

# DORMAN POINT ENVIRONMENTAL STATEMENT

VOLUME 1: NON-TECHNICAL SUMMARY

**Dorman Point, South Tees**  
**Volume 1: Non-Technical**  
**Summary (December 2020)**

**LICHFIELDS**

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## 1.0 Introduction and Methodology

1.1 This document is a summary in non-technical language of an Environmental Statement ('ES') prepared on behalf of the South Tees Development Corporation (the applicant / 'STDC'). It sets out the findings of an Environmental Impact Assessment ('EIA') that has been submitted to Redcar and Cleveland Borough Council ('RCBC') to support an outline planning application at the site known as Dorman Point, within the STDC Masterplan area (hereafter referred to as the 'Teesworks area'), Redcar.

1.2 The outline planning application seeks permission for the following development:

*"Outline planning application for development of up to 139,353 sqm (gross) of general industry (Use Class B2) and storage or distribution facilities (Use Class B8) with office accommodation (Use Class E), HGV and car parking, works to watercourse including realignment and associated infrastructure works. All matters reserved."*

1.3 The proposed development falls within part 10(a) of Schedule 2 of the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (as amended). Part 10(a) relates to industrial estate development projects where the development exceeds 5ha. For such developments, EIA is required where significant environmental effects are likely by virtue of factors such as its nature, size or location. It has been agreed with RCBC that the proposed development is EIA development and the findings of the EIA are set out within an ES.

1.4 This document includes the following information:

- 1 **Section 1.0:** sets out the background to the assessment process and the scheme;
- 2 **Sections 2.0 to 3.0:** describe the site and the proposed development;
- 3 **Sections 4.0 to 14.0:** provide a topic by topic review of the findings of the EIA;
- 4 **Section 15.0:** reviews whether effects are expected to arise when considered with other development projects in the area;
- 5 **Section 16.0:** summarises the proposed mitigation and monitoring to be secured as part of any planning permission;
- 6 **Section 17.0:** provides details of how to obtain a full copy of the ES; and
- 7 **Section 18.0:** provides a copy of the development plans.

### The EIA Process

1.5 The EIA process aims to ensure that any significant effects arising from a development are systematically identified, assessed and presented to help a local planning authority, statutory consultees and other key stakeholders in their understanding of impacts arising from development. If measures are required to minimise or reduce effects then these are clearly identified.

1.6 For this development, EIA has been carried out to consider the likely significant effects that may arise during its construction and operation phase. It has been completed with regard to best practice and relevant legislation and has addressed the following matters to assess the impacts of the development:

- Transport
- Biodiversity and Ecology
- Socio-Economics
- Climate Change (Greenhouse Gas Emissions)

- Noise and Vibration
- Air Quality
- Water Management and Flooding
- Ground Conditions and Remediation
- Below Ground Heritage (Archaeology)
- Landscape and Visual Impact
- Waste and Materials Management

- 1.7 Likely effects are identified based on current knowledge and context of the site and its surroundings, desk top assessments, surveys and fieldwork information available to the EIA team. All those matters that could be reasonably required to assess the effects of the proposals are set out within the ES; this includes the effects arising from the scheme itself as well as those temporary effects arising during the construction stage of the development.
- 1.8 The assessment has been carried out by a team with the relevant skills and experience to undertake the assessments.
- 1.9 Consultation with RCBC and statutory consultees (such as Natural England ('NE') and Highways England ('HE')) has:
- 1 Informed the scope of the EIA;
  - 2 Informed the methods by which the EIA has been carried out;
  - 3 Provided a means to seek environmental data;
  - 4 Allowed review of the effectiveness of any identified mitigation and compensation measures; and
  - 5 Kept interested bodies informed on the process.
- 1.10 The EIA has had regard to planning and environmental policy and legislation at a national and local level.
- 1.11 The EIA has been undertaken during the Covid-19 pandemic and where this is relevant to technical surveys, each chapter has outlined its implications.

## **Background to the Scheme**

- 1.12 STDC was established as the public sector body for delivering area-wide, economic regeneration to augment the wider economic growth plans of the Tees Valley. It has prepared the South Tees Regeneration Master Plan to support development in the Teesworks area (see area in blue on Figure 1.1 below) through the Local Plan and planning application process. The latest version of this Master Plan was published in November 2019.

Figure 1.1 The Teesworks Area



Source: Lichfields (November 2020)

- 1.13 The Master Plan sets out the vision for transforming the Teesworks area into a world-class, modern, large-scale industrial business park and delivers on STDC’s vision to create a hot bed of new industry. It provides a flexible development framework where land plots can be established in a variety of sizes to meet different occupier needs in the most efficient manner possible. The Master Plan identifies five distinct development ‘zones’ within the Teesworks area. This development site is within the South Industrial Zone. This zone is identified for port related uses, offshore energy industries, materials processing and manufacturing and energy generation.
- 1.14 The Master Plan will be supported by area wide strategies that will seek to address environmental considerations and will help facilitate the delivery of development sites. Examples of these include the emerging Environment and Biodiversity Strategy, Waste Strategy and Transport Strategy.
- 1.15 This outline planning application is one of five applications in the Teesworks area being submitted by STDC simultaneously. From a commercial perspective, the simultaneous submission of five applications is an important step in delivering confidence to the market and site occupiers. It is also an important step in furthering the established principle of large scale industrial development in the Teesworks area, in accordance with STDC’s Master Plan and RCBC’s Local Plan. The proposed development at this site, Dorman Point, includes a series of development parameters to provide flexibility as to the end and detailed design of the scheme.

1.16 With regards to the EIA process, the submission of five separate applications and ESs will allow the Council to consider the impact of each scheme separately with full awareness of the likely impacts arising cumulatively as a result of the overall proposed quantum of development. This provides a transparent approach which recognises the potential for some schemes to have a cumulative effect, whilst allowing specific matters to be addressed by each application and ES.

1.17 STDC has already started preparing this development site, Dorman Point, for development and it has submitted a set of applications to RCBC for remediation and preparation of the ground, engineering operations and demolition of existing structures.

## 2.0 **Site and Surroundings**

2.1 The development site is 57.8ha in size and it is rectangular in shape. It is located in an industrial area with associated infrastructure.

2.2 The site is approximately 5km east of Middlesborough town centre and 5km south west of Redcar town centre, and is approximately 1.6km south east of the River Tees.

2.3 It is located in the south western part of the Teesworks area and lies between the 'Lackenby' area and the South Tees Freight Park. It is immediately north west of the Bolckow Industrial Estate and is to the south of the South Bank Zone and the Landfill and Waste Management Facilities area. The area generally consists of industrial or former industrial areas.

2.4 The site's location is shown in Figures 2.1 and 2.2 below and it is immediately bounded by:

- Tees Dock Road to the east;
- Existing development in the Bolckow Industrial Estate to the south east;
- Eston Road and open vacant industrial land to the west; and
- The Darlington to Saltburn Railway line to the north west.



Figure 2.1 Site Location: Dorman Point



Source: Lichfields (November 2020)

Figure 2.2 Site Surroundings



Source: Lichfields (November 2020)

- 2.5 The site was previously in industrial use but is now largely free of built development and active use; albeit it does include an internal private road network and infrastructure. One workshop, known as the Torpedo Ladle Workshop remains and is present on the southern part of the site. The site has previously been used in iron and steel making and was extensively occupied by buildings associated with the Cleveland Iron and Steel Works. Apart from the Torpedo Ladle Workshop most of the ground is covered by a mixture of hardstanding and patchy scrub and grasses. The site is relatively flat.

