Preliminary Environmental Information Report
Non-Technical Summary

September 2021

Table of Contents

1 Introduction

1.1. Purpose of this Non-Technical Summary

1.1.1 This document is the Non-Technical Summary of the Preliminary Environmental Information Report (PEIR) prepared on behalf of Gatwick Airport Limited (GAL) for the proposal to make best use of Gatwick Airport's existing runways (referred to as 'the Project').

1.2. The Project

1.2.1 GAL is seeking permission for alterations to the existing northern runway at Gatwick Airport which, along with lifting the current restrictions on its use, would enable dual runway operations. The Project includes the development of a range of infrastructure and facilities which, together with the alterations to the northern runway, would enable GAL to increase its passenger throughput to 75.6 million passengers per annum by 2038. This would represent an increase of 13.2 million passengers per annum compared to the forecast throughput of 62.4 million passengers per annum in the absence of the Project. The site location is shown on Figure 1, with the boundary for the Project shown on Figure 2.

1.2.2 The Planning Act 2008, as amended, defines Nationally Significant Infrastructure Projects (NSIPs). Alterations to existing airports in England fall under the Planning Act 2008, as amended, where the alteration would exceed defined thresholds. The Project would fall within the definition of an alteration to Gatwick Airport and would meet the threshold for change in the number of passengers and would therefore represent an airport NSIP.

1.2.3 Alterations to existing highways also fall within the scope of the Planning Act 2008. The proposed highway improvements would involve the alteration of a highway where the speed limit is 50 mph or over and where the relevant area threshold of 12.5 hectares is exceeded. Therefore, the Project also includes works that constitute a highways NSIP in their own right.

1.2.4 As such there is a requirement to submit an application for development consent for the Project to the Planning Inspectorate to be decided by the Secretary of State.

1.2.5 The Planning Act defines the key stages in the application process for Nationally Significant Infrastructure Projects. These stages are summarised in Diagram 1. The Project is currently at the pre-application stage.

Diagram 1: Overview of the Application Process

1.3. Environmental Impact Assessment

1.3.1 At this time, a formal process of Environmental Impact Assessment (EIA) is ongoing to identify the likely environmental effects of the Project, both positive (beneficial) and negative (adverse).

1.3.2 The EIA process is being undertaken in accordance with the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017, as amended (referred to as the EIA Regulations). The PEIR presents the preliminary findings of the EIA process.

1.3.3 This summary document provides an overview of the PEIR in non-technical language. The PEIR, including this Non-Technical Summary, forms part of the consultation material prepared by GAL as part of the pre-application process.

1.3.4 Details of how to view the full PEIR or to obtain further copies of this Non-Technical Summary are provided at the end of this document.

2 Planning Policy Context

2.1. National Planning Policy

Airports National Policy Statement

2.1.1 The Airports National Policy Statement supports the sustainable growth of the UK's aviation industry; recognising the significant economic and social benefits this brings. It also sets out measures to ensure that adverse impacts are weighed against the positive impacts in determining whether to grant development consent.

2.1.2 The Airports National Policy Statement primarily relates to the proposed new runway at Heathrow Airport. However, it also confirms that the Government is supportive of airports beyond Heathrow making best use of their existing runways, subject to economic and environmental considerations.

Aviation Policy Framework

2.1.3 The Aviation Policy Framework was published in March 2013 and sets out Government aviation policy for airports within London and the south east of England.

2.1.4 The Aviation Policy Framework recognises that the aviation sector contributes significantly to the UK economy. However, it also notes that airports in the south east of England (including Heathrow and Gatwick) face capacity challenges. The Aviation Policy Framework identifies a number of other challenges in the aviation sector, noting that aviation needs to grow, delivering benefits essential to economic wellbeing, while respecting the environment and protecting quality of life.

2.1.5 The Aviation Policy Framework states that a key priority in the short term is to make the best use of existing capacity at all UK airports to improve performance, resilience and passenger experience.

Beyond the Horizon – The Future of UK Aviation: Making Best Use of Existing Runways

2.1.6 In June 2018, the Government reaffirmed its policy on making best use of existing runways, as part of the overall aviation strategy (HM Government, 2018). This confirmed Government support for airports beyond Heathrow making best use of their existing runways and recommended that any proposals should be judged taking careful account of relevant considerations, particularly economic and environmental impacts and proposed mitigations.

National Policy Statement for National Networks

2.1.7 The Project includes works (such as proposed improvements to the North Terminal and South Terminal roundabouts) that constitute Nationally Significant Infrastructure Projects in their own right. Therefore, the National Policy Statement for National Networks contains policy relevant to the highways elements of the Project[1].

National Planning Policy Framework

2.1.8 The EIA process has had regard to the National Planning Policy Framework, which is read alongside the National Planning Practice Guidance online resource where appropriate.

2.1.9 The policies contained within the National Planning Policy Framework articulate the Government's vision of sustainable development, which should be interpreted and applied locally to meet local aspirations. The framework also identifies a presumption in favour of sustainable development which has three dimensions: an economic role, a social role and an environmental role. These should not be seen in isolation, as economic growth can, for example, contribute to higher environmental standards.

2.2. Local Policy

2.2.1 The EIA process has taken into account existing and emerging local planning policy from the following local authorities:

- West Sussex County Council;
- Surrey County Council;
- Crawley Borough Council;
- Reigate and Banstead Borough Council;
- Tandridge District Council;
- Mid Sussex District Council;
- Horsham District Council; and
- Mole Valley District Council.

2.2.2 In addition, relevant supplementary planning documents are also considered. In some cases where the study area for a technical topic extends beyond the boundary of the administrative areas listed above, the planning documents relevant to additional administrative areas have also informed the assessment.

