RiverOak Strategic Partners

5.1 Non-Technical Summary

TR020002/APP/5.1

Project Name:	Manston Airport Development Consent Order
Regulation:	Regulation 5(2)(a) of the Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009, as amended
Date:	July 2018

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Non-Technical Summary

1.1 Introduction

Introduction and Document Purpose

1.1.1 RiverOak Strategic Partners (hereafter referred to as 'RiverOak') intend to re-open Manston Airport (the 'Proposed Development'). The Proposed Development will secure the future of the site as a valuable regional and national aviation asset by re-developing the existing Manston Airport infrastructure such that it can provide 21st Century freight transport facilities as well as some limited capacity to handle passenger flights.

1.1.2 The Proposed Development is a Nationally Significant Infrastructure Project under Part 3 of the ***Planning Act 2008*** ("the 2008 Act") and therefore requires an application to be submitted for a Development Consent Order (DCO) under Section 14 of the 2008 Act.

1.1.3 To support the application, an Environmental Impact Assessment has been undertaken to understand the potential environmental effects that the re-opening of Manston Airport may have on the surrounding environment and residents during construction and once it is operational.

1.1.4 Environmental Impact Assessment is a process that identifies the key environmental effects of a development and identifies ways that these effects can be reduced and/or managed. An Environmental Impact Assessment is required by law for large developments that have the potential to cause significant environmental effects. The findings of this process are reported in a document called an Environmental Statement. The Environmental Statement will be in the public domain for anyone to review.

1.1.5 In June 2017, RiverOak published for consultation a Preliminary Environmental Information Report, prepared in accordance with ***The Infrastructure Planning (Environmental Impact Assessment) Regulations 2009*** (the 2009 EIA Regulations). Since then, the 2009 EIA Regulations have been replaced by ***The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017*** (the 2017 EIA Regulations).

1.1.6 A new Preliminary Environmental Information Report was prepared under the 2017 EIA Regulations in January 2018 and a second round of consultation was undertaken. This updated the preliminary environmental information provided previously including additional preliminary environmental information addressing the requirements of the 2017 EIA Regulations.

1.1.7 This Environmental Statement therefore presents the likely environmental effects of the proposals for Manston Airport, assessed under the 2017 EIA Regulations, to enable consultees to understand the likely significant environmental effects of the Proposed Development on the environment.

1.1.8 This document sets out a summary of the findings from the Environmental Statement in terms that are accessible to a majority of readers.

2. The Proposed Development

Background to the proposed development

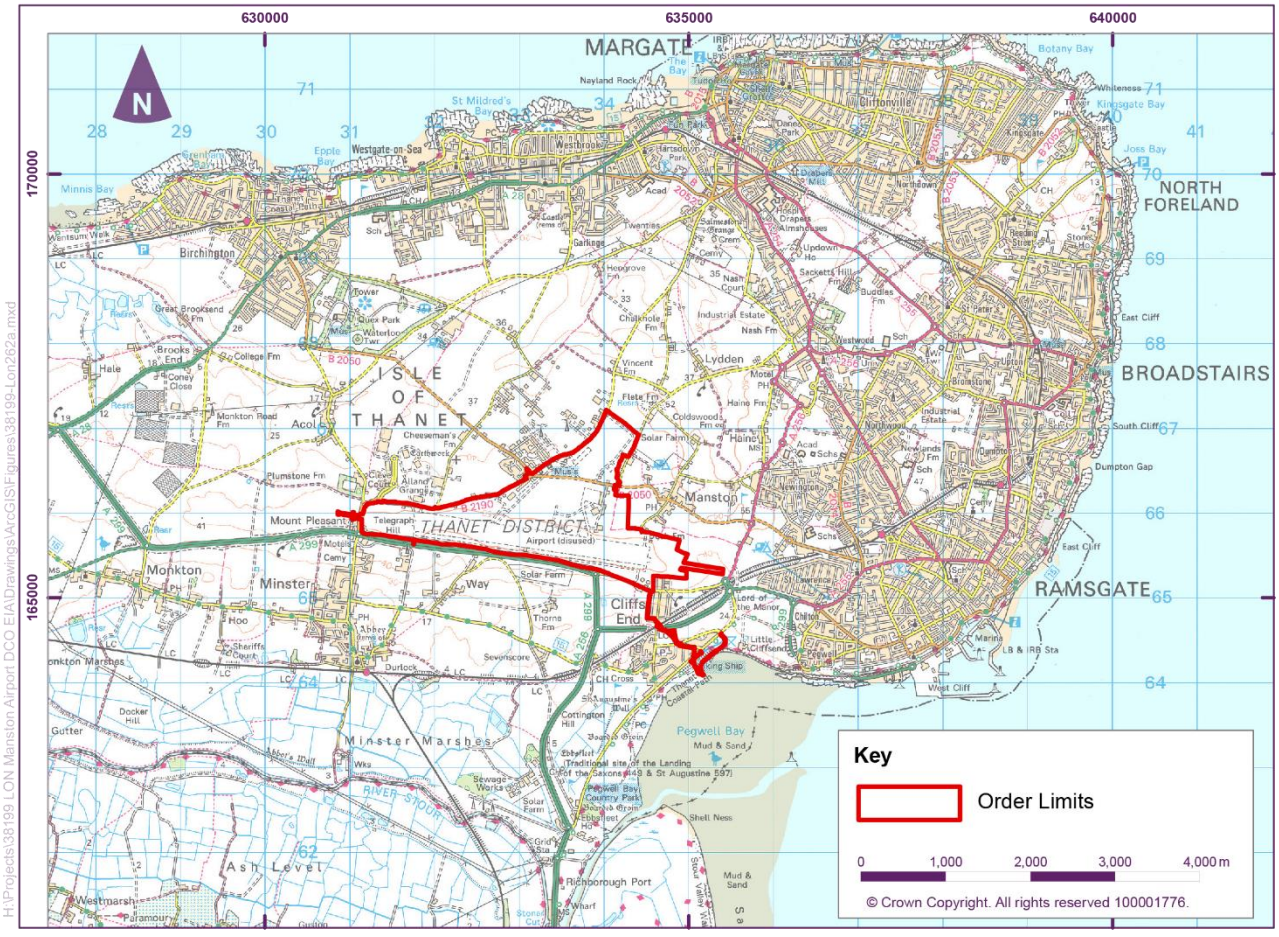
2.1.1 There has been an operational airport at the Manston Airport site since 1916. Until 1998, it was operated by the Royal Air Force (RAF) as RAF Manston and for a period in the 1950s was also a base for the United States Air Force (USAF). From 1998 onwards, it was operated as a private commercial airport, known as Kent International Airport.

2.1.2 The airport offered a range of services including scheduled passenger flights, charter flights, air freight and cargo, a flight training school, flight crew training and aircraft testing. In recent years Manston Airport was also operating as a specialist air freight and cargo hub servicing a range of operators. Although the airport was closed in May 2014, much of the airport infrastructure, including the runway, taxiways, aprons, cargo facilities and passenger terminal remain.

Where is the proposed development?

2.1.3 The Proposed Development will be constructed on the existing Manston Airport site, west of the village of Manston and north-east of the village of Minster, in Kent (shown in **Figure A**). The town of Margate lies approximately 5km to the north of Manston Airport and Ramsgate approximately 4km to the east. Sandwich Bay is located approximately 4-5km to the south-east. The northern part of the site is bisected by the B2050 (Manston Road) and the site is bounded by the A299 dual carriageway to the south and the B2190 (Spitfire Way) to the west. The existing site access is from the junction of the B2050 with the B2190.

Figure A Site Location Plan



2.1.4 The site covers an area of approximately 296ha (732 acres) and comprises a combination of existing buildings and hardstanding, expanses of grassland, and some limited areas of scrub and/or landscaping. This includes the 2,748m long, 60m wide runway, which is orientated in an east-west direction across the southern part of the site.

2.1.5 The surrounding area is generally characterised by arable farmland interspersed with moderate density villages, small groups of residential properties and individual properties. To the north-east of the site is a transition from an agricultural to a more urbanised landscape, with the towns of Margate and Ramsgate.

What is the proposed development?

