



South Industrial Zone

Environmental Statement
July 2020

Volume 1 - Non-Technical Summary

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Non-Tech Summary

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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 is being submitted to Redcar and Cleveland Borough Council ('RCBC') to support an outline planning application at land at South Industrial Zone, within the STDC Masterplan area, Redcar.

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

"Outline planning application for demolition of existing structures on site and the development of up to 418,000sqm (gross) of general industry (Use Class B2) and storage or distribution facilities (Use Class B8) with office accommodation (Use Class B1), HGV and car parking and associated infrastructure works. All matters reserved other than access"

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 0.5ha. For such developments, EIA is required where significant environmental effects are likely. It has been agreed with RCBC that the proposed development is EIA development and the findings of the EIA are set out within an Environmental Statement ('ES').

1.4 This document includes the following information:

- 1 **Section 1.0:** sets out 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;
- Noise and Vibration;

- Air Quality;
- Water Management and Flooding;
- Ground Conditions;
- Socio-Economics
- Waste and Materials Management;
- Climate Change;
- Landscape and Visual Impact; and
- Below Ground Heritage.

- 1.7 Likely effects are identified based on current knowledge of the site and its surroundings, desk top assessments, surveys and fieldwork information available to the EIA team. All those matters that could be reasonable 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 informed the scope of the EIA, the process in relation to the methods by which the EIA has been carried out, as a means to seek environmental data, to review the effectiveness of any identified mitigation and compensation and as a means to keep 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 delivers this regeneration through its South Tees Regeneration Programme. It has also prepared the South Tees Regeneration Masterplan to support development through the local planning and planning application process. The latest version of this Masterplan was published in November 2019.
- 1.13 The Masterplan sets out the vision for transforming the STDC area into a world-class, modern, large-scale industrial business park. 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 Masterplan identifies five distinct development 'zones' within the STDC 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 Masterplan 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 the first developments being progressed by STDC. The development will deliver flexible general industry and storage or distribution uses. It will be

developed to reflect market demand. The development parameters have also been set to allow for its use by the offshore wind industry if the commercial opportunity arises.

- 1.16 A separate planning application is being prepared by STDC for a quay on the River Tees, adjacent to the development site. It will facilitate the transportation of goods and materials to and from the development site by ship. This application will also be supported by an EIA.

2.0 Site and Surroundings

- 2.1 The development site is approximately 174ha and it comprises brownfield industrial land. It has previously been occupied by iron and steel industries and it has also been used for the storage of materials and freight rail infrastructure.
- 2.2 The site is located approximately 2.5 miles north east of Middlesbrough town centre and 3 miles west of Redcar town centre.
- 2.3 The site is situated immediately south east of the River Tees and it has a river frontage.
- 2.4 It is located within the STDC area and it lies between land operated by PD Ports for its industry and commerce park. British Steel's site is located to the south east of the development site, with the Lackenby and Grangetown Prairie sites located to the south. The site's location is shown in Figure 2.1 below.

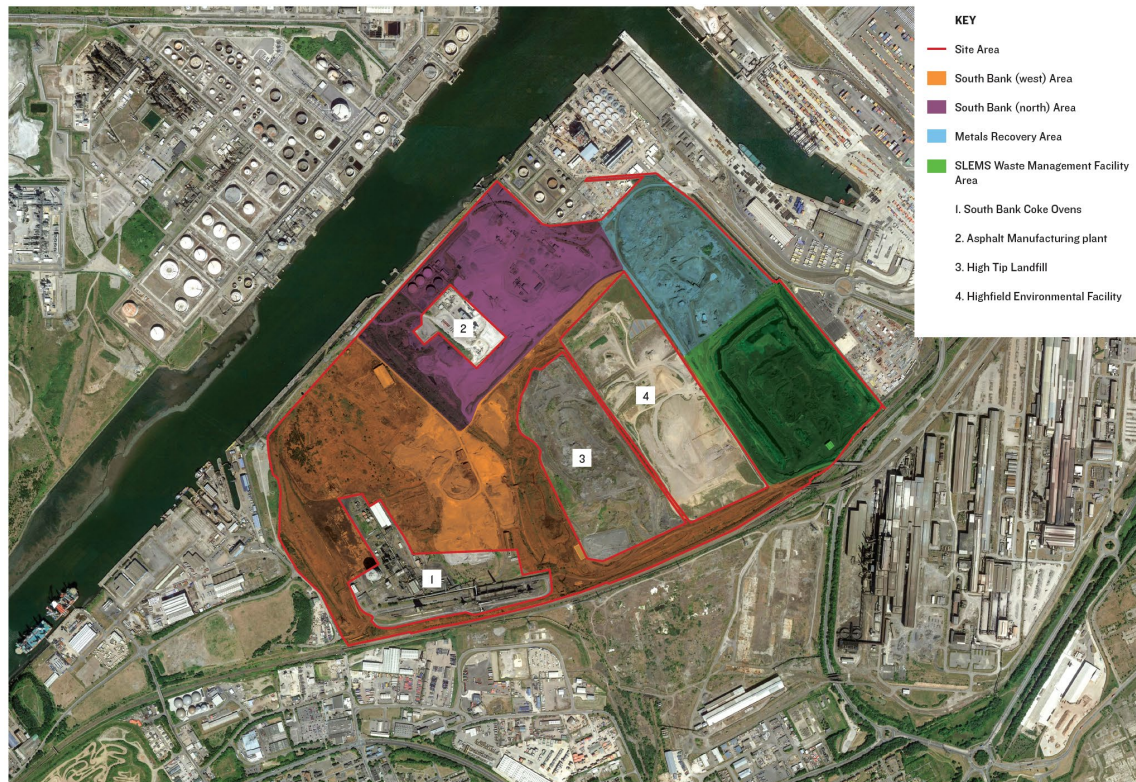
Figure 2.1 Site Location



Source: GoogleEarth (July 2020)

- 2.5 The site is irregular in shape. It is defined by current site workings and the existing surrounding infrastructure. The site also has distinct areas within in which have been used for different industrial uses in the past (see Figure 2.2 below).