## **Sensitive Receptors**

- 2.6 The EIA team have reviewed the site and surroundings and have identified that the following sensitive receptors could be potentially sensitive to environmental impact and change as a result of the proposed development:

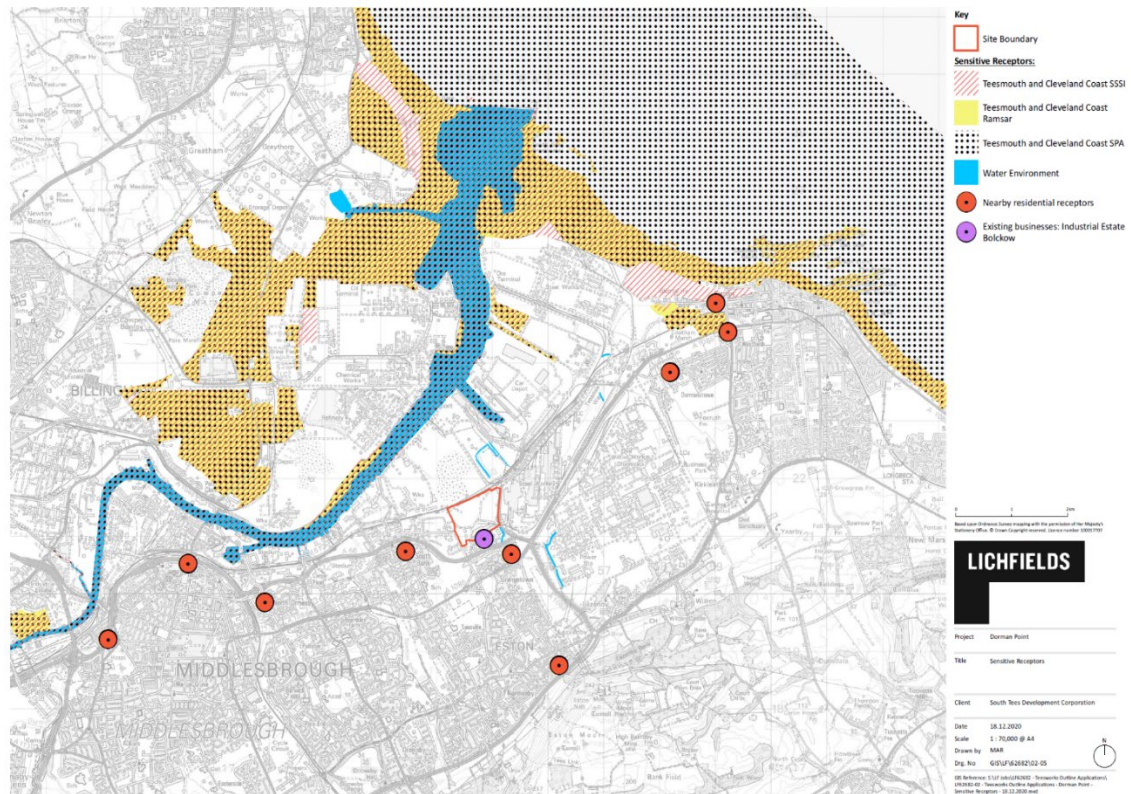
- 1 Users of the highway network: Eston Road, Church Lane, A66 (east and west of Eston Road junction), Normanby Road (north and south of A66), Teesdock Road, A1085 Trunk Road, A1053 Greystones Road and the A174 Greystones Road.
- 2 Designated sites - including Teesmouth and Cleveland Coast Special Protection Area ('SPA') and Ramsar Site and Teesmouth and Cleveland Coast Site of Special Scientific Interest ('SSSI');
- 3 Landscape Character Areas – including industrial, urban, intertidal estuary, coast and peninsula, Coatham Marsh, Eston Hills, Salthouse Wetlands, rural and urban green space;
- 4 Nearby sensitive viewpoints;
- 5 Surrounding built environment;
- 6 Nearby residential receptors, including those in South Bank, Grangetown, Old Lackenby/Eston, Newport, Middlesborough, North Ormesby. Dormanstown and Redcar and the mobile home travellers' site at King's George Terrace, mobile homes site at Redcar Beach front and Marsh Farmhouse.
- 7 Surface water including the River Tees estuary, Holme Beck Culvert, Boundary Beck Culvert, Kinkerdale Beck Culvert, the Mill Race Culvert and Knitting Wife Culvert;
- 8 Ground water including Mercia Mudstone and Superficial Aquifer;
- 9 Regional landfill void capacity;
- 10 Regional materials availability;
- 11 Waste Management Facilities;
- 12 Construction and operational employment;
- 13 Construction workers;
- 14 Off-site Human Health Receptors;
- 15 Construction and operational economic output;
- 16 National and local carbon targets and greenhouse gas ('GHG') emissions;
- 17 Below ground heritage assets - 19th Century Cleveland Iron & Steel Works, Open Hearth remains and Eston Iron Works;
- 18 On-site habitats including open mosaic habitats, 'ruderal/ephemeral', watercourse;



- 19 On-site species including nesting birds, common toad invasive non-native species, invertebrates, dingy skipper butterfly, grayling butterfly, and brown hare; and
- 20 Existing businesses – industrial estate Bolckow.

2.7 These receptors can be viewed on Figure 2.3 below:

Figure 2.3 Sensitive Receptors



Source: Lichfields (November 2020)

### 3.0 Description of Development

- 3.1 At this stage, the future occupiers of the site are not known. As is usual for these circumstances, a building ‘envelope’ has been established which sets out the maximum extent of buildings and floorspace that will be included on the site. This is accepted as a ‘worst case scenario’ and, to ensure a robust approach, this has been what has been used for the purposes of assessment.
- 3.2 When occupiers are confirmed in the future, detailed applications will be submitted for approval which will fit within the maximum building envelope that has been defined in the ES. End users will comprise typical manufacturing and storage or distribution occupiers.
- 3.3 The building envelope is shown on a plan called a ‘parameters plan’ which is provided at Section 18 of this Non-Technical Summary. The key components of this plan are set out below.

## **Land Use and Floorspace**

- 3.4 The development will provide up to 139,353 sqm of General Industry or Storage or Distribution uses. Offices associated with these main uses may also be provided but this will not be more than 10% of the total floorspace provided on the site.

## **Building Heights and Floor Levels**

- 3.5 For the purpose of this EIA, the maximum building height will be 36 metres above prevailing ground level (or 46.8m 'above ordnance datum'). Floor levels will be no less than 8 metres 'above ordnance datum' and will be in part formed by the reuse of earth on-site.

## **Building Design**

- 3.6 It is anticipated that the building design will adopt a contemporary and modern architecture and the colour palette will be sympathetic to the site's surroundings.

## **Access and Parking**

- 3.7 The development will have a minimum of two access points along with internal access road(s) and parking and servicing areas for each development plot.

## **Hours of Operation**

- 3.8 It is assumed that future uses will be in operation 24/7, seven days a week.

## **Construction Methodology**

- 3.9 For the purposes of assessment it has been assumed that:
- Construction commences in 2021 with first floorspace delivered in 2022; and
  - Construction period totals 11 years with completion anticipated in 2032.
- 3.10 Construction hours are envisaged to be undertaken 24/7 in accordance with surrounding uses and industries.
- 3.11 Before construction starts, the contractor will prepare and agree a document called a 'Construction Environmental Management Plan' ('CEMP') which will set out measures to ensure that any adverse impacts during the construction period will be kept to a minimum. A Framework version of the CEMP is being submitted with the planning application.

## **Alternatives**

- 3.12 The EIA Regulations specify that it is good practice to consider any alternatives to the scheme that may have been studied by the applicant; along with consideration of what may happen at the site if development were not to go ahead.
- 3.13 If the proposed development were not to come forward, there is the possibility that the site would remain in its existing use as vacant previously industrial land. In this scenario the existing environmental conditions would remain or evolve over the course of time. A no development scenario would not aid in delivering economic development on one of RCBC's protected employment areas and STDC's vision for the site and the surrounding area. This site forms part of the Teesworks area, the area of which is identified to deliver economic development, creating in the region of 20,000 direct and indirect jobs.
- 3.14 This scenario is considered highly unlikely because there are existing consents at the site which grant permission to prepare the site for development.

- 3.1 The applicant has not considered alternative uses for the site given that the development is based on the clear aspirations to bring the site forward for the uses assessed in the EIA.

## 4.0 **Transport**

- 4.1 A Transport Assessment ('TA') has been carried out by Arup and this has informed the ES Chapter. This considers the effects of the proposed development on the surrounding transport network, including the potential effects of the predicted traffic associated with the proposed development. The assessment covers severance, driver and bus user delay, pedestrian and cyclist amenity, and accidents and safety. The TA forms Appendix C1 of the ES.

