RiverOak Strategic Partners

Manston Airport Development Consent Order 2018 Consultation

Non-Technical summary of the Preliminary Environmental Information Report ("NTS")

For consultation
January 2018

Scheme Name	Manston Airport DCO
Promoter's Name	RiverOak Strategic Partners Limited
Author	Wood
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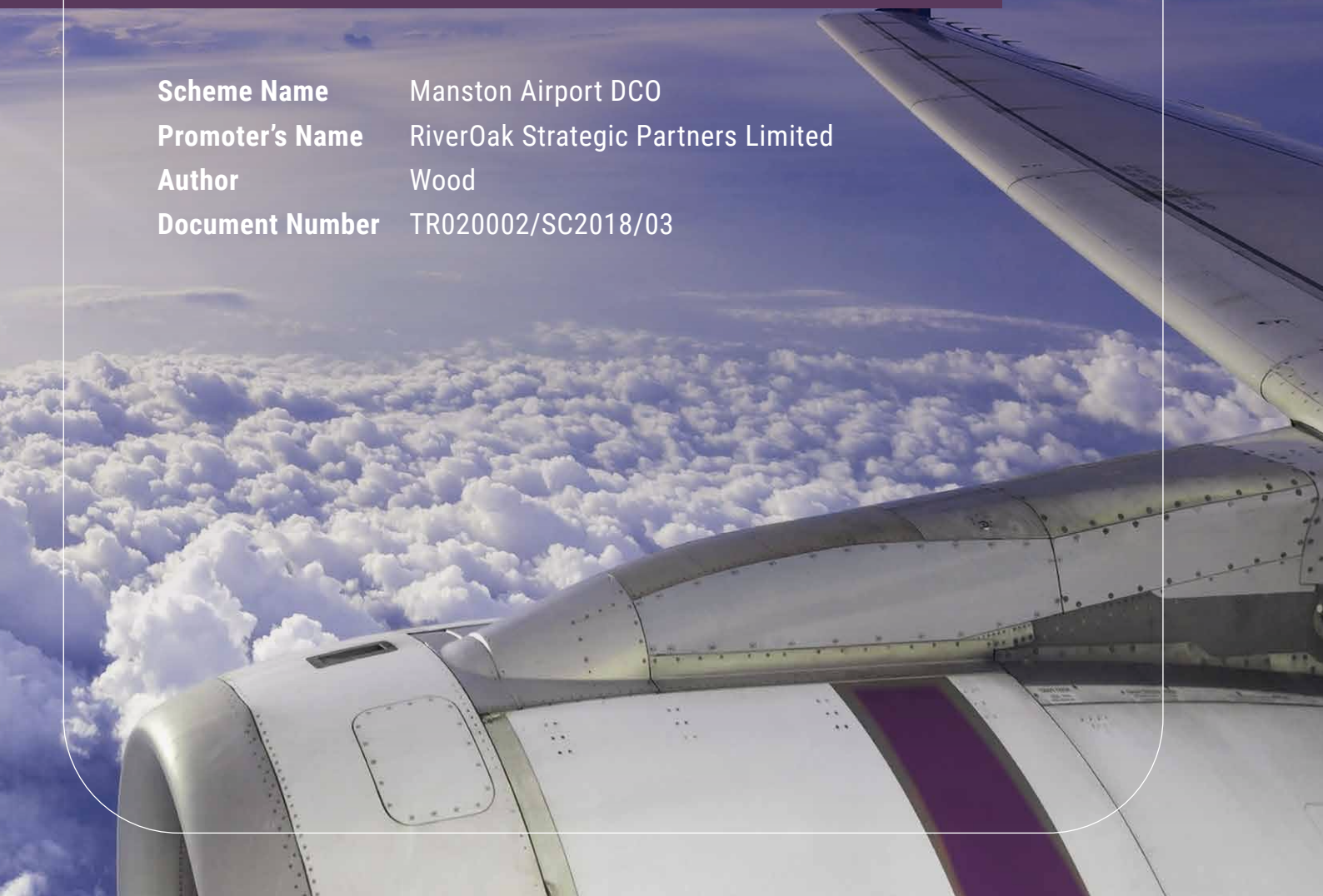


Suite of Consultation Documents

1.1 As part of this second statutory consultation under section 47 of the Planning Act 2008 a suite of consultation documents relating to the proposal to reopen Manston Airport is available to the public. Together, these documents give an overview of the development proposals including information on the potential benefits and impacts of the Project. The documents also provide further information about environmental considerations following further progression of environmental assessments, as well as a draft Noise Mitigation Plan that has been developed as part of the response to the 2,200 consultation responses that were received in response to the first statutory consultation held between 12 June and 23 July 2017 ('the 2017 consultation'). Further information is also provided on how the public can submit their feedback.

1.2 Similarly to the 2017 consultation, this consultation also forms part of RiverOak's initial engagement on the design of airspace and procedures associated with the airport. As such it is a further opportunity for members of the community to highlight any factors which they believe RiverOak should take into account during that design phase. Having taken all such factors into account, the subsequent proposals for flightpaths and airspace will be subject to a separate round of consultation once the DCO application has been made.

1.3 The suite of consultation documents includes:

1.3.1 an introduction to the consultation;

1.3.2 an updated preliminary environmental information report ('PEIR');

1.3.3 a non-technical summary of the PEIR;

1.3.4 an updated masterplan;

1.3.5 a Noise Mitigation Plan;

1.3.6 a Statement of Community Consultation;

1.3.7 an updated analysis of air freight and need; and

1.3.8 a feedback form.

Non-Technical Summary

1.1 Introduction

Introduction and document purpose

1.1.1 This 2018 Preliminary Environmental Information Report (PEIR) has been produced for the purpose of providing preliminary environmental information in respect of an application RiverOak Strategic Partners Ltd (RiverOak) intends to make to re-open Manston Airport (the Proposed Development). RiverOak is seeking to secure the future of Manston Airport as a valuable regional and national asset by redeveloping the Manston Airport site as a freight airport.

1.1.2 The Proposed Development is a Nationally Significant Infrastructure Project (NSIP) 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 In June 2017 RiverOak published for consultation a PEIR, prepared 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).

1.1.4 A new PEIR has been prepared under the 2017 EIA Regulations (2018 PEIR). This 2018 PEIR updates the preliminary environmental information provided previously, where appropriate, and provides the additional preliminary environmental information to meet the requirements of the 2017 EIA Regulations.