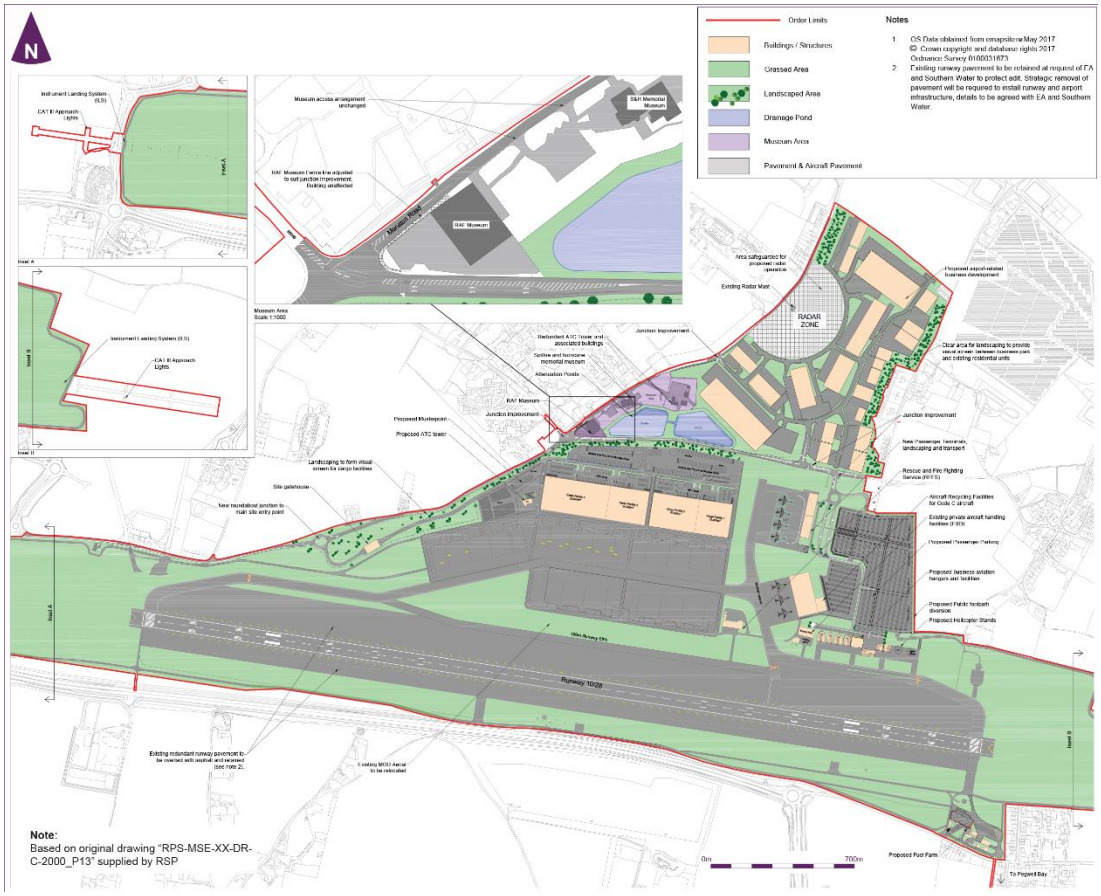
2.1.6 The purpose of the Proposed Development is to re-open and develop Manston Airport into a dedicated air freight facility, which can also offer some passenger, executive travel, and aircraft engineering services. The facilities for air freight and cargo operations would be able to handle in excess of 10,000 air freight traffic movements per year, and the airport and facilities would be compliant with European Aviation Safety Agency, or other relevant licensing organisation standards

2.1.7 A summary of the works to be undertaken as part of the Proposed Development are presented below:

- Upgrade of Runways 10/28 to allow CAT II/III operations;
- Re-alignment of the parallel taxiway (Alpha) to provide European Aviation Safety Agency compliant clearances for runway operations;
- Construction of 19 European Aviation Safety Agency compliant Code E stands for air freight aircraft with markings capable of handling Code D and F aircraft in different configurations;
- Installation of new high mast lighting for aprons and stands;
- Construction of 65,500m² of cargo facilities;
- Construction of a new air traffic control tower;
- Construction of a new airport fuel farm;
- Construction of a new airport rescue and firefighting service station;
- Complete fit-out of airfield navigational aids (nav-aids);
- Construction of new aircraft maintenance/recycling hangars;
- Development of the Northern Grass area for airport related businesses;
- Demolition of the redundant ‘old’ air traffic control tower;
- Safeguarding of existing facilities for museums on the site;
- Highway improvement works; and
- Extension of passenger service facilities including an apron extension to accommodate an additional aircraft stand and increasing the current terminal size.

2.1.8 **Figure B** shows the Manston Airport masterplan DCO.

Figure B Manston Airport Masterplan



Why is the proposed development required?

2.1.9 The aviation sector is of vital importance to the UK economy and has been estimated to contribute an annual £52bn or 3.4% to UK Gross Domestic Product[1]. In addition, the UK aviation services sector supports the wider UK economy, including British manufacturing, by carrying high value exports around the world, including to emerging markets. The total value of tradeable goods carried through UK airports in 2014 exceeded £140bn, and an estimated 40%, by value, of the UK's trade with economies outside of the EU is carried by air.

2.1.10 The increase in demand for air transport seen in recent years is forecast to continue in the period up to 2035. London's six airports: Heathrow, Gatwick, Stansted, Luton, London City and Southend, facilitate around 76% of the UK's air freight. However, the Airports Commission report shows that all London airports will be at capacity by 2030. The south-east is particularly hard hit by the lack of airport capacity, with sustained losses in potential trade running at £2bn/year without additional runway capacity.

2.1.11 In addition to helping meet air freight capacity requirements, an airport at Manston would bring significant economic benefit to the area. Since the closure of the Pfizer plant near Sandwich in 2012 and the former Manston Airport in 2014, east Kent has not been host to a significant employer. Re-opening Manston Airport is predicted to bring over 3,000 direct and approximately 6,000 indirect jobs to the local economy by 2038. To ensure the demand for skilled workers can be met locally, RiverOak is also working with local educational institutions to establish complementary education and training programmes.

[1] [1] Oxford Economics (2015), Economic Benefits from Air Transport in the UK [online] Available at http://www.oxfordeconomics.com/my-oxford/projects/281929 [Accessed 31/01/2018].

What are the Main Alternatives?

2.1.12 In considering the reasonable alternatives, consideration has been given to the characteristics of an air freight airport and information concerning current airport capacity and constraints within the UK aviation sector.

2.1.13 A range of alternative strategic sites were considered, these being airfields in the south-east and London's six main airports: Stansted; Heathrow; Gatwick; Luton; London City; and Southend. However, each of the above has major shortfalls in terms of successfully supporting an increased freight and passenger capacity (**Table 2.1**).

Table 2.1 Alternative Strategic Sites Considered

Airport	Issues
Heathrow	▶ Few dedicated freight only carriers use the airport currently. ▶ Airport's focus is passenger traffic and currently most freight is carries as belly hold. ▶ Third runway, if constructed, will meet existing demand for passenger traffic and not provide sufficient capacity for freight traffic.
Gatwick	▶ Inexperience in handling freight operations will not attract freight operators. ▶ Even with additional runway there will be a shortfall in capacity for freight traffic.
Luton	▶ Current number of stands unable to support growth at the airport. ▶ Airport is focused on passenger traffic.
Stansted	▶ Freight flights account for small proportion of total flights. ▶ Airport is already operating at its maximum capacity.
London City	▶ Airport is focused on the passenger market. ▶ Runway is too short and cannot support larger freight aircraft.
Southend	▶ Runway is too short and cannot support larger freight aircraft. ▶ Airport focused on the passenger market.

2.1.14 A number of smaller airports including Biggin Hill, Lydd, Farnborough, Northolt, Rochester and Shoreham are currently operational, however, none of them currently have the infrastructure to land freight aircraft of the size required to support market needs. In particular, all of the existing smaller airports in the south east are constrained by runway length which needs to be at least 2,500m in order to operate successfully as a dedicated air freight hub.

2.1.15 In addition to the assessment of alternative sites for a dedicated air freight airport in the south-east, the master planning process has also given consideration to on-site alternatives for individual elements and components of the Proposed Development. This has been undertaken as part of the on-going project evolution as part of the project design process.

2.1.16 Although constrained by the existing site layout including the position of the runway, taxiways and airport buildings, a number of alternative layouts, designs and configurations were considered for the air freight and cargo facilities. One of the guiding principles throughout the evolution of the design has been to minimise disruption to existing hardstanding areas in order to ensure protection of the Lord of the Manor water source beneath the site.

2.1.17 Alternatives considered therefore focussed on areas where key environmental gains could be made, in particular looking at alternative locations for the fuel farm, flight configuration including runway preference and measures that may be required during the construction of the site, such as the location of compounds and hours of working.

2.1.18 Additional measures included looking at the number of aircraft stands, apron design, taxiway layout and configuration, and size, location and layout of the associated freight handling and parking facilities. Whilst these were constrained by the need to provide sufficient capacity to meet the

demands of the airfreight forecast and to allow for the safe and efficient operation of the airport, opportunities to incorporate environmental measures into the design of the scheme were considered and integrated into the design throughout the production of the Environmental Statement.

2.1.19 Given the constraints described above, the Northern Grass area was given particular attention, with a series of environmental design principles being developed early in the process that then led to the creation of a zonal masterplan. The principles centred around offering flexibility whilst adhering to defined parameters within zones of differing sensitivity.

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3. The EIA Process

Background to the environmental statement

3.1.1 The Proposed Development is a Nationally Significant Infrastructure Project under Part 3 of the ***Planning Act 2008*** ("the 2008 Act") and therefore requires an application to be submitted for a DCO under Section 14 of the 2008 Act. Due to the above legislative requirements, the planning application needs to be accompanied by an Environmental Statement.

3.1.2 A Scoping Report was prepared in June 2016 under the 2009 EIA Regulations; this outlined the likely works required in order to adequately assess the potentially significant environmental effects arising due to the construction and operation of the Proposed Development.

3.1.3 Following the submission of the Scoping Report, a period of non-statutory consultation took place from June 2016 to September 2016. This consulted those who would be directly affected by the Proposed Development, people with an interest in the land on which development would take place, the local community, local authorities and other statutory bodies and consultees.