[1] it is noted that the Transport Decarbonisation Plan published by Department for Transport (DfT) on 14 July 2021 announced DfT's intention to review the NPS for National Networks in due course once demand patterns post-pandemic become clearer. It is understood DfT intends to commence the review by the end of 2021 and complete it by Spring 2023. In the interim and whilst the review is undertaken, DfT has confirmed the NPS for National Networks remains relevant government policy and has full force and effect for the purposes of the Planning Act 2008.

3 Need and Alternatives

3.1. Need

The Covid-19 Pandemic

3.1.1 The Covid-19 pandemic had a devastating impact on the global aviation industry in 2020. Gatwick, along with all other UK airports, experienced a significant reduction in passenger traffic levels as a result of both Government imposed restrictions on air travel and reduced passenger demand, driven by low consumer confidence. UK passenger volumes in 2020 were 78% down on volumes for 2019. It is expected that Government travel restrictions will continue to have an impact on passenger demand and traffic levels throughout 2021, but that by the end of 2021 traffic levels will start to recover.

3.1.2 While the immediate outlook therefore remains challenging, there is confidence across the aviation industry that passenger and airline demand at Gatwick Airport will return to previous levels over the course of the next few years and then continue to grow thereafter.

3.1.3 Overall, updated forecasts predict that it will take approximately four to five years for passenger traffic at Gatwick Airport to return to levels seen in 2019 and that, by the end of the 2020s, passenger levels at Gatwick Airport will have returned broadly to where they would have been had the pandemic not occurred. This reflects the inherent strength of demand for air travel generally, but particularly at Gatwick Airport, and the constraints on airport capacity in London and the south-east.

UK Aviation Demand

3.1.4 The UK airports handled a record 300 million passengers in 2019, of which the London airports accounted for 181 million or 60% of the total activity. Demand in the London system has been subject to strong growth, with over 34 million passengers added in the five-year period to 2019.

3.1.5 The latest demand forecasts from the Department for Transport predicted continued growth in demand of around 1.7% per annum in the long term (to 2050). This period was forecast to see demand increase by an additional 230 million passengers across the UK's airports. Recent short-term performance pre-Covid-19 has already outperformed the Department for Transport's projections.

3.1.6 It is widely recognised that airports in London and the South East of England are increasingly facing longer term capacity issues and, even with a third runway at Heathrow being considered, the Department for Transport forecasts show that demand will outstrip capacity in the London airports system by the mid-2030s.

3.1.7 The forecasts observe that Heathrow and Gatwick are already 'full', whilst Luton is operating close to its planning limit. By 2030, an additional 50 million+ passengers are forecast in the London market - far in excess of today's available capacity, indicating significant need for capacity development.

The Need for Capacity at Gatwick Airport

3.1.8 Gatwick Airport is a key piece of national infrastructure, an economic engine for local and regional growth, and the airport of choice for millions of passengers; serving an extensive catchment with a growing population. In 2019, it was ranked 12th in the world for the number of long-haul destinations served. Gatwick contributed £5.3 billion to the UK economy (pre-pandemic) and has supported over 85,000 jobs.

3.1.9 In 2019 Gatwick Airport handled some 285,000 aircraft movements, serving over 46.6 million passengers travelling to 228 destinations with 53 different airlines. Until 2017, Gatwick had the world's busiest single runway (55 aircraft movements per hour), and still has the world's busiest single runway operation during the day.

3.1.10 Whilst the forecasts suggest that some incremental growth is possible in response to intense demand, in practical operational terms, by normal standards, Gatwick as a single runway airport is 'full'.

3.1.11 A key benefit of the Project is enhanced operational resilience, particularly the ability for the airport to recover from unexpected events. The Project would:

- reduce the intensity of main runway operations;
- maintain continuity of operations, even if one runway is temporarily out of use, avoiding the current loss of time in switching to the standby runway;
- improve capacity at the busiest times by removing smaller aircraft departures from the main runway;
- reduce taxi times and airborne holding times; and
- reduce the risk of delay and time overruns to the benefit of passengers, airlines and the local community.

3.1.12 The Project would also enable the release of additional slots to meet pent up demand. This would drive connectivity, offer passengers a wider choice of destinations and create competition with consequential benefits to air fares.

3.1.13 Government policy has been consistently supportive over the last 20 years of making the best use of existing capacity at UK airports to improve performance, resilience and the passenger experience as a sustainable and balanced approach to meeting capacity demand. The Project is a direct and sustainable response to meeting known and future expected demand at Gatwick but also within the London and wider south east regions.

3.2. Alternatives Considered

3.2.1 To address increasing demand, the 2018 Draft Masterplan and the Final 2019 Gatwick Airport Master Plan considered the following scenarios.

- Scenario 1: where Gatwick remains a single-runway operation using the existing main runway. This scenario would use technology to increase the capacity of the main runway, leading to incremental growth through more efficient operations.
- Scenario 2: where the existing northern runway is routinely used together with the main runway.
- Scenario 3: where GAL continues to safeguard for an additional runway to the south.

3.2.2 The do minimum option (Scenario 1) would restrict future growth and Gatwick's ability to contribute to meeting future demand for increased aviation capacity. This option would not allow Gatwick to maintain best use of its existing runways as only one runway would be operational at any time.

3.2.3 GAL is not actively pursuing Scenario 3 in light of the Government's support for the third runway at Heathrow, but considers it in the national interest for land to continue to be safeguarded to allow for a new runway to be constructed to the south of the airport, if it is required in the future.

