disorder in its area. This duty has been considered in the evaluation of this application. It is considered that there would be no significant or unacceptable increase in crime and disorder as a result of the proposed decision.
- 8.45 *Equality Act 2010* – The Equality Act 2010 identifies a number of ‘protected characteristics’, namely age; disability; gender reassignment; pregnancy and maternity; race; religion or belief; sex; sexual orientation; marriage and civil partnership. The Council’s duty under the above Act has been given due consideration in the determination of this application. It is considered that the proposed development does not have any significant implications for, or effect on, persons who share a protected characteristic.
- 8.46 *Well-Being of Future Generations Act 2016* – Section 3 of this Act imposes a duty on public bodies to carry out sustainable development in accordance with the sustainable development principle to act in a manner which seeks to ensure that the needs of the present are met without compromising the ability of future generations to meet their own needs (Section 5). This duty has been considered in the evaluation of this application. It is considered that there would be no significant or unacceptable impact upon the achievement of wellbeing objectives as a result of the recommended decision.

9. CONCLUSIONS

- 9.1 It is considered that the submitted Environmental Statement (ES) provides a comprehensive assessment of the potential impacts of the proposed development and this has been taken into consideration in the assessment of the application. The conclusions of the submitted ES are considered sound. For reasons set out in this report, it is considered that the proposal is policy compliant and that there are no reasonable grounds for refusal.
- 9.2 It is noted that the application is made in outline with all matters except access reserved for subsequent approval. Therefore full details of the building design, landscaping, layout and scale of the development will require approval through reserved matters submissions.
- 9.3 It is recommended that outline planning permission be granted, subject to the recommended conditions.



rev	description	by	date
1	Amended red line		12/10/17
	first issue	RB	18/8/17

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project
 Parc Calon Gwyrdd
 First-Step Group
 title
Location Plan
 status
 Planning
 scale @ A1
 1:2500

job number	drawing number	rev
129	A(P)-01	1

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Area = 16.45 Hectares (40.6 Acres)

rev	description	RB	18/8/17
		by	date

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project
Parc Calon Gwyrdd
First-Step Group

title
Site Plan

status
Planning

scale @ A1
1:1250

job number 129	drawing number A(P)-02	rev
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OUTLINE PLANNING APPLICATION

LAND AT ROVER WAY, CARDIFF, CF24 2RX

**THE REMOVAL OF FILL MATERIAL AND THE CONSTRUCTION OF
A CIRCA 9.5MW BIOMASS POWER PLANT AND 130,000 SQ. FT.
OF INDUSTRIAL ACCOMMODATION, NEW ACCESS ROADS AND
ASSOCIATED LANDSCAPING WORKS**

ENVIRONMENTAL STATEMENT: NON-TECHNICAL SUMMARY

OCTOBER 2017



Geraint John Planning

LAND AT ROVER WAY, CARDIFF, CF24 2RX

ENVIRONMENTAL STATEMENT: NON-TECHNICAL SUMMARY

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PREFACE

A planning application has been submitted to Cardiff Council for the redevelopment of Land at Rover Way, Cardiff, CF24 2RX. The applicant is Parc Calon Gwrydd Ltd

An Environmental Impact Assessment (EIA) of the proposed development has been undertaken, and Parc Calon Gwrydd Ltd have commissioned a range of technical experts to prepare a comprehensive Environmental Statement (ES) to accompany the planning application.

The purpose of the ES is to identify the possible environmental effects of the development, and the measures that are available to reduce these effects (where such action is appropriate).

The ES is presented in two volumes:

- **Volume 1:** which records the main findings of the assessment; and
- **Volume 2:** which includes technical information to support the findings of the environmental assessment exercise.

This document – the 'Non-Technical Summary' – is designed to provide an overview of the main ES. It draws out the key issues contained within the individual chapters of the ES.

Copies of the ES can be inspected at the following premises:

Cardiff Council,
Planning Services,
County Hall,
Atlantic Wharf
Cardiff
CF10 4UW.

Printed copies or electronic CD copies of the ES and Technical Appendices can be purchased from the Application agent:

Geraint John Planning Ltd,
33 Cathedral Road,
Cardiff,
CF11 9HB.

The cost of a printed copy will be provided upon request. Electronic copies on CD of the full Environmental Statement and the Non-Technical Summary can be provided at a cost of £20 per copy including postage. Printed copies of the Non-Technical Summary will be provided free of charge upon request.

The following documents have been submitted as part of the planning application which this Environmental Statement Supports:

Planning Statement	Plans and Drawings
Design and Access Statement	Ecology Survey
Noise Impact Assessment	Land Contamination Site Investigation
Transport Statement	Landscape Scheme
Flood Consequences Assessment	Visual Impact Assessment

BACKGROUND

The application for which this ES has been prepared relates to the development of Land at Rover Way, Cardiff, CF24 2RX. The site is located on the south-eastern extent of the city and on the eastern side of Rover Way adjoining existing industrial uses, a sewage treatment works (STW) and the adjoining Anaerobic Digestion (AD) renewable energy plant. This area is considered to be the main industrial core of the City where heavy industry has long been located. The range and type of uses and activities present is a product of its proximity to the coast and the docks.

Planning Application

The application has been submitted in outline, with all matters reserved except access. An 'outline' application seeks to establish the principle of development. Should 'outline' planning permission be granted, more in-depth 'reserved matters' applications will need to be submitted to the Local Planning Authority in order to agree the detail of the scheme.

The application seeks planning permission for the following:

'The Removal of Fill Material and the Construction of a Circa 9.5MW Biomass Power Plant And 130,000 Sq. Ft. Of Industrial Accommodation (Use Class B8), New Access Roads and Associated Landscaping Works'

Due to the site's sensitive nature and prominent location, a significant amount of survey and assessment work has been undertaken to inform and support the outline application.

Environmental Impact Assessment Process

The applicants have been asked by Cardiff Council to undertake an EIA of the development proposals. This process, introduced by the European Union in 1985, is designed to improve the environmental design of a development scheme as it is drawn up, whilst also providing those making the final decision about the planning application with sufficient information about the possible environment effects of the proposal before that decisions is made.

The applicants have therefore prepared an ES to examine the potential environmental effects of the proposals. The ES accompanies the planning application and has been prepared by a team of environmental specialists.

THE SITE

Site Characteristics

The site, which was previously used as a non-domestic land fill site, known as the former 'frag tip' site, is currently used as an off-road motorcycle facility managed by Cardiff Council's Parks Service. The motorcycle facility utilises less than half of the site area. The site extends to an area of approximately 16.65 hectares (41.0 acres).

The site directly abuts:

- The Bristol Channel to the east;
- Its north-east boundary abuts the Rover Way Traveller site;
- The north-western boundary adjoins both Rover Way and the Sims Metals Ltd site; and
- To the south the Dwr Cymru Welsh Water STW and the AD plant.

The site was previously used for non-domestic landfill and specifically as a frag tip, now commonly known as ASR (automotive shredded residue). It is understood that this area was reclaimed, partially remediated and landscaped during the construction of the adjacent STW site to provide a local amenity. These works included the provision of a capping and membrane system, leachate collection, and gas venting provisions.

Subsequent to the completion of these works a large amount of uncertified fill was deposited on the site from various construction projects in the locality, notably St Davids 2 retail scheme, rendering a substantive amount of the previous remediation ineffective.

The site is located within close proximity to the Cardiff suburbs of Tremorfa and East Moors, in a south-easterly and easterly direction, respectively. The character of the site and its surrounds is a product of both its history, as a non-domestic landfill site and industrial workings including waste recycling, and its present function as a motocross track with further adjacent industrial facilities including a sewage treatment works and an anaerobic digester.

The site is located adjacent to a Site of Important Nature Conservation (SINC), Pengam Moors, to the north of the site and a Special Area of Conservation (SAC); Special Protection Area (SPA); Ramsar; and Site of Special Scientific Interest (SSSI), the Severn Estuary mudflats.

The site is located within the settlement boundary, as designated on the Proposals Map of the Cardiff County Council Local Development Plan.

PLANNING POLICY

The ninth edition of PPW was published in November 2016 and sets out the land use policies of the Welsh Government (WG). The document states that land use planning should set the framework for the development and use of land, taking full account of economic, social and environmental issues.

The document identifies a number of key policy objectives which include:

- Promote resource-efficient and climate change resilient settlement patterns that minimize land-take and urban sprawl;
- Locate developments so as to minimize the demand for travel, especially by private car;
- Maximise the use of renewable resources, including sustainable materials (recycled and renewable materials and those with a lower embodied energy).
- Ensure that development does not produce irreversible harmful effects on the natural environment; and
- Support the need to tackle the causes of climate change by moving towards a low carbon economy.

One of the key aims of PPW is to promote sustainable development through the planning process. PPW sets out a number of broad objectives in order to deliver the sustainable development agenda of WG. These are set out at paragraph 4.4.3 of PPW and include the following:

- Facilitating development that reduces emissions of greenhouse gases;
- Facilitates sustainable building standards;
- Securing the provision of infrastructure to form the physical basis for sustainable communities, while ensuring proper assessment of their sustainability impacts;
- Maximize the use of renewable resources;
- Encourage opportunities to reduce waste and all forms of pollution;
- Foster improvements to transport facilities and improve accessibility to services and facilities;

PPW sets out policies relating to planning for sustainable buildings (Section 4.12) – stating that development proposals should mitigate the causes of climate change and confirming an overall aspiration to secure zero carbon buildings. In order to move towards more sustainable and zero carbon buildings in Wales, the Assembly has introduced a minimum BREEAM standards for commercial development.

The Welsh Government's objectives in relation to transport are set out in Chapter 8 of PPW. The objectives include reducing the need to travel, especially by the private car, by locating development where there is good access to public transport, walking and cycling; locating development near other related uses to encourage multi-purpose trips and reduce the length of journeys; and improving accessibility by walking, cycling and public transport.

The Cardiff Local Development Plan was adopted in January 2016 and forms the statutory development plan for the area. Within the LDP, the key planning designations at the local level of relevance to the site and proposals are that the site is located partly within the Existing Employment Land identified as EC1.3 (Rover Way (Celsa Steel Works, Tremorfa Industrial Estate, Seawall Road)).

The LDP also includes a constraints map which identifies constraints to development within Cardiff. The constraints of relevance to the site are as follows:

- The Eastern Bay Transport Link;
- A Strategic Recreation Route – The Wales Coastal Footpath;
- A Site of Important Nature Conservation (SINC), Pengam Moors, to the north of the site; and
- The Severn Estuary mudflats to the south and east, which is designated as the following – Special Area of Conservation (SAC); Special Protection Area (SPA); Ramsar; and Site of Special Scientific Interest (SSSI).

THE PROPOSED DEVELOPMENT

The proposed development is for a circa 9.5 MWe Combined Heat and Power station which will produce electricity and thermal energy via steam. The fuel source for the power station will be biomass, which is a sustainable fuel, will be delivered either via the adjacent Cardiff Docks or sourced from established UK distributors or a combination of both.

In addition to the CHP, the proposed development also includes industrial accommodation, which will be mostly energized by the power station. The industrial units vary in size, from 15,000 sq. ft. units on each corner and a terrace of four 25,000 sq. ft. units, all with full articulated lorry access. This would provide circa 12,000m² (130,000 sq. ft.) of Low to Zero Carbon (LZC) industrial accommodation. To note, the roof form of the industrial units have a saw tooth shape so to provide south facing angled roofs for long term photo-voltaic use and north facing roof lights. This together with the electric and thermal energy from the power station will ensure that the units will be low to zero carbon generation during use.

Development Principles

The site has been conceived to appear from behind a landscaped mound which surrounds the whole of the proposed development. The re-profiling of the material on site and partial removal, will allow sensitively landscaped bunds to be created, with a recessed platform provided for the power station and warehousing. Vehicle movements within the site will not be visible from the adjacent locations.

Whilst the application is to be submitted in outline, the indicative design of both the combined heat and power plant and the low to zero industrial units, have been heavily influenced by the environmentally sustainable nature of the development. The warehousing would be laid out as a pair of terraces, allowing flexibility depending on the ultimate demand for space. The roof design would comprise a triangulated pattern which creates south facing pitched plains ideal for the installation of photo-voltaic panels. The north side of these roofs are vertical and will be glazed to provide high levels of natural illumination. The saw tooth nature of the profile, reminiscent of some of the historic warehouse buildings in Cardiff docks is further enhanced through the use of sail like translucent panels.

This triangular theme would be further explored in the skin applied to the chimney, the tallest element of the Bio Mass Plant. A series of identical, perforated aluminium panels are proposed to twist up the

50m high structure to provide a faceted, semi-transparent foil for the orange chimney. The translucent sail like panel theme is also proposed to be continued on the outer corners of two of the largest buildings and the main turbine building would be finished in an orange cladding panel, in contrast to the dark grey used on the other buildings.

The general site levels will be reduced from a current maximum of 30m above sea level to form building platforms at 12m AOD for the power station and 14m AOD for the industrial units. A bund will surround the development at around 20m – 22m AOD.

The power station is anticipated to have a flue approximately 51m high, with the top of the flue 62m AOD. The maximum height of the power station buildings would be approximately 32m (44m AOD).

ENVIRONMENTAL EFFECTS AND MITIGATION

Key Issues

Consultation has taken place at various levels with Planning Officers' and the relevant departments of the LPA to influence the form and content of the proposals.

A Screening Opinion was received on 10th August 2017 (see Technical Appendix 1.3) under application reference SC/17/00005/MJR which determined that the proposed development of a 9.5MWE Biomass Power Plant and 130,000 sq. ft. Of Industrial Accommodation would constitute EIA development. Therefore, an Environmental Statement would be required to be prepared to accompany any future application for planning permission.

Following the receipt of Screening Opinion on 10th August 2017, in accordance with Part 4 of the Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017, a request to Cardiff Council for a Scoping Opinion was submitted on 17th August 2017.

A Scoping Opinion was received from Cardiff Council on Thursday 12th October. The Scoping Opinion provided comments from Natural Resources Wales and Dwr Cymru Welsh Water, along Cardiff Council's Transportation, Contaminated Land and Noise Pollution departments.