Figure C Examples of Consultees

3.1.4 Following this, a statutory consultation took place from June to July 2017. As part of the statutory consultation in the summer of 2017, a 2017 Preliminary Environmental Information Report was prepared and formed part of the materials that were made available to the public and statutory consultees for comment. This consultation was carried out under the 2009 EIA Regulations.

3.1.5 Post consultation, the Preliminary Environmental Information Report was updated and re-issued for an additional consultation period between January and February 2018. This consultation sought to focus on the changes arising from the adoption of the 2017 EIA Regulations.

3.1.6 The scope of the assessment was refined as the design progressed, in light of responses received during each of the consultations and consultee comments. Many stakeholders have contributed to defining the scope of the development, as shown above in **Figure C**.

3.1.7 The Environmental Statement incorporates information from both of the Preliminary Environmental Information Reports, bringing together information about any likely significant environmental effects resulting from the Proposed Development. This Non-Technical Summary summarises its key findings. The topics addressed in the Environmental Statement are outlined in **Table 3.1**.

Table 3.1 Topics addressed in the Environmental Statement

Topics in the 2017 EIA Regulations	Topics in the Environmental Statement
Population and human health	Health and Wellbeing (**Chapter 15**), Noise and vibration (**Chapter 12**), Socio-economics (**Chapter 13**)
Biodiversity	Biodiversity (**Chapter 7**)
Land, soil, water, air and climate	Land quality (**Chapter 10**), Freshwater environment (**Chapter 8**), Air quality (**Chapter 6**), Climate Change (**Chapter 16**), Major Accidents and Natural Disasters (**Chapter 17**)
Material assets, cultural heritage and the landscape	Traffic and Transport (**Chapter 14**), Historic Environment (**Chapter 9**), Landscape and Visual Impacts (**Chapter 11**)
The interaction between the factors referred to in sub-paragraphs	These are discussed within each section as relevant, as well as Cumulative Effects Assessment (**Chapter 18**)

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4. Environmental Effects

4.1.1 The topics required to be assessed were outlined in the Scoping Opinion and updated following subsequent consultation with the Planning Inspectorate that resulted in a number of new topics be included to address the requirements of the 2017 EIA Regulations. These are reported in the Environmental Statement such that the significance of the likely effects (positive or negative) in relation to people and environmental resources (referred to as receptors) affected by the Proposed Development can be understood. This section provides an overview of the key findings from each of the topics in the Environmental Statement.

Air Quality

4.1.2 Air quality refers to the concentrations of pollutants in the air that people breathe. Poor air quality is associated with a number of health problems, especially respiratory conditions. It can also affect vegetation and sensitive ecosystems. Legally-binding limits on key pollutants are set in European and UK legislation for the protection of human health and ecosystems.

4.1.3 The main pollutants of concern for the Proposed Development are oxides of nitrogen (NO_x), nitrogen dioxide (NO_2) and fine particulate matter (PM_{10} and $PM_{2.5}$). There is good evidence to suggest that elevated levels of PM_{10} and $PM_{2.5}$ have significant health effects, but concentrations are within legal limits across most of the country. There is more scientific uncertainty about the health effects of NO_2, but concentrations of this pollutant are close to or above the legal limit in some urban areas. The legal limit for NO_2 is 40 µg m^{-3} as an annual mean concentration in locations where people are likely to be exposed. NO_x is not believed to have impacts on human health, but can affect vegetation and ecosystems.

4.1.4 In rural and suburban areas of Thanet, air quality is generally good and comfortably within legal limits. However, in some urban centres in Thanet close to busy roads, concentrations of NO_2 are considered to be high and are close to legal limits.

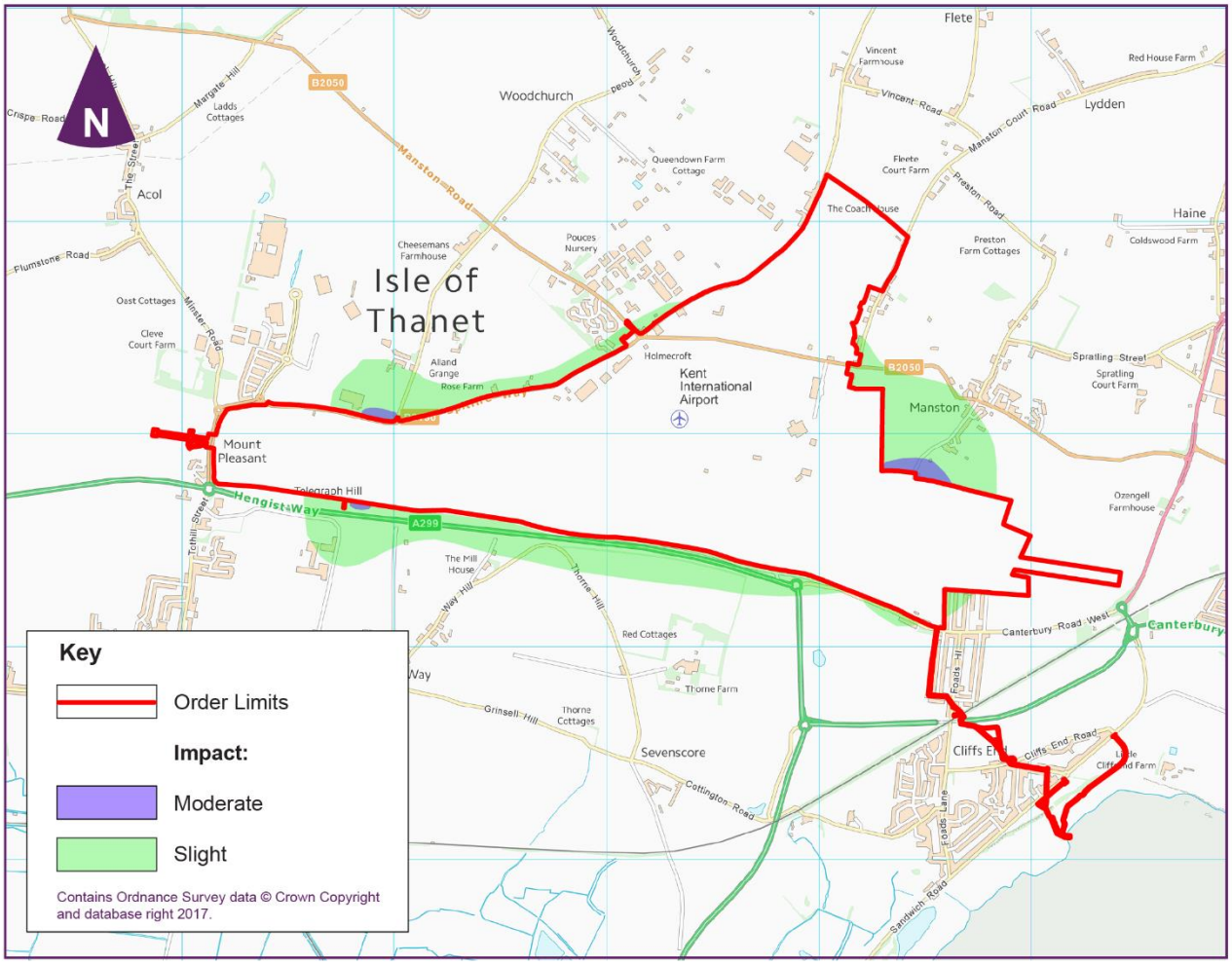
4.1.5 NO_2 is produced by combustion processes, including aircraft engines, road vehicle engines and boilers for heating homes and offices. PM_{10} and $PM_{2.5}$ are produced by the same processes in addition to wear from tyres and brakes on road vehicles and aircraft.

4.1.6 This assessment makes a number of worst-case assumptions, which means that air quality impacts are likely to be over-estimated. To assess how significant the impacts are the recommendations from the Institute of Air Quality Management and the Environment Agency have been followed.

4.1.7 Concentrations of PM_{10} and $PM_{2.5}$ around the site are low and the Proposed Development will make a small contribution to pollutant concentrations. Concentrations will remain comfortably within legal limits.

4.1.8 Existing concentrations of NO_2 around the airport are low and the Proposed Development will result in small increases, although all locations will remain comfortably within legal limits. Impacts at some locations within approximately 500m of the airport boundary are classified as slight, and at some locations within approximately 100m of the airport boundary are classified as moderate (see **Figure D**). In the opening year, there are approximately 23 properties close to the A299 Thanet Way that would receive a slight impact from the road traffic arising from the Proposed Development however in later years the impact will be reduced to negligible as a result of improved vehicle emissions. Close to busy roads in the St. Lawrence area, the high existing concentrations mean the additional contribution from the operation of the Proposed Development, even though it is very small so far from the airport, is classified as having a slight impact. Impacts everywhere else are negligible.

Figure D Impact on NO_2 Concentrations from on-Airport Activity in the Peak Activity Year (Year 20)



4.1.9 Considering impacts on ecological sites, some exceedances of the annual mean NO_x objective are predicted where major roads pass close to designated ecological sites, mainly because of levels of emissions from existing road traffic. The additional contribution from the Proposed Development, including airport-related traffic, is small, less than 7% of the objective at any major ecological site. The impact on air quality at local ecological sites is **insignificant**. Exceedances of the critical loads for nitrogen and acidity are predicted however this is due to existing deposition rates and the additional contribution from the Proposed Development is **insignificant**.