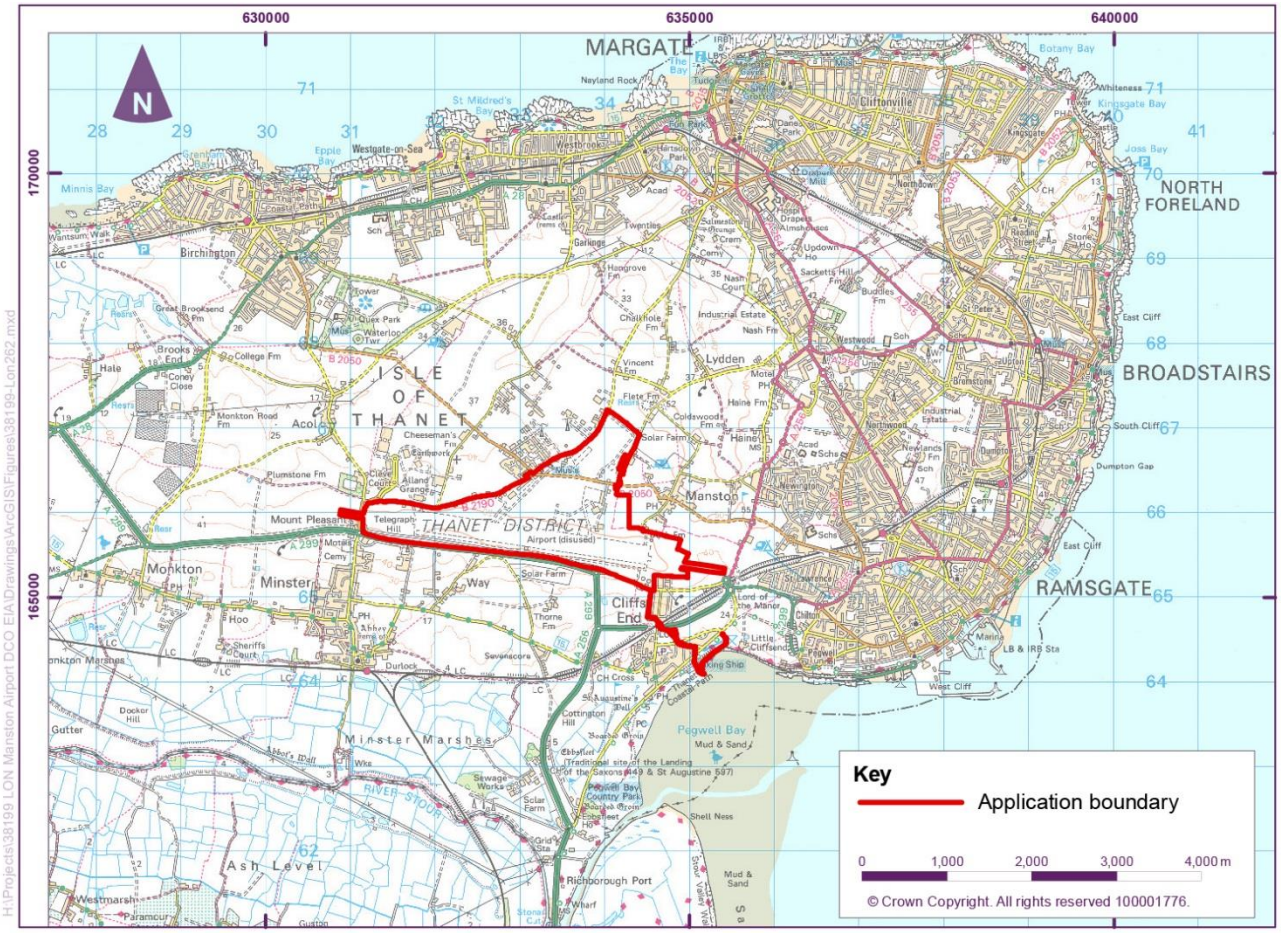
1.1.5 This 2018 PEIR presents the likely environmental effects of the proposals for Manston Airport assessed under the 2017 EIA Regulations, to enable consultees to understand the likely significant environmental effects of the Proposed Development on the environment and to help inform consultation responses.

Background to the scheme

1.1.6 There has been an operational airport at the Proposed Development 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 it was operated as a private commercial airport, known as Kent International Airport. 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 it was 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.

1.1.7 The application site is on the existing site of Manston Airport, 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 the site 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



1.1.8 The site covers an area of approximately 296 hectares (732 acres) and comprises a combination of existing buildings and hardstanding, large expanses of grassland, and some limited areas of scrub and/or landscaping. This includes the 2748m long, 60m wide runway, which is orientated in an east-west direction across the southern part of the site.

1.1.9 The site is located within National Landscape Character Area 113: North Kent Plain. This encompasses an approximately (~) 90km long strip of land of approximately 90km in length bordering the Thames Estuary to the north and the chalk of the Kent Downs to the south. The site is also within the Thanet Landscape Character Area. This features a centrally domed ridge on the crest of which the airport is dominant. The area is generally characterised by open, large scale arable fields with long views.

1.1.10 The surrounding area is generally characterised by a moderate density of villages, small groups of residential properties and individual properties.

Background to the 2018 PEIR

1.1.11 The 2008 Act imposes duties on the promoters of NSIPs to consult 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. The 2018 PEIR has been prepared for the additional statutory consultation being held in January and February 2018. This is the third consultation on the Proposed Development. A non-statutory consultation took place from June to September 2016, a statutory consultation took place from June to July 2017. As part of the statutory consultation in the summer of 2017, RiverOak had

prepared and consulted on earlier report on the preliminary information (PEIR 2017) in accordance with the provisions of the 2009 EIA Regulations.

1.1.12 The proposals for the Proposed Development remain largely the same, but have been refined and developed as design has progressed and also in the light of the 2,200 responses we received to the statutory consultation in summer 2017.

1.1.13 Comments received during the 2017 consultation are still being taken into account as RiverOak evolve development proposals. However, whilst this new consultation is not limited in its scope, it seeks to focus on the changes arising from the adoption of the 2017 EIA Regulations. This Non-Technical Summary (NTS) summarises its key findings. The topics addressed in the PEIR are outlined in **Table A**.

Table A –Topics addressed in the 2018 PEIR

Topics in the 2017 EIA Regulations	Topics in the 2018 PEIR
Population and human health	Risks to human health (**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**)