The Scoping opinion states that:

'The proposals will include the removal of an unknown, but significant, amount of fill material which, due to the presence of harmful contaminants, has the potential to have significantly harmful effects on the European Sites, which could be wide ranging, mindful of the coastal location...Other impacts requiring assessment include air emissions (dust traffic and stack emissions), visual, human health, ecology and transportation.'

The Scoping Opinion concludes that the following matters should be 'Scoped In' to the ES for consideration:

- Ecology;
- Land Contamination;
- Air Quality;

- Visual;
- Transport;
- Noise;
- Hydrology;
- Health.

In terms of health, this is referenced in the Scoping Opinion as relating to “impacts for site operative and nearby residential communities with particular reference to emissions”. The Air Quality and Land Contamination chapters of this ES contains sufficient detail to demonstrate that the impacts to human health of site operatives and nearby residential communities would be minor or negligible after mitigation. As such, the Health issues scoped into the ES are covered in detail by these chapters.

Ecology

The site occupies an area of approximately 16.5 hectares. It lies immediately adjacent to the Cardiff foreshore, which is part of the Severn Estuary. This is a statutory protected site, designated as a Special Protection Area (SPA), Special Area of Conservation (SAC), Ramsar site and Site of Special Scientific Interest (SSSI), mainly because of its value to estuarine waders and wildfowl.

Information on the statutory protected sites was obtained from the Natural Resources Wales (NRW) web-site. This search was limited to sites within 5km of the study area. A South East Wales Biodiversity Records Centre (SEWBReC) search was commissioned to provide data on protected and priority species and protected sites within a 500m radius of the 2014 wind turbine site. This covered the whole of the current study area but yielded very few records from the site itself.

A number of ecology surveys have been carried out since 2014. An extended Phase 1 habitat survey was undertaken on 7 July 2014, and this was followed by a series of bird studies between October 2014 and March 2015, to investigate whether the proposed turbine would affect overwintering birds using the estuary. Most recently the extended Phase 1 habitat survey was extended and revised to cover the current development site, by a survey on 1 August 2017, and a specialist survey of bees has also been carried out. A further Reptile survey of the site has also been undertaken. Relevant data from each of these reports has been included in this assessment. The results of earlier surveys that were carried out prior to the recapping of the Frag Tip have not been considered in the assessment because the site was almost totally reprofiled during the engineering works so that virtually none of the former habitat remains.

The Severn Estuary which lies immediately outside the site boundary is an important protected area, designated as SAC, SPA, Ramsar site and SSSI. There are five SSSIs within 5km of the site. The closest of these is the Severn Estuary. There is a high degree of overlap between the SSSI features and those already outlined above as part of the European site designations, so this SSSI is not discussed further here. The Gwent Levels Rumney and Peterstone SSSI lies approximately 2.5km north-west of the site, east of the Rhymney estuary. This is one of six Gwent Levels SSSIs between Cardiff and Chepstow. The levels are made up of low-lying fields which are drained by an extensive network of drainage ditches. The nature conservation interest in the Gwent Levels is primarily associated with the ditches, which support a rich diversity of plants and invertebrates, many of which are nationally rare or notable. The hedgerows and flower-rich reed banks also provide valuable habitat for invertebrates. The Gwent Levels SSSI is evaluated as being of nature conservation importance in a National context.

The Rhymney Quarry, Rhymney River Section and Penylan Quarry SSSIs lie approximately 2.6km, 2.8km and 3.2km north of the site respectively. These are all designated for their geological importance. They are not discussed further in this document because there would clearly be no potential impact on them from the proposed development.

The closest Site of Importance for Nature Conservation (SINC) is Pengam Moors, which lies to the north-west. Its closest point is approximately 20m from the Parc Calon Gwyrdd site, on the north side of Rover Way. Pengam Moors SINC occupies the former site of Cardiff airport, and later the Rover Car Works. Following demolition, the site has reverted to saline, marshy conditions. It includes a network of drainage channels with good emergent aquatic vegetation. It also includes areas of bare ground and scrub. The SINC supports a number of locally rare plants including Sea Clover, Brackish Water Crowfoot and Water Whorl-grass. It is also considered important for water fowl and wintering birds of prey.

There are no other SINC sites within 500m of the proposed development, but several lie just beyond this. The Rhymney River SINC is approximately 570m north at its closest point. This is connected to the Lamby Saltmarsh SINC where it meets the estuary, and the Rhymney River Complex SINC further upstream. Between them they form a corridor of relatively unmodified estuarine and river habitats, with associated scrub and diverse grassland, which extends from the coast to approximately 2.5km inland. The Tidal Sidings SINC lies approximately 590m south west of the proposed development at its closest point. And beyond this lies the Cardiff Heliport Fields SINC. Both sites occupy post-industrial land that now supports a mix of flower-rich neutral and calcareous grassland and scrub. SINC sites are evaluated as being important for nature conservation in a County context.

A summary of the ecological features described above and their value at geographic scale are summarised below:

Ecological feature	Value (at geographical scale)
Severn Estuary	International (outside application boundary)
Rumney and Peterstone SSSI	National (outside application boundary)
Pengam Moors SINC	County (outside application boundary)
Rhymney River and associated SINCs	County (outside application boundary)
Tidal Sidings and Cardiff Heliport SINCs	County (outside application boundary)
Open Mosaic Habitat on Previously Developed Land /flower-rich grassland	County
Scrub and landscape planting	Within site boundary
Upper shoreline	Within site boundary
Plants	County
Invertebrates	County (precautionary assumption)
Amphibians	Within site boundary (precautionary assumption)
Birds (within site)	Local
Mammals	Within site boundary

The most important ecological feature in this assessment is the Severn Estuary, with several designations giving it international significance. This lies immediately adjacent to the site so the development proposals incorporate a number of measures to reduce potential disturbance of overwintering estuary birds and limit any temporary increase in the contamination from the tip would mean that there is no significant impact on the protected site during the construction works. The

creation of a coastal bund would screen much of the potentially disturbing construction and operational activities, and the removal and remediation of tipped material would ensure that there is no impact on the protected site in the long term. In addition, there would be no impact on the Gwent Levels SSSI or any of the nearby SINCS.

The features of greatest nature conservation value within the site are the mix of open mosaic habitat and flower-rich grassland, which support a diverse assemblage of wild plants and insects. These are all assessed as being important in a county context, yet they have all developed since 2001, and in the central area since 2009, following previous engineering works on the site. Virtually all of the existing habitats and their associated flora and fauna would be lost during the construction phase, because this would require the whole landform to be reprofiled. This would be a very severe impact, but one of a temporary nature. The proposed development would include at least 9 hectares of new landscaping on the bunds around the industrial area. The new landform would support less scrub habitat and bare ground, but a higher proportion of flower-rich grassland, with small patches of scrub and south-facing ridges that would be specifically designed and managed to favour wildlife. This would ensure that it retains SINC quality habitat for plants and insects in the long term. In particular, suitable conditions for the nationally notable Brown-banded Carder Bee that is currently found on the site.

Birds and mammals were considered valuable for nature conservation in a more local context. Amphibians were also assumed to fall within this category for the assessment but may not actually be present. All of these groups would be taken into account in the new landscaping design, so that the overall effect on them would be neutral. In the case of amphibians, the creation of new ponds would probably be beneficial in the long term. The new landform would inevitably support a different mix of species than those that currently occupy the site, but many of the less common species should be retained and the management priorities would aim to favour species of greater nature conservation significance. Taking all of these factors together the proposed development would ensure that there is no overall loss of nature conservation value.

Contaminated Land

The circa 16.5 hectare development site sits in the industrial part of Cardiff Bay and has played a role in the long steel making history of the region. The site was reclaimed from the River Severn estuary in the 1970's by the placing of a layer of circa 8m of blast furnace slag generated by the adjacent steel making processes. The site was then used to support the scrap metal feedstock required by the adjacent Celsa steel making plant (formerly Allied Steel & Wire) which included the processing of scrap motor vehicles. The site was abandoned during the 90's with large quantities of non-ferrous automotive shredded residue (ASR) and other fill evident on the site. The shredded residue was contained to the south west of the site in a formal cell but the residue deposits to the north east of the site were not contained and believed to be interspersed in a random fashion with general non-domestic fill of the era.

ASR was produced in developed countries throughout the world from the 1970s through and beyond the 1990s. The shredding process of vehicles allowed with the use of electro- magnets the recovery of substantial quantities of ferrous residue. The remaining substantive residue constituents were:

- PVCs;
- PCBs;
- Heavy metals;

- Duff which comprised of fines including dirt.

Whilst the materials would generally be inert if undisturbed there were previous recordings of elevated levels of gas being generated from the ASR.

The site was then subject to a major landscaping and remediation scheme at the turn of the century which converted the site to a rich tract of grassed amenity land. The scheme essentially provided a containment solution of the ASR with importation of fill from the adjacent Dwr Cymru Sewage Treatment Works (STW) site and re-profiled the land with gentle gradients which were capped with imported sub and top soils before the implementation of a substantive landscaping and planting scheme. Potential risks for the site prior to remediation were essentially seen as:

- Combustion of the ASR by the self-ignition of gas pockets
- Leachate containing contaminants being generated by the passage of ground water through the ASR and mobilizing contaminants

The remediation proposals mitigated these effects by:

- The introduction of a passive gas venting system
- A site wide MDPE membrane overlaid with a drainage blanket to interrupt potential pathways and intercept and shed any ground water to the foreshore before it could percolate through to the lower horizons of the ASR and mobilize contaminants.

During 2006 Cardiff County Council developed a scheme to place substantive quantities of subsoils and blast furnace slags and re-profile the site for use as motor cross track. As developer, CCC applied for planning permission and implemented the scheme during 2007. There are no records of an Engineering Risk Assessment being carried out and these works could have compromised the mitigation measures previously carried out during the then recent landscaping and remediation as the works:

- Capped the passive gas vents
- Surcharged the existing overburden materials causing further settlements of the compressible ASR with potentially consequential tensile tears in the MDPE membrane. This could allow pathways to be created for groundwater allowing ground water to pass through the ASR and generate contaminated leachate.

It has been established that site has a substantive amount of overburden comprising subsoils and blast furnace slag. These overlay the ASR which historically was arranged in

- A capped cell with a clay type of capping material and believed to be 100% ASR located towards the south west end of the site – Zone 1;
- An uncapped cell and believed to be 60% ASR located towards the north east end of the site. The remaining 40% is believed to be general building waste and rubble – Zone 2.

Part of the reclamation scheme was to provide for the full containment of the ASR over the site and to ensure that no pathways were created for groundwater to pass through the ASR and mobilize contaminants. This would prevent the production of contaminated leachate.

The capping details included an MDPE membrane overlain with a drainage blanket which prevented groundwater percolation and the creation of 'pathways' between 'sources' of contamination (the ASR) and 'receptors' (the adjacent protected estuary).

In tandem with the MDPE membrane a passive gas venting system was also installed at this time.

As previously noted it is possible that following the surcharging of the site during the creation of the motor cross track in 2007, the MDPE membrane has been ruptured as the ASR is compressible and if compressed would have created substantial tensile forces within the MDPE.

The proposed development therefore proposes:

- To remove up to 1,000,000 tonnes of the overburden material to local development schemes that require general up-filling;
- The removal of the ASR in the Zone 1 cell by a specialist re-processor;
- Re-profiling of the site to give an interesting setting for development;
- The installation of a new gas venting system;
- The installation of a sealed membrane laid to positive falls overlaid with a drainage blanket to all unpaved areas to Zone 2;
- Monitoring of potential leachate pathways;
- 'Pathway' interception at +8.00 AOD of leachate with extraction wells;
- Soil washing of any leachate that has elevated levels of contaminants.

The site is a disused industrial site that had substantial quantities of ASR left in 2 distinct zones, one of which was in a formal capped cell and the other in an uncapped cell and intermingled with other waste thought to be mostly building related. The site was subjected to a comprehensive reclamation scheme at the turn of the century but was subsequently turned into a motor cross site with addition of substantial overburden materials in 2007.

The geology of the area typically comprises of the made ground associated with the site history, sitting over estuarial alluvium. Channel Gravels are situated beneath the alluvium which overlays the rock head comprising a stratum of the Triassic Mercia Mudstone Group (formerly known as Keuper Marl).

The proposal assumes a reduction by circa 1,000,000 tonnes of the overburden material and the reprocessing off site of the ASR from Zone 1 of the development site. The surpluses of overburden from Zone 2 will then be used by consolidating them over the whole of the site to form the development plateau.

The main impacts of the development with respect to ground conditions and contamination during the delivery and the operation of the development are:

- i) Health of construction workers
- ii) Creation of pathways between source and receptor for leachate to become contaminated and initially to reach the foreshore and possibly reach the tidal flow of the River Severn
- iii) Health of future site users from contaminants and landfill gas in the Zone 2
- iv) Migration of radon from the natural geology of the area

Mitigation measures to be implemented in response are:

- i) include the use of safe working procedures and good environmental practices, the Construction (Design and Management) Regulations 2015 and Pollution Prevention Guidelines
- ii) Monitor the underlying slag 'plate' at +8.00am to look for evidence of perched contaminated leachate during the construction process and ensure interception and remediation measures are put in place should the situation arise
- iii) Provide similar measures to those that were installed circa 2000 for the retained contaminants in Zone 2
- iv) Provide radon protection to vulnerable areas of the development that could be vulnerable to a build of radon gases.

Following the implementation of mitigation measures it is considered that a minor to moderate adverse impact remains for the health and safety of construction workers but other impacts are considered negligible following mitigation.

Air Quality

The proposed development site is located approximately 1.5 km to the north east of Cardiff Docks and 3 km east of Cardiff city centre. The site is bounded by the Severn Estuary which runs along the south and east of the site, and a number of existing industrial facilities including a steelworks and associated aggregate storage and processing areas, scrap metal recycling and a waste water treatment works. The site is accessed from Rover Way and currently consists of an area of scrubland.

The nearest residential properties to the site are a small number of caravans at a travellers site adjacent to Rover Way to the northeast of the proposed development site (approximately 650 m northeast of the proposed biomass CHP). There are also a number of other residential properties within 1 km of the site, to the north, northeast and northwest.