3.2.4 GAL is pursuing Scenario 2 and, therefore, the current assessment work relates to Scenario 2, given that it results in the following benefits.

- Aligns with Government policy of making best use of existing runways at all UK airports.
- In comparison to the existing situation and Scenario 1, provides greater UK point-to-point airport capacity to assist in delivering unmet Department for Transport forecasted aviation demand to 2050, whilst complementing the UK hub capacity provided by the expansion of Heathrow with a third runway.
- An increase in flights, improved connectivity, increased employment and economic benefits to the local area with a much reduced scale of environmental impact compared to that arising from an additional new runway (Scenario 3).
- Creates economic benefits to the national, regional, and London economies, including through supporting inward investment for business travellers and tourism.
- Provides additional operational resilience for the airport with the flexibility to routinely use two runways whilst minimising growth outside of the airport boundary.
- Does not prejudice the long-term safeguarding, in accordance with national policy, of the land to the south of the airport for a future additional runway.
- Delivers significant local economic benefits, including further employment and training opportunities for local people, supply chain opportunities for local businesses, increased local retail and leisure expenditure, and other economic stimuli to the local area.

3.2.5 Overall, it is considered that Scenario 2 offers a sustainable approach to providing greater operational resilience both at Gatwick Airport and improved UK airport capacity.

3.2.6 A review of design and layout options has been undertaken through an iterative design process for the Project. This review has taken into account operational, business case, deliverability, planning, surface access, environmental, community, land and property considerations. The current design of the Project is the result of the selection of design options against the identified considerations. It is considered that the selected Project design offers a sustainable approach to providing greater operational resilience both at Gatwick Airport and improved UK airport capacity. Further design work will continue throughout the EIA process and in response to consultation feedback to further refine the Project and to identify a preferred option where options currently remain.

4 Existing Site and Operations

4.1. Gatwick Airport

4.1.1 In 2019, Gatwick Airport served more destinations than any other UK airport and accommodated the following:

- total passengers: 46.6 million;
- commercial air traffic movements: 283,000; and
- total cargo: 150,000 tonnes.

4.1.2 Gatwick Airport currently operates from a single main runway and two passenger terminals: North Terminal and South Terminal. When the main runway is unavailable, the existing northern runway is used as a standby runway. The northern runway was used for 2,842 air traffic movements in 2019. The passenger terminals provide a variety of facilities including check-in desks, departure lounges, immigration and security. In addition, the airport provides hotels, office facilities and car parking. Key elements of the existing site are shown on Figure 3.

4.1.3 The network of taxiways allows aircraft to move around the airfield and access the existing piers where the passengers embark and disembark aircraft (Piers 1, 2 and 3 at South Terminal and Piers 4, 5 and 6 at North Terminal). Each pier has a number of aircraft stands, the number and configuration of which depend on the type and size of aircraft.

4.1.4 Furthermore, there are a number of airfield supporting facilities, including:

- airport fire station (airport fire service);
- central area recycling enclosure (CARE);
- motor transport, surface transport and ground maintenance facilities;
- cargo facilities;
- fire training ground;
- aircraft hangars;
- air traffic control tower;
- noise mitigation, including the existing bund and noise wall;
- internal access routes (including Larkins Road); and
- a fuel storage area (known as the fuel farm).

4.1.5 Surface water is managed through a series of existing drainage ponds. Rainfall runoff usually drains into these ponds and then flows into one of three watercourses: Crawter's Brook, Gatwick Stream and the River Mole, in accordance with existing discharge consents and necessary pollution control measures.

4.1.6 Foul water currently passes to the Crawley Sewage Treatment Works to the south east of the airport or Horley Sewage Treatment Works to the north east of the airport.

4.1.7 Gatwick Airport is directly connected to the M23 via the M23 spur road, approximately 25 miles south of central London. Gatwick Airport's railway station is located at the South Terminal. There is a direct transit link from the railway station to the North Terminal. The station provides over 120 direct rail connections, including direct trains to central London. These include the Gatwick

Express service to London Victoria as well as the Southern and Thameslink networks. The station served over 20 million rail journeys in 2019.

4.1.8 In 2019, approximately 24,000 staff worked at the airport, of which approximately 3,300 were employed directly by GAL. In 2020 with the prevailing pandemic conditions, the number of GAL staff fell to approximately 1,900 although this is expected to return to previous levels in line with recovering passenger numbers in the coming years.

4.2. Predicted Future Changes in Passenger and Cargo Throughput at Gatwick Airport

4.2.1 The COVID-19 pandemic had a very severe impact on the global aviation industry in 2020, with significant reductions in passenger traffic as a result of both Government-imposed restrictions on air travel and reduced passenger demand driven by low consumer confidence. It is expected that Government travel restrictions will continue to have an impact on passenger demand and traffic levels throughout 2021, but that by the end of 2021 traffic levels will start to recover.

4.2.2 Overall, updated forecasts predict that it will take approximately five years for passenger traffic at Gatwick Airport to return to levels seen in 2019 and that by the end of the 2020s, passenger levels at Gatwick Airport will have returned broadly to where they would have been had the pandemic not occurred. This reflects the combination of ongoing capacity constraints already experienced before and during 2019 and underlying market growth across the London system.

4.2.3 It is predicted that by 2038, passenger throughput would increase to approximately 62.4 million passengers per annum in the absence of the Project. These growth projections are based on a set of up-to-date air traffic forecasts that have been prepared by leading independent aviation specialists.