### **Existing Conditions**

- 4.2 The baseline conditions indicate the surrounding road network that serve the industrial uses. The local highway network consists of a number of key roads, including, Eston Road, Tees Dock Road, the A66, Normanby Road, Church Lane and Whitworth Road. The wider strategic network includes the A1053 and the A174. An internal road network exists across the wider Teesworks area and some of these roads are located within the Dorman Point site.
- 4.3 Walking facilities in the vicinity of the site are currently limited. The nearest Public Right of Way ('PROW') runs alongside the Darlington to Saltburn Railway line. The nearest National Cycle Route ('NCR') is NCR1 which runs along Bolckow Road, approximately 0.4km from the south of the site.
- 4.4 The bus stop on the Trunk Road provides a bus shelter and bus layby and is an approximate 20-minute walk (1.2km) to the proposed southern access to the site via the A66. South Bank railway station is an approximate 16-minute walk (1km) to the west of the site.

### **Embedded Mitigation**

- 4.5 A Framework CEMP has been prepared for the construction stage of the development and forms part of the embedded mitigation of the development (see paragraph 3.11 above). The CEMP identifies that a Construction Traffic Management Plan ('CTMP') will be implemented either at site level or for each development phase.
- 4.6 For the operational phase of the development, the site will be accessed via a new junction which will be constructed on Eston Road (this was subject to a recent separate permission). This roundabout is being constructed to serve the wider Teesworks area. A Framework Travel Plan ('FTP') is embedded into the scheme and this promotes sustainable modes of travel. In addition, a bus service is proposed to provide direct access into the development site. It will provide a connection to the local towns of Middlesbrough and Redcar. The bus service will be extended as additional development sites are occupied at Teesworks (including those developments also subject to planning applications being submitted by STDC at the same time as this).
- 4.7 The proposed development will provide a high-quality site which promotes walking and cycling through the provision of footways and secure cycle parking.

### **Effects during Construction and Operation of the Development**

- 4.8 As this is an outline planning application, the specifics of construction are not known. Whilst a detailed assessment of the construction traffic has not been undertaken, professional judgement indicates that the severance or amenity effect of construction traffic is unlikely to be Significant.

- 4.9 With the implementation of embedded mitigation measures and the below secondary mitigation measures, during operation, the assessment identifies that Eston Road would experience a perceptible change in traffic flows which would have a Minor Adverse effect on severance. This is considered Not Significant. There are five junctions where the development would have between a Substantial Adverse and Minor Adverse effect on driver and bus user delay due to an increase in development traffic travelling through the junctions. With the secondary mitigation measures implemented all effects would be reduced to Not Significant, apart from the A66 / Eston Road where **Moderate Adverse** and Significant effects are identified. In addition, a perceptible increase in traffic on two routes is identified to result in Negligible to Minor Adverse effects, after mitigation, on pedestrian and cyclist amenity. This is Not Significant.

## Mitigation and Monitoring

- 4.10 At this point in time no secondary mitigation measures have been identified for the construction stage of the development.
- 4.11 For the operational phase of the development, and to reduce the effects to those identified above, secondary mitigation measures are proposed. These measures include: an Occupier Travel Plan for each of the end occupiers of the site; wider travel planning measures to encourage sustainable transport (such as, ensuring footway and cycleway connections are provided, providing secure cycle parking, providing staff up to date information on public transport services and walking/cycling provisions, promotions such as National Travel Awareness day and a 'Walking Buddy' Scheme, promoting car sharing, and consolidating servicing trips and deliveries); a review of traffic signals to see if junctions can be optimised (at the A66 / Eston Road junction and the A66 / Normanby Road signalised crossroads); and potential junction improvements for the A66 / Tees Dock Road Roundabout and A174/Greystone Road Roundabout.
- 4.12 Although no commitment is being made at this stage, there are also opportunities to reduce the identified impacts further through the implementation of measures in the emerging Transport Strategy for the Teesworks area. STDC is bringing forward this strategy to help provide a coordinate response amongst all sites on transport matters.

## 5.0 Biodiversity and Ecology

- 5.1 The assessment of Biodiversity and Ecology effects has been carried out by INCA.

### Existing Conditions

- 5.2 Taken as a whole, the site is almost entirely former industrial "brownfield" land. Except for embankments parallel to Eston Road, which supported a former rail line, and a few, relatively small areas of tipped or disturbed material, it is entirely flat. With few notable exceptions the substrate is either hard standing in the form of concrete bases or brick/concrete rubble, or else compacted blast furnace slag with a light covering of soil in places. There is a small amount of Open Mosaic Habitat where the substrate is disturbed and loose or where extraneous material has been added. This contains several small, shallow pools which make a significant contribution to the overall biodiversity of the site.
- 5.3 Most of the vegetation is ruderal/ ephemeral and typical of that of much of the non-operational land of industrial Teesside. For the most part the condition of this vegetation is poor or moderate, in part due to invasion by Sea Buckthorn scrub, though some small areas would meet the "Urban Grasslands" criterion for designation as a Local Wildlife Site.



- 5.4 Other minor habitat elements are plantation woodland, scrub and a short, open section of the otherwise culverted Holme Beck. None of these habitat elements are in good condition.

### **Embedded Mitigation**

- 5.5 Embedded mitigation will take the form of adherence to measures outlined in the Framework CEMP (see paragraph 3.11 above). The CEMP includes the following measures in relation to Biodiversity and Ecology:
- 1 Mitigation will be included to prevent and mitigate against any accidents, including but not limited to, spills, storage of soils and control of construction related dust and the construction of site hoarding to reduce the impact on ecological sensitive receptors;
  - 2 Measures will be implemented to prevent sediment, dust, surface water run-off and other substances from entering watercourses;
  - 3 Removal of trees, scrub, wetland habitat or areas of grassland or open mosaic habitat that may support nesting birds should be undertaken outside of nesting season (March to August inclusive), unless the habitats are first checked by a suitably qualified ecologist, who confirms in writing to the LPA that no nesting birds are present; and
  - 4 Measures will be implemented to prevent the spread of invasive non-native plant species, as listed under either Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) or the Invasive Alien Species (Enforcement and Permitting) Order 2019.
- 5.6 The only other embedded mitigation measure relevant to the ecological assessment is:

*“Further ground investigation surveys will be undertaken in order to identify the need, or otherwise, for additional remediation work. This stage of work will include, if necessary, the submission of details to divert watercourses including Holme Beck and Knitting Wife Beck and any associated ground remediation necessary as part of the diversion.”*

### **Effects during Construction and Operation of the Development**

- 5.7 Impacts would be entirely due to the construction process and would involve the loss of all habitats on the site and consequently the loss of all species present on the site that are associated with those habitats.
- 5.8 The proposed development would result in a permanent, **Moderate Adverse** effect on Dingy Skipper butterfly; Odonata (Dragonfly and Damselfly species); Open Mosaic Habitats and Ruderal/Ephemeral habitats. This is considered a Significant effect.
- 5.9 The proposed development would result in a permanent Minor Adverse effect on Breeding Birds, Brown Hare, Common Toad and Grayling butterfly. This is considered Not Significant.

### **Mitigation and Compensation Measures**

- 5.10 It is assumed that all habitats and species will be lost as a result of construction therefore no mitigation is possible other than that described under Embedded Mitigation.
- 5.11 Compensatory measures that will be taken forward through the emerging South Tees Regeneration Master Plan Environment and Biodiversity Strategy to offset any habitat lost through development of the Teesworks area, including through the proposed development, will ensure no net loss of biodiversity.
- 5.12 Specific compensatory measures will be undertaken for any ecological receptors assessed as being Significant in EIA terms, which for this site are Dingy Skipper butterfly, Odonata species;

Open Mosaic Habitat and Ruderal/Ephemeral habitat, to ensure no net loss of those ecological receptors.

## 6.0 **Noise and Vibration**

6.1 An assessment has been undertaken by Arup to understand the potential noise and vibration effects of the proposed development during construction and operation.

### **Existing Conditions**

6.2 Noise from road traffic and rail traffic is considered to be the main contributor to the existing environment at residential and non-residential noise sensitive receptors, with potentially some contribution also from existing industrial sources. As it has not been possible to carry out a survey, the baseline sound level climate has, therefore, been informed by noise prediction modelling of noise from road and rail.

6.3 The nearest noise sensitive receptors include residential receptors on Elgin Avenue, St. James Court, Bolckow Road and non-residential receptors, M&K Design shops, located immediate to the southern boundary of the site. Noise Important Areas ('NIA') have been identified by DEFRA and these include Noise Important Area ID 2311, 2313, 2314, 2315 and 2316 along the A66 and Trunk Road/Broadway.