Figure 2.2 Site Plan



Source: GoogleEarth

2.6

These areas include:

- Metals Recovery Area (shown in blue): uses related to the recovery of metals from the by-products iron and steel making.
- SLEMS Waste Management Facility Area (green): a waste handling and treatment facility for BOS oxide waste and uses relating to the recycling of materials from iron and steel making, and blast furnace slurry.
- South Bank (North) Area (purple): this is in occasional active use by Tarmac as an asphalt manufacturing plant. It contains mounds of material, mobile and permanent plant, an internal vehicle network and various built structures, including five disused oil tanks.
- South Bank (West) Area (orange): this is free of active use and was previously used for iron and steel manufacturing and none of the area is currently in active use.

2.7

Four pockets of the site are excluded from the red line boundary (see Figures 2.1 and 2.2 above). These areas have been excluded from the site because they are either still active and working sites or because separate planning applications will be coming forward in respect of either the clearing or development of the sites.

Site Features

2.8

The underlying topography of the site is relatively flat however, previous and current uses across the site have led to the creation of several ridges and mounds of material, many of which are significant in height.

2.9

The site contains networks of infrastructure which were associated either with the previous industrial uses on site or the wider industries within the surrounding STDC area. These include

elements such as an internal private road network, electricity, water, utilities and pipeline infrastructure.

- 2.10 Key water bodies within and adjacent to the site include the River Tees, the Lackenby Channel and the Cleveland Channel and the site is located within Flood Zone 1. It is not located within an Air Quality Management Area ('AQMA'). There are no Public Rights of Way ('PRoW') present on the site.
- 2.11 There are below ground assets within the site, including foundations of the South Bank Iron Works boiler house, Antonien Works, WW1 submarine base accommodation and the WW2 HAA battery and associated facilities. There are no designated heritage assets within the site, although the 20th century Riverside Pumping House and Custom House are located at the bank of the River Tees which are considered to have a level of importance.
- 2.12 There are a variety of existing structures on site. Separate applications have been or will be submitted to RCBC for their demolition, however to assess the 'worst case' scenario their demolition has been included within this EIA assessment and is considered as part of the construction phase of development.

Surroundings

Figure 2.3 Site Surroundings



Source: GoogleEarth (June 2020)

- 2.13 The site is located within the wider STDC area. As set out above, its surrounding uses include Teesport (operated by PD Ports) which is one of the largest ports in the UK. Beyond the site, to the south west, is the PD Ports' Teesport Commerce Park which contains commercial and industrial uses associated with the port. To the south of the site is the Grangetown Prairie site, the South Tees Freight Park and the South Tees Imperial Park and Nelson Street industrial estates. Other operations and operators within the STDC area include Redcar Bulk Terminal, Anglo America, Sembcorp and British Steel.
- 2.14 The development site is located directly to the east of Smiths Dock Road and directly to the west of Tees Dock Road. These roads provide connectivity to the wider local road network via the A66. The site benefits from road connectivity to the wider STDC internal road network. The

A66 provides direct links into the strategic road network via the A19 and A1M, and into the local road network including the A1053 and A1085. Darlington Station which is located approximately 25 miles to the west which provides links to London Kings Cross, Newcastle and Durham and beyond. Teesside International airport provides national and international air connectivity to the region.

2.15 The River Tees is located directly to the north of the site. This is part of the Teesmouth and Cleveland Coast Special Protection Area ('SPA') and Ramsar Site and Teesmouth and Cleveland Coast Site of Special Scientific Interest ('SSSI'). This area includes intertidal sand and mudflat, saltmarsh and freshwater grazing marsh, saline lagoons, sand dunes and shingle, rocky shore and shallow coastal waters that are able to support national and international bird species.

2.16 The closest residential receptors are in the residential area of South Bank, which is approximately 500m south of the western end of the site. Also within proximity of the site is the King George's Terrace mobile home site which contains 18 pitches and is located approximately 800m south west of the site.

3.0 **Description of Development**

3.1 The description of development is as follows:

"Outline planning application for demolition of existing structures on site and the development of up to 418,000sqm (gross) of general industry (Use Class B2) and storage or distribution facilities (Use Class B8) with office accommodation (Use Class B1), HGV and car parking and associated infrastructure works. All matters reserved other than access"

Development Parameters

3.2 The application is submitted in outline (apart from site access) as the precise specification of the warehouses and the proposed development is not yet known and will be determined by a response to end user requirement specifications. The EIA is supported by a Parameters Plan (see section 19.0 of this document) which sets out a series of development parameters. This plan and the parameters are being submitted for approval which will allow the detailed design to be reserved for subsequent approval. The parameters have also been developed to allow flexibility as to the end user and with commercial requirements in mind. End users could include typical manufacturing and storage or distribution occupiers and also could include facilities associated with the offshore wind industry if the opportunity arises.

Land Use and Floorspace

3.3 The application seeks permission for up to 418,000sqm of B2 (General Industry) and B8 (Storage or Distribution) uses alongside ancillary offices. For the purpose of the ES, a maximum of 10% of the overall floorspace will be B1 (Office).

3.4 The precise quantum of floorspace will be delivered at reserved matters stage. An Indicative Masterplan is included in section 19.0 of this document and this shows one option as to how the development could be built out. This plan is for indicative purposes only and is not being submitted for approval.

Maximum Development Height and Building Height

3.5 For the purpose of this EIA, the maximum development height at the site will be 46m AOD (above ordnance datum) within all of the 'developable areas' marked on the Parameters Plan.

The maximum building height will be 40.21m AOD. These figures take account of the proposed site levels and earthworks (see below).

Site Levels

- 3.6 The minimum finished floor level ('FFL') will be 5.79m AOD. This will enable the maximum building height (set out above) to be delivered on site.
- 3.7 This FLL will enable the development to be at the same level as the proposed quay (being brought forward in a separate planning application) in the northern part of the site. The finished floor level has also been determined by a requirement of the Environment Agency ('EA'). This will provide mitigation in the event of flooding.

Earthworks

- 3.8 The EIA is based on the assumption that the site will be cut and fill neutral.
- 3.9 To enable this, the FFL across the site may need to be greater than 5.79m AOD. The development parameters above have therefore been set to provide flexibility in how the site is brought forward. Within the maximum development height of 46m, warehouses can be brought forward based on different FFL and building heights.

Building Design

- 3.10 Full details of building design will be agreed with RCBC at the reserved matters stage of the development. The specific design and specification will respond to end users' requirements and market demand. Notwithstanding this, 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. STDC is in the process of producing a Design Guidance for Developments and the design of the proposals will accord with these guidelines.