4.2.4 Three main factors influence the predicted change in future passenger numbers, as follows.

- Growth in runway utilisation in off-peak periods: whilst GAL is anticipating only minor changes in the number of daily aircraft movements during current peak summer months (July to September), during the off-peak periods – the shoulder months of summer (April to June and October) and in the winter months (November to March) – the number of daily aircraft movements is expected to increase by a greater amount than in the peak months.
- Up-gauging of aircraft fleets with larger aircraft: reflecting the trend for airlines to replace their fleets with larger aircraft having more seats.
- Increased load factors: an increase in the average occupancy levels of flights.

4.2.5 Cargo volumes are also forecast to increase from approximately 150,000 tonnes in 2019 to 254,000 tonnes in 2038.

4.3. Future Changes

4.3.1 A number of developments at the airport are proposed in the absence of the Project, including the following.

- A western extension to Pier 6 and an associated increase in aircraft stand numbers.
- Provision of new car parking including new multi-storey car parks 4 and 7 and introduction of robotics technology within existing long stay parking areas to increase capacity.

- Highway improvements, including local widening on the junction entry/exit lanes for both the North Terminal and South Terminal roundabouts, together with signalisation of the roundabouts and provision of enhanced signage.

4.3.2 In addition, a number of developments are proposed by others, including an extension to the existing BLOC hotel and reconfiguration of the Hilton hotel. Improvement works to Gatwick Airport railway station, which are currently under construction and would be operational prior to operation of the Project. Table 1 provides a summary of the key parameters.

Table 1: Existing Airport and Future Baseline - Summary of Key Parameters

Element	Key Parameter
Existing Gatwick Airport land ownership	747 hectares
Existing airport passenger throughput (2019)	46.6 million passengers per annum (mppa)
Predicted future baseline airport passenger throughput (2038)	62.4 mppa
Approximate existing commercial air traffic movements (2019)	283,000
Approximate existing non-commercial air traffic movements (2019)	2,000
Approximate existing total aircraft movements (2019)	285,000
Approximate future commercial air traffic movements (2038)	318,000
Approximate future non-commercial air traffic movements (2038)	2,000
Approximate future total aircraft movements (2038)	321,000
Utilisation of existing northern runway (number air traffic movements - 2019)	2,842
Existing cargo (2019)	150,000 tonnes
Predicted future cargo (2038)	254,000 tonnes
Existing number of piers	6
Number of piers (with Pier 6 extension)	6 (with extension to existing Pier 6)
Approximate existing ‘on airport’ short term and long term car parking	40,611 spaces
Approximate existing ‘on airport’ staff car parking	6,090 spaces
Approximate total existing ‘on airport’ parking	46,701 spaces
Predicted approximate future airport car parking (with future baseline car parking improvements)	53,451 spaces
Existing terminal floorspace: North Terminal	98,100 m^2
Existing terminal floorspace: South Terminal	119,300 m^2
Maximum height of existing terminal building: North Terminal	32 metres
Maximum height of existing terminal building: South Terminal	40 metres
Existing hotel rooms	3,000

Element	Key Parameter
Predicted future baseline hotel bed spaces (with future baseline projects)	3,250 (additional 250 beds)
Existing office floor space (in main office buildings)	34,590 m^2
Future baseline office floor space	34,590 m^2 (no change)

Airspace Management

Future Airspace Strategy Implementation (FASI) South

4.3.3 Airspace within the UK is regulated by the Civil Aviation Authority and managed by NATS En Route (NERL), which is a subdivision within the National Air Traffic Services (NATS).

4.3.4 Work is being undertaken to review the airspace over London and the south east of England, with the aim of addressing existing constraints and allowing for future growth in air transport. This work is being undertaken by NATS, in partnership with the Department for Transport and the Civil Aviation Authority and is known as the Future Airspace Strategy Implementation (FASI) South.

4.3.5 FASI South will be developed through an airspace change consultation in line with the Civil Aviation Authority airspace change process and will in due course be subject to its own assessment process. This process for the airspace around Gatwick Airport below 7,000 feet has just re-started (July 2021) but it will be some years before the outcome is clear. However, FASI South is not required in order to allow dual runway operations at Gatwick Airport. The EIA process for this Project has therefore been undertaken based on current flightpath information, updated to reflect the movement of the centreline of Gatwick Airport's northern runway by 12 metres.

4.3.6 Although the proposed FASI South airspace changes lie outside of the scope of this Project, should information on the outcome of the FASI South process become available during the course of the EIA process for the Project (at a time when the information can be taken into account prior to submission), the implications of this, in terms of amended noise impacts, will be reviewed and considered within the EIA process.

Airspace Change due to the Project

4.3.7 In order to ascertain whether an airspace change is required to enable dual runway operations at Gatwick Airport (with the realignment to the centreline of the northern runway), GAL has submitted a Statement of Need to the Civil Aviation Authority. This Statement of Need confirmed that the proposal would not alter traffic patterns. The Civil Aviation Authority has confirmed that GAL has met the requirements of the process and that all physical works associated with the Project would be considered through the Planning Act consenting process.

5 Project Description

5.1. Key Components of the Project

5.1.1 As set out in Section 1, the Project proposes alterations to the existing northern runway which, along with lifting the current restrictions on its use, would enable dual runway operations. Together with the alterations to the northern runway, the Project would include the development of a range of infrastructure and facilities to allow increased airport passenger and aircraft operations and to allow Gatwick Airport to make best use of its existing runways.

5.1.2 Key components of the Project include:

- amendments to the existing northern runway including repositioning its centreline 12 metres further north to enable dual runway operations;
- reconfiguration of taxiways;
- pier and stand alterations (including a proposed new pier);
- reconfiguration of other airfield facilities;
- extensions to the existing airport terminals (north and south);
- provision of additional hotel and office space;
- provision of reconfigured car parking, including new car parks;
- surface access (including highway) improvements;
- reconfiguration of existing utilities, including surface water, foul drainage and power; and
- landscape/ecological planting and environmental mitigation.