### **Embedded Mitigation**

6.4 The assessment assumes the implementation of the principles set out in the Framework CEMP (see paragraph 3.11 above) which will be embedded into the design of the scheme. Best practice measures will be applied during construction activities to minimise noise (including vibration) at neighbouring residential and commercial properties.

6.5 There are no embedded mitigation measures for the operation of the proposed development.

### **Effects during Construction and Operation of the Development**

6.6 Predicted construction activity noise levels at residential and non-residential properties as a result of the proposed development (including impact piling, which has been assumed as a reasonable worst-case scenario) show no exceedance of the construction threshold levels during day, evening or night-time. No construction significant adverse effects have been identified.

6.7 During operation, the main source of noise from the proposed development is from industrial noise activities, building services and road traffic. At this stage, the future occupiers are unknown but based on a reasonable worst-case scenario of the proposed use, no operational significant adverse effects have been identified.

### **Mitigation and Monitoring**

6.8 Although no significant construction effects have been identified, a risk assessment identifying the probability of noise and vibration from any piling or compaction activities should be carried out prior to the commencement of construction once the detailed construction details are known (including phasing, activities and methods). This will also determine the need for any periodic or continuous construction noise or vibration monitoring.

6.9 Although the effects are expected to be Not Significant as a result of the operation of the development best practice noise measures will be implemented to seek to keep noise to a minimum. These measures relate the location and maintenance or plant equipment and the

adoption of an appropriate speed limit for vehicles on site. Noise emission from building services plant and industrial activities will be considered during detailed design to ensure that operational noise does not adversely affect any noise sensitive receptors.

## 7.0 **Air Quality**

7.1 This topic considers the effects of the proposed development on local air quality, including the potential effects of the predicted traffic associated with the proposed development. The assessment covers construction dust and operational traffic effects on human and ecological sensitive receptors.

### **Existing Conditions**

7.2 The baseline covers local air quality conditions in the vicinity of the proposed development. Monitored concentrations in the vicinity of the site are well below the respective national air quality objectives. As a result, the local council has not declared any Air Quality Management Areas ('AQMs').

7.3 There is one current industrial process with releases to air listed on the Environment Agency ('EA') website within 1km of the site. The process is a new medium combustion plant operated by the Hartee Partners Power and Gas Company on land bounded by the A66 Tees Dock Road.

7.4 Sensitive air quality receptors include local residential uses within the South Bank and Grangetown areas. Ecological receptors include the Teesmouth and Cleveland Coast Site of Special Scientific Interest ('SSSI') and the Special Protection Area ('SPA') / Ramsar site Teesmouth and Cleveland Coast.

### **Embedded Mitigation**

7.5 Construction dust mitigation measures have been included in the Framework CEMP. These measures will mitigate the effects on sensitive receptors during the construction phase, and should be accompanied by a Dust Management Plan ('DMP').

7.6 There are no embedded mitigation measures proposed as a result of air quality for the operational phase of the development.

### **Effects during Construction and Operation of the Development**

7.7 The effects of construction traffic will be assessed once full details are known. Assuming the successful implementation of best practice mitigation measures for construction dust that are embedded in the Framework CEMP, the effects of construction dust are expected to be Not Significant.

7.8 The operational phase of the development has been considered by carrying out dispersion modelling using industry standard software. This assessment used traffic data provided by the project transport team and relevant meteorological data from the closest relevant site: Teesside International Airport. The air quality impacts have been assessed at identified residential and ecological receptors. The impact of the potential changes in pollutant concentrations calculated through the modelling process is predicted to be Negligible at all receptors. The overall effect of the operation of the proposed development on local air quality is therefore considered to be Not Significant.

## **Mitigation and Monitoring**

- 7.9 Beyond the embedded mitigation measures, no further mitigation is required for the construction of the proposed development at this time.
- 7.10 As the overall effect of the operation of the proposed development on local air quality is considered to be Not Significant, no mitigation measures are required.

## **8.0 Water Management and Flooding**

- 8.1 This Chapter of the ES has been prepared by JBA. It assesses the proposed development described in Chapter B, describes the existing environment in relation to hydrology and hydrogeology and assesses the potential impacts of the construction and operation of the proposed development on hydrology (surface water quality, levels and flows) and hydrogeology (groundwater quality and levels). It therefore closely relates to and references details included in the Ground Conditions and Remediation chapter for the ES (see Section 9.0 of this NTS).
- 8.2 The chapter comprises a desk-based assessment of water management and flooding, incorporating the elements required for a Flood Risk Assessment (FRA) (see Appendix G2 of the ES) as well as examining drainage and hydrogeology. Data gathered for the assessment originate from three main sources: publicly available websites, data from the Environment Agency (EA), and previous reports and site investigations.

### **Existing Conditions**

- 8.3 The site lies within the catchment of the River Tees located north of the site, and within two sub catchments of the Tees – the Knitting Wife Beck and the Holme Beck. The Holme Beck contains flow from the Cleveland Hills and flows in a northwest direction along the western edge of the site and the Knitting Wife Beck flows north along the eastern boundary of the site. Both watercourses are culverted through the site. A surface water sewer is thought to lie under the existing buildings in the southern area of the site, but was not located during recent surveys. The two watercourses and surface water sewer are conveyed under the railway line along the northern boundary and discharge into the Cleveland Channel. The site is located within Flood Zone 1.
- 8.4 The site is underlain by strata which are classified by the EA as a Secondary B bedrock aquifer and as Secondary (undifferentiated) superficial aquifers. Groundwater vulnerability beneath the site is low and the site does not lie within a defined Source Protection Zone (SPZ). There are no abstractions or discharges near the site which are deemed to be potentially impacted by the proposed development.
- 8.5 The surface water receptors assessed in this chapter are: The River Tees Estuary (Tees Water Framework Directive (WFD) transitional water body), the Cleveland and Lackenby Channels, Holme Beck Culvert, Kinkerdale Beck Culvert, Boundary Beck Culvert and Knitting Wife Culvert. The groundwater receptors are the Mudstone bedrock aquifers and superficial aquifers.

### **Embedded Mitigation**

- 8.6 A CEMP, which sets out key measures and principles that will be adhered to, forms part of the embedded mitigation for the proposed development during the construction phase (see paragraph 3.11 above). The measures in the Framework CEMP will be taken forward in detailed CEMPs for each phase of construction.
- 8.7 Other embedded mitigation measures relevant to water management and flooding include:



- 1 Further site and ground investigation surveys will be undertaken in order to identify the need, or otherwise, for additional survey work and / or remediation work. This stage of work will include, if necessary, the submission of details to divert Holme Beck and Knitting Wife Beck;
- 2 Regarding movement of materials across the site, site activities should be undertaken to avoid the creation of contaminant/groundwater migration pathways where possible. It is noted that the site will be cut-and-fill neutral, and movement of materials would be covered within the CEMP by a CTMP;
- 3 For any piling works, a piling risk assessment will be undertaken; and
- 4 Implementation of an Outline Remediation Strategy.

## **Effects during Construction and Operation of the Development**

- 8.8 Surface water flows could be impacted during the construction phase of development because of increased run off. Other impacts could include the potential for pollutants to enter local watercourses and through surface water run-off. With regards to groundwater, effects could result from reduced infiltration, spillages and activation of contaminant pathways. Through the implementation of the embedded mitigation measures described above, the effects on the surface water and groundwater receptors, are considered to be Negligible Adverse and, therefore, Not Significant.
- 8.9 During operation, there is the potential for the proposed development to affect surface water flows and quality through increased run off and pollution caused by spillages and leakages. These impacts are considered to be Negligible Adverse and Not Significant. There is also the potential for the proposed development to affect groundwater through reduced infiltration (Minor Adverse impacts) and pollution from spillages and a reduction in contamination of groundwater arising from existing Made Ground (Negligible Beneficial impacts) which are considered to be Not Significant.

## **Mitigation and Monitoring**

- 8.10 The proposed development will be phased, with construction starting in 2021 and with an anticipated completion in 2032. Whilst a high level FRA has been prepared to supplement this assessment (within Appendix G2 of the ES), the documents set out below shall be prepared for each phase of development and submitted to the Council for approval when the detailed design of each phase of the scheme is known, to mitigate significant adverse impacts:
- A detailed FRA and Drainage Impact Assessment (DIA) with drainage strategy (for both foul and surface water);
  - A Surface Water Management Plan (SWMP); and
  - A WFD Assessment.

