



# Gravity

Smart Campus

**Gravity LDO Environmental Statement**

**Volume 1 – Chapters 17 & 18:  
Impact Interactions &  
Schedule of Monitoring & Mitigation**

## 17 Impact Interactions

### 17.1 Introduction

- 17.1.1 Significant environmental effects can result from incremental changes caused by the interactions between effects resulting from a development.
- 17.1.2 The direct and indirect effects of the Proposed Development have been assessed within the relevant topic chapters of the ES prepared by suitable technical specialists. Environmental effects are assessed relative to the topic under consideration. This approach can lead to the interaction of effects being reported in separate chapters but the collective effect on the same environmental resource(s) not being considered.
- 17.1.3 The need to consider cumulative effects in planning and decision making is set out in the National Planning Policy Framework (NPPF) 2021. Paragraph 210(f) states that planning policies should:
- “set out criteria or requirements to ensure that permitted and proposed operations do not have unacceptable adverse impacts on the natural and historic environment or human health, taking into account the cumulative effects of multiple impacts from individual sites and/or a number of sites in a locality”.*
- 17.1.4 There is no single standard for the assessment of cumulative impacts and impact interactions however PINS *Note 17: Cumulative Effects Assessment* provides general guidance which has informed aspects of this assessment.
- 17.1.5 In response, this chapter, prepared by Stantec, draws upon the principal findings of each topic chapter of the ES to enable assessment of the potential for impact interactions. This chapter reports on the intra effects, that is, how the effects of the Proposed Development interact.
- 17.1.6 An assessment of inter effects, how the development might interact with other development in the study area, is embedded in the technical assessments in **Chapters 7 – 16**. Existing and approved developments in the surrounding area are included in the 2032 baseline, as set out at Section **5.7.7**.

### 17.2 Methodology

- 17.2.1 The assessment methodology involves the identification of impact interactions associated with both the demolition/construction and operational phases of the Proposed Development upon one or more environmental resources. This assessment of impact interactions is undertaken using a qualitative appraisal process. Receptors have been grouped into ‘Natural Resources’ and ‘Human Beings and Society’ categories.
- 17.2.2 A summary of mitigation measures is provided in **Chapter 18** which has been used to help identify where there is a likelihood for potential significant adverse impact interactions to occur.

### 17.3 Construction Effects

- 17.3.1 As set out in **Chapter 4**, careful management of the demolition and construction works, including the implementation of a Demolition and Construction Environmental Management Plan (DCEMP), will minimise the adverse effects of demolition and construction. As a result, the majority of the demolition and construction effects identified in **Chapters 7 – 16** are not significant. The following sections discuss, in more detail, impact interactions and effects associated with the demolition and construction phase.

## Natural Resources

- 17.3.2 No likely significant residual effects upon surface water bodies or with respect to groundwater, flood risk or drainage are anticipated on Site or in the surrounding area due to the implementation of the mitigation measures that are set out in the Framework DCEMP.
- 17.3.3 With the implementation of the DCEMP, and use of best practice techniques, effects on Natural Resources related to ground conditions are considered to be negligible.
- 17.3.4 Residual effects relating to biodiversity on designated sites, habitats and fauna range from negligible to moderate beneficial, which includes effects associated with noise, lighting and air quality which have been reported in other Chapters. Mitigation for these Site features, including protection for trees and controls on lighting during demolition and construction, will be managed through the DCEMP. Mitigation for specific species includes the creation of new setts onsite for badger where required, relocation of the current onsite water vole population to a suitable offsite location (under a Natural England license) and a Great Crested Newt District Level Licence to protect the population of this species.
- 17.3.5 Appropriate mitigation has been identified to be implemented during demolition and construction such that residual effects are not significant and largely negligible to the identified receptors, therefore there will be **no residual significant adverse impact interactions** during this phase.

## Human Beings and Society

- 17.3.6 The Health, Social and Wellbeing Chapter has identified and assessed impact interactions as it has drawn from other Chapters and concludes that the demolition and construction phase of the Proposed Development will not result in significant adverse effects with regard to human health.
- 17.3.7 During construction, minor adverse local effects have been identified in relation to combustion of fossil fuels during construction activities, land clearance and enabling works and consumption of electricity for office / welfare facilities and lighting. Embedded mitigation measures to reduce GHG emissions associated with the Proposed Development includes the implementation of a DCEMP, sustainable transport proposals and an extensive green infrastructure network.
- 17.3.8 All effects identified in the GHG emissions assessment are considered Significant on a local scale however the Proposed Development addresses these emissions with mitigation in accordance with local policy.
- 17.3.9 The predominant interactive effects on Human Beings and Society are likely to be impacts on the amenity of residents in proximity to the Site and on construction workers. Demolition and construction related health risks relate to the potential for reduced environmental amenity; such as through noise disturbances, increased traffic delays and higher levels of dust and poor air quality. These local environmental issues have the potential to disrupt or impact health and wellbeing of the local population, resulting in increased stress-related illnesses and cardiovascular diseases. However, noting the temporary (albeit long-term) nature of construction activities, these changes to the local environment are not considered to be significant with regard to human health.
- 17.3.10 With regards to the amenity of local residents and construction workers, it is noted that no significant adverse residual demolition and construction impacts relating to Transport and Access, Noise and Vibration or Air Quality have been identified.
- 17.3.11 The construction of the Proposed Development would generate traffic that would affect the local road network primarily through HGV movements bringing materials in/out of the Site and construction workforce journeys to/from work on Site. The effects will be limited to the

construction period and with the majority of HGV movements limited to the Gravity Link Road, the A39 Puriton Hill, M5 Junction 23 and mainline. The construction traffic effects will be managed through the DCEMP, including appropriate plans for the management of construction traffic. The already implemented Gravity Link Road will help to mitigate the residual effects relating to construction traffic.