5.1.3 Figure 4 shows the key elements of the Project. The land within the Project site boundary comprises 820 hectares, of which 747 hectares lie within the ownership of GAL.

5.1.4 Once operational, the Project would result in all aircraft arrivals using the existing main runway and shared departures between the existing main runway and the altered northern runway. The existing taxiways would be amended and realigned to accommodate the altered northern runway and to allow safe manoeuvring of aircraft associated with both runways.

5.1.5 As a consequence of the Project, passenger throughput is anticipated to increase to approximately 75.6 million passengers per annum by 2038. This represents an increase in capacity of approximately 13.2 million passengers per annum compared to the compared to the forecast throughput of 62.4 million passengers per annum in the absence of the Project.

5.1.6 The Project would facilitate making better use of the existing runway to increase airfield capacity so that passengers can access the airport efficiently, with good levels of customer service, and would provide land for environmental effects to be mitigated.

5.1.7 A number of existing facilities would require reconfiguration, relocation or additional facilities to be provided. This would include the following:

- central airfield maintenance and recycling facilities;
- cargo facilities;
- fire training ground and satellite airport fire service provision;
- hangars;

- provision of perimeter boundary treatments to mitigate noise (eg noise walls and bunding); and
- internal access routes and forecourts.

5.1.8 Extensions to the existing North and South Terminals would be required to accommodate passenger growth. In addition, internal changes are proposed within the terminals such as reconfiguration works to facilities such as check in zones, baggage systems and security. The forecourts and approaches to both terminals would be enhanced. New hotels would be constructed at the North and South Terminals. Up to three new office blocks would also be provided to serve internal airport uses. New car parking would be required on site in order to meet additional parking demand generated by the proposed increase in passengers and to replace existing parking spaces that would be lost as a result of the Project.

5.1.9 In order to accommodate the proposed increase in passenger numbers, highway improvements are required at the locations where the increase in road traffic volumes is likely to be the greatest, including the South Terminal and North Terminal roundabouts and the Longbridge roundabout. The improvements include grade-separated junctions in each case. Options to increase the capacity of the Inter-Terminal Transit System between terminals are also being investigated.

5.1.10 Table 2 provides a summary of the key aspects of the Project that form the basis for the assessment of effects.

Table 2: Summary of Key Aspects of the Project

Element of the Project	Key Parameter for Assessment
Changes to Enable Dual Runway Operations	
Development consent application area	820 hectares
Works within existing GAL land ownership	747 hectares
Permanent land take (third party)	68 hectares
Temporary land take (third party)	6 hectares
Passenger throughput	
Future airport throughput (without Project 2038)	62.4 mppa
Project additional throughput (2038)	13.2 mppa
Proposed new airport throughput (with Project 2038)	75.6 mppa
Air traffic movements	
Approximate future commercial air traffic movements (2038 without Project)	318,000
Approximate future non-commercial air traffic movements (2038 without Project)	2,000
Approximate future total aircraft movements (2038 without Project)	321,000
Approximate additional commercial air traffic movements (2038 with Project)	64,000
Approximate future commercial air traffic movements (2038 with Project)	382,000

Element of the Project	Key Parameter for Assessment
Approximate future non-commercial air traffic movements (2038 with Project)	3,000
Approximate future total aircraft movements (2038 with Project)	385,000
Cargo throughput	
Future cargo throughput (2038 without Project)	254,000 tonnes
Project additional cargo (2038)	69,000 tonnes
Proposed cargo (with Project, 2038)	323,000 tonnes
Alterations to the Existing Northern Runway	
Centreline repositioning	12 meters to the north
Phasing	
Commencement of main construction phase	2024
Year of opening for northern runway	2029
Completion of construction works	2038

Flood Risk and Water Management

5.1.11 To accommodate the alterations to the northern runway, to allow for the areas of new development and to meet current planning requirements (including an allowance for climate change), modifications to floodplains of the River Mole and Gatwick Stream plus upgrades to the existing surface water drainage strategy are proposed. This would ensure that no adverse impact on flood risk is likely off site. Measures are anticipated to include the provision of additional floodplain capacity (called floodplain compensation areas), by lowering existing ground levels; works to realign existing surface water drainage infrastructure; creation of additional runoff treatment and flood compensation areas to complement the existing capacity.

5.1.12 Changes to the foul drainage system to improve capacity and resilience are proposed in order to provide for the new and improved facilities, including wastewater from the extended terminals, hotels and new pier. New pumping stations and pipeline connections to Crawley Sewage Treatment Works are proposed to accommodate flows from the extended North Terminal and the new pier.

Climate Change

5.1.13 In addition to GAL's existing net zero carbon commitments, as set out within their Decade of Change document, GAL is currently developing a detailed Carbon and Climate Change Action Plan, to enable the airport to continue to reduce carbon emissions and to deliver sustainable development. The following factors will be considered further:

- the scale of aircraft emissions will be reviewed to take into account the likely evolution and use of sustainable aviation fuels, and to reflect expected gradual transition to electric / hybrid aircraft in use on some domestic and short haul routes;
- more developed data on the design of buildings and infrastructure, and a more informed estimate of the material requirements and waste arisings from the construction of the Project;

- improved information from the strategic transport modelling to inform the assessments of surface access emissions;
- confirmation of the mitigation measures to be implemented and their effect on reducing the emissions arising from the Project including benefits of measures in the Carbon and Climate Change Action Plan currently under preparation; and
- any changes to UK carbon budgets resulting from the revision to the Climate Change Act.