Access and Parking

- 3.11 Full details are submitted in respect of the proposed access arrangements. The main access into the site will be via the new roundabout junction which has been constructed at the junction of Smiths Dock Road and Dockside Road. The roundabout has been constructed to serve the STDC Regeneration Masterplan and facilitate access into the wider South Industrial Zone. There is also a secondary access provided on the eastern boundary of the site which connects to Tees Dock Road.
- 3.12 The site will also include internal access road(s) and parking and servicing areas for each development plot, which will come forwards in phases as and when development is brought forward at the site. The detailed design of these roads and parking/servicing areas will be subject to future reserved matters applications.

Landscaping and Biodiversity

- 3.13 By the nature of the proposed development, no landscaping is proposed within the site. Consideration of how the loss of existing habitats and biodiversity is considered within chapter D (Ecology and Biodiversity) of the ES.

Hours of Operation

- 3.14 The operating hours of each unit will be dependent on end user requirements. It is typical for such uses in the STDC and Redcar area to operate 24/7, seven days a week and this is the basis on which the EIA has been undertaken.

Drainage

- 3.15 A water management framework is currently being discussed and developed with STDC and so at present there are no details available on the water management and drainage design for the site. A range of drainage parameter assumptions have been identified within the Water Management and Flooding chapter (Chapter G) that relate to drainage and these include that the strategy will not change the physical nature of the Tees bank and that it is assumed that all surface water runoff will require SuDS treatment and attenuation prior to discharge. However, due to contamination, this will not comprise soakaways.

Construction Methodology

- 3.16 The proposed development will be brought forward in phases based on market demand. The first phase of the development will include the delivery of site preparation works and access arrangements for the site. For the purpose of assessment within this EIA it is assumed that these works will take between 12 and 18 months and that work will begin in early 2021 (subject to the determination of the planning application).
- 3.17 It is assumed that the site will deliver a proportion of the employment units and their associated infrastructure over a period of 5 to 8 years (based on market demand), with first occupation in 2023.
- 3.18 The key stages of the construction works will be undertaken either at a site wide level or when development plots come forward. The stages include:
- Pre commencement: prior to the commencement of development site and ground investigation surveys will be undertaken;
 - Site preparation: including the erection of site hoarding and fencing, the creation of construction access and installation of construction compound(s);
 - Enabling and ground works: demolition of existing structures (where relevant), site levelling and creation of development plateaus; and
 - Access and highways works: including the creation of the two access points. The service road and internal network will be constructed on a phased approach.
- 3.19 Construction hours are envisaged to be undertaken 24/7 in accordance with existing surrounding uses and industries.
- 3.20 The contractors will be required to produce and agree management plans for the construction period, including, but not limited to, a Construction Environmental Management Plan ('CEMP') and a Construction Waste Management Plan ('CWMP'). Further details of the scope of these documents are provided in chapter B and P of the ES.

Alternatives

- 3.21 The EIA Regulations require consideration to be given to alternatives to the scheme that may have been studied by the applicant; along with consideration of what may happen at the site should the development not go ahead.
- 3.22 If the proposed development were not to come forward, there is the possibility that the site would remain in its existing use as vacant brownfield industrial land. This scenario would not deliver economic development on one of RCBC's protected employment areas and STDC's vision for the site and its surrounding area.
- 3.23 No alternatives have been considered by STDC because of the site's allocation. Developing an alternative site would not fulfil the objectives of STDC or RCBC for this area. In deciding to

allocate this site for future employment development within the STDC area both RCBC and STDC have undertaken environmental assessments to understand the baseline of the area and to understand if there were likely to be any environment impacts that would either prevent development or require mitigation through the submission of planning applications.

- 3.24 The proposed development is a parameters-led scheme and it is based on market demand as well as an understanding of environmental considerations for the site and the surrounding area. The nature and design of the development proposals have emerged and evolved through a robust process of consultation with STDC, potential future occupiers, RCBC and relevant statutory consultees.

4.0 **Transport**

- 4.1 An assessment has been undertaken by Arup of the potential effects of the traffic associated with 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. It has been based on a Transport Assessment ('TA'), the scope of which has been discussed with Highways England ('HE'), RCBC and Middlesbrough Council ('MC').

Existing Conditions

- 4.2 The site's location in relation to the highways network is set out in section 2.0 of this Non-Technical Summary. The main point to note is that the site is located directly to the east of Smiths Dock Road and directly to the west of Tees Dock Road. These roads provide connectivity to the wider local road network via the A66. The A66 provides direct links into the strategic road network via the A19 and A1M, and into the local road network including the A1053 and A1085.
- 4.3 The immediate surrounding highways network serves the STDC industrial area. There is limited public transport provision.

Embedded Mitigation

- 4.4 The proposed development includes the following embedded mitigation measures in respect of the highways network. They are set out as part of the proposed development in section 3.0 of this Non-Technical Summary and include:
- A main access via the new roundabout junction which has been constructed at the junction of Smiths Dock Road and Dockside Road;
 - A secondary access provided on the eastern boundary of the site which connects to Tees Dock Road; and
 - A service route located in the south of the site.

Effects during Construction and Operation of the Development

- 4.5 As this is an outline planning application, the specifics of construction are not known. Whilst a detailed assessment of the construction traffic has therefore not been undertaken, professional judgement is used. The assessment indicates that the potential effect on amenity of the construction traffic would be minor and therefore not significant.
- 4.6 During the operational phase, Dockside Road, Old Station Road and Middlesbrough Road would experience a perceptible change in traffic flows which would have a minor adverse (not

significant) effect on severance. There are also three junctions where the development would have a minor adverse (not significant) effect on driver and bus user delay due to an increase in development traffic travelling through the junctions. All other junctions and roads would either experience a negligible impact, or in the case of Smiths Dock Road, minor beneficial effects are anticipated.

- 4.7 During operation some beneficial effects on pedestrian and cyclist amenity are expected on the roads close to the site.

Mitigation and Monitoring

- 4.8 To secure the above impacts a Transport Strategy is being produced for the wider STDC area and, where possible, the proposed development will be expected to meet the principles of the strategy. This will include, limiting car parking provision, introducing mobility hubs, providing high quality cycle parking and improving public transport provision. Other measures include a Car Parking Management Plan and Servicing Management Plan.
- 4.9 A Travel Plan Framework has been outlined in the TA to ensure mitigation is implemented at the outset, including walking and cycling measures and initiatives to encourage public transport use. Other mitigation measures include the provision of an alternative access via the Steel House roundabout as the STDC internal road network is developed.
- 4.10 For the construction stage of development, best practice measures will be implemented through a CEMP and Construction Transport Management Plan. These plans will comprise one overall CEMP for the development.
- 4.11 None of the residual effects of the development are considered to be significant in EIA terms.