Dispersion modelling of emissions from the proposed biomass CHP plant have been modelled using the ADMS-5 dispersion model using 5-years of hourly sequential meteorological data (2012-2016).

The operational air quality impacts of the proposed development at Rover Way in Cardiff have been assessed. The proposed development is predicted to generate emissions to air from road traffic and from a proposed biomass CHP plant which forms part of the scheme.

In terms of road traffic emissions, the predicted number of vehicle trips that will be generated by the development is below published air quality screening criteria and as such the potential for significant impacts can be discounted.

The impacts of emissions of nitrogen oxides, nitrogen dioxide and fine particulate matter (PM₁₀ and PM_{2.5}) from the proposed biomass CHP have been assessed at a number of sensitive human and ecological receptors.

The impacts of emissions from the biomass CHP to concentrations of nitrogen dioxide, PM₁₀ and PM_{2.5} at sensitive human receptors has been demonstrated to be negligible and the impacts are not significant.

In terms of ecological sites, the assessment has focussed upon the Severn Estuary SPA/SAC, which lies to the south of the proposed development site. The assessment has demonstrated that with the biomass boiler in operation, nutrient nitrogen deposition rates in the Severn Estuary SPA/SAC will remain below the relevant critical load and the impacts are not significant. In terms of nitrogen oxides, the biomass CHP has the potential to contribute towards exceedances of the annual mean NO_x objective and 24-hour mean NO_x critical level; however the 24-hour NO_x critical level is already exceeded and potentially significant (>1%) changes in annual mean NO_x concentrations affects only a small area where saltmarsh habitats are known to exist.

Overall the air quality impacts of the proposed development are judged to be not significant. The proposals are in outline and the detailed design of the biomass CHP will allow for mitigation to be applied to minimise emissions from the operation of the plant and the associated air quality impacts.

Transportation

The Transportation Chapter of the ES considers the potential impacts on various means of transport associated with the proposed development and the predicated associated effects on sensitive receptors in the area. The assessment follows the methodology set out in the IEMA Guidelines, which is considered the appropriate and acceptable methodology for assessing the environment impact of traffic upon means of transport.

Rover Way serves the site and connects with Ocean Way in the south and Lamby Way/Southern Way in the north. There are footways present on Rover Way from Seawall Road heading west. Heading north of the site Seawall Road has footways on both sides of the carriageway. Dropped kerbs and tactile paving are provided to assist pedestrians to cross Rover Way. The Welsh Coastal Path which forms part of the Public Rights of Way (PRoW) Network runs to the east of the site.

The Local Cycle Network provides routes across Cardiff, and comprises traffic free paths, sign-posted cycle routes, advisory cycle routes and main road routes. Cardiff Bus and New Adventure Travel operate one bus each in the vicinity of the Proposed Development routing along Willows Avenue and Mercia Road. A total of 2 bus services operate in the vicinity of the Proposed Development. The study area is served by 12 buses an hour in both directions during the weekday. There are two main rail stations within Cardiff, Cardiff Central and Cardiff Queen Street. Cardiff Central provides links to London, Manchester Birmingham, services for the Valley Lines and the wider Cardiff area.

The scoping for the transport statement was agreed with the officers from CC on 2nd August, 2017. The following scenarios have been assessed in the AM (0800-0900) and PM (1700-1800) peak periods, times with the greatest potential impact;

- Scenario 1 – Baseline (2017)
- Scenario 2 – Baseline (2017) + Development

Scenario 1 is informed by the traffic surveys undertaken in 2017, and reflects the baseline position on the local highway network. The traffic surveys comprise of ATC data taken from Rover Way. Similarly,

classified 12 hour link count data recorded by Cardiff Council (2013) were made available for the purpose of this assessment.

Scenario 2 is informed by the 2017 traffic surveys, with the development growth applied to the data to create a robust baseline position on to which the Proposed Development traffic flows have been added, it provides a robust assessment of the future operation of the local highway network.

The ES considers the overall impacts of Construction Traffic on the pedestrian and cycling environment, public transport, pedestrian severance, junction delay / driver delay, pedestrian delay and amenity, fear and intimidation, hazardous loads and parking. The main issue highlighted relating to construction traffic results from the change in HGV movements on Tide Fields Roads. Based on IEMA Guidelines the magnitude of impact is classed as high and receptor sensitivity is very low. As such, During the construction phase the impact from construction related traffic will be minor/moderate adverse. The rest of the impacts during construction phase are identified to be minor / negligible or no adverse impact.

Once complete, the proposed development is likely to give rise to direct impacts from additional HGV movements and car borne trips to and from the site. The Transportation chapter of the ES and supporting Transport Statement concludes that the potential completed development would result in a 1.6% change in flows on Rover Way. This is considered reflective of both the change in peak period traffic flows and off-peak period traffic flows. The impact of the development traffic on the remaining links is considered insignificant in the context of this assessment. As such, the environmental statement concludes that the overall impacts of the operational phase of the development would be negligible across all areas, except in terms of hazardous loads, where no adverse impact has been determined.

Visual Impacts

The site is currently reasonably prominent in the immediate vicinity due to the elevated earth mound. It is clearly visible from Rover Way both from the Northeast and the Southwest and can be seen from the Severn Estuary. It can also be seen from the rear of a few houses in Tremorfa, primarily those to the south of Hind Close. The site is screened by planting and buildings from the majority of Tremorfa, and is significantly screened from Splott and the rest of the city by the Celsa steel works. Due to the relative flatness of the city and the orientation of streets there are few distant views of the site from within further afield in the city, although the existing steelworks can be glimpsed from a few locations, such as Splott and Moorland parks, from the A4232 flyover and Robert Street to the north in Cathays. Only from the east is the site distinguishable from the steelworks. Any visual impact of development on the site has to be viewed in the context of the other industrial uses in the site's vicinity.

The only significant views will be from domestic property located to the south of Tremorfa and from the Wales Coastal Path. Given the context, the change in visual impact from these viewpoints would be the addition of an industrial building and flue in to a highly industrialised setting. The scale of the building is significantly smaller than those associated with the steelworks, and not dissimilar to those at the southern end of the sewage treatment works. Although the exact height of the proposed flue is still to be determined, at an estimated maximum of 50m it is similar in height to the steelworks but significantly narrower in profile than any of the steelworks flues. It is also much shorter than the 90m Viridor flue.

In terms of mitigation measures, It is proposed that the existing mounding on the site be reduced by approximately 16-18m to form a table at around 12-14m above sea level. Surrounding this table will be raised bunds rising to around 20-22m above sea level, having the effect of screen the development on all sides.

An architectural metal screen is proposed for the flue, and dark grey and orange cladding to power plant. The industrial units will have a mixture of grey cladding and opaque glazing. The aim with these proposals is to put forward a high standard of architectural detail, in order improve the quality of the visual environment in this area.

The supporting Visual Impact Assessment reviews the visual impact of the development from 8 viewpoints in the surrounding area, including the Severn Estuary. Of these 8 vantage points, the VIA determines that impacts from three vantage points would be minor / neutral with four being negligible / neutral. The final vantage point is from the Severn Estuary, where the residual impact was considered to be moderate / positive. The view from the estuary to the site is of an overgrown brownfield site in the foreground with heavy industry uses in the background. The foreshore edge of the site is heavily eroded and of poor quality, and the previous uses of the site have left ugly scarring on the landscape. The proposed development would be highly visible from this location, but is likely to be a significant improvement to the current view, as it would screen the unsightly steelworks, repair the foreshore boundary and present a much higher quality of architecture than the current developments in the area.

As such, it is concluded that the proposed development is likely to be barely visible from the vast majority of the city, and its impact on the few viewpoints it can be seen from ranges from negligible to moderate (positive).

Hydrology and Flooding

The hydrology and flooding chapter of the ES assesses the hydrological impacts associated with the development and incorporates a summary of the surface water drainage, foul drainage and flood risk.

The closest body of water, River Rhymney, is located 900m east of the site, where it outfalls into the Severn Estuary. The mouth of the River Taff is located approximately 3km to the south west of the site. Generally, the majority of the principal site area is open space. There are no significant existing impermeable areas located within the site. Hence, the overall site area can be described as having 'natural' drainage.

DCWW network map shows that there is a public sewer crossing the site where the proposed north entrance to the site is proposed. This sewer is of a combined nature and is shown to be 2.4m diameter. The sewer runs from a north east to south west direction and ultimately ends in the treatment works. The sewer will have a designated easement which will need to be respected as part of the final layout of the proposed development. There are also a series of further DCWW sewers on the most northern corner of the site with combined sewers and surface water sewers located in the vicinity. These are located in an area that is not likely to impact the development proposals.

The potential for contamination of controlled waters from site plant and activities during the works can occur from intrusive works or general construction activities. The construction phase could potentially lead to ponding of water on site, accidental runoff and increased runoff rates as the impermeable areas

are increased. This may impact on local watercourses. The adverse impacts associated with the surface water runoff on local watercourses of medium sensitivity, with no mitigation, are likely to be local, temporary, of moderate magnitude and of moderate-minor significance.

Should no mitigation be incorporated and the runoff waters be allowed to preferentially flow offsite then the construction phase of the development could potentially impact the water quality of the surrounding water features through a potential increase in fine sediments, hydrocarbons and other chemical loads, the introduction of cement, accidental spills and/or other wastes discharged from the site to the Severn Estuary.

The adverse impacts associated with the site runoff on the water quality of the Severn Estuary of medium sensitivity, with no mitigation, are likely to be local, temporary, of moderate magnitude and of moderate-minor significance.

The main potential impacts relate to changes to the current drainage regime, which may result in increases in the volume of surface water runoff. This may impact on the local surface water flooding.

The adverse impacts associated with the surface water runoff on the local sewers of medium sensitivity, with no mitigation, are likely to be local, permanent, of moderate magnitude and of moderate-minor significance.

There is potential for the operational phase of the development to impact upon the water quality of the surrounding waters. The operational causes are likely to be significantly different than those experienced during the construction phases. As a result of the development there is potential for an increase in hydrocarbons and other chemical loads, accidental spills and/or other wastes discharged to the water receptors. This may impact on the water quality of Severn Estuary. The adverse impacts associated with the site runoff on the water quality of Severn Estuary of medium sensitivity, with no mitigation, are likely to be local, permanent, of moderate magnitude and of moderate-minor significance.

The development will contain two principal drainage networks, consisting of separate foul water and surface water systems, with the surface water being discharged into the sea. The surface water runoff from potentially polluted areas (e.g. parking areas) will be discharged via source control measures. This effectively reduces total suspended solids, heavy metals and hydrocarbons from the runoff, providing water quality treatment.

The surface water runoff during the construction phase will be managed through a temporary drainage network strategy incorporating sediment controls, whilst the operational strategy is being constructed. The early phasing of the operational surface water drainage strategy and additional temporary construction measures will ensure that the surface runoff is controlled and discharged so as not to increase the overall runoff rate. The temporary mitigation measures will be incorporated into a Construction Environmental Management Plan, and be applied across the development in order to mitigate against any impacts to water quality during the construction phase of development.

The completed development will not be required to provide on-site retention of surface water to restrict flows due to discharging into the sea. Therefore the impact on this medium sensitivity receptor will be negligible, resulting in a neutral effect which is not considered to be significant.

With the incorporation of the Enhancement and Mitigation Proposals the residual impact of magnitude would be negligible. The potential significance of impacts during the construction phase on surface water runoff, on and off site, would be considered to be reduced from moderate-minor adverse to negligible.

With the incorporation of the Enhancement and Mitigation Proposals the residual impact magnitude would be slight. The potential significance of impacts of the construction on water quality on and off site would be considered to be reduced from moderate-minor adverse to minor adverse.

The proposed drainage design and master planning for the site ensures that the runoff from the site is maintained by incorporating principles of SuDS techniques.

With the incorporation of the Enhancement and Mitigation Proposals the residual impact of surface water runoff rate would be negligible. The potential significance of impacts during the operation phase on surface water runoff, on and off site, would be considered to be reduced from moderate-minor adverse to negligible. Similarly, significance of impacts from the reduction of volume generated from the proposed development on the local watercourses will be negligible.

Due to the implementation of SuDS (at source and locally), surface water runoff from the proposed development will be subjected to minimum of two levels of treatment prior to discharging into the watercourse.

With the incorporation of the Enhancement and Mitigation Proposals, the potential impacts of the operation phase of the development on water quality on and off site would be considered to be reduced from moderate-minor to negligible.

Should DCWW conclude that mitigation/upgrades are required to serve the development, those Mitigation/upgrades in the local network would be carried out prior to the completion of the development. Therefore, the potential significance of impacts during the operation phase on local sewer network, would expect to be reduced from moderate-minor to negligible.

Noise Impacts

Submitted as part this Environmental Statement is a Noise Impact Assessment undertaken in support of the proposed development. This determines that the existing background noise at the site was recorded to be 63 L_{Aeq} and 52 / 59 L_{A90} measured from two locations in close proximity to the application site.

Given the high ambient and background noise levels, site preparation works and activities will not be audible at the nearest residential receptors or at Williams High School. At the caravan site, site preparation and construction phase works will be audible, albeit given the level of any potential impact, the occupants could be suitably protected from excessive noise by an appropriate prior consent agreement, to ensure that daytime levels are kept to a practical minimum. A noise management plan can be put into place to ensure the work is undertaken having regard to local residents.

Given the nature of the area, the Noise Impact Assessment determines that heavy goods vehicle movements to and from the site will not perceptibly increase noise levels in the area.

The noise levels from the operational phase of the development have been assessed using data from another biomass power station of similar size and by applying a robust formula and assumption.

The Noise Impact Assessment contains considerable detail on the position. The assessment summarises that the predicted noise levels from the biomass power station using worst case assumptions and the existing ambient and background levels, indicate that the power station will not be audible at any of the noise sensitive locations.

As such, it is considered that this is sufficient to demonstrate that the impacts of the development would be negligible, given the background noise levels which pre-exist at the site.