Biodiversity

4.1.10 Biodiversity comprises species and habitats that are either protected by law and/or have some notable nature conservation importance, invasive alien (or controlled) species, and designated nature conservation sites.

4.1.11 This biodiversity interest includes areas both within and beyond the airport, up to a distance where there is a likelihood of an adverse effect. There are no designated nature conservation sites within the Proposed Development site, although a number occur outside the airport. Where these designated sites are of European importance, such as the Thanet Coast and Sandwich Bay Special Protection Area and Ramsar sites, which are located adjacent the Proposed Development, any effects are looked at in detail in the 'Report to inform the Appropriate Assessment', appended to the Environmental Statement.

4.1.12 The site, comprised largely of mown grassland and tarmac/runway, has limited biodiversity value. Bat activity on site is limited mainly due to the low value foraging and the lack of shelter as there are few trees and hedgerows. However, roosts (both summer and hibernation) are present in some

of the buildings, although the majority of these are large and unsuitable for bat roosts. Replacement roosts, under a licence from Natural England, are to be provided offsite, due to the activity, noise and lighting associated with the Proposed Development, on land which is to be enhanced for foraging bats with features to provide better linkage for commuting bats to the wider environment.

4.1.13 Breeding birds onsite include several species that have conservation interest including skylark and grey partridge, which will be affected by the Proposed Development. Compensation land to the south of the site is to be managed specifically with the nesting requirements of these species in mind with habitats provided to offset any losses of breeding pairs on-site. Similarly, a barn owl nest on site is to be re-located to remove it from birdstrike risk and risk of collision with traffic from adjacent roads.

4.1.14 With respect to reptiles, a single lizard was recorded at the airport boundary. A few small areas (totalling about 4ha) of the site could not be accessed in 2017 for reptile surveys; it is anticipated that these will be surveyed in 2018. These areas provide good habitat for reptiles and it has been assumed for the assessment that they will be likely to contain high populations of common lizard and slow worm. This will be confirmed through the planned surveys. Under this worst-case scenario these reptiles would be re-located to another site, comprising of habitat specifically designed for reptiles.

4.1.15 The mown grassland, tarmac, concrete and buildings which comprise the majority of the site, do not provide much value to terrestrial invertebrates. However, smaller unmanaged areas are expected to have invertebrate interest, which will be determined by surveys in 2018. Under a worst-case scenario, some of the features on-site that provide good invertebrate habitat, for example, the stressed vegetation growing along the runways, will be maintained for the operational phase of the Proposed Development. In addition, diverse open mosaic habitats are to be created in compensation for loss of the unmanaged areas on-site.

4.1.16 The Proposed Development is considered **not likely to have a significant effect** on European designated sites.

Freshwater Environment

4.1.17 Manston Airport is located on the outcrop of the Thanet Chalk, and the majority of the site is located directly over the Chalk, with patchy overlying areas of more recent deposits, such as sand, silts and areas of artificial fill associated with the previous use of the site. The Chalk is designated as a Water Framework Directive Water Body and also supports Southern Water public water supply abstractions, the closest of which is the Lord of the Manor Source, located just outside of the eastern boundary of the site. The groundwater source protection zone[2] associated with this source lies within the site boundary, and an adit associated with the source lies at 60m below ground level along the same orientation as the runway.

4.1.18 There are no river watercourses on or adjacent to the site, partly due to the high permeability of the underlying Chalk. A series of water channels and streams that form part of the Minster Marshes are located over 1km away of the site, to the south. Minster Marshes drain south into the tidal River Stour, 3km south of the site, which flows east into Sandwich and Pegwell Bays. Together these bays are part of designated National Nature Reserve, RAMSAR, Special Site of Scientific Interest, Special Protection Area and Special Area of Conservation sites.

4.1.19 The entire Manston Airport site is located within an area where flooding from rivers and the sea is very unlikely. The nearest flood risk is coastal flooding associated with Pegwell Bay, located approximately 2km south-east of the site. Rainfall run-off and surface water flooding may be a potential source of flood risk to the Proposed Development, in particular across the middle of the site. Flooding resulting from rainfall has been identified to be of low risk (each year, the chance of flooding is between 1 in 1,000 (0.1%) and 1 in 100 (1%)). There are areas of higher risk (with a greater than 1 in 30 (3.3%) chance of flooding) which are likely to be associated with localised

[2] These are designated zones around public water supply abstractions and other sensitive receptors that signal there are particular risks to the groundwater source they protect.

depressions. It is anticipated that there will be sewers and associated infrastructure across the site, based on its previous use as an operational airport. Therefore, there is a potential risk of sewer flooding.

4.1.20 The site has a significant north - south fall, with the runway at the site's highpoint. Site drainage is collected on site and then pumped through a buried outfall pipe into Pegwell Bay. An existing pumping station is located adjacent to the passenger apron. This supplies a 300mm diameter pipe that runs along the site's western boundary and enters into a gravity system around the runway threshold. This then runs along the sites southern edge before discharging into the outfall to Pegwell Bay.

4.1.21 A Flood Risk Assessment (which includes the Drainage Impact Assessment) has been completed for the Proposed Development and is appended to the Environmental Statement. It provides information on the risk of flooding at the site from all sources and the proposed design of the site drainage system to demonstrate no increase in flood risk from any source from the proposed site operations.

4.1.22 A Hydrogeological Impact Assessment has also been completed and is appended to the Environmental Statement. It assesses the risk to groundwaters and dependant abstractions from site operations and has been supported by quantitative modelling to understand the relationship between the site and the Southern Water abstraction boreholes.

4.1.23 A number of environmental measures will be incorporated into the scheme design and management plans to protect the freshwater environment from an adverse impact on the quality or quantity of freshwater resources, water supply infrastructure and foul sewerage infrastructure. These measures cover all aspects of the water environment; however, particular focus has been given to measures to protect the Lord of the Manor source (and associated groundwaters) from any risk of a fuel leak from the proposed fuel farm – to be located at the former Jentex Fuel site on the sites southern boundary. Appropriate measures and design standards have been discussed with both Southern Water and the Environment Agency to ensure that these highly sensitive features are protected from any breaches or spills.

4.1.24 Given that appropriate mitigation measures will be implemented to ensure the protection of the freshwater environment **it is not expected that there will be any significant surface or hydrogeological impacts**.

Historic Environment

4.1.25 The historic environment comprises all material remains of past human activity, including designated heritage assets such as scheduled monuments and listed buildings, which are protected by law, and conservation areas, and non-designated heritage assets, such as structures of regional and local significance historic landscapes or below-ground archaeological remains which, while not designated, are of sufficient heritage significance to merit consideration in planning.

4.1.26 The potential for effects include:

- Potential disturbance of sub-surface archaeological remains dating to the Prehistoric, Roman, Early-Medieval, Medieval and Modern periods occurring during the construction phase;
- Potential effects on the heritage significance of the airport and surviving built heritage assets relating to military and civilian uses of the site from the First World War onwards, particularly the RAF Battle HQ, RAF Control Tower and the runway, occurring during the construction phase;
- Potential effects arising through change in the setting of non-designated heritage assets within the Proposed Development boundary; and
- Potential effects arising through change in the setting of designated heritage assets outside the Proposed Development boundary, including the Grade II listed Cleve Court and Cleve Lodge and the scheduled enclosure and ring ditches at Minster Laundry, from visibility of new infrastructure and aviation noise.

4.1.27 Further survey of potential archaeological remains within the site boundary will be conducted at the earliest opportunity. These will provide the information required to allow design of the Proposed Development, to avoid the most significant archaeological remains and limit the effects on buried heritage assets. This investigation will also allow a scheme of archaeological investigation to be developed to ensure that archaeological remains which would be disturbed by the Proposed Development to be appropriately recorded**. In the absence of mitigation, however, it is anticipated that effects potentially would be significant and adverse**.

4.1.28 Further surveys of non-designated built heritage assets within the site boundary will be conducted at the earliest opportunity to establish the condition, desirability and feasibility for their retention in the final design. Those not retained will be subject to an appropriate level of building recording during the construction phase. In the absence of this mitigation, the **effects on built heritage assets could potentially be significant and adverse**.

4.1.29 Changes to the setting of retained non-designated heritage assets will occur on the site during the construction and operational phases. However, re-use of the airfield for aviation purposes reflects the recent historic use of the site and it is not anticipated that these effects are not likely to be significant. The effect of changes to the setting of designated heritage assets was assessed to be **not significant**.

4.1.30 Indirect effects on off-site heritage assets have been considered in line with Historic England guidance on assessing change to setting and aviation noise. In the majority of cases, effects have not been assessed as being likely to be significant, although it is considered that **significant adverse effects may potentially arise at the Grade II listed buildings at Cleve Court and Cleve Lodge and at Wayborough House and Way House**.

Land Quality

4.1.31 The land quality assessment evaluates the potential for a pollution linkage to be present. If a linkage is established, then the level of risk is outlined alongside any additional measures that are required to measure, manage or mitigate the risk.