5.0 Biodiversity and Ecology

- 5.1 Ecology surveys, assessments and desk study have established the existing conditions on site, and these have informed an assessment of the impact of the proposed development. They have also identified the need for appropriate mitigation and compensation measures. This chapter has been prepared by Arup. It has been prepared with reference to industry guidance.

Existing Conditions

- 5.2 Ecological features, including designated sites, legally protected and notable species and species and habitats of principle importance were considered as part of the assessment. Various zones of influence were used to understand the existing ecological conditions based on the sensitivity of a feature.
- 5.3 The site is adjacent to the Teesmouth and Cleveland Coast SSSI and SPA. The Teesmouth and Cleveland Coast Ramsar is located 250m north-west of the proposed development site.
- 5.4 Available information has identified the following habitats: open mosaic habitat, open water habitat and associated wetland habitats (including reedbed, saltmarsh, and intertidal mud), broadleaved woodland and grasslands.
- 5.5 The following species are also known to be present or are likely to be present on site based on professional evidence: breeding birds, small population of breeding shelduck, brown hare, dingy skipper and foraging and commuting bats (although no roosting opportunities are present). In lieu of invertebrate surveys the invertebrate assemblage is considered to be significant in certain areas of the site. On an anecdotal basis it is understood that common redshank utilise wetland

habitats and further surveys remain on-going to undertake the exact position. Japanese knotweed is present in one location.

Embedded Mitigation

- 5.6 Due to the nature of the development no embedded mitigation measures are proposed.

Effects during Construction and Operation of the Development

- 5.7 It is acknowledged that, because of the nature of development, there is the potential for moderate and major impacts on some of the above receptors because of the loss of land to development, including invertebrates, the existing open mosaic habitats, wetland habits and brown hare. These impacts are considered significant in EIA terms. There are expected to be negligible (and therefore not significant) impacts on the Teesmouth and Cleveland Coast SPA and Ramsar site and on the Teesmouth and Cleveland Coast SSSI and also on species such as bats. Because of the nature of the development, there will also be a biodiversity net loss. These impacts are expected following the implementation of best practice ecological mitigation measures within a CEMP for the construction process.

Compensation Measures

- 5.8 Compensatory measures are proposed for the residual effects to habitats and species and biodiversity net loss. These measures are used where it is not possible to directly mitigate against an impact. It is proposed to compensate for the loss through an off-site provision of habitat within the wider STDC area. This will be identified within STDC's Environment and Biodiversity Strategy which is intended to coordinate the off-site compensation approach for most, if not all, of the development sites within the STDC area. It is being prepared in consultation with RCBC, Natural England ('NE') and the Environment Agency ('EA') and the extent and location of habitat will need to be agreed between parties.

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 the construction and operational phase of development.

Existing Conditions

- 6.2 A noise prediction model has been utilised to undertake the existing noise conditions at the site and in the surrounding area. The existing noise climate is dominated by noise arising from road traffic on the A66. The closest noise sensitive receptors are residential dwellings located in South Bank (approximately 500 – 1000m from the site) and Grangetown (approximately 1000m from the site). King George's Terrace mobile home site is located approximately 750m away from the site.

Embedded Mitigation

- 6.3 No embedded mitigation measures are proposed as part of this development. It is however assumed that existing landscaping and buildings outside of the site will act as a natural embedded barrier.

Effects during Construction and Operation of the Development

- 6.4 Noise that will arise during the construction stage of the development relates to activities associated with demolition, excavation and construction activities. It is anticipated that the highest construction noise will be below the noise threshold established for residential receptors. The impact is therefore not anticipated to be significant.
- 6.5 During operation, the main source of noise will be from road traffic noise and the operation of building services and industrial noise activity. At this stage, the future occupiers are unknown but based on a worst-case scenario of the proposed use and professional judgement there are unlikely to be any adverse or significant impacts to the surrounding residential receptors.

Mitigation and Monitoring

- 6.6 To secure the above impacts and to ensure that there are no significant impacts associated with noise best practice measures noise measures will be included within the CEMP and these will also relate to demolition activities. These measures will include the use of quiet plants and their correct maintenance.
- 6.7 During the operational phase, noise emissions will be controlled through the design of buildings to meet the required noise thresholds. As development plots come forwards, occupiers will need to submit detailed noise assessments and, where relevant, good practice noise measures will be implemented through management plans.

Air Quality

- 7.0
- 7.1 An assessment has been undertaken by Arup to understand the potential air quality impacts associated with the proposed development.

Existing Conditions

- 7.2 The site is not located within an Air Quality Management Area ('AQMA'). No exceedances were recorded at RCBC air quality monitoring stations within 2km of the site.
- 7.3 There is one use listed on the EA's website requiring a 'Part A' operating permit. This permit requires certain emission limits to be met. The Part A process is a treatment plant for the recovery and disposal of non-hazardous waste known as BioConstruct NewEnergy Ltd.
- 7.4 Sensitive air quality receptors include local residential uses within the South Bank and Grangetown area and the Teesmouth and Cleveland Coast SSSI and SPA. Further details on these receptors are included within the technical chapter.

Embedded Mitigation

- 7.5 Embedded mitigation measures relevant to air quality include:
- Earthworks associated with the development are anticipated to be cut and fill neutral;
 - Any material resulting from demolition will either not be taken offsite or it will go the Highfield Landfill site (which forms one of the areas not included with the development site).
- 7.6 These measures will reduce the number of heavy goods vehicle movements associated with the construction phase of development and reduce dust emissions.

Effects during Construction and Operation of the Development

- 7.7 The construction phase of the development will include demolition, excavation and construction activities. Taking into account dust emissions and the sensitivity of the site and surrounding area, the development is classified as low risk to dust and human health impacts and following the implementation of best practice mitigation measures there is anticipated to be a negligible (and not significant) impact on each of the receptors. An assessment of construction traffic has not been undertaken and this will need to be assessed at the point that construction traffic data is available.
- 7.8 During operation, and for operational traffic, all predicted air quality concentrations are predicted to be below the annual mean air quality objective at all the receptors (including both residential and ecological). As such it is concluded that all receptors are concluded to experience a negligible impact from NO₂ concentrations as a result of the proposed traffic. This is not considered significant.