CONCLUSION

The proposed mitigation measures include those that have been incorporated within the scheme as it has been designed, and those that have been specifically identified in order to overcome a potentially adverse effect.

Those mitigation measures that have either been 'designed in' to the scheme, or can be incorporated as part of the detailed design stage, are known as 'inherent mitigation'. These measures have been identified where relevant within the ES, as they are intended to reduce or minimise the likelihood of an adverse environmental effect occurring.

With proper consideration and careful design of the mitigation measures, the development schemes at the application site need not conflict with environmental concerns. In terms of the scheme's environmental consequences, it can be concluded from the assessment carried out and recorded in the ES that the proposed development can proceed without causing an unacceptable impact on the local or wider environment, including the adjoining SSSI, Ramsar, SAC and SPA.

In terms of land contamination, following the implementation of mitigation measures it is considered that a minor to moderate adverse impact remains for the health and safety of construction workers but other impacts are considered negligible following mitigation. Given the issue of the damaged membrane and the likely environmental impacts of a 'do-nothing' scenario due to this, it is considered that the resultant negligible residual impact after mitigation is a significant environmental benefit of the proposed development.

Overall the air quality impacts of the proposed development are judged to be not significant. The proposals are in outline and the detailed design of the biomass CHP will allow for mitigation to be applied to minimise emissions from the operation of the plant and the associated air quality impacts.

The Transportation chapter of the ES and supporting Transport Statement concludes that the potential completed development would result in a 1.6% change in flows on Rover Way. This is considered reflective of both the change in peak period traffic flows and off-peak period traffic flows. The impact of the development traffic on Rover Way and remaining links is considered insignificant in context of the existing baseline scenario and would not result in significant environmental impacts.

The site is screened by planting and buildings from the majority of Tremorfa, and is significantly screened from Splott and the rest of the city by the Celsa steel works. Due to the relative flatness of the city and the orientation of streets there are few distant views of the site from further afield in the city. The main visual impact of the development would fall from the Severn Estuary as the proposed development would be highly visible from this location. The development would likely be a significant improvement to the current view, as it would screen the unsightly steelworks, repair the foreshore boundary and present a higher quality of architecture than the current developments in the area. As the proposed development is likely to be barely visible from the vast majority of the city, except a few local viewpoint where the impacts are considered to be minor / negligible, the overall impact of the development is considered to be negligible to moderate (positive) in terms of landscape / visual impacts.

The completed development will not be required to provide on-site retention of surface water to restrict flows due to discharging into the sea. Therefore the impact on this medium sensitivity receptor will be negligible, resulting in a neutral effect which is not considered to be significant.

With the incorporation of the Enhancement and Mitigation Proposals the residual impact of magnitude would be negligible. The potential significance of impacts during the construction phase on surface water runoff, on and off site, would be considered to be reduced from moderate-minor adverse to negligible.

The noise levels from the operational phase of the development have been assessed using data from another biomass power station of similar size and by applying a robust formula and assumption. The Noise Impact Assessment contains considerable detail on the position. The assessment summarises that the predicted noise levels from the biomass power station using worst case assumptions and the existing ambient and background levels, indicate that the power station will not be audible at any of the noise sensitive locations.

It will be important to manage the development process on the site so that effects can be limited in duration, magnitude or extent (including during construction). This can be achieved through the imposition of conditions and other obligations and controls.

The overall effect of the scheme will be positive in some regards – i.e. it has been shown that positive effects will occur with regard to Land Contamination compared to the existing scenario, in some aspects. In other areas the effect has been shown to be neutral / negligible after mitigation. For this reason, it is recommended that, subject to the consideration of planning policy issues, the measured environmental consequences of the scheme support a recommendation to grant planning permission for the project.

Habitats Regulations Appraisal

Severn Estuary Special Protection Area (SPA), Special Area of Conservation (SAC), and Wetland of International Importance (Ramsar Site)

Application No: 17/02130/MJR
Proposal: The removal of fill material and the construction of a biomass power plant (up to 9.5MW) and a maximum of 130,000 sq. ft. of industrial accommodation (B8 use class), new access roads and associated landscaping works.
Location: Land at Rover Way, Pengam
DC Officer: Tim Walter

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Introduction

0.1 This planning application was identified as requiring a Habitats Regulations Appraisal in accordance with section 1.5.11 of the approved Green Infrastructure Supplementary Planning Guidance.

0.2 Under Regulation 63(1) of the Conservation of Habitats and Species Regulations 2017, referred to as the 'Habitats Regulations', a competent authority, before deciding to undertake, or give any consent, permission or other authorisation for, a plan or project which...

- a) is likely to have a significant effect on a European site or a European offshore marine site (either alone or in combination with other plans or projects), and
- b) is not directly connected with or necessary to the management of that site,

...must make an appropriate assessment of the implications for that site in view of that site's conservation objectives. In the light of the conclusions of the assessment, the competent authority may agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the European site.

0.3 The European Sites considered here are the Severn Estuary Special Area of Conservation (SAC) and the Severn Estuary Special Protection Area (SPA).

0.4 As a matter of Welsh Government policy, Ramsar sites (sites listed under the Ramsar convention as wetlands of international importance) should be treated in the same way as SACs and SPAs, including in particular in relation to the consideration of plans and projects likely to affect them. Therefore following a procedure analogous to Regulation 63 in relation to the Severn Estuary Ramsar Site would also help ensure adherence to WG policy. For the remainder of this document these three designations will be referred to as the Severn Estuary European Marine Site (Severn Estuary EMS).

0.5 This procedure, known as a Habitats Regulations Appraisal (HRA), has been invoked because it has been identified that the current project has the potential to affect the Severn Estuary EMS and it is not directly connected with or necessary to the management of those sites.

0.6 Table 1 below sets out the main stages in undertaking a HRA. The subsequent HRA text will refer to Stage 1, Stage 2 etc as described in this table. It may not be necessary to complete all stages for all factors which may affect the designated sites.

Table 1

Habitats Regulations Assessment: Key Stages

Table 1 Habitats Regulations Assessment: Key Stages	
Stage 1	
Screening for likely significant effect	<ul style="list-style-type: none"> ▪ Describe the project being considered ▪ Identify international sites in and around the plan/ strategy area in a search area agreed with the Statutory Body Natural Resources Wales ▪ Examine conservation objectives of the interest feature(s)(where available) ▪ Review proposals and consider potential effects on European sites (magnitude, duration, location, extent) ▪ Examine other plans and programmes that could contribute to in combination effects ▪ Produce Screening Assessment
	<ul style="list-style-type: none"> ▪ <i>If no effects likely – report no significant effect (taking advice from NRW if necessary).</i> ▪ <i>If effects are judged likely or uncertainty exists – the precautionary principle applies proceed to stage 2</i>
Stage 2	
Appropriate Assessment	<ul style="list-style-type: none"> ▪ Agree scope and method of AA with NRW ▪ Consider how project, in combination with other projects, will interact when implemented, taking into account inherent avoidance and mitigation measures (the Appropriate Assessment) ▪ Using the AA, and any conditions or restrictions which may be applied to any planning consent, undertake Integrity Test ▪ Report outcomes of HRA including mitigation measures, conditions or restrictions, and consult with NRW
	<ul style="list-style-type: none"> ▪ If plan will not significantly affect European site proceed without further reference to Habitats Regulations ▪ <i>If effects or uncertainty remain following the consideration of alternatives and development of mitigations proceed to stage 3</i>
Stage 3	
Procedures where significant effect on integrity of international site remains	<ul style="list-style-type: none"> ▪ Consider alternative solutions, delete from plan or modify ▪ Consider if priority species/ habitats affected ▪ Identify ‘imperative reasons of overriding public interest’ (IROPI) economic, social, environmental, human health, public safety ▪ Notify Welsh Government ▪ Develop and secure compensatory measures

0.7 Because the application being considered here is an outline planning application, Regulation 70(3) of the Habitats Regulations applies, i.e. ‘Where the assessment provisions apply, outline planning permission must not be granted unless the competent authority is satisfied (whether by reason of the conditions and limitations to which the outline planning permission is to be made subject, or otherwise) that no development likely adversely to affect the integrity of a European site or a European offshore marine site could be carried

out under the permission, whether before or after obtaining approval of any reserved matters.'

0.8 In simpler terms this means that, taking into account any planning conditions which may be attached to an outline planning consent, that consent can not permit any subsequent development which could adversely affect the integrity of the Severn Estuary EMS.

0.9 The check for likelihood of significant effects is an initial filter, and should be a relatively quick way of deciding whether the project would be likely to negatively affect the site in a significant way. The subsequent appropriate assessment stage would normally form the more in depth assessment. The term 'likelihood' is important. The test is a likelihood of effects rather than a certainty of effects. The check should only allow those projects to proceed where it is clear that any significant effect is unlikely. If there is doubt and further information is needed, it should be concluded that there is a likelihood of significant effects. In this context, and using the normal meaning of the words, "significant" effects are taken to be effects that are worthy of attention, noteworthy. A likely effect is one that is probable or well might happen. (Tyldesley, D. 2009).

0.10 In the Waddenzee case the ECJ ruled that a project should be subject to appropriate assessment **"if it cannot be excluded, on the basis of objective information, that it will have a significant effect on the site, either individually or in combination with other plans and projects"**. This is an important ruling because it establishes that 'likely' should not be interpreted as 'probable' or 'more likely than not'. Rather an effect should be considered likely if it cannot be ruled out on the basis of objective information. (Tyldesley, D. 2009).

0.11 When undertaking an appropriate assessment, the competent authority should distinguish clearly between mitigation (avoidance and reduction) measures and compensatory measures. It should take account of the avoidance and reduction measures built into the project and forming part of the project as proposed or applied for (Tyldesley, D. 2009).

0.12 In considering whether it can ascertain whether the project would have an adverse effect on the integrity of the European site, the competent authority should consider whether the imposition of conditions, or other restrictions, on the project, and the way in which it would be carried out, would enable it to be ascertained that the project would not have an adverse effect on the integrity of the site. (Tyldesley, D. 2009).

0.13 The following definition of the integrity of a site has been adopted by the UK Government. The integrity of the site is *"the coherence of its ecological structure and function, across its whole area, that enables it to sustain the habitat, complex of habitats and/or the levels of populations of the species for which it was classified"*.

1.0 Stage 1

1.1 Project Description (as set out in Design and Access Statement submitted in support of this application)

1.1.1 The proposed development is for a circa 9.5 MWe Combined Heat and Power station which will produce electricity and thermal energy via steam. The fuel source for the power station will be biomass which is a sustainable fuel and will be delivered either via the adjacent Cardiff Docks or sourced from established UK distributors or a combination of both.

1.1.2 The power station will be a cornerstone for the production of green energy and be the heart of a proposed 'green quarter' for Cardiff – supplying both electric and thermal energy for future developments.

1.1.3 In addition to the CHP, the proposed development also includes "high-bay" industrial accommodation, which will be mostly energized by the power station. The industrial units vary in size, 15,000 sq. ft. units on each corner and a terrace of four 25,000 sq. ft. units – all with full articulated lorry access. This would provide circa 12,000m² (~130,000 sq. ft.) of low to zero carbon industrial accommodation. The roof form of the industrial units have a saw tooth shape so to provide south facing angled roofs for long term photo-voltaic use and north facing roof lights. This together with the electric and thermal energy from the power station will ensure that the units will be low to zero carbon generation in accordance with the Welsh Government National Planning Policy.

1.1.4 The site sits within the heart of a historically heavily industrialized area of Cardiff. As such, any analysis must take into account the back drop of material remediation, recycling of metals and plastics and waste water remediation including an anaerobic digestion unit on three sides of the site. The fourth side comprises the Severn Estuary.

1.1.5 Access to the site will be from two positions. The main access point will be from Rover Way towards the north eastern boundary of the site. The secondary access point will be from Tide Fields Road to the south west.

1.1.6 Noise is a key factor within the immediate area as a result of the industrial processes carried out at the Celsa plant, most notably from the Melt Shop directly to the west of Parc Calon Gwyrdd. In order to reduce the impact of noise breakout from this site it is proposed to carefully reprofile the landscaped mounds around the new development, only broken by the location of the two access roads.

1.1.7 The existing footpath on the south of the site will be enhanced as it forms part of the Wales Coast Path. A landscape maintenance strategy will be provided to ensure that the path remains in good condition for walkers and seating and viewpoints provided to enhance the experience for all users.

1.2 Designated sites and their features

1.2.1 Severn Estuary Special Area of Conservation (SAC)

SAC Habitat Features

- Estuaries;
- Mudflats and sandflats not covered by seawater at low tide;
- Atlantic salt meadow (*Glauco-Puccinellietalia maritimae*).
- Sandbanks which are slightly covered by sea water all the time; and
- Reefs.

SAC Species Features

- Sea lamprey *Petromyzon marinus*;
- River lamprey *Lampetra fluviatilis*; and
- Twait shad *Alosa fallax*.

1.2.2 Severn Estuary Special Protection Area (SPA)

The Severn Estuary SPA supports internationally important assemblages of wildfowl and waders during the winter months and migratory periods. These designations are based on:

- Internationally important populations of the Annex 1 species Bewick's Swan.
- Internationally important populations of regularly occurring migratory species (Gadwall, Shelduck, Redshank, Dunlin and European White-Fronted Goose).

The site also qualifies as an SPA since it regularly supports in excess of 60,000 waterfowl during the winter. The species listed on the SPA citation as forming part of the assemblage include Wigeon, Teal, Pintail, Pochard, Tufted Duck, Ringed Plover, Grey Plover, Curlew, Whimbrel and Spotted Redshank. Mallard, Lapwing and Shoveler have also been added as a result of the 1995 SPA review.

1.2.3 Severn Estuary Ramsar Site

- Estuaries
- Assemblage of migratory fish species
- Bewick's swan
- European white-fronted goose
- Dunlin
- Redshank
- Shelduck
- Gadwall
- Assemblage of waterfowl

1.3 Conservation Objectives of the Relevant Designated Sites

1.3.1 The Conservation Objectives of the Severn Estuary SAC are:-

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;

- The extent and distribution of qualifying natural habitats and habitats of qualifying species
- The structure and function (including typical species) of qualifying natural habitats
- The structure and function of the habitats of qualifying species
- The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely
- The populations of qualifying species, and,
- The distribution of qualifying species within the site.