## **Summary**

- 8.11 The implementation of the mitigation measures described above would result in the following impacts: for groundwater, the impacts on flows would remain Minor Adverse and Not Significant and the impacts on groundwater quality are considered to be Minor Beneficial, both of which would be Not Significant. For surface water, the impacts on flows and quality are considered to be Negligible Beneficial which would be Not Significant.

## 9.0 **Ground Conditions and Remediation**

9.1 An assessment of the Ground Conditions and Remediation has been undertaken by Arcadis (UK) Ltd. It considers the effects of the proposed development on the site's ground conditions and the need for remediation. It is based on a desk-based survey and a review of existing surveys and reports that have been undertaken for the site and the surrounding Teesworks area. The operational phase of the assessment has been scoped out as no significant effects are likely.

### **Existing Conditions**

9.2 The site and surrounding areas largely comprise mudflat and marshland reclaimed by deposit of iron and steel slag and by-products. The main historic land uses are dominated by extensive iron and steel works (e.g. Cleveland Iron and Steel Works) together with auxiliary industries (Cleveland Coke Ovens and Biproducts Plant), infrastructure including workshops, railway lines and sidings, power generation and distribution and waste management.

9.3 Made Ground (man-made deposits) cover the entire site footprint ranging in depth between 0.6 and >5.0 m bgl (below ground level) with the majority of the site covered by between 1 and 3m of Made Ground. Large areas of concrete surfacing are present particularly in the east of the site, while a second large concrete slab was identified in the area of the former coke ovens in the south west. This was noted to be underlain by a large void approximately 2-3m deep. Three types of Made Ground were identified; Slag-dominant, Granular Made Ground and Cohesive Made Ground.

9.4 British Geological Survey (BGS) maps indicate the Made Ground is underlain by Glaciolacustrine Deposits predominantly comprising laminated clays and silt. These deposits are likely to be underlain by Glacial Till predominantly comprising stiff slightly gravelly clay. Tidal Flat Deposits were identified by ground investigations but were shown to be thin and discontinuous.

9.5 Bedrock beneath the southern 10% of the site comprises mudstones of the Redcar Mudstone Formation. The northern 80% of the site is underlain by mudstones of the Mercia Mudstone Group. The Penarth Group is indicated to be present between the two units running northeast to south west through the site.

9.6 The River Tees is approximately 1.3km to the northwest of the site, with Holme Beck which passes through the site in a culvert to discharge at the Cleveland Channel which flows to the River Tees via the Lackenby Channel. Knitting Wife Beck is culverted along the eastern side of the site discharging into the Lackenby Channel. Groundwater, includes an Unproductive strata (superficial deposits), a Secondary A aquifer (Tidal Flat Deposits), Undifferentiated aquifer and Secondary B aquifers (solid geology). The sensitivity of identified surface water and groundwater receptors is considered medium reflecting water features of low value.

9.7 On-site and off-site sources of contamination have been identified and data from previous intrusive site investigations identify contamination risks from iron and steel works, Non-Aqueous Phase Liquids (NAPL), made ground, ground gas and asbestos.

9.8 Potential human and environmental receptors include construction workers, residents and workers in the local area beyond the site boundaries, surface water and ground water and the built environment (waste management facilities).

## **Embedded Mitigation**

- 9.9 Embedded mitigation measures include items such as the implementation of the Framework CEMP and health and safety standards, implementation of Outline Remediation Strategy, further ground investigations (soil and groundwater analysis and gas monitoring as required to resolve any current data gaps), piling risk assessment and hazardous and non-hazardous waste to be sent to the Highfield landfill site.
- 9.10 The proposed minimum FFL (finished floor level) will be 8.0m AOD. It is assumed that the development will be cut and fill neutral. Excavated soils will be assessed and processed as necessary before being reused as engineering fill.

## **Effects during Construction and Operation of the Development**

- 9.11 During construction, the use of heavy equipment and earthworks activities such as excavation, backfilling and compaction, may disturb the soil and result in dust generation and the potential for direct contact with and inhalation of contaminants. With mitigation (described below) and embedded mitigation, this is expected to result in a Minor Adverse impact on construction workers and a Negligible effect on off site human health receptors. These are considered Not Significant.
- 9.12 A Negligible and Not Significant effect on surface water and groundwater is considered likely with the implementation of the mitigation (see details below) and embedded mitigation. Where hazardous waste needs to be removed from site it is expected to go to the Highfield Landfill site and this is considered to have a Negligible (but Not Significant) effect on waste management facilities.
- 9.13 No Significant operational effects are anticipated and as noted above operational effects were scoped out of the assessment.

## **Mitigation Measures**

- H1.1 Mitigation measures are required to reduce the environmental impact associated with the proposed development. In the event that unanticipated contamination is encountered during construction works, an investigation and risk assessment will be undertaken and where remediation is considered necessary additional mitigation will be agreed with the relevant authorities.
- H1.2 Prior to the construction of buildings, a Gas Risk Assessment should be undertaken, and the site and buildings should be designed with adequate mitigation measures. A detailed UXO risk assessment would be undertaken to reduce the risk to As Low As is Reasonably Practicable.
- H1.3 An Outline Remediation Strategy is included in the embedded mitigation. This covers the majority of the site, however there are areas e.g. underneath existing buildings and structures which require further investigation to understand the ground conditions / contamination status, before a Remediation Strategy can be prepared. As mitigation, once the further investigation has been undertaken, the exiting Outline Remediation Strategy would be extended to include these additional areas or a separate Remediation Strategy would be prepared and implemented to reduce the risks to identified sensitive receptors.
- H1.4 The implementation of these measures will result in Minor Adverse or Negligible (and Not Significant) effects at all receptors.

## 10.0 **Socio-Economic**

10.1 The assessment of Socio-Economic effects has been carried out by Lichfields.

### **Existing Conditions**

10.2 The assessment establishes the baseline position in terms of Socio-Economic conditions. It has drawn upon a combination of data sources, including nationally published data from the Office for National Statistics (ONS), as well as local authority statistics and other data including that from the 2011 Census, Experian datasets and other publicly available national statistics. The Area of Impact (AOI) considered is defined as the local authorities of Redcar and Cleveland, Middlesbrough and Stockton-on-Tees.

### **Embedded Mitigation**

10.3 No design measures have been embedded into the proposed development in relation to Socio-Economic matters.

### **Effects during Construction and Operation of the Development**

10.4 The assessment has considered the potential Socio-Economic effects of the proposed development and their significance.

10.5 The assessment concludes that the proposed development will have a temporary, long-term and **Moderate Beneficial** effect on the local economy by creating new construction (and supply chain) jobs and a temporary, long-term and **Moderate Beneficial** effect in relation to economic output (as measured by Gross Value Added) during the construction period. This is considered Significant.

10.6 Once fully operational, the employment and economic output generated by the proposed development are both anticipated to have a permanent and **Substantial Beneficial** effect, having regard to the scale of employment (and Gross Value Added) uplift and the existing local conditions which are characterised by low employment density (jobs per 16-64 population) and high levels of unemployment and deprivation. The assessment considered the scale of change within the context of both local and sub-regional objectives to deliver transformative employment growth across the Teesworks area. This effect is considered Significant.

### **Mitigation Measures**

10.7 As the proposed development is anticipated to give rise to Beneficial effects in the context of Socio-Economics no mitigation measures are proposed in this regard.

## 11.0 **Climate Change**

The chapter, prepared by Arup, describes the likely impacts on climate from the construction of the proposed development and from its operation

### **Existing Conditions**

11.1 Construction is expected to occur within the following phases as shown at Table 11.1:



Table 11.1 Dorman point phased development area (sqm), percentage of total and percentage cumulation of build

Year	Area Build (sqm)	Proportion %	Cumulative %
2022	24,154	17%	17%
2023	41,806	30%	47%
2024	11,148	8%	55%
2025	13,471	10%	65%
2026		0%	65%
2027		0%	65%
2028	17,187	12%	77%
2029		0%	77%
2030		0%	77%
2031	27,871	20%	97%
2032	3,716	3%	100%
2033		0%	100%
<b>Total</b>	<b>139,353</b>		

- 11.2 The sources of greenhouse gas (GHG) emissions that have been assessed are:
- The extraction, processing and manufacturing of construction materials;
  - Transport of construction materials from the manufacturer to the proposed development;
  - The construction process, including the use of construction equipment and the transport of construction workers to/from site;
  - The operational use of electricity and gas within buildings; and
  - Operational transport movements within the RCBC area, including employee commuting and service vehicles.