Mitigation and Monitoring

- 7.9 To ensure a negligible and non-significant impact is maintained during the construction stage of the development best practice measures will be included within the CEMP. These include but are not limited to: the display of name and contact details for those accountable for air quality on site, the implementation of a stakeholder engagement plan and a Dust Mitigation Plan. The Dust Mitigation Plan will be part of the CEMP.
- 7.10 As there are no significant impacts predicted as a result of the operational phase of development, no mitigation measures are required.

8.0 Water Management and Flooding

- 8.1 An assessment of water management and flooding has been undertaken by JBA. It assesses the proposed development in relation to hydrology and hydrogeology and assesses the potential impacts of the construction and operation phase on hydrology (surface water quality, levels and flows) and hydrogeology (groundwater quality and levels). It therefore closely relates to the ground conditions and remediation assessment undertaken by Atkins (see section 9.0 of this Non-Technical Summary). The assessment is accompanied by a Flood Risk Assessment ('FRA').

Existing Conditions

- 8.2 The site is located within Flood Zone 1.
- 8.3 The site lies within the catchment of the River Tees. It is also within the catchments of two waterbodies which flow into the river. These include: the Lackenby channel, which drains along the eastern boundary of the site; and an unnamed channel, which drains through the southern section of the site that was historically part of the Holme Beck watercourse. At present, the Holme Beck is culverted and flows are directed to the Cleveland channel.
- 8.4 The surface water receptors assessed in this assessment are the River Tees Estuary, Holme Beck Culvert and Knitting Wife Culvert, Cleveland and Lackenby Channels. The groundwater receptors include Mercia Mudstone, Superficial aquifer.

Embedded Mitigation

- 8.5 The proposed development includes the following embedded mitigation measures relevant to water management and flooding:

- The site will be cut and fill neutral; and
- The minimum FFL will be 5.79m above ordnance datum. A tidal flood level of 5.03m AOD represents the 200-year coastal flood risk + Sea Level Rise allowance to 2100 design scenario.

Effects during Construction and Operation of the Development

- 8.6 Surface water flows could be impacted during the construction phase of development because of the excavation and replacement of site won material. There is also the potential for pockets of surface water flooding. Other impacts could include the potential for pollutants to enter local watercourses and through surface water run-off. With regards to ground water effects could result from earthworks, piling and spillages. Through the implementation of best practice measures, however, the impact on the River Tees and other surface water and ground water receptors is considered to be minor or negligible and therefore not significant.
- 8.7 During operation, there is the potential for the proposed development to effect drainage patterns and surface water, particularly in relation to the change in run off patterns. There is also the potential for contaminants to enter the drainage network through surface water run-off. This is anticipated to lead to a minor impact on receptors. This is not, however, considered to be significant.

Mitigation and Monitoring

- 8.8 To ensure no significant effects, during construction, best practice measures will be implemented via a CEMP. This will take into account EA guidance and Pollution Prevention Guidance. A Construction Method Statement will also be incorporated into the CEMP to reduce the risk of site pollutants and contaminants and to include measures for the storage of oils and chemicals. A Surface Water Management Plan and Drainage Strategy will be prepared and it will consider measures such as those required to manage pluvial flooding (also to be included within the CEMP).
- 8.9 During operation, a drainage strategy will be developed to include consideration of design features. Once this strategy is available a Water Framework Directive ('WFD') assessment will be undertaken. Where possible and achievable, the development will also adopt principles within the emerging STDC wider Water Management and Drainage Strategy.

9.0 Ground Conditions and Remediation

- 9.1 An assessment of ground conditions has been undertaken by Atkins as part of this EIA. 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 survey and reports that have been undertaken by third parties for the site and the surrounding STDC area.

Existing Conditions

- 9.2 The site has an industrial heritage and largely comprises mud flats and marshland reclaimed by deposit of iron and steel slag and by-products. The site is completely covered by made ground and is identified as predominantly sand and gravel deposits. Sand is typically ash, slag or coal dust, with gravel, rubble and timber, coal, coke, metals and concrete. Underlying natural deposits comprise estuarine and marine alluvium with bedrock identified as merica mudstone. Elevated sulphate concentrations and seawater into the groundwater beneath the site is considered likely.

9.3 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 work, made ground, ground gas and asbestos.

9.4 Potential human and environmental receptors include construction workers, future site users, surface and ground water, the built environment and waste management facilities.

Embedded Mitigation

9.5 Relevant embedded mitigation measures are similar to those identified for water management. They include the assumption that the development will be cut and fill neutral and the proposed minimum FFL of 5.79m AOD.

Effects during Construction and Operation of the Development

9.6 During construction, the use of heavy equipment and activities may disturb the soil and result in dust generation and the potential for direct contact with contaminants. With mitigation (described below) this is expected to result in a negligible (and not significant) impact on human health. Previous studies undertaken suggest there would be a negligible impact on environmental receptors with the implementation of a ground remediation strategy (see details below). 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 minor adverse (but not significant) effect on waste management facilities.

9.7 During operation, there is the expectation that site remediation will have taken place. This will ensure the 'capping of the site'. The exposure of the site to end users will be limited as development will have covered the existing made ground and buildings and infrastructure will be in place. It is therefore anticipated that there will be minor adverse impacts (not significant). During operation, there is the potential for hazardous materials and substances to be used, however through the implementation of best practice measures negligible impacts are anticipated on surface and ground water.

Mitigation Measures

9.8 As set out above, mitigation measures are required to reduce the environmental impact associated with the proposed development. During construction, the CEMP will include measures such as those aimed at reducing the generation of dust, requiring ground gas monitoring, and the preparation of a health and safety plan. A Remediation Design Statement will be required to assess how the development accords, where possible, to the emerging remediation strategy for the wider STDC area. Based on the results of previous ground investigations, further investigations are recommended relating to asbestos, ground gas, soil quality and groundwater.

9.9 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 clean service run will be installed to protect future land users. Storage of hazardous materials will be required to accord with guidelines.

9.10 The implementation of these measures will result in negligible (and not significant) effects at all receptors.

10.0 **Socio-Economic**

- 10.1 The assessment of impact on socio-economics has been carried out by Lichfields. 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.