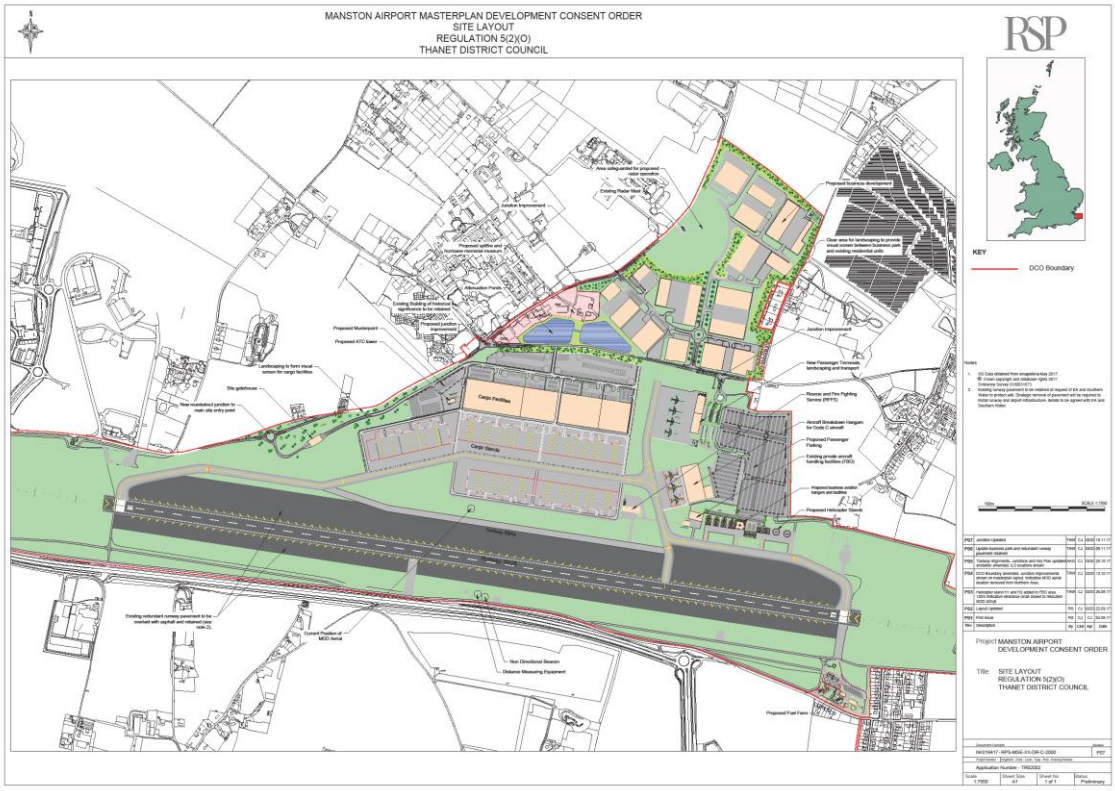
Need for the scheme

1.1.14 The increase in demand for air transport seen over the preceding 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.

1.1.15 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 Manston airport in 2014, east Kent has not been host to a significant high-tech employer. Reopening Manston is predicted to bring 4,000 direct and 30,000 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.

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

Figure B Manston Airport Masterplan



Scheme alternatives

1.1.17 The 2017 EIA Regulations set out the need to outline the reasonable alternatives considered by the developer within Schedule 4, Part 2.

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

1.1.19 In addition to the assessment of alternative sites for a dedicated air freight airport in the South East, the masterplanning 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.

1.1.20 A number of alternative layouts, designs and configurations were considered for the air freight and cargo facilities. This 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 have been considered in the 2018 PEIR.

EIA and significance of effects

1.1.21 The topics required to be assessed as outlined in the Scoping Opinion have been assessed in the 2018 PEIR to determine the significance of the schemes likely effects (positive or negative) in relation to people and environmental resources (referred to as receptors) affected by the Proposed Development. This section provides an overview of the key findings from the 2018 PEIR.

Air Quality

1.1.22 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.

1.1.23 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 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.

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

1.1.25 Nitrogen dioxide 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, and also by wear from tyres and brakes on road vehicles and aircraft.

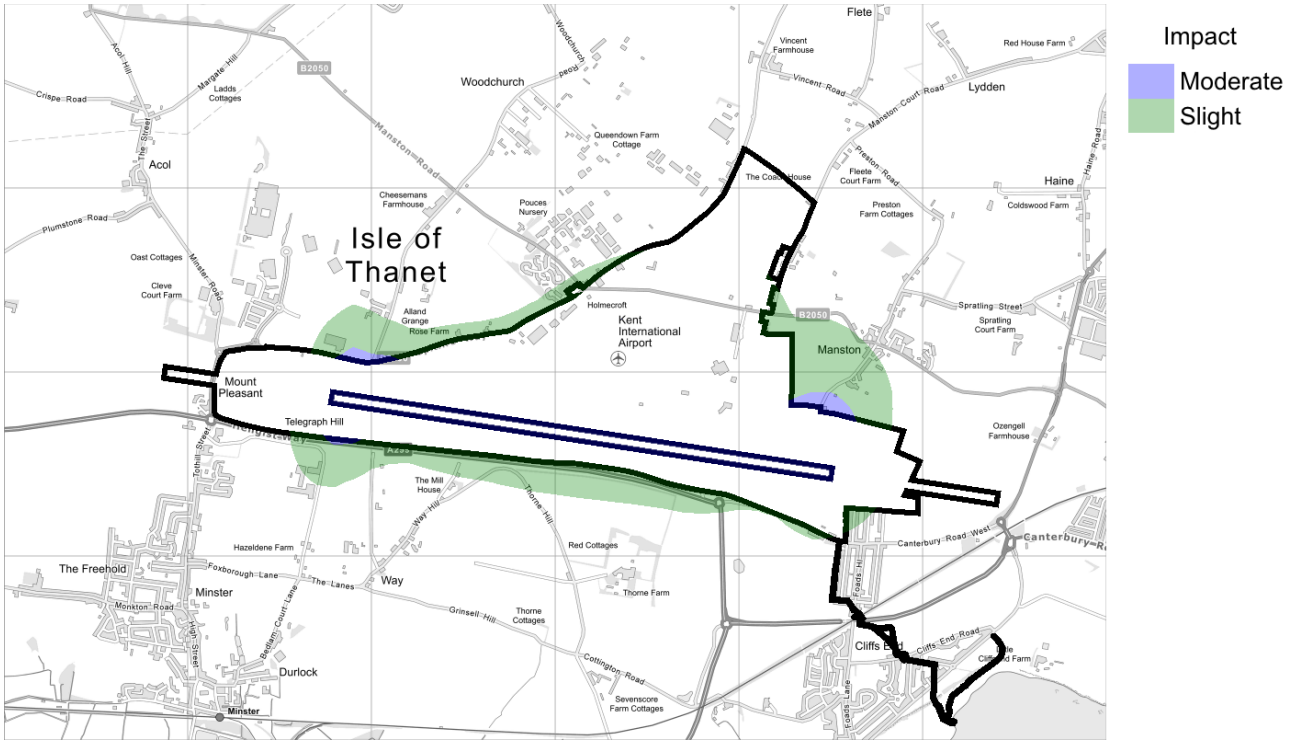
1.1.26 Concentrations of pollutants from the airport have been calculated using a best-practice methodology that is based on the recommendations of the Proposed Development for the Sustainable Development of Heathrow (a project sponsored by the Department for Transport to determine best practices for calculating emissions from Heathrow Airport) and the International Civil Aviation Organization. Concentrations from non-airport sources have been estimated from monitoring data.

1.1.27 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, we have followed recommendations from the Institute of Air Quality Management and the Environment Agency.

1.1.28 Concentrations of PM_{10} and $PM_{2.5}$ around the airport are low, and the airport will be a very small source of these pollutants. Concentrations will remain comfortably within legal limits and the impact of the airport will be negligible.