5.1.14 The next steps will include close working with the Project design teams to confirm the adoption of mitigation measures through design of the airport facilities and highways infrastructure, optimisation of material sourcing and recycling of cut/fill materials, management of construction stage emissions, and the adoption of the energy strategy to reduce emissions arising from airport operations. The opportunities to mitigate impacts of the Project through both construction and operation will be collated into the draft Carbon and Climate Change Action Plan, to be published as part of the application for development consent.

5.2. Construction

5.2.1 The timing of the Project would be dependent on securing development consent and the discharge of the associated requirements. The indicative construction programme is based on construction commencing in 2024. The programme for the main airfield construction works would be of approximately five years duration enabling the altered northern runway and taxiways to be complete and fully operational in combination with the main runway in 2029. The indicative phasing is outlined in Table 3.

Table 3: Indicative Phasing

Anticipated Phasing	Component of the Project
2023	Pre-construction activities (including surveys for any unexploded ordnance and any necessary pre-construction surveys)
2024	Early works, including establishment of compounds, fencing, early clearance and diversion works and re-provision of essential replacement services
2024-2029	Reconfiguration of existing maintenance airfield facilities (Phase 1) Alterations to the existing northern runway Airfield works to support use of the realigned northern runway
2024-2030	Extensions to North and South Terminals
2024-2032	Hotel and commercial facilities
2024-2035	Car parking
2024-2038	Flood compensation areas
2029-2032	Surface access improvements including: ▪ South Terminal roundabout improvements (2029-2030) ▪ North Terminal roundabout improvements (2029-2032) ▪ Works to Longbridge roundabout (2030-2032)
2029-2034	Ongoing reconfiguration of existing maintenance airfield facilities (to final state) Further improvements to airfield facilities
2030-2034	Pier 7
2035	Reinstatement of final land use at temporary construction compound locations

5.2.2 Construction would be undertaken in accordance with a Code of Construction Practice. The Code of Construction Practice will set out the key management measures that contractors would be required to adopt and implement. These measures will be developed based on those identified during the EIA process. They include strategies and control measures for managing the potential environmental effects of construction and limiting disturbance from construction activities as far as reasonably practicable. An outline Code of Construction Practice is provided as part of the PEIR.

Control of Accidents and Disasters

5.2.3 The EIA Regulations require consideration of the effects on the environment resulting from the vulnerability of the Project to risks from major accidents and/or disasters, where these are relevant to the project concerned. Work has been undertaken to consider the design of the Project in relation to the potential for accidents and disasters to occur.

5.2.4 The Project would not introduce hazards during the construction phase which could not be effectively managed through the Code of Construction Practice and/or existing plans and procedures currently in place at the airport.

6 Approach to Environmental Assessment

6.1.1 This section of the Non-Technical Summary summarises the approach taken for the EIA process to date, to identify and evaluate the likely significant effects associated with the Project. EIA is intended to be an iterative process, which extends from project inception through to the final design and considers a project's impacts during its construction and operational stages.

6.2. Scope of the Assessment

6.2.1 Scoping is the process of identifying the issues to consider within the EIA process (ie establishing the scope of the assessment). A request for an EIA Scoping Opinion was made to the Planning Inspectorate in September 2019. This was supported by a Scoping Report, which set out the proposed technical scope, assumptions and methodology for the EIA process and its supporting studies. The Scoping Report was consulted upon widely by the Planning Inspectorate and responses were received from numerous stakeholders including statutory and non-statutory consultees, parish councils and members of the public.

6.2.2 Following consultation with the statutory bodies, the Planning Inspectorate (on behalf of the Secretary of State) provided a Scoping Opinion on 11 October 2019.

6.2.3 The scope of the EIA process underway for the Project, and the scope of the PEIR, has been informed by legislative requirements; the nature, size and location of the Project; the Scoping Opinion and consultation responses received to date.

Assessment Years

6.2.4 The approach to assessment has incorporated the use of identified assessment years to allow for preliminary evaluation of the likely effects during the phased construction process and during the operation of the Project. The following assessment years have been used to inform this PEIR:

- 2024 to 2029, representing the initial construction phase prior to opening of the altered northern runway;
- 2029: represents the opening year of the altered northern runway (and therefore the first point at which effects arising from its operation would occur);
- 2032: an interim assessment year;
- 2038: representing the year in which the development works proposed as part of the Project would be completed; and
- 2047: to meet a specific requirement of guidance in the Design Manual for Roads and Bridges to assess impacts 15 years after the last of the key highways works associated with the Project are due to be completed.

6.2.5 For the purposes of this PEIR, assessment concentrates on the period 2029 to 2038, with modelling topics modelling 2029, 2032 and 2038 as the primary assessment years. In addition, for some topics it is a requirement to assess the effects of the highways improvements 15 years after completion. Therefore, for these topics, an assessment is provided for 2047. Although the throughput at the airport is predicted to grow slightly between 2038 and 2047, no greater effects for other topics are predicted in this assessment year (due to factors such as improvements in aircraft performance over time).

Cumulative Effects

6.2.6 Cumulative effects with other proposed developments have been assessed as part of the EIA process. This includes consideration of whether the Project, when considered together with other proposed developments, may result in any greater effects on a receptor than the effects of the Project alone.

Heathrow Third Runway

6.2.7 There is still significant uncertainty surrounding when, or indeed if, a third runway will be developed at Heathrow. However, as a third runway at Heathrow remains Government policy, it is considered within the PEIR as a cumulative development (where appropriate), in line with other proposed developments, based on the information available at this time. However, information regarding the timing of the Heathrow works coming forward is limited at this time. As GAL progresses its work and prepares its final documents, including the formal Environmental Statement in support of an application for development consent, the status and information available regarding Heathrow's third runway will be considered and taking this into account, the assessment of cumulative effects will be kept under review.