4.1.32 Key characteristics of and risks to the existing land resource have been identified as:

- The entire site and surrounding area is underlain by an aquifer that provides approximately 70% of the water to the Southern Water Kent Thanet Water Resource Zone;
- Pegwell Bay and Sandwich Bay, both of which are valued for their biodiversity and afforded legal protection, are located approximately 900m south-east of the site boundary;
- There is an area of high quality agricultural land located directly south-west of the site;
- There is the potential for residual buried unexploded ordnance to be present onsite, due to previous site use as an RAF airfield during World War II; and
- The highest risk of contamination is associated with the risk to groundwater from the Jentex fuel farm site.

4.1.33 Aspects of the environment that have the potential to be significantly affected by the Proposed Development, in the context of land quality, include: humans (site and adjacent site users, and future site users); buildings and services; soils of high quality agricultural lands located offsite but directly adjacent to the southwest of the site; controlled waters (coastal waters: Pegwell Bay and Sandwich Bay); and groundwater in the Chalk aquifer.

4.1.34 **Table 4.1** describes the likely effects that may arise as a result of the Proposed Development.

Table 4.1 Likely Land Quality Effects

Receptor	Nature of Likely Effect
Humans	***Construction Phase*** ▶ Disturbance of soils which have the potential to contain contaminants; ▶ Spillages of oils and other chemicals; ▶ Direct contact, ingestion and/or inhalation of impacted soils; ▶ The discovery and potential for explosion of unexploded ordnance; and ▶ Decommissioning of existing tanks and infrastructure on the Jentex site. ***Operational Phase*** ▶ Health hazard due to: ▶▶ Ingress and accumulation of ground gas resulting in explosion or asphyxiation of users of site buildings; ▶▶ Future maintenance works that may disturb any residual contamination; ▶▶ Spillages during of oils and other chemicals; ▶▶ Residual contamination from inappropriate reuse/use of contaminated fills and soils during construction phase; and ▶▶ Removal of tanks and leakage from tanks.
Groundwater (Chalk aquifer), Coastal Waters, and Soils	***Construction Phase*** ▶ Disturbance of soils (earthworks) and mobilisation of existing contamination; ▶ Pollution from spillages of oils and other chemicals; ▶ Pollution incidents due to the creation of a route/s or mechanism by which a receptor could be exposed to, or affected by, potential contamination; and ▶ Decommissioning of existing tanks and infrastructure on the Jentex site. ***Operational Phase*** ▶ Future maintenance works that may disturb and mobilise any residual contamination; ▶ Spillages during of oils and other chemicals; ▶ Residual contamination from inappropriate reuse/use of contaminated fills and soils during construction phase; ▶ Pollution incidents resulting from fire-fighting activities, and pesticide use; and ▶ Removal of tanks and leakage from tanks.
Buildings and Services	***Construction Phase*** ▶ The discovery and potential explosion of unexploded ordnance. ***Operational Phase*** ▶ Damage to property due to: ▶▶ Ingress and accumulation of ground gas resulting in explosion of site buildings; and ▶▶ Residual contamination from inappropriate reuse/use of contaminated fills and soils during construction phase. ▶ Permeation of plastic pipes by contaminants.

4.1.35 The potential **effects listed above were assessed as not significant,** subject to appropriate mitigation being in place as described in **Chapter 10** of the Environmental Statement.

Landscape and Visual Impact

4.1.36 Landscape effects and visual effects are closely related, but do form separate assessments, the former relating to landscape and areas of landscape character, and the latter relating to the visual effects on views and visual amenity as experienced by people.

4.1.37 The assessment has considered the potential for the Proposed Development to result in significant landscape effects in relation to the following twelve landscape receptors:

- National Character Area 113: North Kent Plain;
- Kent Historic Landscape Character Area 18: Isle of Thanet;

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- Thanet Landscape Character Areas:
  - A1: Manston Chalk Plateau;
  - B1: Wantsum North Shore;
  - C1: St Nicholas-at-Wade Undulating Chalk Farmland;
  - C2: Central Thanet Undulating Chalk Farmland;
  - C3: St Peters Undulating Chalk Farmland;
  - D1: Quex Park;
  - E1: Stour Marshes;
  - E2: Wade Marshes; and
  - F1: Pegwell Bay
- Dover Landscape Character Areas:
  - Ash Level;
  - Richborough Castle;
  - The Sandwich Corridor; and
  - Sandwich Bay.

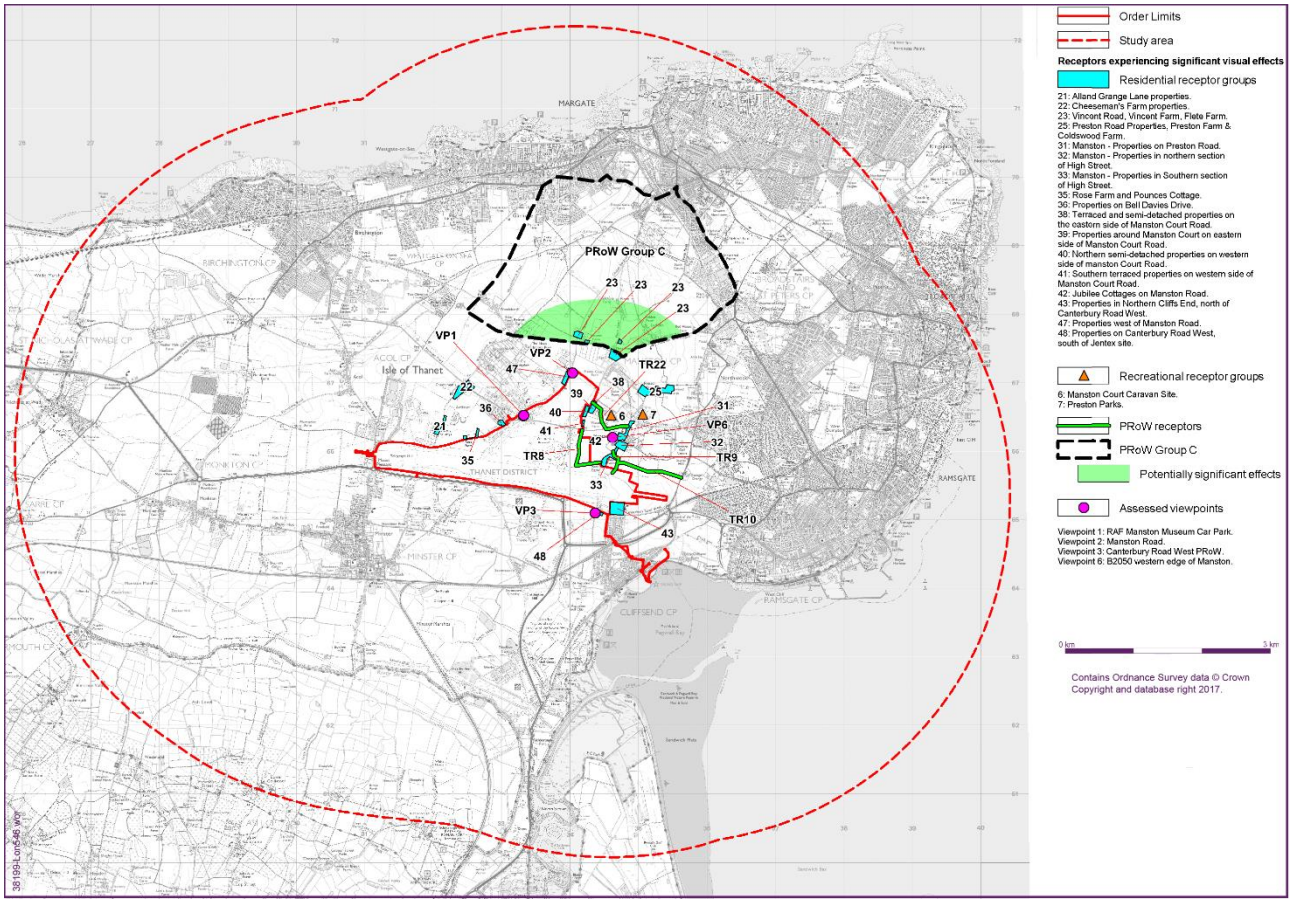
4.1.38 **No significant landscape effects have been predicted** to occur at any of these locations during construction and operation.

4.1.39 The assessment has also considered the potential for the Proposed Development to result in significant visual effects in relation to the following 121 visual receptors and visual receptor groups:

- People at their place of residence (48 individual properties or groups of properties);
- People engaged in outdoor recreation (41 individual recreational facilities or groups of recreational facilities);
- People using the transport network (10 routes); and
- Photographic viewpoint locations (22 locations).

4.1.40 The Proposed Development may have the potential to result in significant visual effects in relation to visual receptors located at 17 individual properties or groups of properties; nine individual recreational facilities or groups of recreational facilities; ten transport routes; and four photographic viewpoint locations. These are identified on Figure E.

Figure E Distribution of Significant Visual Effects



Noise and Vibration

4.1.41 The assessment of noise and vibration considered effects on occupiers of residential properties and changes in the noise environment of local communities. The assessment also considered the effects of noise on community facilities such as schools, hospitals, places of worship and commercial properties such as offices.

4.1.42 No **significant construction noise effects**, or indirect effects from construction traffic, were identified on any non-residential receptors or residential communities for day time construction works.

