

Portland  
energy recovery  
facility

Environmental statement  
Technical appendices



Landscape, seascape  
and visual effects

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## Technical Appendix J Part 1: Planning policy

### National planning policy

J 1.1 The revised National Planning Policy Framework (NPPF) published by the Ministry of Housing, Communities and Local Government, came into effect in February 2019. It sets out the government's planning policies for England and how these are expected to be applied. The NPPF provides a framework within which councils can produce their own local and neighbourhood plans. The relevant guidance on landscape and visual issues is stated below.

#### ***Achieving sustainable development***

J 1.2 The purpose of the NPPF is to contribute to the achievement of sustainable development. Paragraph 8 sets out three key objectives of the NPPF, which are achieved through the application of core policies, a number of which are relevant to this application.

J 1.3 The NPPF in paragraph 8 states:

*“Achieving sustainable development means that the planning system has three overarching objectives, which are interdependent and need to be pursued in mutually supportive ways (so that opportunities can be taken to secure net gains across each of the different objectives):*

- a) an economic objective – to help build a strong, responsive and competitive economy, by ensuring that sufficient land of the right types is available in the right places and at the right time to support growth, innovation and improved productivity; and by identifying and coordinating the provision of infrastructure;*
- b) a social objective – to support strong, vibrant and healthy communities, by ensuring that a sufficient number and range of homes can be provided to meet the needs of present and future generations; and by fostering a well-designed and safe built environment, with accessible services and open spaces that reflect current and future needs and support communities' health, social and cultural well-being; and*
- c) an environmental objective – to contribute to protecting and enhancing our natural, built and historic environment; including making effective use of land, helping to improve biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy.”*

#### ***Making effective use of land***

J 1.4 The NPPF in paragraph 117 states:

*“Planning policies and decisions should promote an effective use of land in meeting the need for homes and other uses, while safeguarding and improving the environment and ensuring safe and healthy living conditions. Strategic policies should set out a clear strategy for accommodating objectively assessed needs, in a way that makes as much use as possible of previously-developed or 'brownfield' land.”*

J 1.5 The NPPF in paragraph 118 lists:

*“Planning policies and decisions should:*

- a) encourage multiple benefits from both urban and rural land, including through mixed use schemes and taking opportunities to achieve net environmental gains – such as developments that would enable new habitat creation or improve public access to the countryside;*
- b) recognise that some undeveloped land can perform many functions, such as for wildlife, recreation, flood risk mitigation, cooling/shading, carbon storage or food production;*
- c) give substantial weight to the value of using suitable brownfield land within settlements for homes and other identified needs, and support appropriate opportunities to remediate despoiled, degraded, derelict, contaminated or unstable land;*
- d) promote and support the development of under-utilised land and buildings, especially if this would help to meet identified needs for housing where land supply is constrained and available sites could be used more effectively (for example converting space above shops, and building on or above service yards, car parks, lock-ups and railway infrastructure); and*
- e) support opportunities to use the airspace above existing residential and commercial premises for new homes. In particular, they should allow upward extensions where the development would be consistent with the prevailing height and form of neighbouring properties and the overall street scene, is well designed (including complying with any local design policies and standards), and can maintain safe access and egress for occupiers.”*

### **Achieving appropriate densities**

J 1.6 The NPPF in paragraph 122 lists:

*“Planning policies and decisions should support development that makes efficient use of land, taking into account:*

- a) the identified need for different types of housing and other forms of development, and the availability of land suitable for accommodating it;*
- b) local market conditions and viability;*
- c) the availability and capacity of infrastructure and services – both existing and proposed – as well as their potential for further improvement and the scope to promote sustainable travel modes that limit future car use;*
- d) the desirability of maintaining an area’s prevailing character and setting (including residential gardens), or of promoting regeneration and change; and*
- e) the importance of securing well-designed, attractive and healthy places.”*

### **Achieving well-designed places**

J 1.7 The NPPF in paragraph 124 confirms:

*“The creation of high-quality buildings and places is fundamental to what the planning and development process should achieve. Good design is a key aspect of sustainable development, creates better places in which to live and work and helps make development acceptable to communities. Being clear about design expectations, and how these will be tested, is essential for achieving this. So too is effective engagement between applicants, communities, local planning authorities and other interests throughout the process”*

J 1.8 The NPPF in paragraph 127 states:

*“Planning policies and decisions should ensure that developments:*

- a) will function well and add to the overall quality of the area, not just for the short term but over the lifetime of the development;*
- b) are visually attractive as a result of good architecture, layout and appropriate and effective landscaping;*
- c) are sympathetic to local character and history, including the surrounding built environment and landscape setting, while not preventing or discouraging appropriate innovation or change (such as increased densities);*
- d) establish or maintain a strong sense of place, using the arrangement of streets, spaces, building types and materials to create attractive, welcoming and distinctive places to live, work and visit;*
- e) optimise the potential of the site to accommodate and sustain an appropriate amount and mix of development (including green and other public space) and support local facilities and transport networks; and*
- f) create places that are safe, inclusive and accessible and which promote health and well-being, with a high standard of amenity for existing and future users; and where crime and disorder, and the fear of crime, do not undermine the quality of life or community cohesion and resilience.”*

### **Conserving and enhancing the natural environment**

J 1.9 Paragraph 170 establishes that planning policies and decisions should contribute to and enhance the natural and local environment by:

- “a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);*
- b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;*
- c) maintaining the character of the undeveloped coast, while improving public access to it where appropriate;*
- d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;*
- e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development*

- should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and*
- f) *remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.”*

J 1.10 Paragraph 171 states that:

*“Plans should: distinguish between the hierarchy of international, national and locally designated sites; allocate land with the least environmental or amenity value, where consistent with other policies in this Framework; take a strategic approach to maintaining and enhancing networks of habitats and green infrastructure; and plan for the enhancement of natural capital at a catchment or landscape scale across local authority boundaries.”*

J 1.11 Paragraph 172 states that:

*“Great weight should be given to conserving and enhancing landscape and scenic beauty in National Parks, the Broads and Areas of Outstanding Natural Beauty, which have the highest status of protection in relation to these issues. The conservation and enhancement of wildlife and cultural heritage are also important considerations in these areas, and should be given great weight in National Parks and the Broads. The scale and extent of development within these designated areas should be limited. Planning permission should be refused for major development other than in exceptional circumstances, and where it can be demonstrated that the development is in the public interest. Consideration of such applications should include an assessment of:*

- a) *the need for the development, including in terms of any national considerations, and the impact of permitting it, or refusing it, upon the local economy;*
- b) *the cost of, and scope for, developing outside the designated area, or meeting the need for it in some other way; and*
- c) *any detrimental effect on the environment, the landscape and recreational opportunities, and the extent to which that could be moderated.”*

### **Conserving and enhancing the historic environment**

J 1.12 Paragraph 184 states:

*“Heritage assets range from sites and buildings of local historic value to those of the highest significance, such as World Heritage Sites which are internationally recognised to be of Outstanding Universal Value. These assets are an irreplaceable resource, and should be conserved in a manner appropriate to their significance, so that they can be enjoyed for their contribution to the quality of life of existing and future generations.”*

J 1.13 Paragraph 185 states that:

*“Plans should set out a positive strategy for the conservation and enjoyment of the historic environment, including heritage assets most at risk through neglect, decay or other threats. This strategy should take into account:*