6.3. Significance of Effects

6.3.1 Environmental Impact Assessment is a means of identifying and collating information to inform an assessment of the likely significant environmental effects of a development. For each of the key environmental topics, the following have been described:

- methodology/approach to assessment;
- description of the existing environmental (baseline) conditions and potential future baseline conditions (in the absence of the Project);
- identification and assessment of the significance of likely effects arising from the Project;
- identification of any mitigation measures proposed to avoid, reduce and, if possible, remedy adverse effects; and
- assessment of any cumulative effects with other proposed developments planned in the area.

6.3.2 In terms of significance, effects are described using the following scale:

- substantial;
- major;
- moderate;
- minor; and
- negligible.

7 Summary of Environmental Effects

7.1. Historic Environment

Introduction

7.1.1 Chapter 7: Historic Environment of the PEIR considers the potential effects of the Project on heritage assets including historic buildings and areas, historic landscape character and buried archaeological remains. Such effects could result from a direct physical impact leading to a loss of, or damage to, the heritage asset or harm to the significance of the asset resulting from change within its setting.

Assessment Methodology

7.1.2 Information about existing heritage assets has been acquired from a number of sources, including the Historic Environment Records for West Sussex and Surrey. Contact has also been made with organisations involved in previous archaeological investigations wherever possible, where data are not yet available from Historic Environment Records. Other data sources and baseline surveys have included: the National Heritage List for England; examination of historic maps; LiDAR assessment; aerial photograph assessment; and a detailed walkover survey.

Current Baseline Environment

7.1.3 The land within the Project site is predominantly occupied by the operational airport, within which very little remains of the preceding historic landscape. However, there are three designated heritage assets wholly within the Project site boundary (see Figure 5). These comprise the Grade II* listed Charlwood Park Farmhouse in the north western part of the Project site, along with Edgeworth House and Wing House, both listed at Grade II, in the eastern part of the Project site.

7.1.4 Charlwood Park Farmhouse is located just outside the current airport perimeter fence and is a timber-framed house of 15th century date, with later additions and amendments. In the 19th century it was the home farm for the Charlwood Park estate; the main house and the park were located further to the east and have been lost to the expanding airport. Wing House and Edgeworth House are separately listed at Grade II but are conjoined and are located in an area of car parking and modern buildings associated with the operational use of the airport, including the adjacent Marriott Hotel of which the historic buildings now form a part. Edgeworth House may be slightly earlier in date (15th or early 16th century), with Wing House being mid-16th century.

7.1.5 One Conservation Area lies partially within the Project site. This is the Church Road Conservation Area on the south western edge of Horley. The eastern part of the Conservation Area comprises a number of historic buildings including the Grade I listed Church of St Bartholomew and the adjacent Grade II listed Ye Olde Six Bells public house.

7.1.6 Within 1 km of the Project site boundary there is a considerable number of designated heritage assets. These include two Scheduled Monuments: an area of former medieval settlement at Tinsley Green to the south east of the airport; and a medieval moated manor house site known as Thunderfield Castle to the north east.

Mitigation Measures

7.1.7 With respect to the construction phase of the Project, good practice measures regarding noise and dust would be adopted and implemented through the Code of Construction Practice. Mitigation against potential impacts to buried archaeological remains would principally comprise avoidance through design or protection by placing material over the archaeological remains such that the impact of construction activities does not extend as far as the remains. The placement of materials may be permanent or may be temporary, with the materials being removed following completion of the construction activities.

7.1.8 A programme of further investigation of the archaeological potential of land within the Project site boundary is planned to take place ahead of the production of the Environmental Statement. The scope of these investigations will be agreed with the archaeological advisors to the relevant planning authority. The results of these investigations would be examined, and any opportunities for mitigation through avoidance or reduction of impact on buried archaeological remains would be identified and considered alongside other factors influencing the design process.

Potential Significant Effects

2024-2029

7.1.9 The majority of effects arising during the initial construction phase (2024-2029) would not be significant. Where proposed construction compounds/activities are located on previously developed land (ie the main contractor compound and the eastern part of the airfield satellite compound), archaeological remains are likely to have already been lost or badly damaged by earlier development, thereby limiting the potential for effects to arise.

7.1.10 In the proposed compound locations that are not previously developed, there is the potential for palaeochannels or buried archaeological remains to exist. A programme of archaeological investigation is planned to confirm the date, nature and extent of any archaeological remains, and the results will be reported in the Environmental Statement. The impact on buried archaeological remains as a result of the establishment of contractor compounds on land that has not been previously developed could result in a significance of effect up to major adverse. Appropriate mitigation measures would be incorporated to avoid or reduce damage to the buried archaeological remains. With these measures in place, the significance of effect would reduce to negligible to minor adverse. Where it is not possible to apply any mitigation measures, the effects would be offset by a programme of further archaeological investigation.

7.1.11 Some of the proposed flood compensation areas would involve the lowering of the ground levels. The significance of the effect on buried archaeological remains at Museum Field and land to the east would be up to major adverse and minor adverse (respectively), while an up to major adverse effect is predicted with regard to potential palaeochannels at Car Park X. The effect would be offset by a programme of further archaeological investigation.

7.1.12 The placement of spoil and subsequent construction of the decked car park at Pentagon Field could lead to impacts on buried archaeological remains resulting in a significance of effect up to major adverse. This effect would be offset through a programme of further archaeological investigation.