11.3 The end users of the site are not known at this stage, and so GHG emissions arising from unregulated energy use on site have not been assessed. Once further information is available then the impact of these emissions on the assessment conclusions should be examined.

11.4 Due to the long-term environmental impact of GHG emissions, all emissions can be considered Significant. However, the UK Government sets five-yearly carbon budgets to ensure progress towards the long-term national target is achieved.

## Embedded Mitigation

11.5 Due to the current outline nature of the proposed development, this assessment does not consider potential primary embedded mitigation measures that relate to climate change and greenhouse gases.

11.6 Many of the design decisions that provide an efficient development process will as a by-product provide a reduction in carbon emissions and act as primary mitigation measures. These include efficient use of space, recycling and reuse of materials, and minimised transportation. These have not been identified at this stage, but the range of opportunities is set out in the mitigation section. As the detailed scheme design progresses these will be taken into account and, where relevant and possible, can be embedded into the scheme at the detailed design stage.

11.7 Tertiary measures are described in the Framework CEMP and are outlined as follows:

*“Measures will be included such as the sourcing of materials locally, the use of lower emissions vehicles and planning to minimise the number of journeys required to and from the site. It will also include climate change aims including the use of electrical plants, where practical and feasible”.*

- 11.8 As detailed, CEMP measures are not yet available, it is therefore difficult to accurately quantify how the combination of measures, and scale of their implementation, will be applied to the proposed development in order to determine the assessment of effects in relation to greenhouse gases. Due to this potential flexibility in the tertiary measures, and to assess a worse-case scenario, this assessment has not considered the potential embedded mitigation they would provide in relation to climate change and greenhouse gases.

## **Effects during Construction and Operation of the Development**

- 11.9 The annual emissions from construction have been estimated for an average year within each budget period (for those periods where construction takes place).
- Within budget period 2018-22 the maximum peak annual construction emissions are 0.03 MtCO<sub>2e</sub> which equates to 0.01% of the average annual carbon budget for that period;
  - Within budget period 2023-28 the maximum construction emissions are 0.05 MtCO<sub>2e</sub> which equates to 0.01% of the average annual carbon budget for that period; and
  - Within budget period 2029-33 the maximum construction emissions are 0.03 MtCO<sub>2e</sub> which equates to 0.01% of the average annual carbon budget for that period.
- 11.10 The construction of the proposed development is therefore not expected to compromise the ability of the UK to meet its national targets. The development is assessed as Minor Adverse and Not Significant for construction stage.
- 11.11 The operational annual emissions (arising within the RCBC area) have been estimated for 2033. This is the year in which the site, and four other development sites in the immediate vicinity within the wider Teesside Development Corporation, will be fully developed and operational. For this site these emissions are estimated as 10,863 tCO<sub>2e</sub>.
- 11.12 As the UK economy is expected to decarbonise towards the 2050 net zero target then emissions are likely to be highest in earlier years of operation. To put the emissions for this site in context, these represent 0.42% of the Redcar and Cleveland local authority area emissions as reported in 2018.
- 11.13 The operational emissions from the site are relatively small compared to the overall scale of local authority emissions, although represent a larger proportion of local authority transport emissions than for other sectors. These emissions estimates are, however, based on a conservative of assumptions and represent a reasonable worst case ‘before mitigation’ scenario. The emerging wider South Tees Regeneration Master Plan Transport Strategy is expected to significantly reduce vehicle movements and increase the use of lower carbon transport modes. Additionally, once the end users for the site are confirmed, a detailed energy strategy to utilise low and zero carbon energy supply options will be developed along with a site-specific travel plan. On this basis it is considered unlikely that the proposed development will compromise national or local GHG emissions targets after mitigation. The development is therefore assessed as Minor Adverse and Not Significant for operational stage.

## **Mitigation Measures**

- 11.14 At this stage in the project, full construction design and logistics are yet to be confirmed. However, a range of construction and procurement strategies can be investigated to provide

mitigation measures to reduce the GHG emissions associated with the proposed development, across the full life cycle. For the construction stage, this includes reducing the quantity of materials, use of recycled and locally sourced materials and the use of electrical plant over fossil fuelled construction plan. For the operational stage this could include implementing an energy strategy which includes the installation of low and zero carbon technologies and encouraging the use of transport measures to encourage active and low carbon transport choices.

## 12.0 Landscape and Visual Assessment

12.1 A Landscape and Visual Impact Assessment has been undertaken by BDP to assess the landscape and visual effects of the proposed development.

### Existing Conditions

- 12.2 The site is approximately rectangular and is defined by the existing surrounding infrastructure. The site has previously been used in iron and steel making and was previously extensively occupied by buildings associated with the Cleveland Iron and Steel Works.
- 12.3 Most of the site is now free from built structures, however, the former Torpedo Ladle Workshop is located in the southern part of the site. A redundant railway embankment of approximately 15m in height running in a north-south direction is present in the south-western part of the site. Aside from the former workshop building, most of the ground cover is a mixture of hardstanding and patchy scrub and grasses, and there are some relatively small pools of standing water in the central northern part of the site.
- 12.4 The topography of the site is relatively flat although there is very gentle slope downwards from south to north, with typical ground levels ranging from approximately 10.5m Above Ordnance Datum ('AOD') to 8m AOD.
- 12.5 An internal private road network exists across the whole of the Teesworks area. Those within this site include a road running in a north-east south-west direction across the site which connects to Tees Dock Road in the northeast corner and the roads around the Bolckow Industrial Estate in the southwest corner via the former Bessemer Gate.

### Embedded Mitigation

- 12.6 The embedded mitigation measures relevant to LVIA are the fixing of development parameters via the Outline Planning Application. The LVIA also assumes the implementation of construction best practice including the installation of suitable site hoarding, careful siting and management of materials stockpiles and the sensitive siting of site welfare and other temporary structures as set out in the Framework CEMP.

### Effects during Construction and Operation

- 12.7 During construction there will be a Negligible and Not Significant impact upon all Landscape Character Zones. There will be a **Moderate Adverse (Significant)** impact upon Viewpoint 1 (Eston Hills). All other Viewpoints will be subject to a Negligible and Not Significant impact during construction.
- 12.8 During operation, there will be no significant impacts upon all Landscape Character Zones, with effects ranging from Negligible to Minor Adverse/Minor Beneficial. There will be a **Moderate Adverse (Significant)** effect on Viewpoint 1. The impact upon all other viewpoints are considered to be Not Significant, with effects ranging from Negligible to Minor Adverse.

## Mitigation and Monitoring

- 12.9 A number of mitigation measures have been proposed to minimise or manage identified potential significant landscape and visual effects. Until more details are known on the design of the scheme, these proposals are likely to have a positive influence on the effects but are unlikely to reduce the overall significance noted above.
- 12.10 The following mitigation measures are proposed during the construction phase of the development:
- 1 Implementation of construction best practice;
  - 2 Installation of suitable site hoarding, for example a 2.4, timber site hoarding with a plastic wrap incorporating appropriate graphics;
  - 3 Careful siting and management of materials stockpiles to reduce prominence on site by limiting the height and volume of material stored on site; and
  - 4 Sensitive siting of site welfare and other temporary structures within the site compound.
- 12.11 Mitigation for the operational phase of development will comprise:
- 1 Buildings to be articulated in a way which reduces visual scale and massing. Buildings to be stepped down to site boundaries to reduce the perception of massing in local and mid-range views and site layouts to present legible blocks of development with appropriate breaks to reduce visual impact; and
  - 2 Building colour and cladding to be appropriate, and help break up the visual massing, avoiding overly reflective materials. Use of colour gradation in the largest buildings to reduce the perception of height and massing in mid and long-range views. Buildings on individual plots to have a sensitive and complementary palette of materials and cladding to enable the development to be read as separate blocks in mid to long-range views.

## 13.0 Below Ground Heritage

- 13.1 Prospect has undertaken a heritage assessment for the proposed development. It provides an assessment of the effects of the construction and operational phases of the proposed development on below ground heritage assets.