4.1.43 A potential significant effect during construction has been identified at approximately 15 dwellings on Bell Davies Drive and Spitfire Way during night time construction works; however, it is envisaged that the work could be undertaken so that this significant effect is avoided. Prior to commencing construction, there will be a re-assessment of noise to reflect the availability of more detailed construction information. This will contain specific mitigation measures to control noise however a typical measure, likely to be effective in such circumstances would be temporary acoustic barriers. For this reason, we can be confident that the eventual mitigation solution can be effective although it would be determined based on exact site conditions and plant to be used.

4.1.44 Once operational, in the opening year, up to 115 residential dwellings are forecast to be exposed to significant annoyance and disturbance as a result of aircraft noise. In year 20, when aircraft operations are at maximum capacity, up to 225 residential dwellings are forecast to be exposed to significant annoyance, disturbance and sleep disturbance as a result of aircraft noise. These properties will qualify for noise insulation under the proposed noise mitigation plan. **The noise insulation offered to residents of affected properties will reduce noise inside all dwellings such that it does not reach a level where it will significantly affect residents**. However, adverse impacts would remain in external areas such as gardens.

4.1.45 In year 20, when aircraft operations are at maximum capacity, approximately 10 residential dwellings are forecast to be exposed to unacceptable annoyance and disturbance as a result of daytime aircraft noise. In line with government aviation policy, homeowners will be eligible for financial assistance to move away from the airport according to the proposed dwelling relocation scheme.

4.1.46 Again, in year 20**, significant adverse effects have been identified as being likely as a result of an increase in noise** in the following communities which are in the vicinity of the airport and flight paths:

- Ramsgate;
- Manston;
- Wade;
- West Stourmouth; and
- Pegwell Bay.

4.1.47 In these communities, aircraft noise would increase to the point where there would be a perceived change in quality of life for occupants of buildings in these communities or a perceived change in the acoustic character of shared open spaces within these communities.

Socio-economic

4.1.48 Thanet is the most easterly district in Kent. The economy in the area is based on the coastal towns and Canterbury. The population has a relatively low proportion of those of working age and a relatively high proportion of elderly compared both to Kent and to England and Wales. In the future, there is a predicted aging of the population reflecting the aging of the 50-65s (the 'post-war bulge'), out-migration of those of working age, and a falling birth rate.

4.1.49 In the latest statistics, Thanet remains the most deprived local authority in Kent and is in the top 10% of England's most deprived authorities. Health statistics are also worse than average, and there is a smaller proportion of people in work. Thanet has 20% fewer managerial, administrative or professional households than the national average.

4.1.50 It is expected that by Year 20, the Proposed Development will create 23,235 jobs, of which 3,417 will be direct jobs. Catalytic jobs are associated with more general growth and are inherently difficult to estimate but could add over 13,000 additional jobs by Year 20, all contributing to increases in economic gross value added and national gross domestic product. It is assumed that employment opportunities associated with such works will be made available to the local workforce, where possible. To ensure that this is met, RiverOak have agreed to the following commitments:

- Working with East Kent College (or another party such as Canterbury Christ Church) to locate an aviation college on or close to the Proposed Development site;
- Providing practical support to the long-term unemployed (as per Stansted Airport Skills Academy) such as:
  - Informal 'meet the employer' events, interview preparation;
  - Help with CVs; and
  - Careers guidance.
- Financial support such as paying for public transport to interviews and training sessions;
- Working with local councils and third sector organisations to help promote job opportunities to local people, particularly to the long-term unemployed;
- Working with Further Education and Higher Education to promote apprenticeships at all levels;

- Working with Further Education and Higher Education to develop courses (where not currently available) relevant to the job opportunities created by the operation of the Proposed Development;
- Working with other employers to provide 'hands on' training opportunities; and
- Working with other employers to provide equipment (such as out of service aircraft/aircraft parts) to support Further Education and Higher Education delivery of courses.

4.1.51 As such, it is thought that the direct employment opportunities during both the construction and operational phases will have an effect of **major beneficial significance** at the local level.

4.1.52 It is probable that the local economy in Thanet will benefit from construction work associated with the Proposed Development, as there are established firms and the proportion of businesses in Thanet providing construction services and accommodation and food services is higher than the national average. During operation the additional influx of people, in conjunction with the increased incomes of the local population will likely lead to greater spending in the locality and an increased demand for tourism facilities. This could result in improvements to the volume of trade for business and tourism outlets. However, one must note that the magnitude of economic effects on tourism is particularly difficult to predict as it depends on a number of different markets and possible influences. Despite this, it is anticipated that the effect will be of **minor beneficial significance** at the local and regional level.

4.1.53 For the surrounding businesses and tourist facilities, the predicted effects are centred on disruption to the local road network during construction, impacting on employee and customer access. However, a suite of environmental measures will be implemented to mitigate any direct effects, these are discussed more extensively within the Transport Assessment and its associated appendices. Given that appropriate mitigation is planned, it is anticipated that the effects are likely to be minimal and of **negligible significance** at the local and regional level.

4.1.54 It is assumed the majority of operatives on-site will be from the surrounding area (i.e. Kent) and the resources and skills necessary to construct the Proposed Development are available locally. Given that the large majority of workers will reside close to the site, it is anticipated that the majority of construction workers will continue to reside within their current locations. Equally, the majority of the operational workforce are anticipated to reside in the local community and surrounding area, resulting in no net increase in the local population due to new workers. Therefore, there is unlikely to be additional pressures from a new burden on local community services such as schools, health and accommodation; **no significant effect** at the local or regional is expected.

4.1.55 The site security arrangements for the Proposed Development during the construction phase will be in line with the requirements set out in the ***Construction (Design and Management) Regulations 2015*** and appropriate levels of security (e.g. CCTV) will be provided. Therefore, **no significant effects** at the local or regional levels are expected to arise in relation to crime.

Traffic and Transport

4.1.56 The traffic and transport chapter of the Environmental Statement sets out the results of an assessment of the environmental effects of the Proposed Development related to that topic.

4.1.57 The Proposed Development site is favourably located to access key highway routes in the area which comprise: the A299 which links to the M2 and the A28 to Canterbury and the M20; and the A256 which links to Dover. Access to the A299 from the site is via the Manston Road (B2050) and the Spitfire Way (B2190) which are the roads which bound the site.

4.1.58 To undertake the assessment of effects of traffic generated by the Proposed Development, the Proposed Development traffic flows were estimated and trips were distributed on to the road network. The methodology that has been developed is provided in the Transport Assessment that is submitted with the DCO application.

4.1.59 In the worst-case future year (Year 20), when the proposed traffic generation is at its highest, only 7 of the 31 total receptors would trigger the need for a detailed assessment. These locations were as follows;

- 12 - B2050 Manston Road between Shottendane Road and Vincent Road;
- 20 - B2190 Spitfire Way between Spitfire Way and B2190 Columbus Avenue;
- 23 - B2050 Manston Road between Manston Road and Manston Court Road;
- 24 - Manston Court Road, south of the junction with Preston Road;
- 25 - Manston Court Road, east of Valley Road; and
- 26 - B2050 Manston Road, between the centre of Manston Village and the A256.

4.1.60 A detailed assessment of these receptors when considering severance, driver delay, pedestrian delay and amenity and accidents and safety has shown that the effects are **not significant.**

4.1.61 The Transport Assessment submitted in support of the Proposed Development sets out the impacts of the development related to highways capacity and highways safety. This document sets out the mitigation required to accommodate the Proposed Development.

4.1.62 The Transport Assessment is supported by a range of other documents addressing other issues related to the Proposed Development as follows:

- Construction traffic impacts are considered in a Construction Traffic Management Plan;
- Impacts on sustainable access are considered in a Travel Plan;
- Impacts on local Public Rights of Way are considered in a Public Rights of Way Management Strategy;
- Impacts on car parking are considered in a Car Park Management Strategy; and
- Impacts on airport access are considered in an Airport Surface Access Strategy.

Health and Wellbeing

4.1.63 A Health Impact Assessment has been undertaken for the Proposed Development, which is a process designed to identify and assess the potential for negative or positive effects on public health and wellbeing due to a proposed development. ‘Health’ is defined broadly as physical, mental and social well-being in this assessment.

4.1.64 The Health Impact Assessment draws from and builds upon the environmental and socio-economic impact assessments undertaken as part of the Environmental Impact Assessment, applying scientific evidence to the potential for health risks. Together with public health statistics and local health priorities identified by Health and Wellbeing Boards, this allows the current health baseline and how it may be affected by the Proposed Development to be assessed and reported.

4.1.65 Not all environmental or social changes due to a development have the potential to result in impacts on health and wellbeing. A source-pathway-receptor method is followed to identify where there is potential for impacts. For there to be a potential impact, a source (some environmental or social change creating a hazard), a pathway (a way for this hazard to reach or affect people) and a receptor (people who would actually be exposed or affected) must all exist. Where this linkage does exist, it is then the nature of the specific hazard, the magnitude of change and the number and sensitivity of people affected that will determine what level of health risk is predicted, if any.