1.1.29 Concentrations of NO_2 around the airport are low, but the airport operations will increase concentrations nearby. Impacts at some locations within approximately 500 m of the airport boundary are classified as “slight”, and at some locations within approximately 100 m of the airport boundary are classified as “moderate” (see **Figure C**). 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; in later years the impact will be negligible. Close to busy roads in the St Lawrence area, the high existing concentrations mean the additional contribution from the airport, even though it is very small so far from the airport, is classified as having a “slight” impact. Impacts everywhere else are negligible, and concentrations will remain comfortably within legal limits.

Figure C Impact on NO_2 concentrations from on-airport activity in the peak activity year (Year 20)



1.1.30 Considering impacts on ecological sites, some exceedances of the annual mean NOx 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 at local ecological sites is insignificant. While some exceedances of the critical loads for nitrogen and acidity are predicted, these are due to existing deposition rates and the additional contribution from the Proposed Development is insignificant.

Biodiversity

1.1.31 **Chapter 7** of the 2018 PEIR describes the assessment of effects on the fauna and flora - the biodiversity - from the Proposed Development. In this case, 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. This biodiversity interest includes that both within and beyond the site up to a distance where there is a potential for an adverse effect. There are no designated nature conservation sites within the Proposed Development although a number occur outside the site. Where these designated sites are of European importance, such as the Thanet Coast and Sandwich Bay Special Protection Area (SPA) and Ramsar sites, which are located adjacent the Proposed Development, any effects are looked at in detail in the 'No Significant Effects Report', appended to the 2018 PEIR.

1.1.32 The chapter determines if the biodiversity on site will be significantly affected by the Proposed Development, and, if it does, what measures are to be adopted to mitigate any adverse effects. 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.

1.1.33 Breeding bird species 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 with habitats provided to offset any losses of breeding pairs onsite. Similarly a barn owl nest on Site is to be relocated in order to remove it from birdstrike risk and collision with traffic from adjacent roads.

1.1.34 Survey of the site did not reveal any reptiles other than a single lizard seen on the boundary when placing the refugia of felts and tins used for the survey, however, a few small areas (totalling about 4 hectares) of the site could not be accessed in 2017 with the plan to survey these in 2018. These areas provide good habitat for reptiles and it has been assumed for the assessment that they likely contain high populations of common lizard and slow worm, which will be confirmed through the surveys. Under this worst case scenario these reptiles would be trapped out and moved to a receptor site that would comprise habitat specifically designed for reptiles.

1.1.35 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 and this is to be determined by surveys planned for 2018. However, under a similar worst case scenario considered for reptiles some of the features onsite that provide good invertebrate habitat, for example, the stressed vegetation growing along the runways will be maintained on the operation airport. In addition diverse open mosaic habitats are to be created in compensation for loss of the unmanaged areas onsite.

1.1.36 These measures prevent contravention of any applicable legislation and provide sufficient mitigation in order that there are no significant effects to onsite wildlife.

1.1.37 Any effects to notable habitats and designated nature conservation sites offsite from changes to air quality have been described and these also show no significant effect although further assessment on the combined aircraft and traffic modelling.

1.1.38 Detailed consideration of potential effects on the European designated sites has been provided in the No Significant Effects Report (**Appendix 7.1**). This is a Habitats Regulations screening report that shows that the Proposed Development is considered not to have a likely significant effect on the designated sites, hence the title. The Habitat Regulations is the relevant legislation that governs the assessment process of developments that might affect European sites.

Construction and decommissioning phases

- Removal of habitats within the Proposed Development area to facilitate construction works. These habitats might be used for foraging/ nesting by qualifying species of birds (e.g. golden plover), and thus be considered 'functional' habitat of the European site;
- effects of aural and visual disturbance on qualifying species due to noise and vibration and movement of construction vehicles and site operatives;
- loss of pollutants or fine material from the construction site due to surface water flows during rainfall events. This pollution may then find its way into European sites via watercourses or the outfall which flows into Pegwell Bay;
- deposition of oxides of nitrogen from engine exhausts from construction vehicles and generators on habitats within European sites, or functional habitats; and
- deposition of dust from the construction site onto functional habitats and habitats within European sites.

Operational phase

- Disturbance to qualifying species due to noise and vibration and movement during ground activities, such as cargo loading, plane maintenance and airfield management;
- disturbance to qualifying species due to the activities associated with bird scaring devices (e.g. pyrotechnics, distress call broadcast etc.);

- disturbance to qualifying species (including the airport forming a barrier to the movement of birds between their foraging and roost sites) during aircraft take-off and landing, caused by noise, aircraft presence and shadow cast;
- deposition of oxides of nitrogen from aircraft and ground vehicle engines on habitats within European sites, or functional habitats.;
- disturbance to qualifying species by ground vehicle usage outside the Site (e.g. along roads used by vehicles accessing and leaving the Site); and
- effects on qualifying habitats due to pollutants held within surface water runoff from the Site, entering European sites via the outfall or natural watercourses.

1.1.39 Search parameters were identified to provide a filter for the identification of European sites. By applying the search parameters for the potential effects identified previously to an initial search list of European sites (within 15 km of the Site), a total of four European sites were identified as being potentially affected by the Proposed Development, as follows:

- Thanet Coast and Sandwich Bay Ramsar Site;
- Thanet Coast and Sandwich Bay SPA;
- Thanet Coast SAC; and
- Sandwich Bay SAC.

1.1.40 A high-level screening assessment was then undertaken on each of the qualifying interest features of the four European sites, together with the potential effects associated with each feature. These were then screened in or out, based on whether it was concluded that they are likely to be significantly affected by the Proposed Development (and other projects and plans, in combination), whilst taking into account mitigation measures that are included within its design.

1.1.41 For those effects that could not be 'screened out' at this 'high-level' stage, further detailed consideration into LSEs on these features of European sites was undertaken. This concluded that there will be no likely significant effect from any of the effect pathways although further air quality modelling is required to confirm effects from this pathway on the Thanet Coast and Sandwich Bay Ramsar Site and Sandwich Bay SAC.

Freshwater Environment

1.1.42 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 sites eastern boundary. The groundwater source protection zone1 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.

1.1.43 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 more than 1 km to the south of the main site. Minster Marshes drain south into the tidal River Stour, 3 km south of the site, which flows east into Sandwich and Pegwell Bays. Together these bays are part of designated National Nature Reserve (NNR), RAMSAR, SSSI, SPA and SAC sites.

1.1.44 Environment Agency flood mapping indicates that the whole of the 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 2 km south east of the site.

[1] 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.

Flooding from land (rainfall run-off and surface water flooding) is considered to be a potential source of flood risk to the Proposed Development, in particular in the lower elevation ground across the middle of the site. The flood risk would occur through rainfall falling directly onto the development site, particularly when the ground is saturated. The majority of this flood risk has been identified to be of low risk (each year, the chance of flooding is between 1 in 1000 (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 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.