- 17.3.12 During construction, there would be adverse effects on visual amenity as the construction of the Proposed Development would potentially be visible to all visual receptors. For those receptors within the immediate locality these would be substantial, however, with distance the effects would diminish.
- 17.3.13 This disruption to the local community around the Site will, at least in part, be offset by employment opportunities and the boost to the local economy during the demolition and construction period. The anticipated 3,920 net temporary construction jobs supported by the Proposed Development are anticipated to generate an estimated £257.6 million in net GVA over the course of the construction phase to completion in 2032.
- 17.3.14 In addition, to help mitigate the disruption to the local community, the Gravity Link Road has already been completed to ensure traffic avoids the use of the local roads. The proposal includes a strategic landscaping plan to help establish a buffer between the communities and the main site. The DCEMP includes management of working hours and avoidance of the noisiest activities at night time and makes provision for a Community Liaison/Communications Officer to keep the local community up to date and respond to queries and concerns promptly.
- 17.3.15 Overall, **no significant adverse impact interactions** have been identified during demolition and construction.

## 17.4 Operational Effects

### Natural Resources

- 17.4.1 The successful implementation of the proposed mitigation measures should result in no residual effects with respect to hydrology, flood risk or drainage.
- 17.4.2 The Proposed Development has been designed to include a range of measures to benefit biodiversity and wildlife, with residual effects relating to biodiversity on designated sites, habitats and fauna ranging from negligible to moderate beneficial. The strategic landscaping proposals include benefits to biodiversity.
- 17.4.3 With regards to ground conditions, effects on surface water, built environment, biodiversity and wildlife are considered to be negligible.
- 17.4.4 Given that residual effects to ground conditions, hydrology and biodiversity have been identified as being negligible or beneficial, it is not anticipated that impact interactions on these receptors will result in significant adverse effects.
- 17.4.5 **No significant adverse impact interactions** have been identified for Natural Resources during the operational phase of the Proposed Development.

### Human Beings and Society

- 17.4.6 The Health, Social and Wellbeing Chapter has identified and assessed impact interactions as it has drawn from other Chapters and concludes that the operational phase of the Proposed Development will not result in significant adverse effects with regard to human health.
- 17.4.7 During the operational phase, a significant adverse effect was identified in relation to electricity purchased from the national grid (Moderate Adverse), with other effects identified being transport emissions of the Proposed Development (Minor Adverse) and carbon sequestration

(Minor Beneficial). Further mitigation measures to reduce GHG emissions include energy efficiency design principles, consideration of low and/or zero carbon technology and EV charging infrastructure which are secured within the Design Guide. All effects identified in the GHG emissions assessment are considered Significant on a local scale however the Proposed Development addresses these emissions with mitigation in accordance with local policy.

- 17.4.8 As would be anticipated for a development of this scale, adverse landscape and visual effects are anticipated as a result of the Proposed Development. On completion of the construction works, buildings and green infrastructure would be in place, although vegetation would initially be limited in size resulting in substantial adverse effects on visual amenity as the Proposed Development would potentially be visible to all visual receptors. For those receptors within immediate locality these would be substantial, however, with distance the effects would diminish. Over time the vegetation would mature but the level of adverse effects would remain the same.
- 17.4.9 The general approach to access and movement for operation of the Proposed Development includes reducing the need to travel, reducing travel distances, improving access and choice and innovative micro mobility measures. On this basis, the operational effects of the Proposed Development are not likely to be significant.
- 17.4.10 No significant residual adverse effects are anticipated including in relation to air quality, noise, contaminated land and flood risk, all aspects that could affect human health and well-being.
- 17.4.11 Beneficial effects are anticipated as a result of the Proposed Development through promotion of active travel. The Proposed Development will provide a range of measures to facilitate and encourage walking and cycling, including new footway and cycleways throughout the Site, and enhanced connectivity to the surrounding area, resulting in major beneficial (significant) effects on walking and cycling, connectivity and minimising car use.
- 17.4.12 The approximately 6,100 gross permanent manufacturing employment opportunities generated by the Proposed Development are estimated to support approximately 1,950 net additional manufacturing jobs during the operational phase. This is concluded as resulting in a Permanent Substantial Beneficial impact. Professional, scientific, technical and service sector jobs are also anticipated to be generated during the operation phase, concluded as resulting in a Permanent Negligible to Minor Beneficial impact.
- 17.4.13 The LDO will allow for up to 750 homes in the Proposed Development which would be available to employees at the site, i.e. not open market housing. This equates to a 12% increase on top of the ten-year housing figure of housing to be delivered over the same period up to 2032 as set out by the Local Plan. This is concluded to result in a Permanent Moderate Beneficial Impact.
- 17.4.14 The Proposed Development would provide a Smart Campus and Community, with associated sports, recreation and amenity facilities, and improved links to the surrounding areas offering numerous benefits to the local community. The 37 Club will be re-provided within the Site in a manner designed to be more economically sustainable and valuable to the local community.
- 17.4.15 Although screening may reduce the visual presence of the Proposed Development within the rural landscape, no measures or design choices will mitigate against the loss of the historic fields which contribute to the setting of the Grade II listed Manor Farmhouse in Puriton. With mitigation through design considerations, the residual effect on this heritage asset will remain a Minor Adverse Effect, which is not significant.
- 17.4.16 Overall, **no significant adverse impact interactions** have been identified during operation of the Proposed Development.