- a) *the desirability of sustaining and enhancing the significance of heritage assets, and putting them to viable uses consistent with their conservation;*
- b) *the wider social, cultural, economic and environmental benefits that conservation of the historic environment can bring;*
- c) *the desirability of new development making a positive contribution to local character and distinctiveness; and*
- d) *opportunities to draw on the contribution made by the historic environment to the character of a place.”*

### **Proposals affecting heritage assets**

J 1.14 Paragraph 189 states that:

*“In determining applications, local planning authorities should require an applicant to describe the significance of any heritage assets affected, including any contribution made by their setting. The level of detail should be proportionate to the assets’ importance and no more than is sufficient to understand the potential impact of the proposal on their significance. As a minimum the relevant historic environment record should have been consulted and the heritage assets assessed using appropriate expertise where necessary. Where a site on which development is proposed includes, or has the potential to include, heritage assets with archaeological interest, local planning authorities should require developers to submit an appropriate desk-based assessment and, where necessary, a field evaluation.”*

J 1.15 Paragraph 190 states that:

*“Local planning authorities should identify and assess the particular significance of any heritage asset that may be affected by a proposal (including by development affecting the setting of a heritage asset) taking account of the available evidence and any necessary expertise. They should take this into account when considering the impact of a proposal on a heritage asset, to avoid or minimise any conflict between the heritage asset’s conservation and any aspect of the proposal.*

J 1.16 Paragraph 192 states that:

*“In determining applications, local planning authorities should take account of:*

- a) *the desirability of sustaining and enhancing the significance of heritage assets and putting them to viable uses consistent with their conservation;*
- b) *the positive contribution that conservation of heritage assets can make to sustainable communities including their economic vitality; and*
- c) *the desirability of new development making a positive contribution to local character and distinctiveness.”*

### **Considering potential impacts**

J 1.17 Paragraph 193 states that:

*“When considering the impact of a proposed development on the significance of a designated heritage asset, great weight should be given to the asset’s conservation (and the more important the asset, the greater the weight should be). This is irrespective of whether any potential harm amounts to substantial harm, total loss or less than substantial harm to its significance.”*

J 1.18 Paragraph 194 states that:

*“Any harm to, or loss of, the significance of a designated heritage asset (from its alteration or destruction, or from development within its setting), should require clear and convincing justification. Substantial harm to or loss of:*

- a) Grade II listed buildings, or grade II registered parks or gardens, should be exceptional;*
- b) Assets of the highest significance, notably scheduled monuments, protected wreck sites, registered battlefields, grade I and II\* listed buildings, grade I and II\* registered parks and gardens, and World Heritage Sites, should be wholly exceptional.”*

J 1.19 Paragraph 195 states that:

*“Where a proposed development will lead to substantial harm to (or total loss of significance of) a designated heritage asset, local planning authorities should refuse consent, unless it can be demonstrated that the substantial harm or total loss is necessary to achieve substantial public benefits that outweigh that harm or loss, or all of the following apply:*

- a) the nature of the heritage asset prevents all reasonable uses of the site; and*
- b) no viable use of the heritage asset itself can be found in the medium term through appropriate marketing that will enable its conservation; and*
- c) conservation by grant-funding or some form of not for profit, charitable or public ownership is demonstrably not possible; and*
- d) the harm or loss is outweighed by the benefit of bringing the site back into use.”*

J 1.20 Paragraph 196 states that:

*“Where a development proposal will lead to less than substantial harm to the significance of a designated heritage asset, this harm should be weighed against the public benefits of the proposal including, where appropriate, securing its optimum viable use.”*

J 1.21 Paragraph 197 states that:

*“The effect of an application on the significance of a non-designated heritage asset should be taken into account in determining the application. In weighing applications that directly or indirectly affect non-designated heritage assets, a balanced judgement will be required having regard to the scale of any harm or loss and the significance of the heritage asset.”*



### **National Planning Practice Guidance (NPPG)**

J 1.22 The National Planning Practice Guidance contains government guidance, the following of which is relevant to this assessment.

#### ***Design: process and tools***

J 1.23 Paragraph: 001 Reference ID: 26-001-20191001, revision date 1<sup>st</sup> October 2019 states:

*“Well-designed places can be achieved by taking a proactive and collaborative approach at all stages of the planning process, from policy and plan formulation through to the determination of planning applications and the post approval stage. This guidance explains the processes and tools that can be used through the planning system and how to engage local communities effectively.*

*To be read alongside this guidance, the National Design Guide sets out the characteristics of well-designed places and demonstrates what good design means in practice.*

*As set out in paragraph 130 of the National Planning Policy Framework, permission should be refused for development of poor design that fails to take the opportunities available for improving the character and quality of an area and the way it functions, taking into account any local design standards or style guides in plans or supplementary planning documents. Conversely, where the design of a development accords with clear expectations in plan policies, design should not be used by the decision-maker as a valid reason to object to development.*

*Good design is set out in the National Design Guide under the following 10 characteristics:*

- *Context*
- *Identity*
- *Built form*
- *Movement*
- *Nature*
- *Public spaces*
- *Uses*
- *Homes and buildings*
- *Resources*
- *Lifespan*

*The National Design Guide can be used by all those involved in shaping places including in plan-making and decision making.”*

#### **Natural environment – Landscape**

J 1.24 Paragraph: 036 Reference ID: 8-036-20190721, revision date 21<sup>st</sup> July 2019 states that:

*“The National Planning Policy Framework is clear that plans should recognise the intrinsic character and beauty of the countryside, and that strategic policies should provide for the conservation and enhancement of landscapes. This can include nationally and locally-designated landscapes but also the wider countryside.*

*Where landscapes have a particular local value, it is important for policies to identify their special characteristics and be supported by proportionate evidence. Policies may set out criteria against which proposals for development affecting these areas will be assessed. Plans can also include policies to avoid adverse impacts on landscapes and to set out necessary mitigation measures, such as appropriate design principles and visual screening, where necessary. The cumulative impacts of development on the landscape need to be considered carefully.”*

J 1.25 Paragraph: 037 Reference ID: 8-037-20190721, revision date 21<sup>st</sup> July 2019 states that:

*“For a designated landscape, the relevant management plan will contain further information on the area’s particular character and beauty.*

*Where appropriate, landscape character assessments can be prepared to complement Natural England’s National Character Area profiles. Natural England provides guidance on undertaking these assessments.*

*To help assess the type and scale of development that might be able to be accommodated without comprising landscape character, a Landscape Sensitivity and Capacity Assessment can be completed.*

*To demonstrate the likely effects of a proposed development on the landscape, a Landscape and Visual Impact Assessment can be used.”*

## **Local planning policy**

### ***West Dorset, Weymouth and Portland Local Plan, adopted October 2015***

J 1.26 The West Dorset, Weymouth and Portland Local Plan, adopted October 2015, has the following policies that are relevant to the landscape and visual assessment.