1.1.45 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 300 mm 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.

1.1.46 **Chapter 8** relating to the freshwater environment is supported by more detailed technical assessments. The Flood Risk Assessment (which includes the Drainage Impact Assessment) in **Appendix 8.2** 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. The Hydrogeological Impact Assessment in **Appendix 8.1** assesses the risk to groundwaters and dependant abstractions from site operations, this is a detailed technical assessment which has been supported by quantitative modelling to understand the relationship between the site and the Southern Water abstraction boreholes.

1.1.47 Supported by these assessments, as well as multiple consultations with the Environment Agency, Southern Water, Thanet District Council and Kent Country Council, **Chapter 8** has identified a list of environmental measures to 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. The development of measures has covered all aspects of the water environment, however especial 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 Jenetx 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. Detailed information is presented in the Hydrogeological Impact Assessment.

Historic Environment

1.1.48 **Chapter 9** of the 2018 PEIR describes the assessment of effects on the historic environment. In this case, the historic environment comprises scheduled monuments and listed buildings, which are protected by law, conservation areas and non-designated heritage assets, such as structures of regional and local significance which, while not listed, are of sufficient heritage significance to merit consideration in planning as well as known and previously unrecorded archaeological remains within the ground. No world heritage sites, registered parks and gardens, or registered battlefields will be affected by the proposal. Historic landscape character and the setting of heritage assets has also been considered, particularly in respect to noise and lighting.

1.1.49 The purpose of the analysis was to identify and define the potential for effects on heritage assets as a result of the Proposed Development. This included consideration of heritage assets present within a study area around the Proposed Development and significant heritage assets located further from the site where there was a potential for adverse change in their setting to arise as a result of the proposed development. The assessment establishes the heritage significance of each type of heritage asset, identifies potential effects, and discusses the mitigation proposed for the loss of any features or change to setting. The requirements of national and local planning policy, professional guidance and responses from consultation with various organisations were taken into account in the assessment.

1.1.50 The potential for direct effects, which give rise to a loss of heritage significance through physical change or disturbance, and indirect effects, which result in change to heritage significance without causing physical damage or disturbance to the asset, identified in the course of the assessment include:

- Potential direct disturbance of sub-surface archaeological remains dating to the Prehistoric, Roman, Early-Medieval and Modern periods occurring during the construction phase;
- Potential direct and indirect effects on the heritage significance of the airport and surviving assets relating to military 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 indirect effects arising through change in the setting of non-designated heritage assets within the Proposed Development boundary, particularly the retention of the historic association of the museum buildings during the construction and operational phases;
- Potential indirect effects arising through change in the setting of designated heritage assets outside the Proposed Development boundary, primarily affecting the scheduled and Grade I listed Saxon Shore fort and associated remains at Richborough Castle, and the scheduled enclosure and ring ditches at Minster Laundry, during construction and operational phases and on the Grade II listed Cleve Court and Cleve Lodge arising from aircraft noise during the operational phase.

1.1.51 Archaeological investigation works, to be agreed with KCC's heritage advisors, will be undertaken during phase 1 of the development. Scheme design, informed by initial archaeological investigation, will result in proposals to avoid the most significant archaeological remains, limiting the magnitude of change on buried heritage assets. In the case of particularly significant heritage assets, this effect may remain significant even after archaeological mitigation has been carried out, although it is anticipated that the majority of effects could be effectively mitigated to result in no significant effects. In the absence of mitigation, the effects may be significant, but the adoption of a scheme of avoidance and archaeological investigation would confirm the presence or absence of archaeological heritage assets and would provide mitigation of any loss of archaeological interest that may arise as a result of development, thereby reducing the impact to not significant.

1.1.52 Further survey of undesignated 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. This programme of retention and recording will lead to enhancement or new knowledge thereby contributing to the mitigation of any adverse effects, and it is not anticipated that any significant residual effects would arise.

1.1.53 There will be changes to the setting of undesignated heritage assets on the site during the construction and operational phases. However, reuse of the airfield for aviation purposes reflects the recent historic use of the site and it is not anticipated that these effects would be significant.

1.1.54 The effect of changes to the setting of designated heritage assets was assessed to be not significant. Embedded measures which would minimise adverse change to setting, including acoustic and visual screening will be considered in the ES and will further reduce any effect.

Land Quality

1.1.55 This section provides an overview of existing land quality and aspects of the environment that could be affected by any potential adverse impacts on land quality as a result of the Proposed Development. This section also sets out the preliminary findings of the assessment of potential land quality effects.

1.1.56 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 southeast of the site boundary.
- There is an area of high quality agricultural land located directly southwest 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.
- The highest risk of contamination is associated with the risk to groundwater from the Jentex fuel farm site

1.1.57 A preliminary assessment of likely effects of the Proposed Development on land quality has been undertaken, and informed by a land quality assessment and geo-environmental desk study. A site visit was also carried out to supplement information of the site's setting and any potential land quality issues.

1.1.58 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, and controlled waters (coastal waters: Pegwell Bay and Sandwich Bay), and groundwater in the Chalk aquifer.

1.1.59 **Table B** describes the likely effects that may arise as a result of the Proposed Development have been identified.

Table B 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 ▶ 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 ▶ 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 ▶ 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 ▶ 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 ▶ Residual contamination from inappropriate reuse/use of contaminated fills and soils during construction phase ▶ Permeation of plastic pipes by contaminants

1.1.60 A detailed unexploded ordnance threat and risk assessment will be carried out prior to any intrusive works. A programme of intrusive site investigation will be undertaken if required to identify and characterise contamination across the site, and a programme of clean-up agreed with the Environment Agency and Thanet District Council.

1.1.61 Suitable foundation design and piling methods will be agreed with Southern Water and the Environment Agency prior to the commencement of works. All materials to be imported for use as part of the earthworks for the proposed development will be suitable and tested to an agreed acceptance criteria.

1.1.62 A finalised Construction Environmental Management Plan (CEMP) will be prepared and submitted with the DCO application, this will include measures to manage any land quality effects during construction. An aerodrome manual will be produced for the operational phase of the Proposed Development and will include measures to manage effects on land quality.

1.1.63 Regarding the potential effects from the Jentex site, environmental measures have been suggested for incorporation into the proposed development including an emergency response plan and appropriate design to best available techniques of all storage tanks and remediation of residual contaminants be undertaken, subject to risk-based assessment. Additional measures will be incorporated into the CEMP. The tank farm will be located outside of the groundwater source protection zone 1.