Further information on the Severn Estuary SAC can be found at :-

<http://www.jncc.gov.uk/ProtectedSites/SACselection/sac.asp?EUCode=UK0013030>

1.3.2 The Conservation Objectives Severn Estuary SPA are:

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;

- The extent and distribution of the habitats of the qualifying features
- The structure and function of the habitats of the qualifying features
- The supporting processes on which the habitats of the qualifying features rely
- The population of each of the qualifying features, and,
- The distribution of the qualifying features within the site.

Further information on the Severn Estuary SPA and Ramsar Site can be found at:-

<http://www.jncc.gov.uk/default.aspx?page=2066>.

The Conservation Objectives for the features of the Ramsar site are the same as those for the homologous features of the SAC and SPA.

Further information on the Severn Estuary Ramsar Site can be found

at <http://www.jncc.gov.uk/pdf/RIS/UK11081.pdf>.

1.4 Factors to which site features are sensitive

1.4.1 With reference to the Conservation Objectives for the features of each site, the tables below list the factors to which each feature is sensitive for issues other than harm to birds. These tables are duplicated from those set out in 'Regulation 33' advice for these sites – see references below.

Table 2 SAC Vulnerabilities

Sensitivity		Exposure		Vulnerability	
High sensitivity	OOO O	High Exposure	x x x x	High vulnerability	⊗⊗⊗⊗ ⊗⊗⊗O ⊗⊗⊗x
Moderate sensitivity	OOO	Medium Exposure	x x x	Moderate vulnerability	⊗⊗OO ⊗⊗x x ⊗⊗⊗
Low sensitivity	OO	Low Exposure	x x	Low vulnerability	⊗⊗O ⊗xxx ⊗⊗x ⊗xx ⊗⊗ ⊗x
No detectable sensitivity	O	No exposure	x	No vulnerability	⊗O
?S =insufficient information on sensitivity; ✓ = migratory fish considered to be sensitive, but insufficient information to assess level of sensitivity					Unknown vulnerability

Categories of operations which may cause deterioration or disturbance ²⁵	Annex I features					Annex II species
	Estuaries	Subtidal Sandbanks	Mudflats & sandflats	Atlantic saltmeadow	Reefs	Fish ²⁶
Physical loss						
Removal / substratum loss	⊗⊗⊗⊗	⊗⊗⊗	⊗⊗⊗⊗	⊗⊗⊗⊗	⊗⊗O	⊗x
Smothering	⊗⊗⊗O	⊗⊗x	⊗⊗⊗	⊗⊗⊗O	⊗⊗	⊗x
Physical damage						
Changes in suspended sediment	⊗⊗⊗	⊗⊗⊗	⊗⊗⊗	⊗⊗⊗	⊗⊗⊗	⊗x
Desiccation & changes in emergence regime	⊗⊗O	⊗O	⊗⊗O	⊗⊗OO	⊗O	✓xx
Changes in water flow rate	⊗⊗⊗x	⊗⊗O	⊗⊗⊗x	⊗⊗⊗x	⊗⊗O	✓xx
Changes in wave exposure	⊗⊗⊗⊗	⊗⊗O	⊗⊗⊗⊗	⊗⊗⊗⊗	⊗⊗O	⊗x
Abrasion / physical disturbance (of habitats)	⊗⊗⊗x	⊗⊗x	⊗⊗⊗x	⊗⊗⊗x	⊗⊗O	✓xx
Changes in grazing management	⊗⊗	Not relevant	Not relevant	⊗⊗⊗⊗	Not relevant	Not relevant
Non-physical disturbance						
Noise & visual presence	⊗xx	⊗xx	⊗⊗x	⊗xxx	⊗x	✓xxx
Toxic contamination						
Introduction of synthetic compounds	⊗⊗⊗x	⊗⊗⊗x	⊗⊗⊗⊗	⊗⊗⊗x	⊗⊗xx	✓xxxx
Introduction of non-synthetic compounds	⊗⊗⊗x	⊗⊗⊗x	⊗⊗⊗⊗	⊗⊗⊗⊗	?Sxxxx	✓xxxx
Introduction of radionuclides	?Sxx	?Sxx	?Sxx	?Sxx	?Sxx	✓xx
Non-toxic contamination²⁷						
Changes in nutrient loading	⊗⊗⊗⊗ ²⁸	⊗⊗xx	⊗⊗⊗x	⊗⊗⊗x	⊗⊗xx	✓xxxx
Changes in thermal regime	⊗⊗⊗	⊗⊗	⊗⊗⊗	⊗⊗	⊗⊗	✓xxxx
Changes in turbidity ²⁹ (light penetration)	⊗⊗x	⊗⊗x	⊗⊗x	⊗x	⊗xx	✓xxx
Changes in salinity	⊗⊗⊗x	⊗⊗⊗x	⊗⊗⊗x	⊗⊗⊗x	⊗⊗xx	✓xxxx
Changes in oxygenation	⊗⊗⊗x	⊗⊗xx	⊗⊗⊗x	⊗⊗xx	⊗⊗xx	✓xxxx
Biological disturbance						
Introduction of microbial pathogens	⊗⊗⊗⊗	⊗⊗⊗⊗	⊗⊗⊗⊗	⊗⊗xx	?Sxxxx	✓xxxx
Introduction of non-native species	⊗⊗⊗O	⊗⊗O	⊗⊗OO	⊗⊗	?Sxx	✓xx
Selective extraction of species	⊗⊗⊗x	⊗⊗	⊗⊗	⊗⊗	⊗⊗	✓xx

²⁵ For a further explanation of each category see <http://www.marlin.ac.uk/sah/basketemplate.php?benchmarks>

²⁶ River lamprey, sea lamprey & twaite shad

²⁷ All elements of non toxic contamination are interrelated and also link closely with changes in suspended sediment (physical damage)

²⁸ The high natural turbidity of the estuary negates these high levels with algal productivity being generally low – the estuary feature is therefore not considered vulnerable – see section 5.6.1.3.(viii)

²⁹ Turbidity here incorporates light penetration; suspended sediment under ‘changes in suspended sediment’ and its deposition under ‘smothering’

Table 3 SPA Vulnerabilities

Sensitivity		Exposure		Vulnerability	
High sensitivity	OOOO	High Exposure	x x x x	High vulnerability	⊗⊗⊗⊗ ⊗⊗⊗O ⊗⊗⊗x
Moderate sensitivity	OOO	Medium Exposure	x x x	Moderate vulnerability	⊗⊗⊗O ⊗⊗x x ⊗⊗⊗
Low sensitivity	OO	Low Exposure	x x	Low vulnerability	⊗⊗O ⊗xxx ⊗⊗x ⊗xx ⊗⊗ ⊗x
No detectable sensitivity	O	No exposure	x	No vulnerability	⊗O
?S =Insufficient information on sensitivity				Unknown vulnerability	

Categories of operations which may cause deterioration or disturbance	Internationally important populations of regularly occurring Annex 1 species		Internationally important migratory species and waterfowl assemblage		
	Intertidal mudflats and sandflats	Saltmarsh	Intertidal mudflats and sandflats	Saltmarsh	Hard substrates
Physical Loss					
Removal/substratum loss	⊗⊗⊗⊗	⊗⊗⊗⊗	⊗⊗⊗⊗	⊗⊗⊗⊗	⊗⊗⊗⊗
Smothering	⊗⊗⊗	⊗⊗⊗	⊗⊗⊗	⊗⊗⊗	⊗⊗⊗
Physical Damage					
Changes in suspended sediment	⊗⊗⊗	⊗⊗⊗	⊗⊗⊗	⊗⊗⊗	⊗⊗⊗
Desiccation and changes in emergence regime	⊗⊗O	⊗⊗OO	⊗⊗O	⊗⊗OO	⊗⊗O
Changes in water flow	⊗⊗⊗x	⊗⊗⊗x	⊗⊗⊗x	⊗⊗⊗x	⊗⊗⊗x
Changes in wave exposure	⊗⊗⊗⊗	⊗⊗⊗⊗	⊗⊗⊗⊗	⊗⊗⊗⊗	⊗⊗⊗⊗
Abrasion / physical disturbance (of habitats)	⊗⊗	⊗⊗O	⊗⊗⊗⊗	⊗⊗⊗x	⊗⊗⊗x
Grazing management	Not relevant	⊗⊗⊗⊗	Not relevant	⊗⊗⊗⊗	Not relevant
Non-physical disturbance					
Noise & visual presence	⊗⊗OO	⊗⊗⊗O	⊗⊗⊗O	⊗⊗⊗⊗	⊗⊗⊗O
Toxic contamination					
Introduction of synthetic compounds	⊗⊗⊗	⊗⊗⊗	⊗⊗⊗⊗	⊗⊗⊗x	⊗⊗⊗x
Introduction of non-synthetic compounds	⊗⊗⊗	⊗⊗⊗	⊗⊗⊗⊗	⊗⊗⊗⊗	⊗⊗⊗x
Introduction of radionuclides	?Sxx	?Sxx	?Sxx	?Sxx	?Sxx
Non-toxic contamination					
Changes in nutrient loading	⊗xxx	⊗⊗⊗x	⊗⊗⊗x	⊗⊗⊗x	⊗⊗xx
Changes in thermal regime	⊗x	⊗⊗	⊗⊗⊗	⊗⊗	⊗⊗
Changes in turbidity (light penetration)	⊗xx	⊗x	⊗⊗x	⊗x	⊗⊗x
Changes in salinity	⊗xxx	⊗⊗⊗x	⊗⊗xx	⊗⊗⊗x	⊗⊗xx
Changes in oxygenation	⊗xxx	⊗⊗xx	⊗⊗xx	⊗⊗xx	⊗⊗xx
Biological disturbance					
Introduction of microbial pathogens	⊗⊗xx	⊗⊗xx	⊗⊗⊗⊗	⊗⊗xx	⊗⊗⊗⊗
Introduction of non-native species	⊗x	⊗⊗	⊗⊗OO	⊗⊗	⊗⊗OO
Selective extraction of species	⊗⊗O	⊗⊗O	⊗⊗⊗	⊗⊗⊗	⊗xx

Table 4 Ramsar Vulnerabilities (as related to tables 1 & 2 above, and referring to sections and tables in Reg 33 advice (ref 12.1)).

Ramsar interest features	Relevant SAC and SPA features and supporting habitats	Reference section for advice on operations relevant to the Ramsar features
<i>Ramsar Interest feature 1 : Estuaries</i>	SAC: Annex I habitats Estuaries Intertidal mudflats and sandflats Atlantic Salt Meadows	Section 5.6.1 & Table 22 Section 5.6.3 & Table 22 Section 5.6.4 & Table 22
<i>Ramsar Interest feature 2 : Migratory fish assemblage</i>	SAC : Annex II species River lamprey <i>Lampetra fluviatilis</i> ; Sea lamprey <i>Petromyzon marinus</i> ; Twaite shad <i>Alosa fallax</i>	Section 5.6.6 & Table 22 Section 5.6.6 & Table 22 Section 5.6.6 & Table 22
Internationally important populations of waterfowl		
<i>Ramsar Interest feature 3: Bewick's swan</i>	SPA : Internationally important populations of regularly occurring Annex I species (Bewick's swan)	Section 5.7.1 & Table 23
<i>Ramsar Interest feature 4: European white-fronted goose</i> <i>Ramsar Interest feature 5: Dunlin</i> <i>Ramsar Interest feature 6: Redshank</i> <i>Ramsar Interest feature 7: Shelduck</i> <i>Ramsar Interest feature 8: Gadwall</i>	SPA: Internationally important populations of regularly occurring migratory species (same species as column to left) Supporting habitats Intertidal mudflats and sandflats Saltmarsh Hard substrates .	Section 5.7.2 & Table 23 Section 5.6.3 & Table 22 Section 5.6.4 & Table 22
<i>Ramsar Interest feature 9</i> Internationally important assemblage of waterfowl	SPA: Internationally important assemblage of waterfowl Supporting habitats Intertidal mudflats and sandflats Saltmarsh Hard substrates	Section 5.7.2 & Table 23 Section 5.6.3 & Table 22 Section 5.6.4 & Table 22

1.4.2 Potential Impacts Arising From Project

1.4.2.1 The proposed development site is between 5 and 200 metres to the northwest of the foreshore of the Severn Estuary, which at this point is designated as a Site of Special Scientific Interest (SSSI), as a Special Area of Conservation (SAC), is classified as a Special Protection Area (SPA), and listed as a Ramsar site.

1.4.2.2 However, the proposed development will not encroach upon the Severn Estuary EMS, so there is no potential for effects due to land take or immediate physical disturbance of habitats. Nonetheless, mindful of the vulnerabilities in Section 4 above, there is potential for the proposed development to have the following impacts:

- Disturbance to bird features arising from removal of overburden, construction activities and from operation of the development;
- Site drainage and release of any existing land contamination causing pollution of the Severn Estuary EMS during removal of overburden, construction and operation of the development ;
- Aerial emissions causing pollution of the Severn Estuary EMS during operation of the development.

- Dust arising from removal of overburden and construction causing contamination and smothering of Severn Estuary EMS habitats
- Increased disturbance to birds caused by use of a temporarily re-aligned Wales Coastal Path at this site

1.4.2.3 These impacts correlate with the categories of operations which may cause deterioration or disturbance as set out in tables 2 to 4 above, as follows:-

Table 5. Comparison of likely impacts of the project with categories of operations which may cause deterioration or disturbance		Impacts arising from proposed development as set out in Tables 2 to 4 above					
		Disturbance to birds during works	Disturbance to birds due to changes in coastal path	Mobilisation of existing contaminants during works	Aerial emissions during operation	Dust emissions during works	Surface and foul water drainage during operation
Categories of operations which may cause deterioration or disturbance	Smothering	✗	✗	✓	✓	✓	✓
	Noise & Visual presence	✓	✓	✗	✗	✗	✗
	Introduction of synthetic compounds	✗	✗	✓	✗	✗	✓
	Introduction of non-synthetic compounds	✗	✗	✓	✗	✗	✓
	Changes in nutrient loading	✗	✗	✗	✓	✓	✓

1.4.2.4 Tables 2 to 4 above also set out the levels of sensitivity of each of the features of the designations to the categories of operations which may cause deterioration or disturbance. These are summarised in Table 6 below. These levels of sensitivity will be used to assess the likelihood of any significant effect and subsequently and any adverse effect upon the integrity of the Severn Estuary EMS.