J 1.27 Policy ENV1 – Landscape, Seascape and Sites of Geological Interest states:

*“i) The plan area’s exceptional landscapes and seascapes and geological interest will be protected, taking into account the objectives of the Dorset AONB Management Plan and World Heritage Site Management Plan. Development which would harm the character, special qualities or natural beauty of the Dorset Area of Outstanding Beauty or Heritage Coast, including their characteristic landscape quality and diversity, uninterrupted panoramic views, individual landmarks, and sense of tranquillity and remoteness, will not be permitted.*

*ii) Development should be located and designed so that it does not detract from and, where reasonable, enhances the local landscape character. Proposals that conserve, enhance and restore locally distinctive landscape features will be*

*encouraged. Where proposals relate to sites where existing development is of visually poor quality, opportunities should be taken to secure visual enhancements. Development that significantly adversely affects the character or visual quality of the local landscape or seascape will not be permitted.*

*iii) Appropriate measures will be required to moderate the adverse effects of development on the landscape and seascape.*

*iv) Development should maintain Regionally Important Geological and Geomorphological Sites (RIGS) for their scientific and educational value. Development that significantly adversely affects local geological features will not be permitted unless comparable sites can be identified or created elsewhere or the impact adequately mitigated through other measures.”*

J 1.28 Policy ENV4 – Heritage Assets states:

*“i) The impact of development on a designated or non-designated heritage asset and its setting must be thoroughly assessed against the significance of the asset. Development should conserve and where appropriate enhance the significance.*

*ii) Applications affecting the significance of a heritage asset or its setting will be required to provide sufficient information to demonstrate how the proposals would positively contribute to the asset’s conservation.*

*iii) A thorough understanding of the significance of the asset and other appropriate evidence including conservation area character appraisals and management plans should be used to inform development proposals including potential conservation and enhancement measures.*

*iv) Any harm to the significance of a designated or non-designated heritage asset must be justified. Applications will be weighed against the public benefits of the proposal; if it has been demonstrated that all reasonable efforts have been made to sustain the existing use, find new uses, or mitigate the extent of the harm to the significance of the asset, and; if the works proposed are the optimum required to secure the sustainable use of the asset.*

*v) The desirability of putting heritage assets to an appropriate and viable use that is consistent with their conservation will be taken into account.*

*vi) Where harm can be justified, appropriate provision will be required to capture and record features, followed by analysis and where appropriate making findings publicly available.”*

J 1.29 Policy ENV10 – The Landscape and Townscape Setting states:

*“i) All development proposals should contribute positively to the maintenance and enhancement of local identity and distinctiveness. Development should be informed by the character of the site and its surroundings.*

*ii) Development will provide for the future retention and protection of trees and other features that contribute to an area’s distinctive character. Such features may not always be designated or otherwise formally recognised.*

*iii) Development should only be permitted where it provides sufficient hard and*

*soft landscaping to successfully integrate with the character of the site and its surrounding area.*

*iv) Opportunities to incorporate features that would enhance local character, including public art, or that relate to the historical, ecological or geological interest of a site, should be taken where appropriate.”*

J 1.30 Policy ENV12 – The Design and Positioning of Buildings states:

*“i) Development will achieve a high quality of sustainable and inclusive design. It will only be permitted where it complies with national technical standards and where the siting, alignment, design, scale, mass, and materials used complements and respects the character of the surrounding area or would actively improve legibility or reinforce the sense of place. This means that:*

- The general design should be in harmony with the adjoining buildings and the area as a whole;*
- The position of the building on its site should relate positively to adjoining buildings, routes, open areas, rivers, streams and other features that contribute to the character of the area;*
- The scale, mass and positioning of the building should reflect the purpose for which the building is proposed;*
- The quality of the architecture is appropriate to the type of building with particular regard to its architectural elegance, symmetry and rhythm, and richness of detail;*
- Materials are sympathetic to the natural and built surroundings and where practical sourced locally;*
- Any alterations to or extensions of buildings should be well related to, and not overpower, the original building or neighbouring properties, unless they achieve significant visual enhancement to both the building and surrounding area;*
- New housing should meet and where possible exceed appropriate minimum space standards.*

*ii) The council will work with stakeholders and the local community to develop and approach for adaptable and accessible homes in accordance with the latest government guidance.”*

J 1.31 Policy COM11 – Renewable Energy Development states:

*“i) Proposals for generating heat or electricity from renewable energy sources (other than wind energy) will be allowed wherever possible providing that the benefits of the development, such as the contribution towards renewable energy targets, significantly outweigh any harm. In addition, permission will only be granted provided:*

- Any adverse impacts on the local landscape, townscape or areas of historical interest can be satisfactorily assimilated;*
- The proposal minimises harm to residential amenity by virtue of noise, vibration, overshadowing, flicker, or other detrimental emissions, during construction, its operation and decommissioning;*

- *Adverse impacts upon designated wildlife sites, nature conservation interests, and biodiversity are satisfactorily mitigated.”*

***Bournemouth, Christchurch, Poole and Dorset Waste Plan, adopted December 2019***

J 1.32 The Bournemouth Christchurch, Poole and Dorset Waste Plan, adopted December 2019, has the following policies that are relevant to the landscape and visual assessment.

J 1.33 Policy 14 – Landscape and Design Quality states:

*“Proposals for waste management facilities will be permitted where they are compatible with their setting and would conserve and/or enhance the character and quality of the landscape.*

*Proposals for waste management facilities should achieve this through:*

- a) Sympathetic design and location;*
- b) appropriate use of scale, form, mass, layout, detailing, materials and building orientation; and*
- c) avoidance, or if this is not practicable, acceptable mitigation of adverse impacts on the landscape.*

*Great weight will be given to conserving the landscape and scenic beauty of Areas of Outstanding Natural Beauty, National Parks and the Outstanding Universal Value of the World Heritage Site will be considered against Policy 19 and national policy on heritage assets. Permission will only be granted for waste developments where it is demonstrated to the satisfaction of the Waste Planning Authority that they will not result in unacceptable adverse impacts upon the special qualities that underpin the relevant designation.*

*Proposals for major development in such areas will only be permitted in exceptional circumstances and where it can be demonstrated they are in the public interest. In satisfying these requirements, proposals must demonstrate that all of the following criteria are met to the extent that the benefits of granting planning permission outweigh any residual adverse impacts:*

- i) they would meet an identified need and there are no suitable alternatives for meeting the need;*
- ii) they have taken account of the AONB Management Plan objectives and policies when addressing criteria a-c of this policy; and*
- iii) there would be sustainability benefits of siting a development that meets a local need within an Area of Outstanding Natural Beauty.*

*Proposals should also demonstrate that it will not have an unacceptable adverse impact upon the character of the undeveloped coast within the West Dorset Heritage Coast and the Purbeck Heritage Coast.”*

J 1.34 Policy 19 – Historic Environment states:

*“Proposals for waste management facilities will be permitted where it is demonstrated that heritage assets and their settings will be conserved and/or enhanced in a manner appropriate to their significance.*

#### *Designated heritage assets*

*Great weight will be given to the conservation (protection and enhancement) of Bournemouth, Christchurch, Poole & Dorset’s designated heritage assets and their settings including listed buildings, conservation areas, historic parks and garden, scheduled monuments and non-designated heritage assets of archaeological interest that are demonstrably of equivalent significance to scheduled monuments.*

*Proposals resulting in harm to the significance of a designated heritage asset will only be permitted if this is justified, having regard to the public benefits of the proposal and whether it has been demonstrated that all reasonable efforts have been made to mitigate the extent of the harm to the significance of the asset.*

#### *Non-designated heritage assets*

*Where a proposal directly or indirectly affects non-designated heritage assets, the Waste Planning Authority will have regard to the scale of any harm or loss and the significance of the heritage asset.*

*Where harm can be fully justified, archaeological excavation and/or historic building recording as appropriate will be required, followed by analysis and publication of the results.”*

### **Portland Neighbourhood Plan**

J 1.35 Port ENV7 – Design and Character states:

*“Development proposals will be expected to be of a design which:*

- i) complements the prevailing size, height, scale and mass, materials, layout, density and access of the existing surrounding development;*
- ii) be of high quality design and use locally appropriate materials and colours;*
- iii) demonstrates that the development reflects and reinforces, as far as is possible, the existing character of the locality as identified in the Portland Heritage and Character Assessment and applies the principles set out in the conservation area appraisals where appropriate; and*
- iv) wherever possible, incorporates and enhances existing landscape features as part of an appropriate level of landscaping.”*

### **Dorset AONB Management Plan 2019-2024**

J 1.36 Policy C1 – The AONB and its setting is conserved and enhanced by good planning and development states that:

- a. “Support development that conserves and enhances the AONB, ensuring sensitive siting and design respects local character. Development that*

*does not conserve and enhance the AONB will only be supported if it is necessary and in the public interest. Major development decisions need to include detailed consideration of relevant exceptional circumstances.*

- b. The conservation, enhancement and creation/restoration of appropriate landscape features such as landmarks, artworks, boundary features, tree clumps etc, will be regarded favourably. There should be a net gain in terms of the landscape and its constituent elements.*
- c. High quality design, materials and standards of workmanship are required of developments within the AONB. Good design and material use does not have to be a cost burden, however where this requirement affects development viability, consideration will be given to the balance between the public benefits of a proposal and the significance of its landscape and visual effects. When the landscape and visual effects of a development cannot be fully addressed through primary design measures, appropriate and robust secondary mitigation measures that can be delivered, enforced and maintained will be required.*
- d. Developments will be required to make a positive contribution to the overall green infrastructure and ecological networks. All aspects of green infrastructure, e.g. sustainable drainage, also require good design that respects local character and must also make an appropriate contribution to landscape ecology. The net result of these contributions should be landscape gain.*
- e. Full consideration of geodiversity conservation is required in plans and strategies affecting the AONB, e.g. local plans, mineral plans and shoreline management plans. The close links between geodiversity, conservation, extraction industries, landscape and built environment conservation should be recognised.*
- f. The AONB's coast will be conserved and enhanced and significant weight will be given to maintaining its undeveloped and tranquil nature. The importance of the AONB's coastal areas as the setting for the World Heritage Site (WHS) will be recognised and the presentation and visitor experience of this asset will be protected from both individual developments and cumulative effects of incremental change.*
- g. Approaches to coastal management that promote natural processes will be adopted wherever possible and the objectives of coastal change management areas will be implemented.*
- h. The landward and seaward setting of the AONB will be planned and managed in a manner that conserves and enhances the character and appearance of the AONB. Views into and out of the AONB and non- visual effects, such as noise and wider environmental impacts, will be appropriately assessed.*
- i. Within the seaward setting of the AONB, support will be given to the conservation and enhancement of the coastal and marine environment. Support will be given to sustainable management, including the creation of Marine Protected Areas at appropriate locations."*

J 1.37 Policy C2 – Landscape assessment and monitoring is effective and supports

good decision-making states that:

- a. *“Proposals affecting the AONB will be assessed to a high standard.*
- b. *Landscape and seascape character assessment will be used to consider the effects of proposals on the character and appearance of the AONB.*
- c. *Local and Neighbourhood Plans must be supported by a robust landscape evidence base.*
- d. *The key test of a proposal against the statutory purpose of the AONB will be its ability to demonstrate that the proposed change would conserve and enhance landscape and scenic beauty.*
- e. *The conservation and enhancement of the AONB’s special qualities will be a significant consideration in the planning balance.*
- f. *Proposals that are harmful to the character and appearance of the area will not be permitted unless there are benefits that clearly outweigh the significant protection afforded to the conservation and enhancement of the AONB. Where impacts cannot be mitigated, planning gain and compensatory measures will be considered.*
- g. *Changes in landscape condition will be monitored and assessed to inform appropriate action.”*

J 1.38 Policy C3 – Necessary development is supported states that:

- a. *“Support appropriate farm diversification schemes, particularly where these contribute to the conservation, enhancement and sustainable development of the AONB.*
- b. *Support affordable housing within appropriate rural exception sites that meet proven local need. Good, locally-sensitive design should be pursued.*
- c. *Support restoration of traditional barns, buildings and other structures that maintains or enhances landscape character quality, ensuring diversification benefits are not outweighed by adverse effects on the environment.*
- d. *Support the working of minerals sites at an appropriate scale and density in the AONB for the supply of building materials to conserve and enhance local character. Secure appropriate and high-quality restoration of minerals sites to benefit landscape, biodiversity and access.*
- e. *Support measures to increase energy efficiency.*
- f. *Support renewable energy production where compatible with the objectives of AONB designation.*
- g. *Support well designed projects that reduce the impact of traffic in the AONB.*
- h. *Support woodland planting and management proposals that are appropriate to landscape character and deliver clear enhancements for biodiversity, habitat connectivity and public amenity.”*

J 1.39 Policy C4 – Development which has negative effects on the natural beauty of the



AONB, its special qualities, ecosystem flows and natural processes is avoided states that:

- a. *“Remove existing and avoid creating new features which are detrimental to landscape character, tranquillity, and the AONB’s special qualities.*
- b. *Require the use of previously developed land where this will limit the expansion of built development into sensitive undeveloped countryside.*
- c. *Protect and where possible enhance the quality of views into, within and out of the AONB.*
- d. *Protect the pattern of landscape features, including settlements, that underpin local identity.*
- e. *Avoid and reduce the impacts of development on biodiversity. Require development to follow the hierarchy of avoid, mitigate and compensate and to achieve a net gain for biodiversity.*
- f. *Avoid and reduce cumulative effects that erode landscape character and quality.*
- g. *Protect the AONB from an overprovision of visitor accommodation including camping, caravanning and glamping sites particularly where existing development weakens the character and appearance of the countryside. Changes in landscape condition will be monitored and assessed to inform appropriate action.*
- h. *Avoid large scale and/or high density housing and employment development at settlement edges when such development weakens the character and appearance of the countryside.*
- i. *Discourage growth in the number of second homes within the AONB.*
- j. *Resist proliferation of masts and other vertical structures, requiring the sharing of infrastructure by service providers.*
- k. *Ensure coastal and flood defences, as well as aquaculture and fishery development, are compatible with the AONB’s exceptional undeveloped coastline.*
- l. *Require further permanent oil and gas infrastructure to reuse/augment existing areas of development and contribute to restoration of the wider landscape.*
- m. *Avoid urbanisation and other negative impacts of highway management.”*

***Jurassic Coast Partnership Plan 2020-2025, Management Plan for the Dorset and East Devon Coast World Heritage Site***

J 1.40 Policy R4 states: those elements of landscape character, seascape, seabedscape, natural beauty, biodiversity and cultural heritage that constitute the WHS’s functional or experiential setting are protected from inappropriate development.

J 1.41 Policy CSS5 states that the conservation and enhancement of biodiversity, the historic environment and landscape character in the WHS and setting will be

supported in ways that are complementary with its OUV.

## Technical appendix J part 2: Assessment methodology

*To be read with reference to figures 9.1 to 9.6 of chapter 9 of the ES.*

### Introduction

J 2.1 The following paragraphs set out the methodology that has been followed in the baseline study of the existing landscape and visual amenity and the subsequent assessment of the effects of the proposals.