1.1.64 With all these measures in place, the potential effects listed above were assessed as not significant.

Landscape and Visual Impact

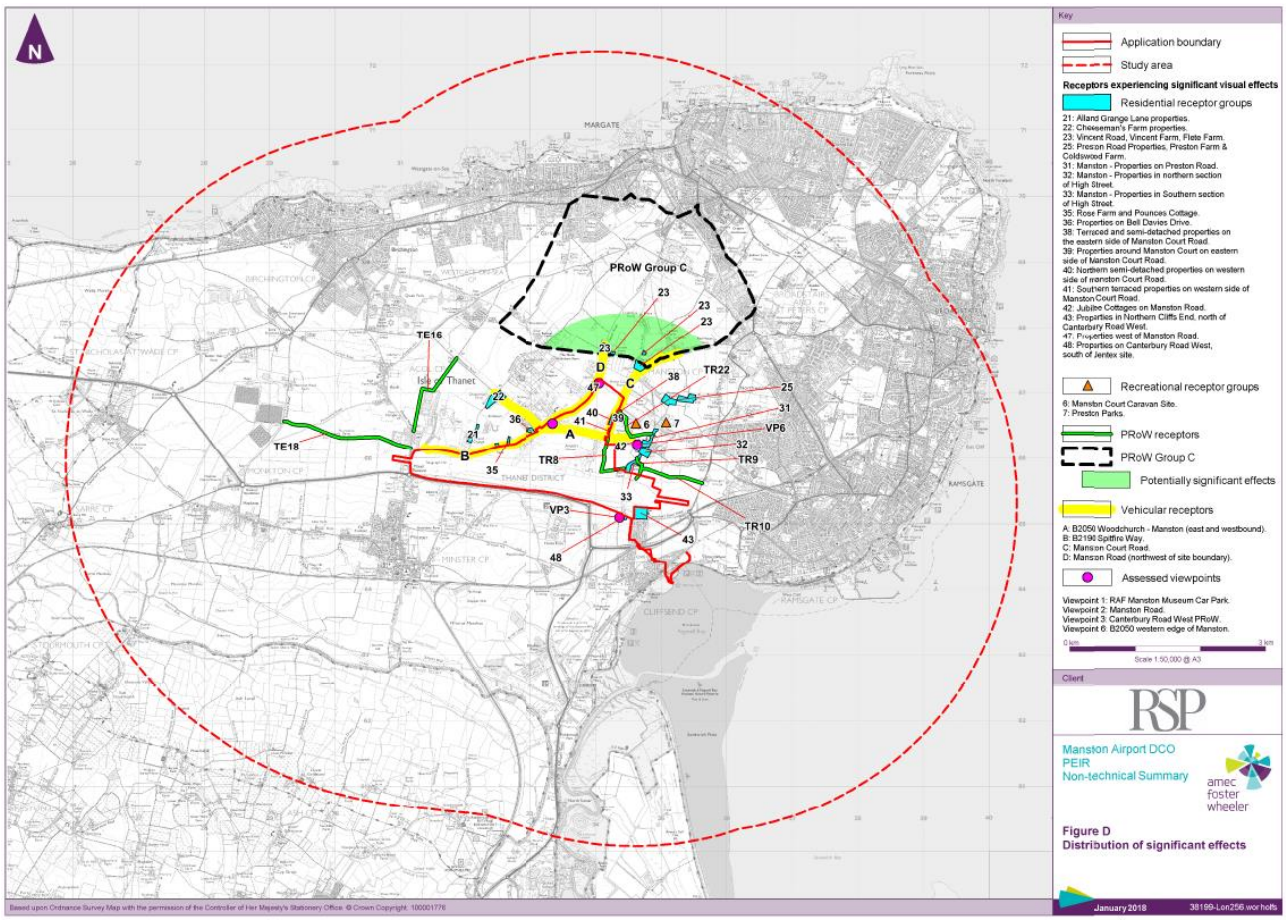
1.1.65 The Landscape and Visual Impact Assessment (LVIA) undertaken for the Proposed Development is described in full in **Chapter 11** of the 2018 PEIR.

1.1.66 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.

1.1.67 The LVIA has been undertaken in accordance with relevant guidance for undertaking landscape and visual assessments in the UK which is provided by the *Guidelines for Landscape and Visual Impact Assessment Third Edition* (GLVIA 3). Details of the data gathering and assessment methodologies employed by the LVIA are set out in **Chapter 11** together with descriptions of the relevant policy and legislative context and the overall landscape and visual baseline. A summary of the scope and findings of the LVIA is set out below.

1.1.68 The LVIA study area is shown on **Figure D**. It encompasses all areas within 5 km of the site boundary and has been used for the purposes of data collection and the subsequent assessment. The study area has been selected with regard to previous experience of undertaking LVIAs for similar types of development allied with a review of the landscape context within which the Proposed Development will operate. This definition of the study area ensures that the LVIA includes all landscape and visual receptors with the potential to sustain significant landscape or visual effects as a consequence of the construction and operation of the Proposed Development.

Figure D LVIA study area



1.1.69 The landscape and visual receptors included in the LVIA have been further refined through the production of a suite of the Zone of Theoretical Visibility (ZTV) maps of the Proposed Development

and by observations made during field surveys. Field survey work also included the taking of panoramic photography from 22 photographic viewpoint locations. This panoramic photography was used as the base for wireline visualisations of the Proposed Development from each of the 22 viewpoints locations which have been used to inform the LVIA.

1.1.70 The spatial scope of the LVIA includes:;

- all national and local landscape character areas located within the boundary of the Proposed Development;
- all national and local landscape character areas located wholly or partly within both the LVIA study area and the ZTV of the Proposed Development; and
- all visual receptors located wholly or partly within both the study area and the ZTV of the Proposed Development that fall within the following categories:
  - people at their place of residence;
  - people within their community including parks and public open spaces;
  - people engaged in outdoor recreation; and
  - people using the transport network.

1.1.71 With regard to the timeframe of the assessment, both the construction and operational phases have been considered based on the following timescales:

- Year 1 which accords with the period when a large proportion of construction activities will be undertaken;
- Year 10 (winter to account for any increase in visibility due to seasonal leaf loss) at end of Phase 3 when operational activities will be well-established but some construction activities will still be taking place and therefore represents a typical ‘snap-shot’ of the 18 year period over which the Airport will be developed; and
- Year 20 (summer) is when the completed Airport will be operating at its greatest capacity with regard to traffic and aircraft movements and will therefore be the worst case scenario with regard to perceptual landscape effects.

1.1.72 An assessment of the sensitivity of each receptor included in the LVIA has been made in accordance with the guidance provided in GLVIA 3.

1.1.73 The LVIA has assessed 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;
- Thanet Landscape Character Areas:
  - The Central Chalk Plateau;
  - Pegwell Bay;
  - The Former Wantsum Channel;
  - The Former Wantsum North Shore;
  - Quex Park; and
  - The Urban Coast.
- Dover Landscape Character Areas:
  - Ash Level;

- Richborough Castle;
- The Sandwich Corridor; and
- Sandwich Bay.

1.1.74 No significant landscape effects have been predicted to occur at either Year 1, Year 10 or Year 20.

1.1.75 The LVIA has assessed 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).

1.1.76 The LVIA has identified that 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. The distribution of these receptors is shown on **Figure D**.