Table 6. Levels of sensitivity of Severn Estuary EMS features to identified pathways for adverse effect.

Receptors – Severn Estuary EMS Features		Pathway for adverse effect									
		Mobilisation of existing ground/groundwater contaminants		Disturbance		Smothering			Changes in nutrient loading		
		Toxic Contamination – Introduction of Synthetic Compounds	Toxic Contamination – Introduction of Non-synthetic Compounds	Noise	Visual	Aerial Emissions	Dust	Surface water run-off	Aerial Emissions	Dust	Surface water run-off
SAC Annex I Habitats	Estuaries	High	High	Low	Low	High	High	High	Low	Low	Low
	Subtidal Sandbanks	High	High	Low	Low	Low	Low	Low	Moderate	Moderate	Moderate
	Mudflats & sandflats	High	High	Low	Low	Moderate	Moderate	Moderate	High	High	High
	Atlantic Salt-meadow	High	High	Low	Low	High	High	High	High	High	High
	Reefs	Moderate	Unknown	Low	Low	Low	Low	Low	Moderate	Moderate	Moderate
SAC Annex II Species	Fish	Unknown	Unknown	Unknown	Unknown	Low	Low	Low	Unknown	Unknown	Unknown
Habitats of SPA Annex I species	Intertidal mudflats & sandflats	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate	Low	Low	Low
	Saltmarsh	Moderate	Moderate	High	High	Moderate	Moderate	Moderate	High	High	High
Habitats of SPA migratory species and waterfowl assemblage	Intertidal mudflats & sandflats	High	High	High	High	Moderate	Moderate	Moderate	High	High	High
	Saltmarsh	High	High	High	High	Moderate	Moderate	Moderate	High	High	High
	Hard substrates	High	High	High	High	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate

1.4.2.5 The potential impacts from section 1.4.2.2 above are considered in turn, as part of the test of likely significant effect, in the following section.

1.4.3 Disturbance to birds during works

1.4.3.1 There is potential for removal of overburden and construction activities to cause visual and noise disturbance to overwintering and migratory wetland birds which are features of the SPA, as set out in Table 6 above. For example, use of cranes, together with noisy activities such as drilling, piling and operation of machinery, could disturb wetland birds while they are roosting or foraging on nearby foreshore habitats.

1.4.3.2 Table 6 illustrates that most of the Severn Estuary EMS features are either highly or moderately sensitive to this type of disturbance.

1.4.3.3 As a general rule, a distance of 200m between the receptor (i.e. the birds) and the activity (i.e. construction) is taken as the maximum distance over which the activity can affect the receptor. The entirety of the proposed project is within 200m of mean high water, and therefore potentially all construction or spoil removal works at this site may cause disturbance to wetland birds on the foreshore.

1.4.3.4 The ES, for example at sections 8.5.7, 8.5.8 and 8.5.9, makes reference to the construction of a bund to shield birds using the foreshore habitats from disturbance during removal of the overburden and construction of buildings. The ES also makes reference to undertaking works during the summer months when overwintering and migratory SPA-feature birds are in low numbers. These are valid suggestions for avoidance and mitigation of impacts, however I do not see that they are integral to or guaranteed by the project, as submitted, in sufficient detail so as to assure me that they will completely remove any possibility of a significant effect.

1.4.3.5 For example, as set out in section B.2.7.b) of Tyldesley 2009, counteracting measures:-

'...must be an integral part of the project, as proposed, so it is concluded that the project as a whole, including its mitigation measures, is unlikely to have an effect on the site. Possible or potential additional measures, such as conditions that might be applied later on, cannot be relied upon at this stage to determine that significant effects are not likely.'

1.4.3.6 Therefore it cannot be excluded, on the basis of the information provided thus far, that the project is likely to have a significant effect upon the Severn Estuary EMS, so an appropriate assessment of this factor is needed.

1.4.4 Disturbance to birds due to changes in coastal path

1.4.4.1 I am advised by my colleague in our Highways department (Jenn Griffiths email dated 22/01/18), that there is no expected increase in footfall in relation to the proposed biomass plant development. However, any measures which could be implemented as part of this proposed development which would discourage coastal path users from accessing the foreshore, would be welcomed. Those measures should be seen in the context of a wider predicted increase in coast path use in this area due to improvements elsewhere, and

any such increase should be considered in the light of the HRA of the Wales Coast Path as a whole, conducted by NRW.

1.4.4.2 Therefore the proposed development is not likely to have a significant effect upon the Severn Estuary EMS via the medium of increased footfall along the coastal path at this point, so an appropriate assessment does not need to consider this factor.

1.4.5 Contamination of habitats caused by mobilisation of existing ground contaminants during works

1.4.5.1 The site for this proposed development is on the former 'Frag Tip', a historical landfill which has been identified by Pollution Control as a site with potential significant contamination and ground gas issues present. Therefore, during groundworks, soil contaminants may be disturbed and mobilised into groundwater, which may in turn migrate horizontally into surface waters. These contaminants could potentially harm Severn Estuary EMS habitats.

1.4.5.2 Table 6 illustrates that most of the Severn Estuary EMS features are either highly or moderately sensitive to all of these potential pathways.

1.4.5.3 I note the statement in section 8.5.11 of the ES that:- *'There is potential for an increase in contamination of the estuary habitats during re-working and removal of the tipped slag and other waste material'*. However, I also note from comment provided by Jason Bale on 22nd January 2018 that *'The report provides very little detail on how the works will be undertaken, and what mitigation measures will be implemented, only that such measures will be detailed in the (CEMP)'*. The same communication also indicates that further details remain to be provided, and also that *'...there are no details on appropriate mitigation measures to (sic) that the identified receptors are not adversely impacted from this element of the works'*. Those receptors include the sensitive habitats of the Severn Estuary EMS.

1.4.5.4 Some mitigation measures are proposed, and these are valid suggestions for avoidance and mitigation of impacts, however I do not see that they are integral to or guaranteed by the project, as submitted, in sufficient detail (as confirmed by Jason Bale as above) so as to assure me that they will completely remove any possibility of a significant effect.

1.4.5.5 It should be noted that the liner protecting the underlying 'frag' has already been compromised by coastal erosion and by the deposition of the overburden. Therefore any existing contaminants are already leaching out into the Severn Estuary EMS and nearby habitats, and any new mobilisation of existing contaminants should be seen in the context of this existing leaching. Equally, construction of a bund may serve to stop the existing leaching, but no details of the bund or of its detailed impact upon existing leaching are provided.

1.4.5.5 Therefore it cannot be excluded, on the basis of the information provided thus far, that the project is likely to have a significant effect upon the Severn Estuary EMS, so an appropriate assessment of this factor is needed.

1.4.6 Dust during works

1.4.6.1 As set out in section 8.5.11 of the ES, *'There is potential for an increase in contamination of the Severn Estuary habitats during re-working and removal of the tipped slag and other waste material. This could occur as contaminants are mobilised...as wind-blown dust'*.

1.4.6.2 Furthermore, Section 1.4 of the Construction Phase Impact Assessment October 2017 states that the dust emission class for earthworks at this site is considered to be 'large'. It further states in section 1.5 that dust will arise from piling of foundations, vehicles travelling over unpaved ground, and from the cutting of concrete.

1.4.6.3 Table 6 illustrates that most of the Severn Estuary EMS features are either highly or moderately sensitive to the impact of dust deposition.

1.4.6.4 Some mitigation measures are proposed, for example in sections 2.3 and 2.4 of the Construction Phase Impact Assessment, sections 9.6.2 to 9.6.4 of Chapter 9 – Air Quality - of the ES, and sections 7.6.6 to 7.6.8 of the ES Chapter 7 Geotechnical Conditions & Contaminated Land. These are valid suggestions for avoidance and mitigation of impacts, however I do not see that they are integral to or guaranteed by the project, as submitted, in sufficient detail (as confirmed by Jason Bale as above) so as to assure me that they will completely remove any possibility of a significant effect.

1.4.6.5 Therefore it cannot be excluded, on the basis of the information provided thus far, that the project is likely to have a significant effect upon the Severn Estuary EMS, so an appropriate assessment of this factor is needed.

1.4.7 Aerial emissions during operation

1.4.7.1 The proposed development is for a circa 9.5 MWe Combined Heat and Power station which will produce electricity and thermal energy via steam. However the exact nature and quantities of aerial emissions will not be determined until a later stage in the planning process.

1.4.7.2 With reference to Table 6 above, deposition of aerial emissions of particulates and NOx have the potential to affect the features of the Severn Estuary EMS. I note from the consultation response provided by Craig Lewis of Shared Regulatory Services on 12th January 2018 that he considers the air quality impacts on the Severn Estuary EMS to be significant. Mr Lewis also notes that mitigation technologies and measures to reduce NOx and particulates emissions have yet to be finalised.

1.4.7.3 Therefore it cannot be excluded, on the basis of the information provided thus far, that the project is likely to have a significant effect upon the Severn Estuary EMS so an appropriate assessment of this factor is needed.

1.4.8 Surface and foul water drainage during operation

1.4.8.1 It is noted that foul water arising from an operational development will be discharged via the Public Combined Sewer and treated accordingly. Therefore the proposed development is not likely to have a significant effect upon the Severn Estuary EMS via the medium of foul water emission, so an appropriate assessment does not need to consider this factor.

1.4.8.2 Surface water run-off may lead to contamination, smothering and nutrient enrichment of habitats, so in accordance with Tables 2 to 4 above there is a potential pathway to impact upon the Severn Estuary EMS features.

1.4.8.3 The Surface/Foul Water Drainage Strategy August 2017 identifies the method to dispose of surface water is to drain to the nearby sea, however drawing reference A(P)-02 shows two infiltration ponds which are presumably intended to intercept surface water run-off.

1.4.8.4 Therefore, while there remains uncertainty as to how surface water run-off will be treated, it cannot be excluded, on the basis of the information provided thus far, that the project is likely to have a significant effect upon the Severn Estuary EMS so an appropriate assessment of this factor is needed.

1.5 Other plans and programmes that could contribute to in combination effects

1.5.1 Applications 13/00686 and 15/00591 propose a small-scale (2MW) anaerobic digestion facility at the Waste Water Treatment Works (WWTW) immediately (200m) to the south west of the Frag Tip. These applications were subject to a HRA, with the following outcomes:-

1.5.2 Atmospheric Pollution - Aerial emissions of NO_x, SO_x and particulates have the potential to affect habitats which are features of the Severn Estuary EMS, such as Saltmarsh and Coastal Grazing Marsh. However, the effects modelling within the Local Air Quality Impact Assessment indicate that Predicted Environmental Concentrations are within the critical levels for these habitats.

1.5.3 Water-borne pollution and mobilisation of existing ground contaminants - Given the distance between the proposal site and the Severn Estuary (about 350m), and the intervening land use (waste-water treatment tanks) it is unlikely that water-borne pollutants and mobilised existing ground contaminants will migrate laterally to the Severn Estuary EMS.

1.5.4 In addition, in their response of 12 May 2015, NRW have indicated that provided the development is carried out as stated in the application and supporting documents, they are

of the opinion that the proposal would not be likely to have a significant effect on the Severn Estuary EMS. On this basis it can be assumed that there is not likely to be a significant effect upon the Ramsar site as well.

1.5.5 Therefore, given that the present application for a biomass plan has been identified as being likely to have a significant effect on the Severn Estuary EMS, but the WWTW anaerobic digester has not, the scale of potential contribution of the latter project to the overall atmospheric and waterborne pollution in this area is likely to be minor. However, even a minor addition to an already likely significant effect still results in a small overall increase in LSE, so the appropriate assessment of the present application should consider the in-combination effects of these projects.

1.6 Summary of Test of Likely Significant Effect ('Significance Test')

1.6.1 The first step in considering a plan or project in accordance with Article 6.3 of the Habitats Directive is to determine whether it was likely to have a significant effect on a SAC or SPA (or Ramsar site). This is a coarse filter intended to identify those plans/projects which require further assessment of their implications and those where significant effects can be ruled out without further assessment. According to ECJ case law, this test should be applied in a precautionary way, such that a plan/project should be considered likely to have a significant effect if it cannot be excluded, on the basis of objective information, that it will have a significant effect. A significant effect is one likely to undermine a site's conservation objectives.

1.6.2 In considering this test, account is taken of any proposed mitigation measures which are integral to and guaranteed by the project, and which would counteract the potential effects described in Section 1.4 above. A summary of the results of the test of likely significance is set out in Table 7 below.

Table 7 – Summary of Test of Likely Significance	
Factor	Likely Significant Effect?
Disturbance to bird features arising from construction activities and from operation of the development;	Yes
Site drainage and release of any existing land contamination causing pollution of the Severn Estuary EMS during construction;	Yes
Aerial emissions causing pollution of the Severn Estuary EMS during operation of the development.	Yes
Dust arising from construction causing contamination and smothering of Severn Estuary EMS habitats	Yes
Increased disturbance to birds caused by use of a temporarily re-aligned Wales Coastal Path at this site	No
Surface and foul water drainage during operation	Yes (surface water run-off only)

1.6.3 Where it is identified in Table 7 above that a factor is likely to have a significant effect upon features of the Severn Estuary EMS, then an Appropriate Assessment and test of adverse effect on integrity is required, and this is set out in section 2 below.

2. Appropriate Assessment

2.1 Agree scope and method of AA with NRW

2.1.1 NRW provided comprehensive comments on this application on 14th December 2017, and their recommendations for the scope of the HRA are as follows:-

- Disturbance to bird features arising from construction activities and from operation of the development;
- Site drainage and release of any existing land contamination causing pollution of the Severn Estuary EMS during construction;
- Site drainage causing pollution of the Severn Estuary EMS during operation of the development; and
- Aerial emissions causing pollution of the Severn Estuary EMS during operation of the development.