### **LVIA Guidelines**

J 2.2 The Landscape and Visual Impact Assessment (LVIA) has been carried out in accordance with the following best practice guidelines:

- *The Guidelines for Landscape and Visual Impact Assessment, (GLVIA) 3rd Edition, Landscape Institute (LI) and Institute for Environmental Management and Assessment (IEMA) (2013)*
- *An Approach to Landscape Character Assessment, Natural England (October 2014)*
- *Landscape Institute Technical Guidance Note 06/19, Visual Representation of Development Proposals 17 September 2019*

### **Role of the LVIA**

J 2.3 Paragraph 2.21 of the GLVIA states that there are two distinct components of the LVIA:

*“Assessment of landscape effects: assessing effects on the landscape as a resource in its own right;*

*Assessment of visual effects: assessing the effects on specific views and on the general visual amenity experienced by people.”*

### **Definition of landscape**

J 2.4 In describing landscape, paragraph 2.19 of the GLVIA states that:

*“Landscape results from the interplay of the physical, natural and cultural components of our surroundings. Different combinations of these elements and their spatial distribution create the distinctive character of landscapes in different places, allowing different landscapes to be mapped, analysed and described. Character is not just about the physical elements and features that make up a landscape, but also embraces the aesthetic, perceptual and experiential aspects of the landscape that make different places distinctive.”*

### **Definition of visual amenity**

J 2.5 The GLVIA glossary defines the meaning of visual amenity as:

*“The overall pleasantness of the views people enjoy of their surroundings, which provides an attractive visual setting or backdrop for the enjoyment of activities of the people living, working, recreating, visiting or travelling through an area.”*

J 2.6 The methodology for assessing both the landscape and visual effects is outlined in paragraphs J2.34 to J2.67.

### **Assessment process**

J 2.7 The process of LVIA includes the following stages:

- **Project description** – Describes the proposed development, identifying the main features of the proposals, and establishes parameters such as maximum extents of the development or sizes of the elements.
- **Baseline studies** – Establishes the existing nature of the landscape and visual environment in the study area, including any relevant changes likely to occur independently of the development proposal. Includes information on the value attached to the different environmental resources.
- **Identification and description of effects** – Systematically identifies and describes the effects that are likely to occur, including whether they are adverse or beneficial.
- **Assessing the significance of effects** – Systematically and transparently assesses the likely significance of the effects identified.
- **Mitigation** – Makes proposals for measures designed to avoid / prevent, reduce or offset (or compensate for) any significant negative (adverse) effects.

### **Professional judgement**

J 2.8 Professional judgement is an important consideration in the determination of the overall landscape and visual effects and even with qualified and experienced professionals there can be differences in the judgements made.

J 2.9 Paragraph 2.23 of the GLVIA states that:

*“While there is some scope for quantitative measurement of some relatively objective matters, for example the number of trees lost to construction of a new mine, much of the assessment must rely on qualitative judgements, for example about what effect the introduction of a new development or land use change may have on visual amenity or about the significance of change in the character of the landscape and whether it is positive or negative.”*

J 2.10 Paragraph 2.24 of the GLVIA states that:

*“In all cases there is a need for the judgements that are made to be reasonable and based on clear and transparent methods so that the reasoning applied at different stages can be traced and examined by others.”*

### **Baseline assessment**

J 2.11 The landscape and visual baseline conditions were established by:

Landscape	Visual
Identify elements and features Identify landscape character and key characteristics Consider value attached to landscape Identify landscape receptors	Identify extent of possible visibility (ZTV) Identify visual receptors (people) who may be affected Identify and select representative, illustrative and specific viewpoints

***Site familiarisation***

J 2.12 The site and surrounding area were visited in March 2020 to obtain familiarity with the landscape. Field studies and desk studies of photographs, aerial photographs, map information, landscape character assessments and statutory and emerging planning policy documents have enabled the recording of landscape elements such as topography, drainage, land use, development, vegetation and other features.

***Defining the study area***

J 2.13 The study area defines the scope of the assessment. The study area includes the site itself and the wider area around it, within which the proposed development may have a significant influence. The extent of the study area has been established using a zone of theoretical visibility (ZTV) of the proposed development in combination with observations made on site. During the assessment process the study area may change as a result of fieldwork studies or changes to the proposals.

J 2.14 A 10 km study area was chosen and agreed with the local planning authority and Dorset AONB Partnership, as the visibility beyond this distance will become limited and the proposed development is unlikely to have any significant effects.

***Identifying landscape character, elements and features***

J 2.15 Published and adopted landscape character assessments (LCA) prepared by relevant authorities at varying levels, from national through to local assessments, have been referred to in order to identify the baseline landscape character, resources and associated value. These established assessments have been reviewed in terms of their status, scale and level of detail provided and therefore suitability for use within the LVIA. This review also took account of the date in which the assessments were carried out and how relevant the content is in relation to the current landscape characteristics.

J 2.16 National and county level LCAs generally give a broad scale assessment that often provides an overview of the landscape context and setting but does not necessarily represent the local landscape characteristic of the site and surrounding area. Local LCAs provide more detail on the types of landscape that occur in the study area. They are therefore considered appropriate as a basis for describing the key characteristics and are used to inform the description of the landscapes that may be affected by the proposals. For LVIA's undertaken within urban areas there is very often no local landscape or townscape character assessment undertaken by the local planning authority. In these instances, it is useful where possible to utilise conservation area appraisals.

J 2.17 Detailed fieldwork carried out within the site and immediate surroundings is used to check the applicability of the LCAs throughout the study area and, where variations in the landscape are identified since the LCA was adopted, modifications are made or supplementary information is provided in the baseline assessment.

J 2.18 ZTV analysis and field studies have been carried out to determine which landscape character areas will be physically or perceptually affected by the proposals.

### ***Identifying possible extent of visibility (ZTV)***

J 2.19 Computer generated mapping has been used in combination with fieldwork to assess the potential visibility of the proposals. The extent of visibility over which the proposed ERF building may theoretically be seen, the ZTV, is provided in figure 9.16. The extent of visibility over which the proposed ERF stack may theoretically be seen, is provided in figure 9.17.

J 2.20 The ZTVs have been derived from Digital Surface Modelling (DSM). The DSM used was based on a 1 m Lidar data provided by the Environment Agency. Topographic features including landform, woodland, settlements, individual buildings, isolated trees, copses, hedgerows, embankments and other minor topographic features, out to a distance of 10 km from the application boundary, are all modelled. The accuracy of the DSM falls within acceptable limits; however, there are potential discrepancies between the DSM and the actual landform where there are minor topographic features that are too small to be picked up. The Lidar data can pick up the majority of the woodland and buildings, although areas can be missed between the 1 m grid.

J 2.21 For this project, the ZTVs have been generated using the DSM and the proposed building heights, which vary from 19 m to 47 m for the main building and 6 m to 17 m for the office, with the height of the stack at 80 m. The proposed heights are above Ordnance datum (AOD) and to the highest roof lines. All ancillary features are contained within the building envelope.

J 2.22 The height from which the proposed development would be seen was set at 1.6 m (mid-way between the average heights for men and women given in the GLVIA). A professional judgement has been made for this assessment that approximately 10 km is the distance beyond which proposals of this scale, nature and context would not have a significant effect on either landscape / seascape character or views. The resulting ZTVs for the building and the stack, figures 9.16 and 9.17, illustrate the extent to which any part of the proposed building or stack (large or small) is potentially visible from the surrounding area.

J 2.23 During fieldwork, any significant discrepancies in the ZTVs are recorded and later amended. Fieldwork was confined to the site, public rights of way, transport routes and other publicly accessible areas.