Existing Conditions

- 10.2 A review of the existing socio-economic conditions has identified the following: the AOI has lower job growth relative to regional and national levels; the economic activity rate is lower than regional and national averages; the AOI has a lower proportion of the workforce in higher skilled occupations; and on average the area has lower resident-based earnings compared to workplace-earnings but that they are above the regional average.
- 10.3 The proposed development provides a significant opportunity for job creation and increase employment in the STDC area, in line with the masterplan.

Embedded Mitigation

- 10.4 No embedded mitigation measures are envisaged for the socio-economic elements of the proposed development.

Effects during Construction and Operation of the Development

- 10.5 The assessment concludes that the proposed development will have a temporary, medium-term and moderate beneficial effect on the local economy by creating new construction (and supply chain) jobs and a temporary, medium-term and substantial beneficial effect in relation to economic output (as measured by Gross Value Added) during the construction period. It is anticipated between 855 and 915 direct and indirect full-time equivalent jobs per annum over an 8-year build period.
- 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 Values Added) uplift, the existing skills base and levels of unemployment locally and through both local and sub-regional objectives to deliver transformative employment growth across the STDC area. The proposed development is expected to generate 3,745 direct and indirect full-time equivalent jobs within the local economy.

Mitigation Measures

- 10.7 No mitigation measures are required for the construction and operational phase of the development. Notwithstanding this, STDC is committed to working with RCBC, where possible, to deliver training and apprenticeship schemes during the construction phase. It is anticipated that this will help to maximise the extent to which the beneficial effects of the development proposals are captured within the AOI.

11.0 **Waste and Materials Management**

11.1 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

11.2 The existing site conditions will require the reconfiguration of site won material to create the developable areas of the proposed development. Waste is defined as ‘any substance or object which the holder discards or intends or is required to discard’. In this context Atkins has looked at the remaining landfill capacity in the North East of England. It has also looked at the availability of materials to understand materials management.

Embedded Mitigation

11.3 As set out in in section 3.0 of this Non-Technical Summary, the proposed development will be cut and fill neutral, and, where required, it is anticipated that waste, including hazardous waste will be taken to the Highfield Landfill adjacent to the site.

Effects during Construction and Operation of the Development

11.4 The construction phase (which includes demolition and 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 the remaining landfill capacity. At the point of this submission, it has not been possible to assess the impact of construction building material to the full extent, however based on the known requirement for hardstanding areas it is anticipated that this will also have a nil or negligible impact on the availability of materials in the north east of England.

11.5 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

11.6 No mitigation measures are required to reduce the impacts of the proposed development. However, it is anticipated 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. During operation, a waste management system will be put in place to consider the process of storage, collection, waste, transport and treatment.

11.7 Overall, there is not expected to be a significant impact on waste and materials as a result of the proposed development.

12.0 **Climate Change**

12.1 An assessment has been carried out by Arup to understand the impact of the proposed development on the greenhouse gas emissions.

- 12.2 The assessment has identified activities that may impact greenhouse gas emissions. These include: the extraction, processing and manufacturing of construction materials; the transport of construction materials; the construction process, including the use of construction equipment and the transport of construction workers to site; the use of electricity and gas within buildings; and operational transport movements.
- 12.3 The assessment has shown that whilst all greenhouse gas emissions are considered significant, that the scale of emissions from the proposed development are not considered to be so significant as to prevent the UK or Redcar and Cleveland from achieving its regional or national carbon targets and budgets. A range of possible measures are identified to seek to reduce emissions as far as possible and these are capable of being implemented as the development is brought forward.

13.0 **Landscape and Visual Assessment**

- 13.1 The potential landscape and visual impacts of the proposed development on the local and wider area have been assessed by BDP.

Existing Conditions

- 13.2 The site is located within the STDC area and the landscape character of the site is heavily industrialised. A number of Landscape Character Zones ('LCZ') are located within the local area including but not limited to: LCZ1 (industrial); LCZ2 (Urban); LCZ3 (intertidal); and LCZ4 (coast and peninsula). Sensitive viewpoints have been identified and agreed with RCBC as those locations that are anticipated to be the most impact as a result of the proposed development.

Embedded Mitigation

- 13.3 There are no embedded mitigation measures that relate to landscape and visual effects aside from the proposed development parameters that sets a maximum development height.

Effects during Construction and Operation

- 13.4 During the construction phase, local landscape and views will be temporarily adversely affected due to the presence of large machinery, cranes, material storage (both construction materials and temporary mounds for site remediation) and site accommodation. Whilst some effects on specific viewpoints are considered to be of moderate adverse significance, this negative effect will be short term, and will only last the duration of the construction phase.
- 13.5 Once completed, there is potential for the proposed development to make a positive contribution to the Industrial Landscape Character Zone (LCZ). Other impacts upon specified LCZs are considered to be minor or negligible in nature. There is the potential for a moderate adverse effect, which is considered significant on views from the public footpath at Eston Nab Hill, as well as from residential housing, recreation space, and footpaths at the junction of Uvedale Road and Steele Crescent in South Bank. The effects upon all other viewpoints are considered to be minor or negligible in nature and are therefore not significant.

Mitigation and Monitoring

- 13.6 During construction, mitigation measures will be incorporated into the CEMP. These will include measures such as the installation of suitable site hoarding and the careful sitting and management of material stockpiles.

- 13.7 During operation, mitigation measures will include the consideration of building articulation, colour and cladding to reduce and break up the visual scale and massing. Tree planting is proposed to mitigate against the impact of one viewpoint at Dockside Road.
- 13.8 Overall with the implementation of these measures there will be a moderate adverse (but temporary) impact during construction. There is the potential for a beneficial impact on the industrial LCZ during operation and all other impacts, apart from those on two viewpoints are considered to be negligible and not significant.

14.0 **Below Ground Heritage**

- 14.1 An assessment of the below ground heritage has been undertaken by Prospect to inform this EIA.
- 14.2 Four areas of (below ground) archaeological potential have been identified. These comprise the foundations and sub-structures of the following: South Bank Iron Works boiler house, Antonien Works, World War I submarine base accommodation, World War II HAA battery and associated facilities. The 20th century Riverside Pumping House and Custom House have also been identified. In each case, the potential survival of significant archaeology should be established through monitoring and review of site investigations and, where necessary, archaeological evaluation.
- 14.3 The proposed development will remove all elements of the archaeological record. Mitigation measures comprising the excavation and recording of archaeological features and deposits in these four locations would ensure impacts are no greater than Minor Adverse.