2.1.2 These are broadly the same as those identified in section 1.4.2.2 above. In the same correspondence, NRW offered advice on the methodology of the HRA, and this offer was taken up in a series of telephone calls between the County Ecologist for Cardiff and NRW conservation officers.

2.2 Consideration of how the project, in combination with other projects, will interact when implemented, taking into account inherent avoidance and mitigation measures (the Appropriate Assessment)

2.2.1 The purpose of this stage of the HRA is to undertake an appropriate assessment of the proposed project in relation to the conservation objectives of the Severn Estuary SAC, SPA and Ramsar sites. Subsequently this assessment, in combination with any conditions or restrictions which may be applied to any planning consent granted, will be used to determine whether the project will have an adverse effect on the integrity of those designated sites. The factors arising from the test of likely significance above, are considered in turn below.

2.2.2 Survey work to inform this assessment has been undertaken as part of the EIA process

The survey results and the conclusions drawn from them have been incorporated into this assessment of the impact of the proposed development upon the features of the Severn Estuary EMS, taking into account the vulnerabilities of those features as set out in Table 6 above.

2.3 Disturbance - Noise/visual disturbance of overwintering and migratory bird features of the SPA during construction of the turbine and associated infrastructure

2.3.1 There is potential for construction activities to cause visual and noise disturbance to overwintering and migratory wetland birds which are features of the SPA, as set out in Table 6 above. For example, use of cranes, or personnel working at height on scaffolding etc, together with noisy activities such as drilling, piling and operation of machinery, could disturb bird features while they are roosting or foraging on nearby foreshore habitats. Overwintering birds are disturbed by sudden movements and sudden noises. This can displace the birds from their feeding grounds. Disturbance can prevent the birds from feeding and in response they either a) decrease their energy intake at their present (disturbed) feeding site through displacement activity, or b) move to an alternative less favoured feeding site. Such a response affects energy budgets and thus survival. There is intermittent disturbance from both the landward and seaward side of the site. Bewick's swans are mainly affected by disturbance from the landward side and any increase in disturbance should be avoided. At present NE and NRW assess that the Annex 1 species are moderately sensitive to noise and visual disturbance on the intertidal mudflats and sandflats and highly sensitive to this category of operation on the saltmarsh.

2.3.2 It is acknowledged in the ES that there is a risk of disturbance of overwintering and migratory estuary birds by construction noise and vibration while the work is undertaken. Visual disturbance due to the presence of people and machinery is also possible. The construction of the coastal bund is proposed during the summer months, at a time of year when relatively few birds use the estuary, and the physical presence of the bund would reduce the potential for disturbance of the estuary once it is completed. It is also suggested that it is likely that birds feeding out on the mudflats in front of the tip would quickly become habituated to construction noise behind the coastal bund.

2.3.3 However, beyond this information, no details of the timing of works or of construction of the coastal bund are available at this time, as the present application is for outline consent.

2.3.4 Integrity Test: Disturbance - Noise/visual disturbance of overwintering and migratory bird features of the SPA during construction of the biomass plant and associated infrastructure

2.3.5 In principle, it is possible to avoid disturbance to birds during construction. For example, overwintering and migratory bird species are at their greatest concentration in the Severn Estuary between October and March inclusive. Therefore construction during the April to September period (inclusive) would not cause significant disturbance. However, it is recognised that it may not be feasible to restrict works to this period.

2.3.6 During the overwintering / migratory period, it is possible to avoid disturbance to birds on the foreshore by avoiding works activity during the period between two hours before high tide and two hours after high tide. It is during this four hour window that SPA-feature birds are most likely to occur within 200m of the construction activity. This is the distance within which we typically consider disturbance effects to be significant. However, again it is recognised that it may not be feasible to restrict construction of the development to outside these four-hour windows.

2.3.7 The proposal to construct a coastal bund, with temporary screening along the top as suggested by NRW in their comments of 14th December, would shield the birds from the development activity provided:-

- Construction of the bund is completed within the April to September period, and
- Where construction of the bund takes place outside the April to September period, no construction activity can take place between two hours before high tide and two hours after high tide, and
- Line-of-sight cross sections can demonstrate that, taking account of the bund and temporary screening along the top, all aspects of construction of the biomass plant and other buildings, including cranes, scaffolding, site operatives, piling rigs etc., are not visible to wetland birds on the foreshore within 200m of the boundary of the construction site.

2.3.8 These measures will be secured by the following planning condition:-

'Severn Estuary Coastal Bund & Screen

No development shall take place until details of measures to construct a coastal bund and screen to shield earth movements and construction activities from the Severn Estuary European Sites has been submitted to and approved in writing by the Local Planning Authority. The bund and screen shall be constructed in accordance with the approved details and shall be retained and maintained for the entire construction period. The approved details shall include:

- (i) full details of the design of the bund and screen;
- (ii) line-of sight sections to demonstrate that all aspects of the construction including the biomass power plant and industrial buildings, cranes, scaffolding, site operatives and piling rigs are not visible to wetland birds on the foreshore within 200 metres of the application site;
- (iii) a timetable for their provision;
- (iv) a written commitment to only construct the bund and screen between April to September;
- (v) outside of April to September, a written commitment to avoid any construction activity between two hours before high tide and two hours after;

Reason: To avoid any adverse effect upon the integrity of the Severn Estuary European Sites and the Severn Estuary SSSI.'

2.3.9 Provided this planning condition is attached and implemented then **in my view there would be no adverse effect upon the integrity of the Severn Estuary EMS, via the medium of Noise/visual disturbance of overwintering and migratory bird features.**

2.4 Site drainage and release of any existing land contamination causing pollution of the Severn Estuary during construction

2.4.1 The site for this proposed development is on the former 'Frag Tip', a historical landfill which has been identified by Pollution Control as a site with potential significant contamination and ground gas issues to be present. Therefore, during groundworks, soil contaminants may be disturbed and mobilised into groundwater, which may in turn migrate horizontally into surface waters. As set out above, these contaminants are likely to significantly harm Severn Estuary EMS habitats.

2.4.2 Comment provided by Jason Bale on 22nd January 2018 states that '*The (ES) report provides very little detail on how the works will be undertaken, and what mitigation measures will be implemented, only that such measures will be detailed in the (CEMP)*'. The same communication also indicates that further details remain to be provided, and also that '*...there are no details on appropriate mitigation measures to (sic) that the identified receptors are not adversely impacted from this element of the works*'. Those receptors include the sensitive habitats of the Severn Estuary. As this is an outline planning application, and remediation of the pollutants on site will take place on a phased basis, the fine details of those mitigation measures are not available at present.

2.4.3 Waterfowl are subject to the accumulation of toxins through the food chain or through direct contact with toxic substances when roosting or feeding. Their ability to feed can also be affected by the abundance or change in palatability of their prey caused by toxic contamination. At the moment there is no evidence to show that this is the case on the Severn Estuary, but the estuary is vulnerable to oil spills and there is a continuous discharge of toxins into the estuary, some of which bind to the sediments. This is an area that requires further assessment. The intertidal mudflats and sandflats and the saltmarsh are currently **highly vulnerable** to the introduction of synthetic and non-synthetic compounds, in accordance with Tables 2 and 3 above.

2.4.4 Integrity Test - Site drainage and release of any existing land contamination causing pollution of the Severn Estuary EMS during construction

2.4.5 Based on the above concerns and lack of detailed information provided to date, the following conditions are requested to be attached to any approval of the development to counteract any adverse effect upon integrity of the EMS:-

'PC Non Standard Requirement for Environmental Permit

The processing and removal of the 'overburden' material (above MDPE membrane.), shall not commence until an appropriate assessment/ waste classification of the material has been undertaken and an appropriate Environmental Permit, has been granted by the relevant permitting authority. All subsequent works to process and remove this material must be undertaken in accordance to the permit conditions, and all necessary additional sampling requirements of the material as required under the permit must be reported to the LPA.

Reason: To ensure that any unacceptable risks from land contamination to the future users of the land , neighbouring land, controlled waters, property and ecological systems are

minimised, and to ensure that the development can be carried out safely without unacceptable risks to workers, neighbours and other offsite receptors in accordance with policy EN13 of the Cardiff Local Development Plan.'

'PC13. GROUND GAS PROTECTION

Following the completion of the reworking of materials in Zone 2, and prior to the construction of any building in Zone 2, the developer must ensure a scheme to investigate and monitor the site for the presence of gases* including a plan of the area to be monitored, shall be submitted to the Local Planning Authority for its approval.

Following completion of the approved monitoring scheme the proposed details of appropriate gas protection measures to ensure the safe and inoffensive dispersal or management of gases and to prevent lateral migration of gases into or from land surrounding the application site shall be submitted to and approved in writing to the LPA. If no protection measures are required than no further actions will be required.

All required gas protection measures shall be installed and appropriately verified before occupation of any part of the development which has been permitted and the approved protection measures shall be retained and maintained until such time as the Local Planning Authority agrees in writing that the measures are no longer required.

* 'Gases' include landfill gases, vapours from contaminated land sites, and naturally occurring methane and carbon dioxide, but does not include radon gas. Gas Monitoring programmes should be designed in line with current best practice as detailed in CIRIA 665 and or BS8485 year 2007 Code of Practice for the Characterization and Remediation from Ground Gas in Affected Developments,.

Reason: To ensure that the safety of future occupiers is not prejudiced in accordance with policy EN13 of the Cardiff Local Development Plan.'

'PC14A. CONTAMINATED LAND MEASURES – ASSESSMENT

Prior to the commencement of any works below the MDPE membrane or elsewhere below the overburden, an assessment of the nature and extent of contamination of the underlying material shall be submitted to and approved in writing by the Local Planning Authority. This assessment must be carried out by or under the direction of a suitably qualified competent person * in accordance with BS10175 (2011) Code of Practice for the Investigation of Potentially Contaminated Sites and shall assess any contamination on the site, whether or not it originates on the site.

The report of the findings shall include:

- (i) a desk top study to identify all previous uses at the site and potential contaminants associated with those uses and the impacts from those contaminants on land and controlled waters. The desk study shall establish a

- 'conceptual site model' (CSM) which identifies and assesses all identified potential source, pathway, and receptor linkages;
- (ii) an intrusive investigation to assess the extent, scale and nature of contamination which may be present, if identified as required by the desk top study;
 - (iii) an assessment of the potential risks to:
 - human health,
 - groundwaters and surface waters
 - adjoining land,
 - property (existing or proposed) including buildings, crops, livestock, pets, woodland and service lines and pipes,
 - ecological systems,
 - archaeological sites and ancient monuments; and
 - any other receptors identified at (i)
- (iii) an appraisal of remedial options, and justification for the preferred remedial option(s).

All work and submissions carried out for the purposes of this condition must be conducted in accordance with DEFRA and the Environment Agency's 'Model procedures for the Management of Land Contamination, CLR 11' (September 2004) and the WLGA / WAG / EA guidance document ' Land Contamination: A guide for Developers' (2012), unless the Local Planning Authority agrees to any variation.

* A 'suitably qualified competent person' would normally be expected to be a chartered member of an appropriate professional body (such as the Institution of Civil Engineers, Geological Society of London, Royal Institution of Chartered Surveyors, Institution of Environmental Management) and also have relevant experience of investigating contaminated sites.

Reason: To ensure that information provided for the assessment of the risks from land contamination to the future users of the land, neighbouring land, controlled waters, property and ecological systems is sufficient to enable a proper assessment in accordance with policy EN13 of the Cardiff Local Development Plan.'

'PC14B. CONTAMINATED LAND MEASURES – REMEDIATION & VERIFICATION PLAN

Prior to the commencement of any works below the MDPE membrane or elsewhere below the overburden a detailed remediation scheme and verification plan to bring the site to a condition suitable for the intended use by removing any unacceptable risks to human health, controlled waters, buildings, other property and the natural and historical environment shall be submitted to and approved in writing by the Local Planning Authority. The scheme shall include all works to be undertaken, proposed remediation objectives and remediation criteria, a timetable of works and site management procedures. The scheme must ensure that the site will not qualify as contaminated land under Part 2A of the Environmental Protection Act 1990 in relation to the intended use of the land after remediation.

All work and submissions carried out for the purposes of this condition must be conducted in accordance with DEFRA and the Environment Agency's 'Model procedures for the Management of Land Contamination, CLR 11' (September 2004) and the WLGA / WAG / EA guidance document ' Land Contamination: A guide for Developers' (July 2006), unless the Local Planning Authority agrees to any variation.

Reason: To ensure that any unacceptable risks from land contamination to the future users of the land , neighbouring land, controlled waters, property and ecological systems are minimised, and to ensure that the development can be carried out safely without unacceptable risks to workers, neighbours and other offsite receptors in accordance with policy EN13 of the Cardiff Local Development Plan.'

'PC14C. CONTAMINATED LAND MEASURES - REMEDIATION & VERIFICATION

The remediation scheme approved by condition PC14B must be fully undertaken in accordance with its terms prior to the occupation of any permanent structure of the approved development unless otherwise agreed in writing by the Local Planning Authority. The Local Planning Authority must be given two weeks written notification of commencement of the remediation scheme works.

Within 6 months of the completion of the measures identified in the approved remediation scheme, a verification report that demonstrates the effectiveness of the remediation carried out must be submitted to and approved in writing by the Local Planning Authority.

All work and submissions carried out for the purposes of this condition must be conducted in accordance with DEFRA and the Environment Agency's 'Model procedures for the Management of Land Contamination, CLR 11' (September 2004) and the WLGA / WAG / EA guidance document ' Land Contamination: A guide for Developers' (July 2006), unless the Local Planning Authority agrees to any variation.

Reason: To ensure that any unacceptable risks from land contamination to the future users of the land , neighbouring land, controlled waters, property and ecological systems are minimised, and to ensure that the development can be carried out safely without unacceptable risks to workers, neighbours and other offsite receptors in accordance with policy EN13 of the Cardiff Local Development Plan.'