4.1.66 Following a review of the available demographic, health and hospital admission statistics, local communities typically have higher burdens of poor health than compared to the national and regional trends, particularly within Thanet. Consultation with the Kent Director of Public Health highlighted that Thanet has low life expectancy and high rates of all-age all-cause mortality in comparison to the rest of Kent. In addition, the local health economy is currently struggling to

deliver sustainable health care services. Consultation with the Thanet Clinical Commissioning Group Clinical Chair noted the importance of employment opportunities in Thanet and potential socio-economic benefits to health.

4.1.67 The main potential health pathways – environmental or social changes that could affect people and are relevant to health – to assess have been identified as:

- Noise, dust and air pollution during construction;
- Construction traffic;
- Construction workforce;
- Aircraft and airport noise during operation;
- Aircraft and airport air pollution during operation;
- Ground or water contamination and flood risk;
- Road traffic generated during operation;
- Changes in public transport, walking and cycling;
- Employment, investment and economic activity generated in operation;
- Travel connectivity from passenger flights in operation; and
- Additional employees' impact on services, housing capacity, or community cohesion.

4.1.68 The Proposed Development is predicted to generate up to 3,420 direct job opportunities and approximately 20,000 further jobs indirectly in operation. Being in stable, good-quality employment is strongly associated with good health and wellbeing compared to being in long-term unemployment. As a result, the employment generated by the Proposed Development has the potential to offer important long-term health and wellbeing benefits and is predicted to have a **moderate beneficial effect**.

4.1.69 Leisure travel and social connections enabled by air travel have been reported to be associated with quality of life factors, and while the Proposed Development will primarily be used as an air freight hub, there may be limited passenger services, potentially offering quality of life and wellbeing benefits affecting a large number of leisure travellers.

4.1.70 A Travel Plan and Surface Access Strategy set out proposed vehicle routing and highways improvements to manage traffic to and from the airport without causing detriment to road safety or severance for pedestrians. Enhancements to bus services (including a shuttle from Ramsgate railway station) are proposed, and measures to encourage and provide connections for commuting by cycling have been recommended. With these measures, no significant adverse health and wellbeing effects due to changes in road traffic flows are predicted and there is potential for benefits due to physical activity and healthy transport for employees.

4.1.71 Changes in air pollutant concentrations due to the Proposed Development are predicted to have in the worst case a small but measurable adverse effect on health outcomes, with an increase of around one additional emergency hospital admission and effect on mortality equivalent to a little less than two additional deaths at typical ages predicted per annum. However, in the context of the baseline rates in the air quality study area, these changes would represent a very small proportion: 0.1% or less. This is considered to be a minor adverse effect on health. The air quality assessment predicts no exceedances of air quality standards in Year 2 and Year 20 with or without the Proposed Development at any sensitive receptor locations.

4.1.72 Change in noise exposure due to the Proposed Development has the potential to lead up to 329 additional cases of hypertension prevalent within the population at Year 20 noise levels, which may be associated with up to four additional cases of heart disease, two cases of stroke and two cases of dementia per annum. An increase in depression or anxiety associated with high annoyance of up to 219 cases prevalent within the population is also possible. No significant impact on sleep disturbance is predicted due to the small number of night flights forecast. Depending on existing

baseline environmental noise levels, there is potential for adverse impacts on children's learning in schools affected by noise and on quality of life for worshippers at Christ Church. No significant effects due to change in noise at healthcare facilities are predicted. Construction stage noise will be temporary (with phased works) and subject to control; therefore, no significant adverse impacts on health due to any temporary noise disturbance during construction are predicted.

4.1.73 Overall, the magnitude of impact on health and wellbeing due to noise is considered to result in a moderate adverse effect prior to mitigation. Measurable adverse changes in health outcomes are predicted, representing increases of between around 1% and 6% of baseline rates, depending on the health outcome being considered.

4.1.74 No significant adverse health and wellbeing effects through the pathways of flood risk, ground or water contamination, or change to amenity or access to green space are predicted.

4.1.75 A range of embedded mitigation measures designed to address the potential for adverse impacts has been developed. These comprise measures to appropriately route road traffic and improve highways used for access, and measures to mitigate air pollutant emissions. The Noise Mitigation Plan provides a range of measures to both control noise at source and mitigate it at receptors with sound insulation grants, which by reducing noise levels in homes would be expected to lead to a proportional reduction in adverse health and wellbeing outcomes for residents.

4.1.76 In addition, enhancement measures have been developed to maximise the uptake of job opportunities among people in long-term unemployment, provide education and training, and for Manston Airport to be a good quality employer, which would support the achievement of the significant beneficial effects on health predicted through the employment and socio-economic impacts of the airport. Measures to support active travel (i.e. walking and cycling) and a Community Gain Fund (with financial contribution to local projects and activities that benefit health and wellbeing among its terms of reference) have been recommended.

4.1.77 The proposed mitigation and enhancement measures respond to the two health and wellbeing pathways, change to noise and air pollution, where potential for significant adverse effects has been identified. They also provide important enhancements to the significant beneficial health and wellbeing effects through the socio-economic pathway, workplace health and wellbeing, and active transport, in line with local health objectives and priorities.

Climate Change

4.1.78 Climate change has been considered in three ways within the Environmental Statement:

- Climate change resilience (i.e. the impact of climate change on the Proposed Development). The aim of this is to determine the impact that climate change is likely to have on the ability of the Proposed Development to maintain its function throughout its operational life;
- In-combination climate change impacts (i.e. the impact of the Proposed Development and climate change on environmental receptors). The aim of this is to determine where climate change increases the exposure of environmental receptors to an extent that a new significant effect is found or an existing significant effect is exacerbated. This assessment is inherently a cumulative effects assessment, as it uses information gathered from other environmental topics; and
- Greenhouse Gas assessment (i.e. the impact of the Proposed Development on climate change). The aim of the greenhouse gas assessment is to calculate the emissions that are produced because of the Proposed Development.

Climate change resilience

4.1.79 Climate change resilience is addressed within the design and future operation of the site at two levels, firstly details embedded within the outline design (masterplan) and secondly measures that will be worked up as part of the detailed design process.

4.1.80 Climate change uplifts have been included in the Flood Risk Assessment and Drainage Strategy which form part of this Environmental Statement.

4.1.81 In addition, RiverOak have committed to developing a Climate Change Adaptation Strategy following DCO approval. This strategy will put in place a series of measurable actions for ensuring the functionality of the airport is not reduced by climate change over time, and will embed the routine assessment of climate change within the detailed design of assets.

4.1.82 There are **no potentially significant effects identified for climate change resilience**, as the commitment to embed a Climate Change Adaptation Strategy within the detailed design, construction and operation of the airport is regarded as an appropriate mitigation measure at this stage.

In-combination climate change impacts

4.1.83 As a result of embedded mitigation measures for climate change within the ecology and flood risk design, there are **no significant effects relating to in-combination climate change impacts**.

Greenhouse gas assessment

4.1.84 A greenhouse gas assessment has been carried out for the Proposed Development. The carbon emissions associated with the site have been calculated for opening (Year 2) and peak operation (Year 20). Flights associated with the airport make up 93% of emissions at peak operation, with the construction and operation accounting for the other 7%.

4.1.85 The UK has a target of reducing greenhouse gas emissions to 80% of 1990 levels by 2050. The Committee on Climate Change estimated that UK aviation targets must be kept to 37.5Mt CO_2 by 2050 to meet this target. Although other forecasts are higher, this level is taken as a worst-case scenario. At peak operation, Manston Airport represents 2.1% of the emissions the UK aviation sector can produce in 2050. Therefore, whilst it is not possible to definitively say whether this amount of emissions is in-line with UK carbon policy, it is clear that the Proposed Development should aim to reduce greenhouse gas emissions wherever possible.

4.1.86 Specific actions have been incorporated into the scheme to reduce greenhouse gases, including:

- Avoiding the use of diesel or petrol-powered generator where practicable;
- Minimising idling vehicles;
- Developing travel plans for construction staff and passengers;
- Increasing efficiency of construction traffic;
- Using Fixed Electrical Ground Power to minimise energy use by aircraft on the ground;
- Banning older, less efficient aircraft; and
- Using a largely electric Ground Support Equipment fleet.

4.1.87 Furthermore, the development of a Carbon Minimisation Action Plan, including incorporation of mitigations to reduce emissions during the landing and take-off cycle, the construction of infrastructure, energy used by buildings and the embodied carbon of materials, has been committed to. This will cover the design, construction and operation of the Proposed Development and ensure best practice measures for reducing emissions from the scheme are implemented. As a result, there are **no significant effects for greenhouse gas emissions from the Proposed Development** on the climate.

Major Accidents and Disasters

4.1.88 The assessment of major accidents and disasters considered effects of the Proposed Development during both the construction and operation phases on populations, designated land and water,

groundwater, freshwater environments, historic buildings, biodiversity and land. Environmental receptors in these groups were identified during a desk based review of the following study areas:

- The DCO Red Line Boundary, plus 1km study area outside the DCO for land receptors, including population, designated land and biodiversity;
- The DCO Red Line Boundary, plus 1km study area outside the DCO for groundwater receptors; and
- The DCO Red Line Boundary, plus 10km study area (downstream) for surface water receptors.
- In addition, for inflight major accidents under the control of Manston and within the design swathe:
  - Passengers and crew on a plane while under the control of Manston Airport; and
  - Receptors within the design swathe.

4.1.89 The sources of a major accident were identified and included construction and operational phase major hazards, external major hazards and disaster hazards.