15.0 **Cumulative Assessment**

- 15.1 An assessment has been carried out to identify if any additional environmental effects would be likely to arise if the development is considered alongside other developments in the area. Seventeen developments have been identified and these include, but are not limited to, the Grangetown Prairie energy recovery facility, an outline planning permission for up to 550 residential dwellings at Kirkleatham Business Park and the York Potash Project.
- 15.2 Based on information available, the cumulative assessment shows that there is unlikely to be any additional significant adverse impacts, on, or as a result of, cumulative schemes, apart from on ecology. The potential impact on ecological is based on the net loss of habitats and species on multiple sites. As explained previously within the Non-Technical Summary, STDC is in the process of publishing its Environment and Biodiversity Strategy and this is intended to coordinate the off-site compensation approach for most, if not all of the developments within the STDC area. It is anticipated that through this, the cumulative impacts will be reduced.
- 15.3 There may be minor additional impacts associated with waste and materials management and greenhouse gas emissions, from the nature of producing and transporting construction materials and transport movements associated with the operation of the development. However, these will not impact on the ability of the UK or RCBC to achieve their climate change objectives.
- 15.4 The cumulative impacts of the projects should be balanced against the significant beneficial effects to job creation and wider economic benefits. Other beneficial cumulative impacts have been identified in respect of the improvement of water flow and quality in Holme Burn and other surface water bodies. It is also acknowledged that there will be minor beneficial

cumulative landscape/visual impacts from vantage point views that reflect the proposed development as part of the wider STDC regeneration proposals.

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 kept to an absolute minimum. The documents identified include:

- 1 During the construction period: A Construction Environmental Management Plan will be produced that incorporates the following plans: Construction Traffic Management Plan, Dust Management Plan, Construction Logistics Plan, Surface Water Management Plan and Drainage Strategy, Construction Method Statement, Construction Waste Management Plan, Piling Risk Assessment and Materials Management Plan; and
- 2 During the operation period: Car Parking Management Plan, Servicing Management Plan, Framework Travel Plan, Lighting Strategy, Water Management and Drainage Strategy, Gas Risk Assessment, and Energy Strategy.

16.2 A range of other important mitigation measures can be secured via planning conditions. STDC is also committed to agreeing s S106 for employment and training opportunities.

16.3 The technical chapters within this ES, such as ecology and transport, have identified the need for additional surveys and assessments to be undertaken once further scheme details are known. These will either be submitted as an ES Addendum or as part of the detailed planning process.

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) 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.

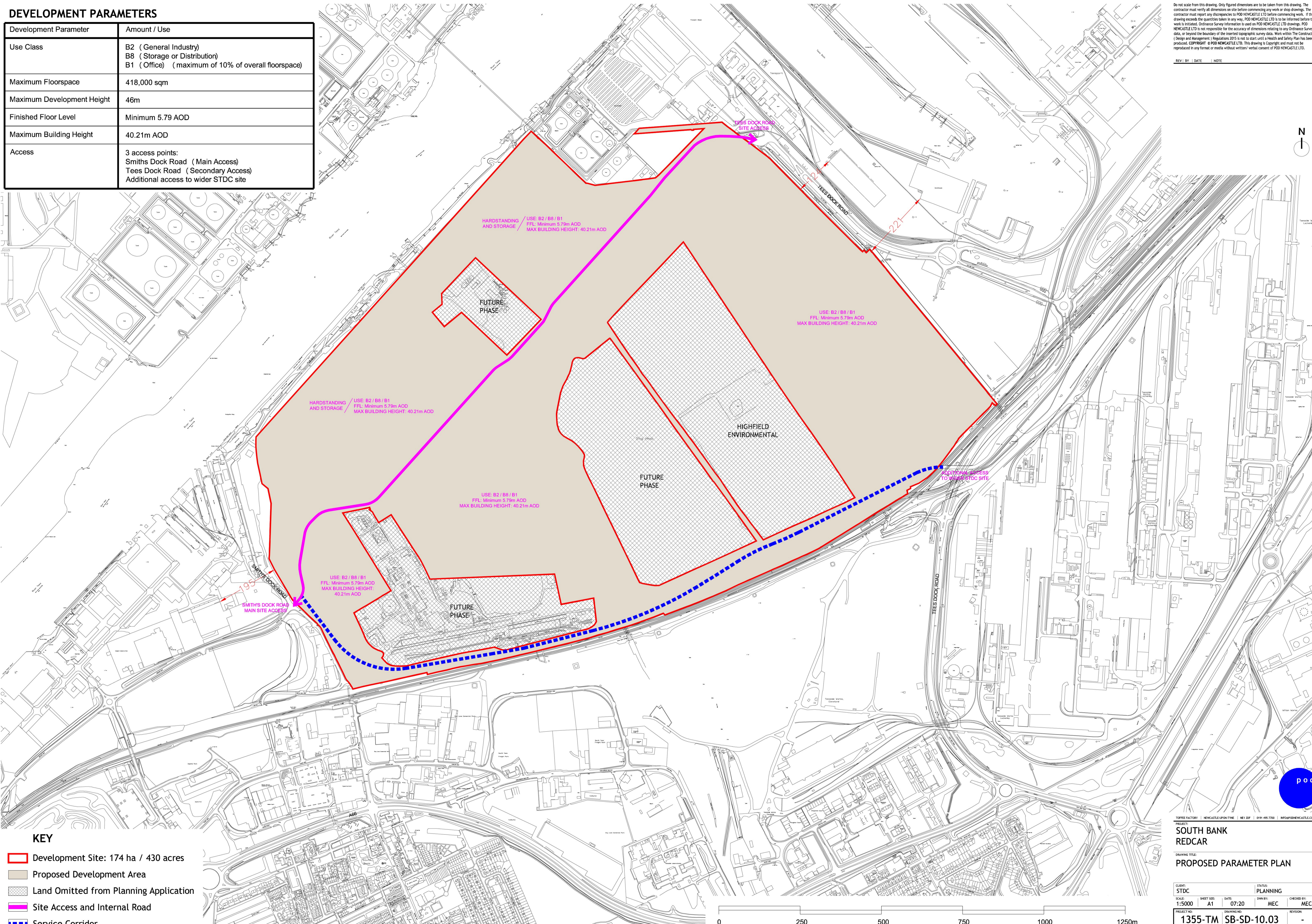
18.0 Key Scheme Plans

18.1 [see overleaf]