## 18 Schedule of Mitigation and Monitoring

### 18.1 Introduction

- 18.1.1 This chapter provides a consolidated schedule of mitigation measures proposed to avoid significant adverse effects and enhance beneficial effects from the Proposed Development. The chapter also sets out the monitoring arrangements relating to significant adverse effects.

### 18.2 Proposed Mitigation

- 18.2.1 Embedded mitigation measures which are inherent in the Proposed Development design and have been considered in the initial assessment of effects are identified in each technical chapter.
- 18.2.2 **Tables 18.1** and **Table 18.2** below outlines 'further' mitigation measures which are proposed in addition to embedded mitigation measures to further reduce potential significant adverse effects. **Table 18.1** details further mitigation measures to be implemented during the demolition and construction phase of the Proposed Development and **Table 18.2** details further mitigation for the operational phase of the Proposed Development.
- 18.2.3 A summary of the nature of each measure is provided from the relevant technical assessment section of this ES. The technical discipline chapters (**Chapter 7-16**) and should be referred to for additional details of the required measure(s).
- 18.2.4 Mitigation for the LDO is secured through the Compliance Form (which incorporates the Parameter Compliance Statements, the Mitigation Checklist and Design Principles Checklist) and separately the S106 heads of terms.

#### Proposed Monitoring

- 18.2.5 Part 1(2) of the EIA Regulations defines a 'monitoring measure' as a *'provision requiring the monitoring of any significant adverse effects on the environment of Development including any measures contained in — (a) a condition imposed on the grant of planning permission; or (b) a planning obligation'*.
- 18.2.6 As required by the EIA Regulations, this chapter sets out any monitoring proposed during demolition and construction (**Table 18.3**) and operation (**Table 18.4**) of the Proposed Development, as identified in the relevant topic chapters. The monitoring detailed is in relation to monitoring required and identified for significant adverse effects.

Chapter Reference	Further Mitigation during Construction
Economics	<p>Previously, a Framework Local Labour Agreement (2020) has been developed. This is Gravity Ltd and Sedgemoor District Council have agreed a Local Labour Agreement for the Huntspill Energy Park application which has informed the Gravity Skills Charter, and the need for individual Employment and Skills Plans for each occupier, site or parcel of the site which is brought forward. This agreement makes a commitment to creating and providing opportunities for local people to find employment at the Site during both the construction and operational phase of development.</p> <p><b>The Gravity Skills Charter (2021)</b> sets out the high-level principles and objectives for Gravity, for occupier specific Employment and Skills Plans to be developed to deliver benefits to the local community, Gravity and its occupiers. Gravity will work with Bridgwater and Taunton College who will lead and coordinate with other educational institutions, employers, occupiers and skills advisers to shape the local labour force to meet industry and market requirements. In support of this lies a series of actions designed to raise ambitions and aspirations and help residents to understand the training opportunities available to them at Gravity. The Gravity Skills Charter is relevant to both the construction and operational phase of the Proposed Development.</p> <p>The Gravity Business Charter (2021) reinforces the Growth Mission at Gravity recognising that in the UK, Government has committed to 'net zero carbon' by 2050. Gravity will proactively support and encourage occupiers and collaborators to make a commitment to promote and facilitate the economic development of the locality through the use of local business where appropriate. The Gravity Business Charter is relevant to both the construction and operational phase of the Proposed Development.</p> <p>Progress in implementing responses to the Skills and Business Charter will be reported through the monitoring processes.</p>
Human Health, Social and Wellbeing	<p><b>Housing design, accessible housing, healthy living</b> – Implementation of best practice standards for temporary worker accommodation.</p> <p><b>Contaminated Land</b> - Measures set out in the Phase 1 Land Conditions Report (e.g. implementation of a watching brief during earthworks) to be implemented.</p> <p><b>Access to Nature</b> - Further mitigation to be implemented as outlined in Chapter 12 Biodiversity (e.g. An Ecological Mitigation and Management Strategy (EMMS) will be prepared for the Site and secured through the Mitigation Checklist in the Design Guide.</p> <p><b>Flood Risk</b> - During construction, the use of best practice construction techniques (such as CIRIA publication C753 the SuDS Manual) and the implementation of the FDCEMP will be adopted to manage the construction process, minimise the risk of a pollution incident, silt-laden runoff, or blockage of channels during the construction works. The FDCEMP will include a Flood Evacuation Plan and a suitable drainage scheme to control surface water runoff during the Proposed Development construction phase, including provision for the installation of drainage and attenuation outfalls before construction of buildings and site infrastructure.</p>