### Existing Conditions

- 13.2 The site was first developed for the Eston Iron Works in the 1851, comprising three blast furnaces, 54 feet high, located in the north-western part of the site. These were replaced by the much larger Cleveland Iron and Steel Works in the 1870s, again occupying the western part of the site but covering a much-expanded area, including the three Bessemer Blast Furnaces within the site. Open hearth furnaces were added along the northern boundary in the late 19<sup>th</sup> century. The iron and steel works continued in use, despite occasional closures, into the 21<sup>st</sup> century, finally going out of use in 2015. As a result, the site contains the remains of over 160 years of iron and steel production. Most of the standing structures have been removed, although elements of three blast furnace bases survive. It is anticipated that below-ground elements of the 1850s blast furnaces may survive within the western part of the site.

### Embedded Mitigation

- 13.3 There are no embedded mitigation measures relevant to below ground heritage.



## Effects during Construction and Operation

- 13.4 It is assumed that all archaeological remains would be removed through remediation and/or creation of development platforms during the construction phase. Potential effects would range between **Moderate** and **Substantial Adverse** which would be **Significant** in EIA terms.
- 13.5 With mitigation (described below), this is expected to result in a Minor Adverse impact on the Eston Iron Works remains and Cleveland Steel Works blast furnace bases and a Negligible effect on the Open Hearth furnace remains and Cleveland Steel Works other remains during the construction stage. Neither are significant in EIA terms.
- 13.6 No further effects would occur during the operational stage.

## Mitigation and Monitoring

- 13.7 As there is no potential for preservation in situ, the only mitigation possible is preservation by record. As the full extent of surviving archaeology is as yet unknown the mitigation measures proposed comprise an iterative approach initially focused on cleaning and recording of the area of the Cleveland Iron Works blast furnaces to all an assessment of their date, state of preservation, and significance. As remediation is required to make the site safe for development, and this area is believed to contain significant contamination, it is understood there is no potential for preservation in situ. A programme of archaeological recording is required of the blast furnace bases.
- 13.8 In addition to the work focusing on the remains of the Cleveland Iron Works' blast furnaces, a watching brief will be maintained during remediation in the area to the north, west and south of the blast furnaces, where the potential for other remains relating to the Eston Iron Works and Cleveland Iron Works may survive below the current ground surface. Where substantial and significant remains are identified, a programme of archaeological excavation and recording will be undertaken.
- 13.9 Archaeological investigation and recording will be undertaken prior to and during remediation and site preparation works. A written scheme of investigation (WSI) will be prepared for the wider site (an existing WSI has been prepared for the blast furnaces and immediate environs, Appendix K.2) for approval by NEAR as advisors to RCBC.
- 13.10 The implementation of these measures will result in Minor Adverse or Negligible (and Not Significant) effects at all receptors.

## Waste and Materials Management

- 14.1 Atkins has undertaken a waste and materials management assessment for the proposed development. It provides an assessment of the effects of the construction and operational phases of the proposed development on waste and materials management.

## Existing Conditions

- 14.2 Made ground is present at the surface across the site and is several meters thick. It largely consists of slag arising from historic iron and steel works. The made ground is underlain by superficial deposits consisting of tidal and glacial deposits.
- 14.3 The total remaining landfill capacity for the North East of England region is estimated to be 19,451,401 m<sup>3</sup> (based on data from 2018) or 23,341,681 tonnes.

- 14.4 The Highfield landfill site is the preferred site for any hazardous waste which arises during the construction phase of the proposed development. Its remaining approximate hazardous merchant landfill capacity is 2,025,194 cubic metres as of 2019.
- 14.5 Landfill capacity within the region is considered to be sufficient in comparison to typical quantities of waste arising from construction projects in the UK.
- 14.6 Primary aggregate availability in the North East region is estimated at 7 million tonnes. This is based on primary aggregate sales by region.
- 14.7 Ready-mixed concrete availability is estimated at 0.7 million cubic metres (0.84 million tonnes).
- 14.8 Asphalt availability for the region is estimated at 0.8 million tonnes.
- 14.9 Materials availability within the region is considered to be sufficient compared with the typical volumes of material used within construction projects in the UK.
- 14.10 Both materials availability and landfill capacity within the region are considered to be a low sensitivity receptors.

### **Embedded Mitigation**

- 14.11 Embedded mitigation relevant to the waste assessment includes:
- 1 The proposed development will aim to be cut and fill neutral, ensuring the reuse of suitable excavated materials generated on site is maximised;
  - 2 Waste will be designed out in the early design phases to ensure the volume of waste generated is minimised;
  - 3 Actions will be taken in the early design phases to ensure the use of recycled/ reclaimed materials are maximised in line with the Waste Hierarchy; and
  - 4 Utilisation of existing waste management facilities (such as Highfield landfill sites) within the Teesworks area will be prioritised, in accordance with the proximity principle whereby waste should be treated/ disposed of as close as possible from the point of generation.

### **Effects during Construction and Operation of the Development**

- 14.12 The construction phase (which includes excavation) of the development will generate predominantly inert and non-hazardous waste such as concrete, steel, plastic, glass and mixed waste. This will be associated with the construction process itself, rather than earthworks and as a result the impact is expected to be Negligible and Not Significant on remaining regional landfill capacity. At the point of this submission, it has not been possible to assess the impact of construction building materials to the full extent, however based on the known requirement for hardstanding areas it is anticipated that this will also have a Negligible impact on the availability of materials in the north east of England. This is considered to be Not Significant.
- 14.13 The operational phase of development is expected to generate largely municipal waste with some commercial and industrial waste. Waste generation has been calculated based on the proposed development parameters and data published by the British Standards and it is anticipated that the impacts are expected to be Negligible and Not Significant.

### **Mitigation Measures**

- 14.14 No mitigation measures are required to reduce the impacts of the proposed development. However, it is proposed that a Construction Waste Management Plan ('CWMP') will be prepared to include best practice measures, including, but not limited to: a commitment to

achieve a high recycling and recovery rate; having clearly defined and separate skips on site; and reviewing the opportunity to source materials from the local area. The use of secondary aggregates and recycled materials should be sought out where possible with a target of 30% of construction materials required for the proposed development for each phase to be recycled and/or secondary. During operation, a waste management system will be put in place to consider the process of storage, collection, waste, transport and treatment.

## 15.0 **Cumulative and Synergistic Assessment**

15.1 Consideration has been given to the inter-relationship between the direct effects arising from the proposed development. This assessment (referred to as a synergistic assessment), seeks to identify where the accumulation of effects on particular receptors, and the relationship between those effects, may give rise to a need for additional mitigation not identified previously. No Significant synergistic effects were identified and therefore no further mitigation required in this regard.

15.2 An assessment has been carried out to identify whether any additional environmental effects would be likely to arise if the development is considered alongside other developments in the area. Overall, twenty five developments have been identified which include the other four applications submitted by STDC in the Teesworks area (including the Foundry, Lackenby, Steel House and Long Acres), other developments in the Teesworks area, large scale residential developments in the immediate surrounding area and industrial and infrastructure schemes.

15.3 The assessment has been undertaken in two-stages; the first considers whether additional effects would arise from the five STDC applications in the Teesworks together without other schemes, compared with the effects of the development in isolation. The second stage considers whether there are any additional effects when the five applications are considered alongside the other identified schemes.

### **Stage 1 Assessment**

15.4 Based on the information available, the first stage of the cumulative assessment shows that there are likely to be additional **Significant Adverse** effects arising from the five STDC developments together, in relation to Biodiversity and Ecology, Noise and Vibration and Green House Gas Emissions and Landscape and Visual Impact. Additional **Significant Beneficial** effects are predicted in relation to socio-economics.

15.5 The potential effects in relation to Biodiversity and Ecology is based on the net loss of habitats and species on multiple sites. As set out above, STDC is in the process of publishing its Environment and Biodiversity Strategy and this is intended to co-ordinate the off-site compensation approach for most developments in the Teesworks area, including the five applications considered in the assessment. The potential noise impacts can be controlled to a level considered to be non-significant through the implementation of best practice measures included within the Framework CEMP. The potential impacts on Green House Gas emissions arise during operation of the five developments and are highly dependent on the scale of transport emissions associated with the end users. It is expected that once end users are known, a site wide energy strategy will be developed to limit impacts. There are ongoing discussions regarding other potential transport mitigation measures.