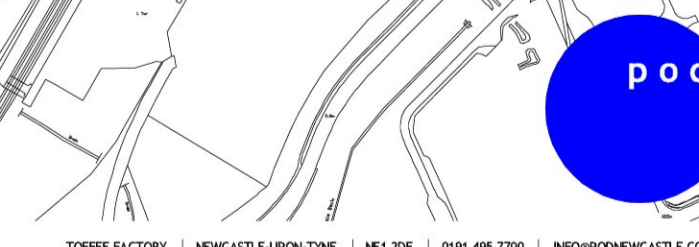
DEVELOPMENT PARAMETERS

Development Parameter	Amount / Use
Use Class	B2 (General Industry) B8 (Storage or Distribution) B1 (Office) (maximum of 10% of overall floorspace)
Maximum Floorspace	418,000 sqm
Maximum Development Height	46m
Finished Floor Level	Minimum 5.79 AOD
Maximum Building Height	40.21m AOD
Access	3 access points: Smiths Dock Road (Main Access) Tees Dock Road (Secondary Access) Additional access to wider STDC site

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- KEY**
- Development Site: 174 ha / 430 acres
 - Proposed Development Area
 - Land Omitted from Planning Application
 - Site Access and Internal Road
 - Service Corridor



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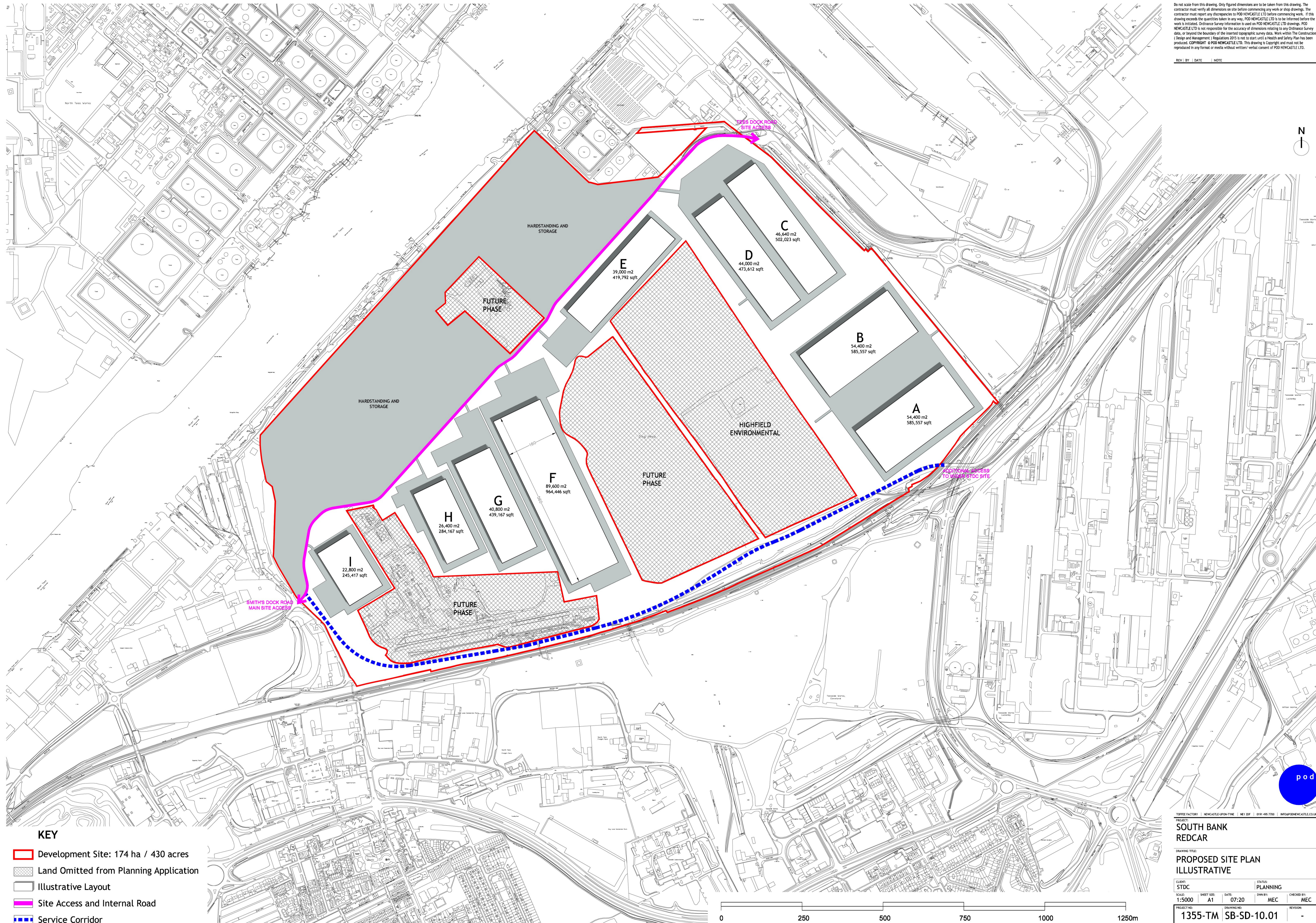
SOUTH BANK REDCAR

DRAWING TITLE:
PROPOSED PARAMETER PLAN

CLIENT: STDC	STATUS: PLANNING
SCALE: 1:5000	SHEET SIZE: A1
DATE: 07:20	DRAWN BY: MEC
PROJECT NO: 1355-TM	SB-SD-10.03
REVISION: -	CHECKED BY: MEC

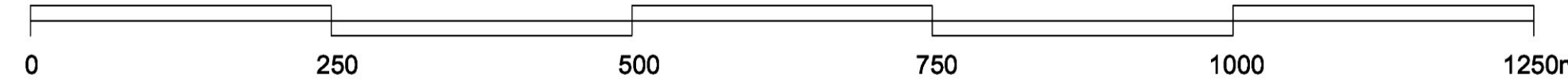
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REV BY DATE NOTE



KEY

- Development Site: 174 ha / 430 acres
- Land Omitted from Planning Application
- Illustrative Layout
- Site Access and Internal Road
- Service Corridor



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DRAWING TITLE:
PROPOSED SITE PLAN ILLUSTRATIVE

CLIENT: STD	STATUS: PLANNING
SCALE: 1:5000	SHEET SIZE: A1
DATE: 07-20	DRAWN BY: MEC
CHECKED BY: MEC	PROJECT NO: 1355-TM
DRAWING NO: SB-SD-10.01	REVISION: -