Chapter Reference	Further Mitigation during Construction
	<p><b>Education</b> - Implementation of Employment and Skills Plan(s) by Principal Contractor(s) (see socio-economics further mitigation)</p> <p><b>Local Employment and Healthy Workplaces</b> - Implementation of occupier specific Employment Skills Plans to help deliver economic benefits to the local population during the demolition/ construction phase (see socio-economics further mitigation).</p>
Transport and Access	No further mitigation is expected to be required over and above the embedded mitigation described within the Transport and Access chapter.
Noise and Vibration	<p>No further mitigation is expected to be required over and above the embedded mitigation described within the Noise and Vibration chapter and set out in the FDCEMP.</p> <p>Notwithstanding this, Gravity is committed to the delivery of clean and inclusive growth and will monitor noise impacts on site throughout demolition and construction.</p>
Air Quality	<p>No further mitigation measures are required over and above the embedded mitigation described within the Air Quality chapter and set out in the FDCEMP.</p> <p>Notwithstanding this, Gravity is committed to the delivery of clean and inclusive growth and will monitor air quality impacts on site throughout demolition and construction.</p>
Biodiversity	<p>An Ecological Mitigation and Management Strategy (EMMS) will be prepared for the Site. This is secured through the Mitigation Checklist on the Design Guide submitted with the LDO. This Strategy will include consideration of the maintenance / management measures associated with onsite ecological networks and features that are to be retained, enhanced and created within the Proposed Development. As such, the EMMS will set out the key mitigation and management strategies proposed with the aim of delivering a significant long term beneficial ecological effect at the Site. Details of mitigation that will be included in the EMMS is provided in <b>Chapter 12, Section 12.8</b>.</p> <p>Further mitigation for protected species is provided through the Water Vole relocation programme (under Natural England license) and the Great Crested Newt District Level Licence which will see funds allocated to creating, enhancing and managing habitat for Great Crested Newts in areas of particular significance for this species.</p> <p>Construction measures for the protection of biodiversity are set out in the FDCEMP and will be further specified in the DCEMP which will be produced for each plot prior to construction.</p> <p>Provision is made within the locality investment plan for investment in biodiversity enhancement to contribute to strategic nature-based recovery in response to climate change.</p>



Chapter Reference	Further Mitigation during Construction
Water Environment	<p>During demolition and construction, the use of best practice construction techniques (such as CIRIA publication C753 the SuDS Manual design code, and the implementation of the FDCEMP) will be adopted to manage the construction process, minimise the risk of a pollution incident, silt-laden runoff, or blockage of channels during the construction works, and thus mitigating the potential for adverse effects upon the surface water bodies.</p> <p>A FDCEMP has been prepared providing details of the appropriate measures to be undertaken to mitigate the impacts of the Proposed Development build out.</p> <p>The construction of the SuDS will occur before the Proposed Development to mitigate fluvial flooding impacts for the construction of the Site. Alternatively, temporary works (surface water storage) will be installed as mitigation if this is not possible. Site management procedures in the FDCEMP would also mitigate any impacts.</p> <p>The potential phased development of the Site creates the potential for blockage of infrastructure built for earlier phases of the development. This will be mitigated through site management measures and potential temporary works outlined in the FDCEMP.</p> <p>The FDCEMP will include a suitable drainage scheme to control surface water runoff during the Proposed Development construction phase, including provision for the installation of drainage and attenuation outfalls before construction of buildings and site infrastructure. This is to manage surface water runoff generated during Proposed Development construction so as not to increase flood risk downstream (outside the Site). The scheme will be designed to manage surface water effectively on Site. The scheme will also include measures for managing silt that may be generated during the Proposed Development construction activities (including wheel-washing, should it be required).</p> <p>The implementation of the FDCEMP will be adopted to manage the construction process, minimise the risk of a pollution incident during the construction works, thus mitigating the potential for adverse effects upon the groundwater bodies.</p> <p>A Flood Evacuation Plan and site management procedures in the FDCEMP (i.e. ensure no storing of plant or materials in Flood Zone 3 etc.) will be provided to construction workers by each occupier.</p>
Landscape and Visual	<p>Significant landscape and visual effects have been identified within the LVIA, and in line with EIA best practice and recent IEMA guidance, further mitigation has been considered. However, due to the nature of the landscape and visual effects in this case, no further mitigation would be considered likely to change the assessment outcomes further, and therefore, no further mitigation is proposed.</p> <p>Mitigation relating to the success of the planting strategies for example is provided for within the Ecological Mitigation and Management Strategy (EMMS) (see Biodiversity) which includes management and monitoring of this Strategy.</p>
Climate Change	<p>Construction Traffic Management Plans (CTMP) will be prepared for the construction phase, which will set out the routing plans for working and deliveries, scheduling and timing of deliveries, and logistics plans. This will help to improve the efficiencies of vehicle movements during operation and in turn, reduce GHG emissions associated with construction traffic. The FDCEMP identifies</p>

Chapter Reference	Further Mitigation during Construction
	<p>mitigation measures that limit potential impacts from construction traffic. This will also consider vehicle type, fuel and emissions and include the opportunity for trials and test beds to explore new methodologies and practice.</p> <p>The LDO will require occupiers to develop their own Environmental and Social Governance (ESG) policies and prepare an annual ESG report on progress. This is secured through the Compliance Form. This will include measures on sustainable procurement and the responsible sourcing of materials. Utilising recycled materials, where possible, is the most sustainable approach, with the consideration of using materials that go through less energy-intensive processes and that can be sourced locally. There are a number of UK organisations promoting the review and reduction of embodied carbon and supply chain emissions associated with construction as part of their sustainability initiatives. These include WRAP, the UK Green Building Council and the Green Construction Board. The Site Waste Management Plan includes measures on material procurement and the use of material suppliers with environmental standards where possible. These measures will help to reduce embodied carbon.</p>
Cultural Heritage	<p>It is considered that the Proposed Development has the potential to affect subsurface archaeological remains, specifically on the southern lands which lie outside of the existing main Site fence line. It is proposed to mitigate any potential effects through the implementation of an appropriate programme of archaeological works which will permit any remains to be investigated and recorded (leading to preservation by record).</p> <p>In order to achieve this, the following approach is recommended which should be undertaken in phases as occupiers come forward and specific details on impacts are known:</p> <ol style="list-style-type: none"> <li>1. A programme of trial trenching to be undertaken post adoption of the LDO, but pre-commencement, to further establish the presence and significance of any as yet unknown archaeological remains.</li> <li>2. A programme of archaeological mitigation, to include Strip, Map and Record and/or watching brief depending on the scale and significance of any archaeological remains. The requirement for this element, and its scope, will only be fully understood once the trial trenching has been undertaken and the results carefully analysed in conjunction with the data gathered for the DBA and during the geophysical survey.</li> </ol> <p>The above provides an indicative programme only and is currently (October 2021) subject to consultation with the South West Heritage Trust.</p>