### ***Identifying visual receptors***

J 2.24 The baseline study will have determined the individuals and / or defined groups of people who have the potential to be affected by the proposals. These are referred to as visual receptors.

J 2.25 Paragraph 6.13 of the GVLIA states that visual receptors may include:

*“...people living in the area, people who work there, people passing through the landscape on road, rail or other forms of transport, people visiting promoted landscapes or attractions, and people engaged in recreation of different types”.*

### **Identifying viewpoints**

J 2.26 Following analysis of the ZTVs and fieldwork, a series of viewpoints from which the proposals will be seen by the individual or groups of visual receptors were identified and agreed with Dorset Council and the AONB Partnership. To illustrate all potential viewpoints from which the proposals will be seen by the different visual receptors within the study area is not practical and is unnecessary for the purposes of the EIA. Therefore, viewpoints selected for inclusion in the LVIA broadly fall into three groups:

- **Representative** viewpoints (represent the experience of different types of visual receptors). For example, certain points may be chosen to represent the views of users from a particular public right of way
- **Specific** viewpoints (a particular view from a key or promoted viewpoint). For example, viewpoints with particular cultural landscape associations
- **Illustrative** viewpoints to demonstrate a particular effect / issue. For example, the restricted visibility at a certain location

J 2.27 Generally, viewpoints are selected from publicly accessible land and / or transport routes. Private views from residential receptors have not been taken; however, representative or specific viewpoints from adjacent areas can take into consideration that similar views may be afforded from receptors of residential areas.

### **Future baseline**

J 2.28 In describing potential effects, account must also be taken of ongoing changes to the area surrounding the site, and the site itself, should no development take place, which is described as the future baseline. Those schemes that are under construction or have planning consent, which it can be reasonably assumed will be constructed, are to be included in the assessment's baseline. Understanding and describing how the proposals will be experienced in the immediate context of existing and future developments is important to reaching accurate and realistic conclusions on the overall effects.

J 2.29 Chapter 3 of this ES describes the cumulative schemes. Those schemes that are not visible in the immediate context of the proposed development have not been considered as part of the future baseline. The baseline schemes that have been taken into consideration are described within this assessment under paragraphs 9.149 to 9.154.

### **Description of proposals**

J 2.30 The planning application drawings and design and access statement provide a description of the proposals. In this ES the proposed development is described in chapter 2, while chapter 9 summarises the elements that are likely to give rise to

landscape or visual effects. The effects on landform and on existing landscape features are also described.

### **Mitigation measures**

J 2.31 The GLVIA describes three forms of mitigation measures. These are:

- *“Primary measures, developed through the iterative design process, which have become integrated or embedded into the project design;*
- *Standard construction and operational management practices for avoiding and reducing environmental effects;*
- *Secondary measures, designed to address any residual adverse effects remaining after primary measures and standard construction practices have been incorporated into the scheme.”*

J 2.32 The first two forms are referred to as primary mitigation, while the last is referred to as secondary mitigation. At all stages of the iterative design development, the purpose has been to prevent / avoid, reduce and where possible offset or remedy potential adverse effects by including primary mitigation measures and standard construction and operational management practices. The plans illustrated in chapter 2 incorporate the primary measures used to assess predicted potential effects.

J 2.33 Secondary mitigation measures are those that have not been designed into the proposals that form an outline application. Potential secondary mitigation measures are those that are considered as part of reserved matters. The planning application pursuant to this ES chapter is detailed and therefore secondary mitigation is not applicable.

### **Landscape assessment**

J 2.34 The landscape assessment judges the potential effects of the proposals on the landscape receptors that have been identified. The significance of a landscape effect is determined by consideration of the sensitivity of the landscape receptors and the magnitude of the landscape effect as a result of the proposals. These are defined in the following paragraphs.

#### ***Criteria for assessing potential significance of landscape effects***

##### *Sensitivity of landscape receptor*

J 2.35 The sensitivity of the landscape is assessed by combining the considerations of two factors:

- Value
- Susceptibility to specific change

J 2.36 The **value** of the landscape receptor is defined in the GLVIA (paragraph 5.19) as:

*“The relative value that is attached to different landscapes by society, bearing in mind that a landscape may be valued by different stakeholders for a whole variety of reasons.”*



J 2.37 The value of the landscape receptor is established at the baseline stage and considers two key categories as highlighted in paragraph 5.44 of the GLVIA:

- *“The value of the landscape character types or areas based on review of any designations at both national and local levels, and, where there are no designations, judgements based on criteria that can be used to establish landscape value;*
- *The value of individual contributors to landscape character, especially the key characteristics, which may include individual elements of the landscape, particular landscape features, notable aesthetic, perceptual or experiential qualities, and combinations of the contributors.”*

J 2.38 Landscape designations should not be over relied upon to signify the value of the landscape receptors. Other factors that can help in the identification of valued landscapes include:

- Landscape quality (condition)
- Scenic quality
- Rarity
- Representativeness
- Conservation interests
- Recreational value
- Perceptual aspects including wildness and / or tranquillity
- Associations

J 2.39 In the absence of a formal landscape designation or landscape character area, judgement on the value of a landscape is based on the criteria set out in the paragraph above (J2.38).

J 2.40 The landscape receptors’ **susceptibility** to specific change is defined in the GLVIA (paragraph 5.40) as follows:

*“The ability of the landscape receptor (whether it be the overall character or quality/condition of a particular landscape type or area, or an individual element and/or feature, or a particular aesthetic and perceptual aspect) to accommodate the proposed development without undue consequences for the maintenance of the baseline situation and/or achievement of landscape planning policy and strategies.”*

J 2.41 Paragraph 5.42 of the GLVIA also states that:

*“Since landscape effects in LVIA are particular to both the specific landscape in question and the specific nature of the proposed development, the assessment of susceptibility must be tailored to the project.”*

J 2.42 Factors for judging susceptibility to change include:

- Vulnerability or robustness of elements of the landscape
- The tolerance, i.e. the extent to which elements of the landscape can be replaced, restored or may be altered

- The level or role elements of the landscape have in defining the character of the landscape
- The landscape sensitivity to the specific type of development proposed.

J 2.43 The guidance set out in figure 9.1 has been used in this assessment to arrive at an overall evaluation of landscape sensitivity. Both susceptibility to change and value are judged as high, medium, low or negligible based on the criteria shown. There may be circumstances where the weighting given to some criteria may be greater than others. The combination of susceptibility and value produces an overall evaluation of landscape sensitivity, which is ultimately a matter of professional judgement, and is defined in the chapter as high, medium, low or negligible.

*Magnitude of landscape effect*

J 2.44 The magnitude of effect is assessed in terms of:

- Size / scale
- Geographical extent
- Duration
- Reversibility

J 2.45 The **size or scale** of an effect is assessed by determining the degree of change that would arise from the proposals. The effect of both loss and addition of new features is judged as major, partial, minor or very minor based on the criteria set out in figure 9.2. The judgements may take into account:

- The extent of existing landscape elements that will be lost (this may be quantified)
- The degree to which aesthetic or perceptual aspects of the landscape are altered through the loss of or addition of landscape resources / elements. For example, removal of hedges may change a small scale intimate landscape into a large scale, open one
- Whether the effect changes any of the key characteristics that are distinctive to the landscape character

J 2.46 The **geographical extent** of effects is assessed by determining the area over which the landscape effects will be felt. The effect is considered across varying scales of wide, intermediate, localised or limited based on the criteria set out in figure 9.2. In general, the effects will vary according to the nature of the project and may not be relevant on every occasion.