'PC14D. CONTAMINATED LAND MEASURES – UNFORESEEN CONTAMINATION

In the event that contamination is found at any time when carrying out the approved development that was not previously identified it must be reported in writing within 2 days to the Local Planning Authority, all associated works must stop, and no further development shall take place unless otherwise agreed in writing until a scheme to deal with the contamination found has been approved. An investigation and risk assessment must be undertaken and where remediation is necessary a remediation scheme and verification plan must be prepared and submitted to and approved in writing by the Local Planning Authority. Following completion of measures identified in the approved remediation scheme a verification report must be submitted to and approved in writing by the Local Planning

Authority. The timescale for the above actions shall be agreed with the LPA within 2 weeks of the discovery of any unsuspected contamination.

Reason: To ensure that any unacceptable risks from land contamination to the future users of the land , neighbouring land, controlled waters, property and ecological systems are minimised, and to ensure that the development can be carried out safely without unacceptable risks to workers, neighbours and other offsite receptors in accordance with policy EN13 of the Cardiff Local Development Plan.'

'PC15A IMPORTED SOIL

Any topsoil [natural or manufactured], or subsoil, to be imported shall be assessed for chemical or other potential contaminants in accordance with a scheme of investigation which shall be submitted to and approved in writing by the Local Planning Authority in advance of its importation. Only material approved by the Local Planning Authority shall be imported. All measures specified in the approved scheme shall be undertaken in accordance with the relevant Code of Practice and Guidance Notes.

Subject to approval of the above, sampling of the material received at the development site to verify that the imported soil is free from contamination shall be undertaken in accordance with a scheme and timescale to be agreed in writing by the LPA.

Reason: To ensure that the safety of future occupiers is not prejudiced in accordance with policy EN13 of the Cardiff Local Development Plan.'

'PC15B IMPORTED AGGREGATES

Any aggregate (other than virgin quarry stone) or recycled aggregate material to be imported shall be assessed for chemical or other potential contaminants in accordance with a scheme of investigation which shall be submitted to and approved in writing by the Local Planning Authority in advance of its importation. Only material approved by the Local Planning Authority shall be imported. All measures specified in the approved scheme shall be undertaken in accordance with the relevant Code of Practice and Guidance Notes.

Subject to approval of the above, sampling of the material received at the development site to verify that the imported material is free from contamination shall be undertaken in accordance with a scheme and timescale to be agreed in writing by the LPA.

Reason: To ensure that the safety of future occupiers is not prejudiced in accordance with policy EN13 of the Cardiff Local Development Plan.'

'PC15C USE OF SITE WON MATERIALS

Any site won material including soils, aggregates, recycled materials shall be assessed for chemical or other potential contaminants in accordance with a sampling scheme which shall be submitted to and approved in writing by the Local Planning Authority in advance of the

reuse of site won materials. Only material which meets site specific target values approved by the Local Planning Authority shall be reused.

Reason: To ensure that the safety of future occupiers is not prejudiced in accordance with policy EN13 of the Cardiff Local Development Plan.'

'PC Non Standard Condition –Integrity of the MDPE Membrane

In order to minimise, any potential environmental impacts, of the investigation works of the material underlying the MDPE membrane, where the integrity of the membrane is damaged, then upon completion of the investigation repairs to restore/ maintain the integrity of the membrane must be completed. All areas of damage and subsequent repairs must be recorded and a reported and documented in a weekly report to the LPA. Where the repairs are not deemed suitable the LPA will request that further repairs are implemented as necessary.

Reason: To ensure that any unacceptable risks from land contamination to the future users of the land , neighbouring land, controlled waters, property and ecological systems are minimised, and to ensure that the development can be carried out safely without unacceptable risks to workers, neighbours and other offsite receptors in accordance with policy EN13 of the Cardiff Local Development Plan.'

2.4.6 If these conditions are attached to consent and subsequently enforced, then **there would be no adverse effect on the integrity of the Severn Estuary EMS via this pathway.**

2.5 Aerial emissions causing pollution of the Severn Estuary EMS during operation of the development.

2.5.1 The proposed development is for a circa 9.5 MWe Combined Heat and Power station which will produce electricity and thermal energy via steam. However the exact nature and quantities of aerial emissions will not be determined until a later stage in the planning process.

2.5.2 With reference to Table 6 above, deposition of aerial emissions of particulates and NOx have the potential the affect the features of the Severn Estuary EMS. The Atlantic Saltmeadow / Saltmarsh and mudflats & sandflats habitats are particularly sensitive to the effects of aerial pollution.

2.5.3 I note from the consultation response provided by Craig Lewis of Shared Regulatory Services on 12th January 2018 that he considers the air quality impacts on the Severn Estuary EMS to be significant. Mr Lewis also notes that mitigation technologies and measures to reduce NOx and particulates emissions have yet to be finalised because the present application is for outline planning consent.

2.5.4 Integrity Test: Aerial emissions causing pollution of the Severn Estuary EMS during operation of the development

2.5.5 A series of mitigation measures are suggested in section 9.6 of the Air Quality section (Chapter 9) of the ES. These may include emissions abatement technologies to reduce NO_x and PM in the exhaust, and an appropriate stack height and exhaust exit velocity to maximise dispersion. In order to have confidence that there would be no adverse effect on integrity of the Severn Estuary EMS as a result of this factor, the following planning condition, together with other controls (such as Environmental permitting) must be applied to require and enforce counteracting measures which would eliminate any adverse impacts:-

‘Condition: No reserved matters application shall be approved until an Air Quality Assessment (AQA) for the detailed design of the Biomass Plant has been submitted to and approved in writing by the Local Planning Authority. The AQA shall include an assessment of the impact of the plant emissions and any necessary mitigation measures to ensure the overall impacts of the plant are acceptable. The plant shall be constructed in accordance with the approved details and maintained thereafter.

Reason: To ensure air quality is maintained to satisfactory levels.’

2.6 Dust arising from construction causing contamination and smothering of Severn Estuary EMS habitats

2.6.1 The site covers some 166,500 m² and most of this will be subject to earthworks, involving excavation and haulage of material, tipping stockpiling and site landscaping. The earthworks will last around 6 months and dust will arise mainly from earth-moving vehicles travelling over unpaved ground and from the handling of dusty materials (such as dry soil). Construction will involve a number of steel framed and cladded buildings on concrete slabs, with a total building volume of around 270,000 m³. Dust will arise from piling of foundations, vehicles travelling over unpaved ground, and from the cutting of concrete. The construction will take place over a 24-month period. The number of heavy vehicles accessing the site, which may track out dust and dirt, is currently unknown, but it is estimated that there will be a maximum of around 100 outward heavy vehicle movements per day. The unpaved roadway length at the site will be around 300 m. Based upon these parameters, the dust emission class for earthworks is considered to be *large*.

2.6.2 Integrity Test: Dust arising from construction causing contamination and smothering of Severn Estuary EMS habitats

2.6.3 The Construction Phase Impact Assessment submitted as part of the ES for this application lists a set of best-practice measures from the IAQM guidance (IAQM, 2016) that it is suggested should be incorporated into the specification for the works. These measures should ideally be written into a Dust Management Plan. Some of the measures may only be necessary during specific phases of work, or during activities with a high potential to produce dust, and the list should be refined and expanded upon in liaison with the construction contractor when producing the Dust Management Plan.

2.6.4 This Dust Management Plan, and its implementation, will be secured by the following planning condition:-

'Dust Management Plan

No development shall take place until a Dust Management Plan (DMP) has been submitted to and approved in writing by the Local Planning Authority. The development shall be carried out in accordance with the approved DMP.

Reason: To ensure the satisfactory control of dust.'

2.6.5 In this case **there would be no adverse effect on the integrity of the Severn Estuary EMS via this pathway.**

2.7 Surface drainage during operation

2.7.1 Surface water running off impervious surfaces can become contaminated with petrol, oil, heavy metals other pollutants from roads and parking areas, as well as fertilizers and pesticides from soft-landscaped areas. Roads and parking area can be sources of polycyclic aromatic hydrocarbons (PAHs), which are created as combustion byproducts of petrol, diesel and other fossil fuels, as well as of heavy metals such as lead, nickel, zinc copper and cadmium, Fertilizer use on landscaped areas can result in nitrates and phosphorus in urban runoff when improperly applied or over-used.

2.7.2 Eroding soils or poorly maintained construction sites can often lead to increased turbidity in runoff. Increased levels of sediment in water bodies can cause smothering of habitats, toxic contamination, and nutrient enrichment. These high levels of nutrients can reduce oxygen and boost algae growth while limiting native vegetation growth. Limited native vegetation and excessive algae has the potential to disrupt the entire aquatic ecosystem due to limited light penetration, lower oxygen levels, and reduced food reserves.

2.7.3 Integrity Test: Surface water drainage causing contamination and smothering of SAC / SPA habitats

2.7.4 Interception of contaminated surface water run-off is vital to avoid the adverse effects set out in Table 6 above. This can be achieved by the enforcement of a planning condition which requires the applicant to demonstrate that surface water will be managed in such a way as to avoid significant adverse impact upon the features of the Severn Estuary EMS, e.g.

'Condition: No development shall take place until a drainage scheme for the site has been submitted to and approved in writing by the Local Planning Authority. The scheme shall demonstrate how the site will be effectively drained; the means of disposal of surface water and indicate how foul flows will communicate to the public sewerage system. Thereafter, the scheme shall be implemented in accordance with the approved details prior to the occupation of the development and no further surface water or land drainage shall be allowed to connect directly or indirectly with the public sewerage system.

Reason: To prevent hydraulic overloading of the public sewerage system, to protect the health and safety of existing residents and ensure no pollution of or detriment to the environment.'

2.7.5 If this were implemented then **there would be no adverse effect on the integrity of the Severn Estuary EMS via this pathway.**

3. Cumulative and in-combination effects

3.1 Applications 13/00686 and 15/00591 propose a small-scale (2MW) anaerobic digestion facility at the Waste Water Treatment Works (WWTW) immediately (200m) to the south west of the Frag Tip. These applications were subject to a HRA, with the outcome that Atmospheric Pollution and Water-borne pollution and mobilisation of existing ground contaminants were not likely to have a significant effect on the Severn Estuary EMS. In addition, in their response of 12 May 2015, NRW indicated that provided the development is carried out as stated in the application and supporting documents, they are of the opinion that the proposal would not be likely to have a significant effect on the Severn Estuary EMS

3.2 Therefore, any counteracting measures secured in relation to the present application to ensure that there is no adverse effect upon the integrity of the Severn Estuary EMS, together with any similar measures required to ensure that the 15/00591 application is not likely to have a significant effect upon the same site, will ensure that there is no overall adverse effect upon the integrity of the Severn Estuary EMS.

4. Severn Estuary SSSI.

4.1 The Severn Estuary SSSI underpins the international designations and its features are largely similar to the features of those designations. Therefore, any measures identified above to avoid adverse effect upon the integrity of the Severn Estuary EMS will similarly avoid impact upon the SSSI features.

5. Conclusion

5.1 Table 8 below summarises the results of the test of adverse effect upon integrity for all of the factors identified as being likely to have a significant effect upon the Severn Estuary EMS features:-

Table 8 – Summary of Test of Adverse Effect upon Integrity	
Factor	Adverse Effect upon Integrity?
Disturbance to bird features arising from construction activities and from operation of the development;	No
Site drainage and release of any existing land contamination causing pollution of the Severn Estuary during construction;	No
Aerial emissions causing pollution of the Severn Estuary EMS during operation of the development.	No
Dust arising from construction causing contamination and smothering of Severn Estuary EMS habitats	No
Increased disturbance to birds caused by use of a temporarily re-aligned Wales Coastal Path at this site	No

Surface and foul water drainage during operation	No
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5.2 It is the conclusion of this Habitats Regulation Appraisal that, based upon the planning application and supporting documents as submitted, and provided the suggested planning conditions are attached and implemented, **the proposed development will not have an adverse effect upon the integrity of the Severn Estuary EMS.**

6. Consultation with Natural Resources Wales

6.1 In accordance with Regulation 61(3) of the Conservation of Habitats and Species Regulations 2010 (as amended):- *'The competent authority must for the purposes of the assessment consult the appropriate nature conservation body and have regard to any representations made by that body within such reasonable time as the authority specify'*.

6.2 Therefore NRW should be consulted on the present HRA.

7. References

The Conservation of Habitats and Species Regulations 2017 <https://www.legislation.gov.uk/ukxi/2017/1012/contents/made>

European Commission (EC) (2000) Managing Natura 2000 Sites: The Provisions of Article 6 of the 'Habitats' Directive 92/43/EEC.

EC (2001) Assessment of Plans and Projects Significantly Affecting Natura 2000 sites: methodological Guidance on the Provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC.

EC (2007) Guidance Document on Article 6(4) of the 'Habitats Directive' 92/43/EEC. Clarification of Concepts of: Alternative Solutions, Imperative Reasons of Overriding Public Interest, Compensatory Measures, Overall Coherence, Opinion of the Commission.

IAQM (2012) *Guidance on Air Quality Monitoring in the Vicinity of Demolition and Construction Sites*, [Online], Available: www.iaqm.co.uk/guidance.html.

IAQM (2016) *Guidance on the Assessment of Dust from Demolition and Construction v1.1*.

Natural England & CCW (2009) *The Severn Estuary / Môr Hafren European Marine Site comprising: The Severn Estuary / Môr Hafren Special Area of Conservation (SAC), The Severn Estuary Special Protection Area (SPA), The Severn Estuary / Môr Hafren Ramsar Site. Natural England & the Countryside Council for Wales' advice given under Regulation 33(2)(a) of the Conservation (Natural Habitats, &c.) Regulations 1994, as amended. June 2009.*

Tyldesley, D., (2009) Draft Guidance for Plan Making Authorities in Wales: The Appraisal of Plans under the Habitats Directive, for Countryside Council for Wales CCW Bangor.

'Waddenzee ruling' Case C-127/02, JUDGMENT OF THE COURT (Grand Chamber) 7 September 2004 (1) (Directive 92/43/EEC – Conservation of natural habitats and of wild flora and fauna – Concept of 'plan' or 'project' – Assessment of the implications of certain plans or projects for the protected site).