4.1.90 Pathways between the sources and the environmental receptors were then determined to establish potential major accident and disaster scenarios. These scenarios were qualitatively assessed to determine the likelihood of them occurring and their significance.

4.1.91 Intrusive construction activities have the potential to cause disturbance to the ground at the site. During construction there is also the potential for substances to enter the groundwater and pollute the groundwater source protection zone through fuel and hazardous chemical releases, ordnance and civils being revealed and firewater run off entering the groundwater. It was concluded that implementation of a combination of incorporated mitigations such as a Construction Environmental Management Plan, strategies for interface with the operational airport systems appropriate handling and minimisation of hazardous chemicals, pre-construction inspections, interface with the operational airport systems and adoption of risk management and inherent safe design principles will result in **no significant effects to the groundwater receptors during construction**.

4.1.92 During construction there is also the potential for fuel and chemical releases on site to enter the drainage network and be released to Pegwell Bay, which is an internationally and nationally recognised site. Extreme adverse weather conditions (e.g. hurricanes) and external events (e.g. fires) were also considered as a cause of material being released to the bay. It was concluded that adoption of the Construction Environmental Management Plan and implementation of the incorporated measures for construction, including drainage strategies (developed in consultation with the Environment Agency), measures for minimisation, storage and containment of hazardous materials, together with adoption of risk management and inherent safe design principles into the construction plan, will result in **no significant effects during construction**.

4.1.93 As with any construction site, there is the potential for populations involved in construction, or those who are nearby, to be affected by an activity (e.g. by collision) of release of a hazardous material used in construction. A combination of measures such as risk assessments and safety management plans and interface with the airport safety and environmental management systems, in addition to good practise, for example, will result in no significant effects.

4.1.94 For all of the construction activities, a comprehensive Emergency Plan, addressing major accidents and disasters will be developed. Airport operations will involve the use, storage (e.g. the fuel farm and use of other operational chemicals) and handling of hazardous chemical or fuels. There is the potential for these to be accidently released via the drainage network to Pegwell Bay or enter the source protection zone via the ground, in the unlikely event of a large spillage. Key mitigation measures include the capture and treatment of drainage on site, implementation of an airport wide environmental management system, and operational licensing requirements under EASA and EASA / CAA guidance. Specific consideration in included in the design process to ensure all hazardous material is contained and risk is minimised.

4.1.95 The combination of these result in no significant effects to the surface water and groundwater receptors during operation.

4.1.96 During operation there are aircraft flights, associated vehicle movements, mobile and fixed equipment and the use and storage of chemicals and fuels for operational purposes. There is a remote possibility for injury or loss of life to airport workers, aircraft users / crew and others nearby (surrounding towns / villages) without the correct measures in place. It was concluded, however, that a combination of measures including operational certification requirements under EASA (including aerodrome security), consideration during design and detailed risk assessments in addition to good practise, conformance with the relevant EASA licensing, the Health and Safety at Work Act, EASA / CAA guidance and industry standard codes and practise that there will be **no significant effects to populations during operation**.

4.1.97 There are no designated land sites within close proximity of the proposed development, though some exist within the flight swathe. There is a remote possibility these could be affected by aircraft incidents. Good practise, airport safety & environmental management and conformance with relevant guidance and licensing results in no effects to the receptors.

4.1.98 There are no world heritage sites within the study areas although there are scheduled monuments within the flight swathe which could be affected by aircraft incidents. For the same reasons as designated land, there will be no effects to the receptors.

Cumulative Effects Assessment

4.1.99 The assessment of cumulative effects has been carried out in accordance with the provisions of existing policy guidance. This has looked at inter-related effects on receptors of the individual environmental effects of the Proposed Development itself, as well as potential cumulative effects with other developments in the area.

Inter-related effects

4.1.100 Residential properties in close proximity to the airport runway (at Alland Grange Lane; the southern end of High Street, Manston; Pounces Cottages; the northern end of Cliffsend and on Canterbury Road West, south of Jentex site), have the potential to experience significant inter-related noise and visual effects during the daytime. However, if the noise insulation scheme is taken up, inter-related effects are less likely. In this instance, potentially significant inter-related effects would likely be experienced by residents within gardens at the northern end of Cliffsend only. However, up to eight properties at the northern end of Cliffsend also will experience significant indoor inter-related effects but would be eligible for financial assistance to move away from the Proposed Development as part of the Noise Mitigation Plan.

4.1.101 Significant inter-related effects are also anticipated at the Spitfire and Hurricane Memorial Museum and RAF Manston History Museum in relation visitor arrival and departure and any outdoor exhibits during the daytime. This however should be seen in the context of the museums wanting and arguably needing to be located in close proximity to the airport. For this reason, effects on these facilities must be seen as unavoidable.

4.1.102 The community of Manston may also experience significant inter-related noise and visual effects during the daytime, in both shared open spaces and indoor spaces (particularly in the area of Preston Road, Manston; in northern section of High Street, Manston; in southern section of High Street; Manston; Jubilee Cottages on Manston Road; PRoWs TR8, TR9, TR10 and TR22; and Manston Court Caravan Site and Preston Parks). Effects on some indoor spaces are less likely to be significant if eligible residents take up the noise insulation scheme.

4.1.103 **Table 4.2** summaries the significant inter-related effects.

Table 4.2 Summary of Significant Inter-Related Effects

Receptor	Comments
Residential properties at Alland Grange Lane; the southern end of High Street, Manston; Pounces Cottages; the northern end of Cliffs End and on Canterbury Road West, south of Jentex site	Significant daytime inter-related noise and visual effects during the operational phase of the Proposed Development. If the noise insulation scheme is taken up, inter-related effects are less likely. In this instance, potentially significant inter-related effects would likely be experienced by residents within gardens at the northern end of Cliffs End only. However up to eight properties at the northern end of Cliffs End also will experience significant indoor inter-related effects but will be eligible for financial assistance for moving away from the Proposed Development as part of the dwelling relocation scheme.
Visitors to the Spitfire and Hurricane Memorial Museum and RAF Manston History Museum	Significant daytime inter-related noise and visual effects are anticipated in relation visitor arrival and departure and any outdoor exhibits during the operational phase of the Proposed Development.
The community of Manston, particularly in the area of Preston Road, Manston; in northern section of High Street, Manston; in southern section of High Street; Manston; Jubilee Cottages on Manston Road; PRoWs TR8, TR9, TR10 and TR22; Manston Court Caravan Site and Preston Parks	Significant daytime inter-related noise and visual effects are anticipated during the operational phase of the Proposed Development, in both shared open spaces and indoor spaces. Effects on some indoor spaces are less likely to be significant if eligible residents take up the noise insulation scheme, however this scheme will not apply to caravan sites.

Cumulative effects

4.1.104 **Table 4.3** provides a summary of likely significant cumulative effects. No significant inter-project cumulative effects are likely with regards to air quality, biodiversity, freshwater environment, historic environment, land quality, landscape, noise (construction period only), socio-economics, traffic and transport, health and wellbeing, climate change and major accidents and disasters.

Table 4.3 Summary of Significant Inter-Project Cumulative Effects

Receptor	Effect	Comments
Residential receptor group 19 (Properties on Haine Road) and PRoW TR24 and PRoWs close to Flete and Lydden within PRoW Group C	Significant adverse	Significant cumulative visual effects could be experienced by these receptors as a result of the introduction of three substantial developments (the Proposed Development, ID 14 and ID 150) into middle distance views. The contribution of the Proposed Development to the magnitude of visual change experienced by these receptors would be Low, but the combined magnitude of change would be likely to increase to Medium. The incremental contribution of the Proposed Development would be limited to Low in part due to the mitigation measures incorporated into the Proposed Development. It is possible that significant cumulative effects could be avoided were similar mitigation measures (in terms of the provision of landscape screening) to be incorporated into ID 14 and ID 150.
Residential receptor group 19 (Properties on Haine Road) and PRoW TR24 and PRoWs close to Flete and Lydden within PRoW Group C	Significant adverse	Combined effects would be the same as those described in relation to ID 14 and ID 150, above.
Residential properties at the Manston Green development site and at a 40 Canterbury Road West, at the north-western edge of Cliffsend.	Significant adverse	The effect would take the form of annoyance and disturbance as a result of aircraft noise during the day and annoyance, disturbance and sleep disturbance as a result of aircraft noise during the night. Significantly affected dwellings will be eligible for sound insulation which, if accepted by the property owners, will reduce noise inside dwellings during the daytime and night time such that it does not reach a level where it will significantly affect residents.

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5. Further Information

What will happen next?

5.1.1 The Environmental Statement has been submitted to the Planning Inspectorate, who will make a decision on the planning application. They have a period of up to 28 days to decide if the application meets the standards required to be formally accepted for examination.

5.1.2 During this stage, members of the public will have the opportunity to comment upon the application, following which the formal examination period begins. This can last up to six months, culminating in a decision on the application. Once a decision has been issued there is a six-week period in which the decision may be legally challenged.

What if I would like further information?

5.1.3 The Environmental Statement and planning application documents are available to view and download online for free via Thanet District Council Planning Portal and through the National Infrastructure Planning website.

Author	Reviewer
.....	.....
Kate Godsmark	Nick Hilton

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