J 2.47 The **duration** of effects is assessed by the period of time over which the degree of change to the landscape would arise from the development. Duration is judged as long term, medium term or short term based on the criteria set out in figure 9.2.

J 2.48 The **reversibility** of an effect assesses the prospects or practicality of the effect being reversed. The effect is judged as reversible, partially reversible or permanent as set out in figure 9.2.

J 2.49 Duration and reversibility can be considered together so that a temporary or

partially reversible effect is linked to the definition of how long that effect may last.

J 2.50 The guidance notes and criteria set out in figure 9.2 have been used to make a judgement on the magnitude of landscape effect for this assessment. The magnitude of landscape effect is determined by combining the judgements of the four individual factors of size / scale, geographical extent, duration and reversibility. There may be circumstances where the weighting given to some criteria may be greater than others. The combination of all four factors produces an overall evaluation of magnitude of landscape effect, which is ultimately a matter of professional judgement, and is defined in the chapter as large, medium, small or negligible.

#### *Judging the overall significance of landscape effect*

J 2.51 The degree of the effects on the landscape resources is considered from a sequentially combined evaluation of the landscape sensitivity and the magnitude of effect. The matrix in figure 9.3 has been used to guide this judgement. The definitions used are included in that figure. They are applied to both potential effects pre-mitigation, and to residual effects. If the degree of effect is moderate or above then the effect is considered to be significant.

J 2.52 The GLVIA guidance also states that thought must be given to whether the likely significant landscape effects are judged to be positive (beneficial) or negative (adverse). It may also be possible for the effects to be neutral in their consequences for the landscape where it is considered there are no effects, i.e. like for like replacement. The GLVIA (paragraph 5.37) suggests that when judging the effects to be adverse or beneficial the factors to be considered should include, but not be restricted to the following:

- *“The degree to which the proposal fits within the existing landscape character*
- *The contribution to the landscape that the development may make in its own right, usually by virtue of good design, even if it is in contrast to existing character.”*

#### **Visual assessment**

J 2.53 The visual assessment judges the potential effects of the proposals on the visual receptors that have been identified. The significance of a visual effect is determined by consideration of the sensitivity of the visual receptors and the magnitude of the effect on visual amenity. These are defined in the following paragraphs.

#### ***Criteria for assessing potential significance of visual effects***

##### *Sensitivity of visual receptors*

J 2.54 A visual receptor is a particular person or group of people who would be experiencing the view or are likely to be affected at a specific viewpoint.

J 2.55 The sensitivity of the visual receptor is assessed by combining the judgements of two factors:

- Value attached to views
- Susceptibility of visual receptors to change

J 2.56 The GLVIA suggests that when judging the **value** attached to the views experienced (paragraph 6.37), account should be taken of:

- *“recognition of the value attached to particular views, for example in relation to heritage assets, or through planning designations;*
- *indicators of the value attached to views by visitors, for example through appearances in guidebooks or on tourist maps, provision of facilities for their enjoyment and references to them in literature or art”*

J 2.57 The value attached to the views experienced is established at the baseline stage and considers these two key categories:

- The quality of the view / visual experience, i.e. attractive unspoilt landscape
- The associations that contribute to the visual experience, i.e. cultural / historical / ecological interests and planning designations

J 2.58 The visual receptors' **susceptibility** to change is defined in the GLVIA (paragraph 6.32) as follows:

- *“the occupation or activity of people experiencing the view at particular locations; and*
- *the extent to which their attention or interest may therefore be focused on the views and the visual amenity they experience at particular locations.”*

J 2.59 The guidance set out in figure 9.4 has been used in this assessment to arrive at an overall evaluation of the sensitivity of the visual receptors. Both susceptibility to change and value are judged as high, medium, low or negligible based on the criteria shown. There may be circumstances where the weighting given to some criteria may be greater than others. The combination of susceptibility and value produces an overall evaluation of visual receptor sensitivity, which is ultimately a matter of professional judgement, and is defined in the chapter as high, medium, low or negligible.

#### *Magnitude of visual effect*

J 2.60 The magnitude of visual effect is assessed in terms of:

- Size / scale
- Geographical extent
- Duration
- Reversibility

J 2.61 The **size or scale** of a visual effect is assessed by determining the degree of change that would arise from the proposals. The effect of loss, addition or change to the composition of the view through the introduction of development is judged as major, partial, minor or very minor based on the criteria set out in figure 9.5. The GLVIA (paragraph 6.39) suggests that when judging the visual effects, the

following be taken account of:

- *“the scale of the change in the view with respect to the loss or addition of features in the view and changes in its composition, including the proportion of the view occupied by the proposed development;*
- *the degree of contrast or integration of any new features or changes in the landscape with the existing or remaining landscape elements and characteristics in terms of form, scale and mass, line, height, colour and texture;*
- *the nature of the view of the proposed development, in terms of the relative amount of time over which it will be experienced and whether views will be full, partial or glimpses.”*

J 2.62 The **geographical extent** of visual effects is assessed by determining the area over which the visual effects will be seen. The visual effect is considered across varying scales of wide, intermediate, localised or limited based on the criteria set out in figure 9.5. The GLVIA (paragraph 6.40) suggests that extent is likely to reflect:

- *“the angle of view in relation to the main activity of the receptor;*
- *the distance of the viewpoint from the proposed development;*
- *the extent of the area over which the changes would be visible.”*

J 2.63 The **duration** of effects is assessed by the period of time over which the degree of change to the visual receptor would arise from the development. Duration is judged as long term, medium term or short term based on the criteria set out in figure 9.5.

J 2.64 The **reversibility** of an effect assesses the prospects and the practicality of the effect being reversed. The effect is judged as reversible, partially reversible or permanent as set out in figure 9.5.

J 2.65 The guidance notes and criteria set out in figure 9.5 have been used to make a judgement on the magnitude of visual effect for this assessment. The magnitude of visual effect is determined by combining the judgements of the four individual factors of size / scale, geographical extent, duration and reversibility. There may be circumstances where the weighting given to some criteria may be greater than others. The combination of all four factors produces an overall evaluation of magnitude of visual effect, which is ultimately a matter of professional judgement, and is defined in the chapter as large, medium, small or negligible.

#### *Judging the overall significance of visual effects*

J 2.66 The degree of the effects on the visual receptor is considered from a sequentially combined evaluation of the visual receptor sensitivity and the magnitude of effect. The matrix in figure 9.6 has been used to guide this judgement. The definitions used are included in that figure. They are applied to both potential effects pre-mitigation and to residual effects. If the degree of effect is moderate or above then the effect is considered to be significant.

J 2.67 The GLVIA guidance also states that thought must be given to whether the likely significant visual effects are judged to be positive (beneficial) or negative (adverse).