Noise

1.1.77 An assessment of the likely significant noise and vibration effects of construction and operation on noise and vibration has been undertaken in **Chapter 12**. The assessment 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.

1.1.78 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.

1.1.79 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. It is however envisaged that the work could be planned and undertaken so that this significant effect is avoided. Prior to commencing construction, the contractor will be required to apply to the Local Authority for consent to undertake the works. The application will include a re-assessment of noise based on more detailed construction information than is available at this stage of the project and it will include specific mitigation measures to control noise.

1.1.80 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 insulation scheme. The noise insulation scheme 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.

1.1.81 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.

1.1.82 Again in year 20, significant adverse effects have been identified as being likely 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.

1.1.83 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

1.1.84 **Chapter 13** of the 2018 PEIR contains the socio-economic assessment. 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.

1.1.85 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.

1.1.86 In relevance to the proposed development, the Thanet Economic and Employment Assessment notes that key sectors within the business base include wholesale and retail and construction. There are also over 530 businesses within the tourism sector representing 11% of the business base. Thanet's Draft Economic Growth Strategy identifies the 'heritage, culture and visitor economy' as a sector with growth potential, with the ambition to "rebuild our reputation as the UK's favourite visitor destination. The Thanet Destination Management Plan highlights investment and promotion of the three towns and the beaches in particular ("Thanet's strongest natural assets").

1.1.87 The primary business driver for the proposed development is new demand in the air freight market and the additional potential to supply passenger services. The employment resulting from the proposed development from direct, indirect, induced effects is estimated to lead to 9,333 jobs by 2030 and 13,241 by 2038, of which the number of direct jobs (mainly on-site) is 3,011 in 2030 and 4,271 by 2038. Catalytic jobs are associated with more general growth and are inherently difficult to estimate but could add over 12,000 additional jobs by 2030 and over 17,000 by 2038, all contributing to increases in economic gross value added (GVA) and national GDP.

1.1.88 The demand for employment can be met from the local population, through reduced outbound commuting, lower unemployment and increased participation rates. A proportion of their expenditure will enter the local economy. Local businesses are also part of an existing well-developed and historic local economy which can provide services to Manston.

1.1.89 Traffic is the main cause of amenity effects on the population. The increased air freight flows lead to increased HGV movements on the ground, mainly on road and rail routes to the West, but these are not a large proportion of existing freight flows. There are minor traffic effects on the local road networks when shifts change.

1.1.90 Existing noise levels reflect the urban and residential character of the area. Additional aircraft noise leads to slight rises from current levels. The increased noise levels over populated areas occur in areas which are currently the least tranquil. These include the centre of Ramsgate, the port and the main beach. The slight rises expected due to aircraft noise are not expected to affect tourism businesses in the urban area. Beaches in Kent are expected to experience no equivalent effect of noise as the changes are minimal in comparison.

1.1.91 The health-related effects are not assessed here as the HIA analysis has not been finalised and its results are unavailable. Once included these will reflect the latest EC medical understanding of the health effects on the population from sources and pathways such as noise and air quality.

Traffic and Transport

1.1.92 The traffic and transport assessment undertaken for the Proposed Development is described in full in **Chapter 14** of the 2018 PEIR.

1.1.93 The proposed develop has the potential to result in traffic and transport environmental effect both locally and more strategically.

1.1.94 The traffic and transport PEIR chapter has therefore considered a wide scope of assessment, resulting in the assessment of the environmental impacts at 28 local receptors and 3 strategic highways network receptors.

1.1.95 The traffic and transport PEIR chapter has identified that 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 as a result of the anticipated traffic growth for total traffic and HGVs trigger the need for a detailed assessment. These locations were as follows;

- 12 - 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 - Manston Road, between the centre of Manston Village and the A256.

1.1.96 A detailed assessment of these receptors when looking at detail at severance, driver delay, pedestrian delay and amenity and accidents and safety has shown that the effects are not significant.

Risk to Human Health

1.1.97 In keeping with best practice, a Health Impact Assessment (HIA) is being undertaken for the Proposed Development in **Chapter 15** and **Appendix 15.1**. HIA is a process designed to identify and assess the potential for negative or positive effects on public health and wellbeing due to a proposed project. ‘Health’ is defined broadly as physical, mental and social well-being in this assessment.

1.1.98 The HIA draws from and builds upon the environmental and socio-economic impact assessments undertaken as part of the EIA process, and applies scientific evidence concerning 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.

1.1.99 Following the initial assessment of impacts, the HIA will recommend measures where possible to avoid or reduce any negative effects and maximise any beneficial effects.

1.1.100 In work so far, baseline information has been gathered and the approach to the HIA has been developed. Local stakeholders and the public have been consulted, and the feedback has been used to further inform and refine the scope of the HIA. The scope and approach have been documented in an HIA Scoping Statement produced in consultation with the Kent Director of Public Health.

1.1.101 Not all environmental or social changes due to a development have the potential to result in impacts on health and wellbeing. The HIA follows a source-pathway-receptor method to identify where there is potential for impacts. For there to be a potential health 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 source-pathway-receptor 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.

1.1.102 A baseline is developed to establishing potential 'receptors' (people or communities who could be affected), and also provide context concerning local community circumstance, that might result in disproportionate outcomes. Age, existing burdens of poor health, lifestyle and socio-economic circumstance can be contributing factors that may modify how people or a community respond to impacts of construction and operational activities.

1.1.103 In summary, baseline data and feedback from consultation with health stakeholders indicates that the population in Thanet district has a number of characteristics that suggest greater potential sensitivity to health impacts, including:

- fewer working-age people and a larger elderly population than the national average;
- relatively high levels of socio-economic deprivation and higher rates of long-term unemployment than the national average;
- lower male and female life expectancy than the national and Kent averages;
- generally higher rates of cardiovascular (heart and circulation) disease and cancer than the national average, but a lower rate of severe respiratory (breathing) diseases than the national average;
- higher rates of depression, anxiety and dementia than the national average; and
- a lower rate of physical activity and higher rate of obesity than the national and regional averages.

1.1.104 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, and that that the local health economy is currently struggling to deliver sustainable health care services.

1.1.105 This summary focuses on the baseline in Thanet, as the main local area that would be directly affected by the Proposed Development's environmental impacts. Further detail is provided in PEIR **Chapter 15** and in the 'community profile' in **Appendix 15.1**, which also present data about a broader regional study area that may be affected by wider-reaching impacts such as employment generation.

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

- noise, dust and air pollution during construction;
- construction traffic;
- employment and spending during construction;
- aircraft and airport noise during operation;
- aircraft and airport air pollution during operation;
- road traffic generated during operation;
- employment, investment and economic activity generated in operation; and
- additional employees' impact on services, housing capacity, or community cohesion.

1.1.107 An evidence base and health baseline is being collated to inform the HIA process, and this will be applied to assess the health pathways identified.