Table 18.1 Summary of Proposed Further Mitigation During Demolition and Construction

Chapter Reference	Further Mitigation During Operation
Economics	<p>A Clean and Inclusive Growth Strategy (2020) (available at <a href="http://www.thisisgravity.co.uk">www.thisisgravity.co.uk</a>) has been prepared which sets out an ambitious vision for Gravity to deliver a socially inclusive development that considers clean and inclusive economic growth as critical to its success.</p> <p>A Design Guide has also been prepared and is submitted with the LDO, which sets out the design and placemaking principles.</p> <p><b>The Gravity Skills Charter (2021)</b> sets out the high-level principles and objectives for Gravity, for occupier specific Employment and Skills Plans to be developed to deliver benefits to the local community, Gravity and its occupiers. Gravity will work with Bridgwater and Taunton College who will lead and coordinate with other educational institutions, employers, occupiers and skills advisers to shape the local labour force to meet industry and market requirements. In support of this lies a series of actions designed to raise ambitions and aspirations and help residents to understand the training opportunities available to them at Gravity. This will supersede the Framework Local Labour Agreement in place for the HEP consent. The Gravity Skills Charter is relevant to both the construction and operational phase of the Proposed Development.</p> <p>The Gravity Business Charter (2021) reinforces the Growth Mission at Gravity recognising that in the UK, Government has committed to 'net zero carbon' by 2050. Gravity will proactively support and encourage occupiers and collaborators to make a commitment to promote and facilitate the economic development of the locality through the use of local business where appropriate. The Gravity Business Charter is relevant to both the construction and operational phase of the Proposed Development.</p> <p>Further information about each of the above can be found in <b>Chapter 7, Section 7.8</b>.</p>
Human Health, Social and Wellbeing	<p><b>Housing Design / Accessible Housing / Healthy Living</b> - Housing standards to be considered throughout detailed design including Building Regulations (M4), wheelchair accessibility and energy efficiency standards.</p> <p><b>Housing Mix and affordability</b> - Consideration to be given to a balanced and appropriate mix of house types at future planning and design stages to see that this best meets the needs of the future workforce and their families.</p> <p><b>Safety</b> - The package of transport mitigation remains subject to further consultation with key stakeholders, who may include additional mitigation by way of appropriately scaled financial contributions toward delivery of off-site transport improvements and highway safety improvements where necessary.</p> <p><b>Noise</b> - Mitigation set out in <b>Chapter 10</b> to control noise impacts (e.g., implementing a noise strategy to be implemented).</p> <p><b>Contaminated Land</b> - Recommendations outlined in the Phase 1 Land Condition Report (e.g., further assessment, agreeing building radon protection with Building Control) to be implemented.</p> <p><b>Play space, open space and physical recreation</b> - At the detailed design stage, consideration will be given to see that play spaces, allotments and picnic areas are incorporated into open spaces to encourage outdoor exercise and social interaction. Sports England's 10 principles of active design should also be considered during the detailed design of open space, play space and sports facilities (e.g., mix of sport/ play facilities provided, seating and secure cycle parking provided in public spaces). Management procedures for facilities (including pitches) should be put in place to see that facilities are maintained appropriately to help support physical activity.</p>

Chapter Reference	Further Mitigation During Operation
	<p>Measures should be implemented to help promote uptake of physical activity (e.g. programme of events, use of social media and identification of local champions).</p> <p><b>Local food growing</b> - Consideration of potential opportunity for a clean growth use is verticulture as a potential opportunity</p> <p><b>Flood Risk</b> - Measures outlined in <b>Chapter 13</b> (e.g. implementation of Surface Water Drainage Strategy) to be implemented.</p> <p><b>Access to social infrastructure</b> - Consideration of infrastructure which fosters social connections throughout the detailed design process.</p> <p><b>Local employment and healthy workplaces</b> - Implementation of occupier specific Employment Skills Plans to help deliver economic benefits to the local population to maximise local employment and training.</p>
Transport and Access	<p>The FTP sets out the proposed approach to ongoing site transport management measures including monitoring of site multi-modal trip generation, site travel planning and car park management measures. A Draft Monitoring and Management Plan is provided with the ES (<b>Appendix 9.4</b>). This is secured as part of the governance arrangements for the delivery of the Gravity Enterprise Zone (EZ) through the LDO regime.</p>
Noise and Vibration	<p>A noise strategy that seeks to deliver the optimum acoustic outcome for the site, without design compromises that will adversely affect living conditions and the quality of life of the inhabitants, will be put in place at the detailed design stage.</p> <p>Appropriate acoustic specification of building facade elements will result in appropriate internal conditions being achieved in residential dwellings across the site.</p> <p>Based on a review of external noise levels it is expected that appropriate internal noise levels can be achieved with the use of acoustic double glazing and acoustic trickle ventilation at properties directly adjacent to roads. Away from roads, it is expected that appropriate internal noise levels can be achieved with the use of standard double glazing and trickle ventilation.</p> <p>Purge ventilation is required throughout all buildings to aid the removal of high concentrations of pollutants and water vapour. It is commonly provided simply by opening windows and doors. Internal noise levels will increase as a result of opening windows, however, due to the temporary and intermittent occurrence this is not expected to result in an unacceptable increase in internal noise levels.</p>