It may also be possible for the effects to be neutral in their consequences for the view where it is considered there are no effects i.e. like for like replacement. This is based on professional judgement as to whether the effects will affect the quality of the visual experience for those people who will see the proposed development, given the nature of the existing views. The GLVIA (paragraph 6.44) suggests that when judging the effects to be adverse or beneficial the factors to be considered should include but not be restricted to the following:

- *“Effects on people who are particularly sensitive to changes in views and visual amenity are more likely to be significant*
- *Effects on people at recognised and important viewpoints or from recognised scenic routes are more likely to be significant*
- *Large-scale changes which introduce new, non-characteristic or discordant or intrusive elements into the view are more likely to be significant than small changes or changes involving features already present within the view.”*

### **Taking account of effects throughout the life of the project**

J 2.68 The degree of landscape and visual effects can vary considerably during the life cycle of the project. Within the assessment a description of the development is provided at each stage in the life cycle of the project to assist in understanding the scheme and the predicted landscape and visual effects of the development. The description of effects considers the following project stages:

- During construction
- At completion (post-construction - year 0), including seasonal variation and night time. The assessment of night time effects will be informed by the findings of the lighting assessment, as submitted in a separate stand alone report
- Year 15 of operation

## Technical Appendix J part 3: Photographic images methodology

### Photographic survey

- J 3.1 The aim is to recreate as closely as possible what the human eye can see. 50 mm is a traditionally agreed focal length for matching a photograph to the actual view seen, but a range between 45 mm to 55 mm is often used.
- J 3.2 For this assessment, a Canon EOS 6D camera was used in conjunction with a 50 mm prime lens. The EOS 6D employs a sensor of similar size to a traditional SLR; therefore, the 50 mm lens used results in a focal length of 50 mm as no modification factor is applied. This methodology is in accordance with the *Landscape Institute Technical Guidance Note 06/19, Visual Representation of Development Proposals, 17 September 2019*.
- J 3.3 In this assessment, the photographs are taken at approximately 1.5 m above ground level using a tripod with a Pano head, which provides a 15 degree angle between adjacent shots.
- J 3.4 GPS inbuilt in the camera is used to provide a six-figure National Grid reference for the view. The accuracy of this device can vary (depending on factors such as satellite coverage, proximity of buildings, tree coverage etc.), so these figures are then checked on detailed OS survey plans to give a more accurate reference.

### Baseline photographs

- J 3.5 The baseline panorama shows the existing view and captures the overall landscape and visual context. Images are captured in landscape format shooting from left to right, covering at least 180 degrees where applicable. The camera may be mounted in portrait orientation to capture a greater vertical field of view where required. For panoramic photographs, individual shots are stitched together seamlessly using Photoshop.
- J 3.6 All photographic representations are type 1 and are to be viewed at a comfortable arm's length. The images are provided in cylindrical projection and should be viewed curved.

### Proposed visualisations

- J 3.7 The photomontages and photowires contained in this study were agreed with Dorset Council and the Dorset AONB Partnership and comply with the latest best practice guidelines and represent a type 4 photomontage / photowire (survey / scale verifiable) at completion, year 0 of operation. This type of visualisation has been used based on a category A user i.e. "*most planning applications accompanied by LVIA (as part of formal EIA)...*"
- J 3.8 Photomontages and photowires are used to illustrate the likely view of a proposed development, as it would be seen in a photograph. It is important to note, as stated in the *Landscape Institute Technical Guidance note 06/19 Visual Representation of Development Proposals* paragraph 1.2.13, that "*Two-dimensional visualisations, however detailed and sophisticated, can never fully substitute what people would see in reality. They should, therefore, be considered an approximation of the three-dimensional visual experiences that an observer*

*might receive in the field.”*

J 3.9 Paragraph 8.24 of the GLVIA states:

*“Wireframes are computer-generated line drawings, based on a digital terrain model combined with information about the location and scale of components of the development, to give a relatively simple indication of how the proposals will appear from different viewpoints.”*

J 3.10 The baseline viewpoint has been surveyed using RTK differential GPS, which records the viewpoint’s 3D position with sub-metre accuracy, and aligned using in-the-field surveyed control points taken within the surrounding area. These surveyed control points may include existing buildings, street furniture, trees and placed markers. The viewpoint’s horizontal and vertical alignment is checked against a Lidar digital surface model (DSM,) which includes site features in the area surrounding around the viewpoint location.

J 3.11 A 3D site model is produced based on the Lidar 1 m digital surface model (DSM) in combination with the proposed development. The proposed development is based on a 3D model prepared by the architects and set to site AOD ground levels. The site model has been used to generate a geometrically accurate wireframe illustrating the scale, mass and arrangement of the proposals. The photowire of the proposals has then been aligned and superimposed on to the selected viewpoint photographs to generate a photowire image.

J 3.12 All the photomontages / photowires are to be viewed at a comfortable arm’s length. The images are provided in planar projection at 150% and should be viewed curved.



## **Technical Appendix J part 4: Plume visibility modelling results**

Powerfuel Limited  
**Portland EfW**  
Plume Visibility Modelling Results

## 1 Introduction

The following technical note sets out the results of the plume visibility modelling. The ADMS dispersion model used for the detailed modelling of process emissions includes a function to model when the plume is visible, based on the water content of the plume.

The following parameters have been calculated based on all hours of data and during daylight hours.

- The number of visible plumes;
- The length of the longest visible plume; and
- Percentage of visible plumes with a length of more than:
  - 20m;
  - 50m;
  - 100; and
  - 200m.

## 2 Results

The following tables set out a summary of the analysis. The results are shown for an average year and for the year with the most or longest visible plumes.

Table 1: Summary

Year	Average	Maximum
Number of daylight hours of visible plumes per year	47	122
Percentage of hours in a year with any visible plume	0.6%	1.5%
Length of longest visible plume		282
% visible plumes > 20m length	69.3%	78.0%
% visible plumes > 50m length	38.9%	55.6%
% visible plumes > 100m length	15.2%	22.8%
% visible plumes > 200m length	1.0%	2.7%

As shown, there are predicted to be a small number of visible plumes, but these are generally short in length with most being less than 50 m in length. A breakdown of the interannual variability is provided in Table 2. This shows that typically there are predicted to be less than 50 daylight hours when the plume is visible in any year. However, using the 2018 meteorological data significantly more visible plumes are predicted to occur. A review of the meteorological conditions has shown that in 2018 there were 2 periods where temperatures were below 0°C and that these periods lasted for a few consecutive days. Temperatures in all other years remained above 0°C. These abnormal periods of cold weather accounted for over half of the predicted visible plumes and fully explain the large number of visible plumes in 2018.

Yours sincerely

FICHTNER Consulting Engineers Limited

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Table 2: Analysis - Breakdown

	Met data year					Average	Max
	2014	2015	2016	2017	2018		
Total number of visible plumes	18	29	28	37	122	47	122
% of hours with any visible plumes	0.2%	0.3%	0.3%	0.4%	1.5%	0.6%	1.5%
Percentage of visible plume							
>20m from stack	72.2%	51.7%	71.4%	73.0%	78.0%	69.3%	78.0%
>50m from stack	55.6%	24.1%	25.0%	35.1%	54.5%	38.9%	55.6%
>100m from stack	22.2%	3.4%	14.3%	13.5%	22.8%	15.2%	22.8%
>200m from stack	0.0%	0.0%	0.0%	2.7%	2.4%	1.0%	2.7%
Maximum visible length	183	147	217	241	282	214	282
Total number of visible plumes during daylight hours	18	29	28	34	96	41	96
% of daylight hours with any visible plumes	0.4%	0.7%	0.6%	0.8%	2.2%	0.9%	2.2%
Percentage visible plume during daylight hours							
>20m from stack	94.4%	79.3%	89.3%	97.1%	92.7%	90.6%	97.1%
>50m from stack	61.1%	48.3%	57.1%	47.1%	72.9%	57.3%	72.9%
>100m from stack	44.4%	6.9%	28.6%	23.5%	39.6%	28.6%	44.4%
>200m from stack	0.0%	0.0%	3.6%	2.9%	4.2%	2.1%	4.2%
Maximum visible length during daylight hours	183	147	217	241	282	282	214