### **Stage 2 Assessment**

15.6 Based on the information available, the second stage of the cumulative assessment shows that there are likely to be further additional Significant Adverse effects arising from the additional

developments identified. In addition to those identified during the stage 1 assessment, additional likely significant adverse effects are identified in relation to Transport, Noise and Vibration and Greenhouse Gas Emissions.

- 15.7 The potential impacts in relation to transport arise during operation of the developments, and whilst measures to reduce the scale of the effects have not been proposed, it is expected that such measures will be discussed throughout the determination of the planning application. The potential noise impacts can be controlled to a level considered to be non-significant through the implementation of Framework CEMP measures and site-specific measures for three of the STDC development sites, including Long Acres, the Foundry and Steel House. The potential impacts on Green House Gas emissions also arise during operation of the developments and are highly dependent on the scale of transport emissions associated with the end users. It is expected that once end users are known, a site wide energy strategy will be developed to limit impacts.

## 16.0 Mitigation and Monitoring

- 16.1 The EIA process has identified the need for the preparation and agreement of a number of documents should permission be granted for the development that will ensure the conclusions of the ES can be secured and that the effects are negligible or can be kept to an absolute minimum. The documents identified include:
- 1 During the construction period: Risk Assessment Method Statements, A Construction Traffic Management Plan, a Construction Logistics Plan, a Dust Management Plan, a Health and Safety Plan and a Construction stage Surface Water Management Plan as requirements of the Framework CEMP (see paragraph 3.11); and a Site Waste Management Plan, a Piling Risk Assessment, a risk assessment to determine likelihood of noise and vibration impacts from piling, a Drainage Strategy, an extended or new Remediation Strategy, a detailed Remediation Strategy, a Materials Management Plan, a UXO Risk Assessment, a Written Scheme of Investigation, and a Construction Waste Management Plan; and
  - 2 During the operation period: a Framework Travel Plan, Occupier Travel Plans (for each occupier), a detailed Flood Risk Assessment, Drainage Impact Assessment with drainage strategy, a Surface Water Management Plan, a Water Framework Directive Assessment, an Operational Energy Strategy and an Operational Waste Management Plan.
- 16.2 These documents, and a range of other important mitigation measures, will be secured by way of an appropriately worded planning condition on the decision notice for the application, should the application be granted.

## 17.0 Availability of the Environmental Statement

- 17.1 A paper or electronic copy of the ES and Non-Technical Summary ('NTS') can be obtained from Lichfields ([www.lichfields.uk](http://www.lichfields.uk)). Reasonable copying charges will apply for a hard paper copy of the full ES.
- 17.2 Information on the planning application and ES can be viewed at <https://www.redcar-cleveland.gov.uk>. All comments on the planning application and ES should be submitted to RCBC.

**18.0 Key Scheme Plans**

18.1 [see overleaf]



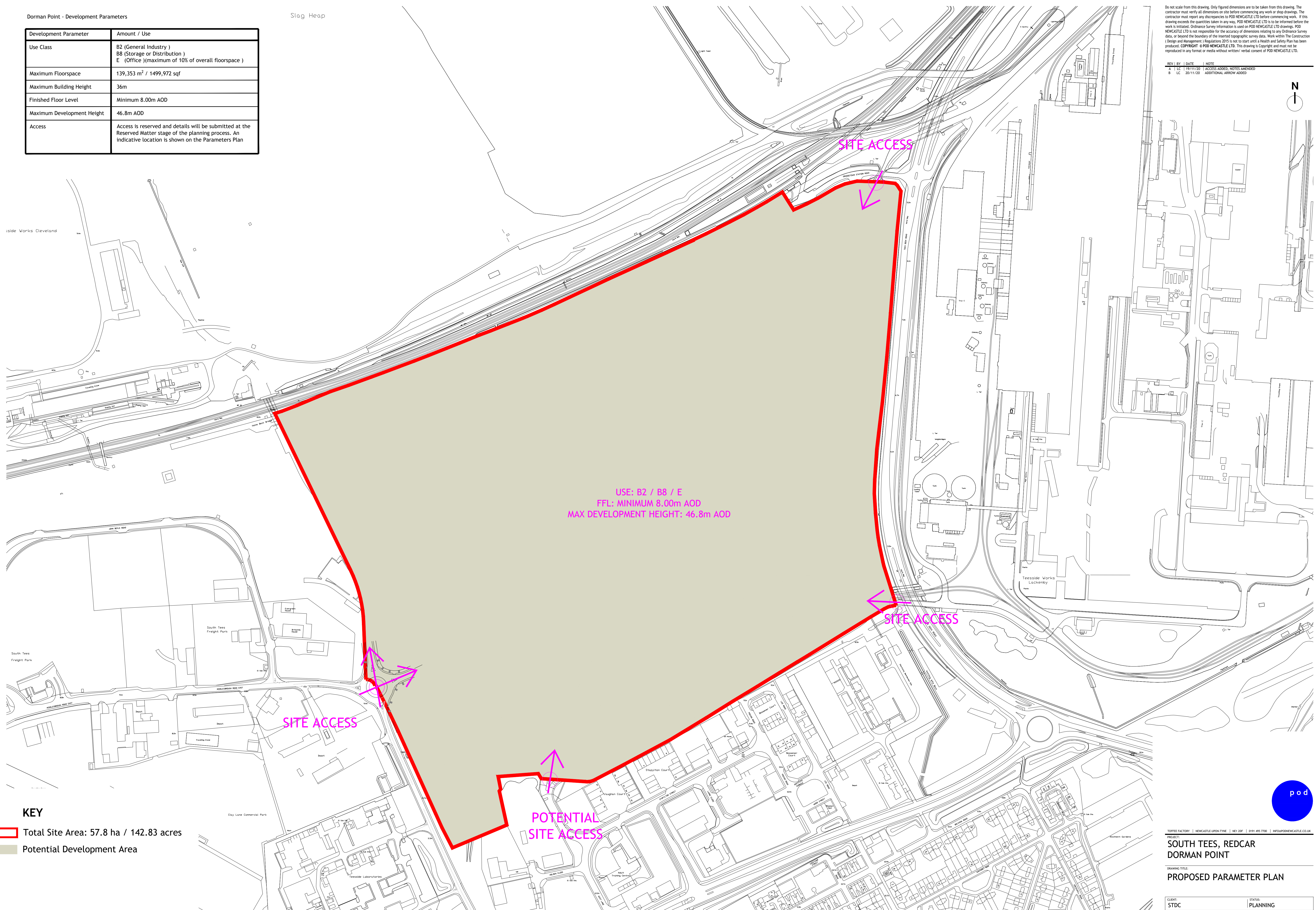
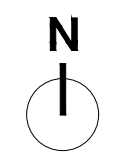
Dorman Point - Development Parameters

Slag Heap

Development Parameter	Amount / Use
Use Class	B2 (General Industry) B8 (Storage or Distribution) E (Office) (maximum of 10% of overall floorspace)
Maximum Floorspace	139,353 m <sup>2</sup> / 1499,972 sqf
Maximum Building Height	36m
Finished Floor Level	Minimum 8.00m AOD
Maximum Development Height	46.8m AOD
Access	Access is reserved and details will be submitted at the Reserved Matter stage of the planning process. An indicative location is shown on the Parameters Plan

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REV	BY	DATE	NOTE
A	LC	11/11/20	ACCESS ADDED, NOTES AMENDED
B	LC	20/11/20	ADDITIONAL ARROW ADDED



USE: B2 / B8 / E  
FFL: MINIMUM 8.00m AOD  
MAX DEVELOPMENT HEIGHT: 46.8m AOD

SITE ACCESS

SITE ACCESS

POTENTIAL SITE ACCESS

**KEY**  
 Total Site Area: 57.8 ha / 142.83 acres  
 Potential Development Area



TOFFEE FACTORY | NEWCASTLE-UPON-TYNE | HE1 2DF | 0191 495 7700 | INFO@PODNEWCASTLE.CO.UK  
**SOUTH TEES, REDCAR  
 DORMAN POINT**  
 DRAWING TITLE:  
**PROPOSED PARAMETER PLAN**

CLIENT:	STATUS:
STDC	PLANNING
SCALE: 1:2500	SHEET SIZE: A1
DATE: 11:20	OWN BY: LC
PROJECT NO: 1401-TM	DRAWING NO: DP-SD-10.01
	REVISION: B