Chapter Reference	Further Mitigation During Operation
	<p>The mitigation outlined above is indicative for the purposes of the LDO in order to identify feasible mitigation options but is not sufficient for the procurement of building elements. A detailed acoustic assessment should be undertaken as part of the design of the scheme to establish the acoustic performance requirements of the various building elements.</p> <p>Mitigation measures are unlikely to be required for the majority of external private amenity areas. However, amenity areas close to the existing and proposed noise sources in the area are likely to require mitigation measures to be considered during the detailed design of the scheme including:</p> <ul style="list-style-type: none"> <li>• Consideration of the layout of the buildings and the orientation to maximise acoustic screening of noise sensitive external areas from nearby noise sources.</li> <li>• Use of acoustic barriers to reduce noise levels in areas adjacent to the existing and proposed noise sources.</li> </ul> <p>Notwithstanding this and as mentioned above, Gravity is committed to the delivery of clean and inclusive growth and will monitor noise impacts on site throughout operation.</p>
Air Quality	<p>No further mitigation measures are required.</p> <p>Notwithstanding this, and as mentioned above, Gravity is committed to the delivery of clean and inclusive growth and will monitor air quality impacts on site throughout operation.</p>
Biodiversity	<p>Prepared for the demolition and construction phase, the Ecological Mitigation and Management Strategy (EMMS) will continue to support mitigation onto the operational phase. This is secured through the Mitigation Checklist on the Design Guide submitted with the LDO. This Strategy will include consideration of the maintenance / management measures associated with onsite ecological networks and features that are to be retained, enhanced and created within the Proposed Development. As such, the EMMS will set out the key mitigation and management strategies proposed with the aim of delivering a significant long term beneficial ecological effect at the Site.</p> <p>Funding will be provided, delivered through the Locality Investment Plan, for initiatives at the nearby Avalon Marshes. Funding will be directed towards land acquisition and habitat rehabilitation with the aim of buffering and connecting existing sensitive habitats and restoring natural processes across the Avalon Marshes landscape. These measures will deliver wetland and grassland habitats of significant ecological value, compensating for Local Wildlife Site losses at the Site.</p> <p>Other species-specific further mitigation is detailed in <b>Chapter 12, Section 12.8</b>.</p>
Water Environment	<p>The overall SWDS for the Site has been developed in accordance with stakeholder and policy requirements and mimics the existing surface water flow regime. Ongoing management and maintenance of the proposed surface water management systems must be undertaken to maintain appropriate treatment of surface water runoff.</p>

Chapter Reference	Further Mitigation During Operation
Landscape and Visual	<p>Significant landscape and visual effects have been identified within the LVIA, and in line with EIA best practice and recent IEMA guidance, further mitigation has been considered. However, due to the nature of the landscape and visual effects in this case, no further mitigation would be considered likely to change the assessment outcomes further, and therefore, no further mitigation is proposed.</p> <p>Mitigation relating to the success of the planting strategies for example is provided for within the Ecological Mitigation and Management Strategy (EMMS) (see Biodiversity) which includes management and monitoring of this Strategy.</p>
Climate Change	<p><b>Energy Efficiency</b></p> <p>The energy efficiency requirements of the Building Regulations are set out in Part L of Schedule 1, as well as in a number of specific building regulations. Approved Documents L1A and L2A set out the requirements for conservation of fuel and power in dwellings and non-domestic buildings, respectively.</p> <p>An update to Approved Document Part L1A is planned to be released in 2021, which is expected to have significant implications for energy strategies for new developments. The proposed update would include an uplift to the energy efficiency standards and requirements, 'tightening' the current building standards. It aims to reduce the energy demand of buildings through higher standards of building fabric and insulation. This would reduce the GHG emissions associated with heating and cooling of buildings.</p> <p>As outlined in the Energy Strategy (Stantec, 2021), a Future Homes Standard will be coming forward and introduced by 2025. As a result of the uplifts in energy efficiency standards, it is anticipated that homes at the Proposed Development will built out to a high level of energy efficiency, thereby reducing the GHG emitted associated with heating and cooling of buildings.</p> <p><b>Renewable Technologies</b></p> <p>The Energy Strategy (Stantec, 2021) for the Proposed Development has identified a number of opportunities for incorporating renewable and low carbon energy generation technologies which will be integrated into the development where feasible and utilised during operation. The most suitable technologies are anticipated to be photovoltaic solar panels (PV), battery storage, heat recovery technology, solar water heating systems (or solar thermal) and heat pumps. These technologies would reduce the GHG emissions associated with energy use during the operation of the Proposed Development.</p> <p>It is noted that EON has signed a 50-year agreement with This is Gravity Ltd. to provide renewable and low carbon energy solutions for the Site. This is Gravity Ltd. is also seeking agreement with National Grid to secure renewable energy through the grid system using Purchase Power Agreements (PPAs) and Renewable Energy Guarantees Origin (REGOs). This agreement will be completed once occupiers for the Site are confirmed.</p> <p><b>Transport</b></p>