1.1.108 There is health evidence drawn from the scientific literature that allows potential impacts on mortality and rates of certain diseases due to changes in noise and air pollutant exposure to be predicted quantitatively (in numerical terms). The scientific evidence shows that, depending on the level of noise or air pollution concentration, these may affect diseases of the heart, lungs and circulation system, mental health and wellbeing, and the overall risk of premature death. Whether there is a health risk and the magnitude of any impact on public health depends on the size of change in noise or air pollution and the population affected.

1.1.109 The HIA will use factors for level of risk per decibel of noise and per microgram of air pollutant concentration, the baseline rate of health conditions and the number of people affected, to calculate potential public health impacts.

1.1.110 Other potential impacts on health and wellbeing, such as the beneficial effects of increased employment opportunities or the potential negative effects of road traffic will be assessed in qualitative terms.

1.1.111 These assessments are being progressed as the outcomes of the other environmental and socio-economic impact studies become available. The methods and results will be reported in the full HIA document that will be an appendix to the ES. As part of this process, ways in which any significant negative impacts can be reduced (mitigated) if possible will be explored; and equally, ways in which the Proposed Development can take action to provide additional positive health and wellbeing impacts for local communities will be considered. These recommendations will be presented in the HIA document.

Climate Change

1.1.112 **Chapter 16** contains the assessment on Climate Change. The full assessment of climate change impacts has not yet been completed, and will be included in the ES. It will consider three sub-topics:

- A climate change resilience assessment (i.e. the impact of climate change on the Proposed Development);
- An in-combination climate change assessment (i.e. the impact of the Proposed Development *and* climate change on environmental receptors), and;
- A Greenhouse gas (GHG) assessment (i.e. the impact of the Proposed Development on climate change).

1.1.113 Each assessment will be carried out in-line with relevant guidance and best practice.

1.1.114 A preliminary climate change resilience assessment has identified the following likely significant effects, which will be further assessed in the ES:

- Higher average temperatures combined with a potentially increased lightning and drought risk increase fire risk on site.
- Heat damage to road and apron surfaces caused by temperatures exceeding design standards (i.e. melting, cracking). Higher average temperatures can result in buckling of pavements (e.g., concrete expansion while remaining rigid). Non-concrete pavement integrity can be compromised (e.g., tarmac melt). Heat-related weathering of fleet, including tyres.
- Overheating of operationally-critical buildings which could impair performance of critical staff or equipment and breach regulated conditions.
- Increasing variability of snowfall challenges winter contingency plans, de-icing supplies and staff experience.
- Flooding and storms affecting ground transport access. Flooding of access roads causing a reduction in airport throughput. Disruptions during airport construction and operation.

- Flooding and storms affecting provision of utilities. Flooding of critical assets owned by utilities providers (e.g. water, electricity, telecommunications etc.) compromises the functionality of the airport.
- Increased frequency and severity of drought conditions, resulting in localised water scarcity and pollution incidents. Reduced borehole capacity.
- Variable groundwater levels affect asset integrity and could cause subsidence and water ingress damage to buildings and surfaces. Climate change increases winter precipitation and reduces summer precipitation events, increasing the seasonality of the rainfall profile. This potentially reduces throughput and threatens operation, both due to groundwater flooding and geohazards caused by more variable soil moisture deficit levels.
- Disruption to airfield operations due to stormy conditions.
- Extreme wind damage to assets, standing aircraft, vehicles and injuries to staff.

1.1.115 An assessment for in-combination impacts has not yet been carried out, but professional experience would suggest receptors with the most exposure to climate change will be in the freshwater environment, biodiversity, land quality and landscape and visual impact topics.

1.1.116 The GHG assessment identified that the proposed development creates GHG emissions that contribute to climate change through its construction and operational phases, and therefore, the effect upon the global climate is considered potentially significant. The full assessment, which is in consistent with relevant guidance, will be reported in the ES.

Major Accidents and Natural Disasters

1.1.117 The Major Accidents and Disasters assessment for the Proposed Development is described in full in **Chapter 17** of the 2018 PEIR.

1.1.118 As a result of the introduction of the 2017 EIA Regulations it is now a requirement that Major Accidents and Disasters relevant to the project are included in the preparation of an Environmental Statement, for this reason they are now included as a new element of the PEIR.

1.1.119 The chapter reported in the 2018 PEIR presents solely the methodology by which Major Accidents and Disasters will be assessed for the purposes of the ES. It is acknowledged that further work is required both in terms of the assessment itself and in terms of any methodological development arising from the current consultation.

1.1.120 The assessment methodology is that of a qualitative desk-based review. The findings that arise from it will be derived from review and assessment of publicly available information, information developed as part of the work conducted for other topics of the PEIR and the design basis contained in **Chapter 3** of the PEIR.

1.1.121 The spatial scope of the Major Accidents and Disasters Chapter includes:;

- The DCO red line area plus 1km study outside the DCO for land receptors, including population, designated land and biodiversity;
- The DCO red line plus 1km study outside the DCO for groundwater receptors, and
- The DCO red line 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 will be included.
  - Receptors within the design swathe.

1.1.122 With regard to the timeframe of the assessment, both the construction and operational phases have been considered based on the following:

- Construction: Construction phases are outlined in **Chapter 3** of the PEIR: Description of the Project.
- Operational effects are based on Year 20 after the start of operations, by which time the Airport will have reached its operational peak (**Chapter 3** of the PEIR).
- The Outline Strategy allows for climate change for an airport lifespan of nominally 'the 2050s'.

1.1.123 As the requirement is new, significant guidance on the assessment of major accidents and disasters within the context of EIA has yet to be published in the UK. Two clear principles have however emerged from technical and EIA guidance that will be adopted in the methodology used here; first the notion of proportionality and second the established principle that only those effects likely to be significant need to be assessed within the EIA.

1.1.124 As guidance specific to EIA Major Accident and Disaster evaluation is limited, the methodology has been guided by relevant aspects of existing major accident and disaster approaches and tolerability criteria developed mainly for other legislative purposes in the UK (eg Chemicals and Downstream Oil Industries Forum Guideline. Environmental Risk Tolerability for COMAH sites Version 2 and Reducing Risks Protecting People (R2P2), HSE, 2001). Aspects of this guidance relating to the tolerability of risk and the level at which an accident would be considered intolerable (significant) are generally applicable, if proportionately applied to reflect, in this case, the relatively low quantities of hazardous substances, the full range of theoretically relevant sources for major accidents and disaster, and the development stage of the proposed scheme.

1.1.125 The Conclusions on the significance of Major Accident and Disaster effects will continue to be developed and will be made available in the ES.

Summary of effects

1.1.126 At this stage, the majority of assessments have been completed. Significant effects are likely to be experienced as a result of noise and visual impact and a full explanation of those effects can be found in the corresponding chapters in the 2018 PEIR. In both cases, it may be possible to introduce additional mitigation or compensation measures.

1.1.127 As noted above, a number of subject areas still require completion and will be reported in full within the ES.

Author

Rachel Hicks

Reviewer

Nick Hilton

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