Chapter Reference	Further Mitigation During Operation
	<p>Opportunities will be sought to integrate EV charging across the Site, as well as a Car Club to reduce the need to own a car. These measures will help to reduce GHG emissions resulting from transport.</p> <p>Whilst it is not mitigation, as noted in the 2032 Baseline section, emissions from transport are predicted to decline in the coming decades. The uptake of EVs and hydrogen is anticipated to increase in line with Government policies, as petrol and diesel new car sales will be banned by 2030. It is projected that the proportion of mileage driven by EVs for example is anticipated to almost double from 7.5% in 2030 to 14.1% in 2035 (add ref). An increase in EV uptake will result in a reduction in transport emissions associated with the Proposed Development in the long term, as vehicles will be powered by lower (or zero) emitting electricity sources.</p> <p><b>Landscape and Ecology</b></p> <p>As outlined in <b>Chapter 12 Biodiversity</b>, an Ecological Mitigation and Management Strategy (EMMS) will be prepared for the Site that secured by way of the design code and mitigation checklist. This report will include consideration of the maintenance / management measures associated with onsite ecological networks and features that are to be retained, enhanced and created within the Proposed Development. This will help to ensure maturation of existing retained and proposed woodland planting which will continue to sequester carbon on site.</p> <p><b>Future Occupation of the Site</b></p> <p>The Proposed Development is framed to attract large scale advanced manufacturing facilities to the UK to accelerate progress towards achieving a net zero carbon economy, hosting new business to support transport decarbonisation and the shift to electrification. Supporting green industries could result in wider carbon reductions beyond the Site GHG emissions.</p> <p>As each plot comes forward in more detail, measures to reduce water demand and increase water efficiency in line with Building Regulations Part G will be considered to further increase resilience to droughts. This will in turn, also provide GHG emission savings. These measures may include measures such as:</p> <ul style="list-style-type: none"> <li>○ Dual flush toilets - to reduce water consumption</li> <li>○ Leak detection systems</li> <li>○ Flow control devices - to reduce the flow rate of kitchen sink and bathroom basin taps</li> <li>○ Installing pulsed water meters with pulsed output and fitting sub-meters – to reduce the energy demands associated with water heating</li> <li>○ Using water-efficient appliances (e.g. those with an 'A' or 'B' rating as defined by the European Water Label).</li> </ul>

Chapter Reference	Further Mitigation During Operation
	As outlined in <b>Chapter 12 Biodiversity</b> , an Ecological Mitigation and Management Strategy (EMMS) will be prepared for the Site to be secured by way of planning condition. This report will include consideration of the maintenance / management measures associated with onsite ecological networks and features that are to be retained, enhanced and created within the Proposed Development. This would increase the long-term resilience of habitats and species within the Site and managing areas that may be affected by droughts.
Cultural Heritage	The Parameter Plan indicates that the section of the Site closest to the Grade II listed Manor Farmhouse in Puriton (assessed as experiencing a Minor Adverse Effect) is to be occupied with up to 50% buildings with the remainder blue and green infrastructure, a tree nursery, community use, sports, leisure or associated infrastructure. This allows an opportunity to design this part of the Site to accommodate the built structures in a way that could mitigate, as much as possible, the alteration of the rural landscape which forms part of the wider setting of the asset. This is also in line with the 'Puriton Edge' Design Drivers outlined in the 2021 Design Guide.

Table 18.2 Summary of Proposed Further Mitigation During Operation

Chapter Reference	Proposed Monitoring During Construction	Compliance Mechanism(s)
Economics	<p>No significant residual adverse effects are identified and therefore no formal monitoring is proposed.</p> <p>Nonetheless, as development comes forward under the LDO, monitoring will be undertaken through, for example, the Gravity Management and Delivery Team, Gravity Transport and Infrastructure Management Group and the Environmental and Social Value Group (to be formed under the s106 governance arrangements). It is likely that annual reporting against agreed objectives set by these Groups and Teams will be required to the Gravity EZ Board.</p> <p>The progress and implementation of the Skills and Business Charter will be of importance to the community and to demonstrate the optimum use of local people, celebrate inclusion and success and to create a positive virtuous cycle of investment and to embed sustainable local supply chains where possible.</p> <p>Reporting on the progress with ESPs will be sought from occupiers as well as annual ESG reports from occupiers.</p> <p>Monitoring and management systems and processes, particularly in early stages will drive the need for investment in skills and training to enable workforce development via the locality investment plan.</p>	<p>Environment and Social Value Group</p> <p>Locality investment plan</p>

Chapter Reference	Proposed Monitoring During Construction	Compliance Mechanism(s)
Human Health, Wellbeing and Inclusion	No further monitoring measures are required in relation to human health. Monitoring requirements are outlined in the <b>Chapter 9 Transport and Access</b> to monitor and manage transport effects through implementation of a site wide Travel Plan and Monitor and Manage Plan.	Framework Travel Plan Monitor and Manage Plan.
Transport and Access	The transport effects of the Proposed Development will continue to be actively monitored and managed through the implementation of a site wide Framework Travel Plan and Monitor and Manage Plan.	Framework Travel Plan Monitor and Manage Plan
Noise and Vibration	No significant residual adverse noise and vibration effects have been identified and therefore monitoring is not required.  Notwithstanding this, Gravity is committed to the delivery of clean and inclusive growth and will monitor noise impacts on site throughout demolition and construction.	Not applicable
Air Quality	No significant residual adverse air quality effects are identified and therefore monitoring is not required. Notwithstanding this, Gravity is committed to the delivery of clean and inclusive growth and will monitor air quality impacts on site throughout demolition and construction.	Not applicable
Biodiversity	No significant residual adverse biodiversity effects are identified and therefore monitoring is not required.  However, note that monitoring will be included as part of the Ecological Mitigation and Management Strategy to monitor the success of that Strategy.	Ecological Mitigation and Management Strategy
Water Environment	There are no significant residual adverse effects identified for the water environment and therefore monitoring is not required.	Not applicable
Landscape and Visual	There would be residual significant adverse effects resulting from the Proposed Development. However, monitoring measures are not considered appropriate in relation to landscape and visual effects. This is	Ecological Mitigation and Management Strategy

Chapter Reference	Proposed Monitoring During Construction	Compliance Mechanism(s)
	<p>because monitoring the landscape and visual effects would not be anticipated to result in any changes to the assessment outcomes.</p> <p>However, note that monitoring will be included as part of the Ecological Mitigation and Management Strategy to monitor the success of that Strategy.</p>	
Climate Change	<p>GHG emissions during construction and operation are considered to be significant on a local scale. Construction activities, including transport, energy consumption and plant emissions will be monitored and managed through the FDCEMP.</p> <p>No significant effects have been identified in relation to climate vulnerability and resilience, therefore no monitoring is proposed. However, monitoring of the existing retained and proposed planting will be undertaken as part of the EMMS.</p>	FDCEMP Ecological Mitigation and Management Strategy
Cultural Heritage	No significant residual adverse effects have been identified for Cultural Heritage within this assessment and therefore monitoring is not required.	Not applicable

Table 18.3 Summary of Proposed Monitoring During Demolition and Construction

Chapter Reference	Proposed Monitoring During Operation	Compliance Mechanism(s)
Economics	<p>No significant residual adverse effects are identified and therefore no formal monitoring is proposed in respect of the ES.</p> <p>Nonetheless, as development comes forward under the LDO, monitoring will be undertaken through, for example, the Gravity Management and Delivery Team, Gravity Transport and Infrastructure Management Group and the Environmental and Social Value Group (to be formed under the s106 governance arrangements). It is likely that annual reporting against agreed objectives set by these Groups and Teams will be required to the Gravity EZ Board.</p> <p>The progress and implementation of the Skills and Business Charter will be of importance to the community and to demonstrate the optimum use of local people, celebrate inclusion and success and to create a positive virtuous cycle of investment and to embed sustainable local supply chains where possible.</p> <p>Reporting on the progress with ESPs will be sought from occupiers as well as annual ESG reports from occupiers.</p> <p>Monitoring and management systems and processes, particularly in early stages will drive the need for investment in skills and training to enable workforce development via the locality investment plan.</p>	<p>Environment and Social Value Group</p> <p>Locality investment plan</p>
Human Health, Wellbeing and Inclusion	<p>No further formal monitoring measures are required in relation to human health. Monitoring requirements are outlined <b>Chapter 9 Transport and Access</b> to monitor and manage transport effects through implementation of a site wide Travel Plan and Monitor and Manage Plan.</p>	Travel Plan and Monitor and Manage Plan.
Transport and Access	<p>The transport effects of the Proposed Development will continue to be actively monitored and managed through the implementation of a site wide FTP and Monitor and Manage Plan.</p>	FTP and Monitor and Manage Plan.
Noise and Vibration	<p>No significant adverse effects have been identified with regards to Noise and Vibration and therefore monitoring is not required.</p> <p>Notwithstanding this, Gravity is committed to the delivery of clean and inclusive growth and will monitor noise impacts on site throughout operation.</p>	Not applicable
Air Quality	<p>No significant residual adverse effects with regards to Air Quality are identified and therefore monitoring is not proposed.</p>	Not applicable

Chapter Reference	Proposed Monitoring During Operation	Compliance Mechanism(s)
	Notwithstanding this, Gravity is committed to the delivery of clean and inclusive growth and will monitor air quality impacts on site throughout and operation.	
Biodiversity	No significant residual adverse effects with regards to Biodiversity are identified and therefore monitoring is not proposed. However, note that monitoring will be included as part of the Ecological Mitigation and Management Strategy to monitor the success of that Strategy.	Ecological Mitigation and Management Strategy
Water Environment	No significant residual adverse effects with regards to the Water Environment are identified and therefore monitoring is not proposed.	Not applicable
Landscape and Visual	There would be residual significant landscape and visual effects resulting from the Proposed Development. However, in this case, monitoring measures are not considered appropriate in relation to landscape and visual effects. This is because monitoring the landscape and visual effects would not be anticipated to result in any changes to the assessment outcomes. However, note that monitoring will be included as part of the Ecological Mitigation and Management Strategy to monitor the success of that Strategy.	Ecological Mitigation and Management Strategy
Climate Change	It is not considered proportionate to monitor the operational GHG emissions of the Proposed Development given that there are several sources of emissions, many of which that are out of the control of Gravity as the occupiers are not yet known.  However, the travel patterns of future occupiers of the Proposed Development will be monitored through travel surveys, as identified in the Framework Travel Plan. Energy use will be regulated as each plot comes forward in more detail, detailing how the energy commitments have been met through the design for each Phase, and development control will certify the Proposed Development to be delivered in accordance with the regulatory requirements. Monitoring of the existing retained and proposed planting will be undertaken as part of the Ecological Mitigation and Management Strategy (EMMS).	Framework Travel Plan Ecological Mitigation and Management Strategy
Cultural Heritage	No significant residual adverse effects have been identified for Cultural Heritage within this assessment and therefore monitoring is not required.	Not applicable

Table 18.4 Summary of Proposed Monitoring During Operation