7.1.13 Environmental mitigation is proposed at parcels of land surrounding Museum Field where planting of trees and hedgerows would be undertaken. Where possible, a programme of archaeological

investigation is planned to confirm the date, nature and extent of any archaeological remains, and the results would be reported in the Environmental Statement. The impact on buried archaeological remains as a result of the environmental mitigation could result in a significance of effect up to major adverse. Appropriate mitigation measures would be incorporated into the establishment of the environmental mitigation land surrounding Museum Field to avoid or reduce damage to the buried archaeological remains. With these measures in place, the significance of effect would be negligible to minor adverse. Where it is not possible to apply any mitigation measures, the effects would be offset by a programme of further archaeological investigation.

7.1.14 There may also be up to moderate adverse effects resulting from impacts on potential buried archaeological remains as a result of the construction of the replacement 'Purple Parking' at the western end of Crawter's Field. These effects would be offset by a programme of archaeological investigation.

7.1.15 The relocation of Pond A and the diversion of the River Mole could impact on possible palaeochannels leading to an effect of up to moderate adverse significance. This effect would be offset by a programme of geoarchaeological investigation.

7.1.16 Effects on buried archaeology in other parts of the Project site would not be significant. No significant effects on the setting of heritage assets are likely.

2030-2032

7.1.17 During the period 2030-2032, there could be a major adverse effect on buried archaeological remains as a result of the establishment of the contractor compound at the Longbridge Roundabout. Appropriate mitigation measures would be incorporated into the construction works here to avoid or reduce damage to the buried archaeological remains. With these measures in place, the significance of effect would be minor adverse. Where it is not possible to apply any mitigation measures, the effects would be offset by a programme of further archaeological investigation.

7.1.18 Effects on buried archaeology in other parts of the Project site would not be significant. No significant effects on the setting of heritage assets are likely.

2033-2038

7.1.19 Later in the construction period (2033-2038), the construction of the flood storage area east of Gatwick Stream would lead to the complete loss or substantial damage of buried archaeological remains resulting from the reduction of ground levels. This would result in up to a major adverse effect which would be offset through a programme of further archaeological investigation.

7.1.20 Effects on buried archaeology in other parts of the Project site would not be significant. No significant effects on the setting of heritage assets are likely.

2038 – Operational Effects

7.1.21 No significant effects on the historic environment would arise following completion of the construction works.

7.1.22 No significant cumulative effects on the historic environment have been identified in the assessment based on the information available to date.

7.2. Landscape, Townscape and Visual Resources

Introduction

7.2.1 Chapter 8: Landscape, Townscape and Visual Resources of the PEIR describes and assesses the existing landscape and townscape character and views of the Project site and study area. This includes the character and features of the landscape and townscape and the changes as a result of the Project during construction and operation, during the daytime and at night. In addition, it considers the potential visual effects as a result of the Project.

Assessment Methodology

7.2.2 As a matter of best practice, the assessment has been undertaken based on the relevant guidance on landscape and visual assessment within the Landscape Institute and Institute of Environmental Management and Assessment *'Guidelines for Landscape and Visual Impact Assessment'* 3rd Edition.

7.2.3 A Zone of Theoretical Visibility of the Project has been generated to establish the 5 km radius study area to ensure that all receptors that may experience significant effects are included. Baseline analysis work has been undertaken to identify the existing townscape character of the site, the adjacent townscape of Horley and the landscape of Surrey and West Sussex and their condition, value and sensitivity to change. The assessment has made reference to published landscape and townscape assessments.

7.2.4 A separate, larger study area has been established to coincide with overflying aircraft at height profiles up to 7,000 feet above ground level to address effects on landscape tranquillity and visual receptors within nationally designated landscapes including the High Weald, Surrey Hills and Kent Downs Areas of Outstanding Natural Beauty and the South Downs National Park.

7.2.5 Baseline field work, including site surveys, has been undertaken to confirm the people that are likely to have views of the Project. Representative viewpoints have been used to assess the potential visual impacts of the Project on the different range of views within or towards the Project site. Further viewpoints will be identified and added to the assessment process, as required in consultation with local authorities and Natural England.

Current Baseline Environment

Landscape and Townscape Character

7.2.6 Due to the scale and nature of development at Gatwick Airport, the airport forms its own distinctive and well-defined urban townscape within the wider Low Weald landscape that is not separately defined in published character assessments (see Figure 6). Gatwick Airport occupies the majority of land within the Project site boundary with smaller areas of farmland and open space beyond the current airport boundary. The majority of the land within the site is flat and open. The main built form is located at the North Terminal and South Terminal clusters. Rural landscapes of the Open Weald lie to the north, the Upper Mole Farmlands to the west and south, the High Woodland Fringes to the east and the Low Weald around Horley to the north east. Four areas of ancient woodland are located within the Project site, including Horleyland Wood and Brockley Wood. There are no designated landscapes that lie within the Project site. The High Weald Area of Outstanding Natural Beauty lies approximately 3 km to the south east.

Views

7.2.7 The site is currently not visible in views from most parts of Crawley and Horley due to intervening vegetation or development. Views from the surrounding rural landscapes are generally screened by intervening vegetation. Key people likely to have views of the Project include:

- walkers and equestrians using public rights of way within and around the airport;
- cyclists using cycle routes including National Cycle Route 21;
- occupiers of residential properties at Horley;
- occupiers of commercial properties around the airport edge;
- occupiers of vehicles using the A23 and occupiers of trains;
- visitors to Gatwick Airport using roads, car parks, hotels and terminals; and
- members of staff working at Gatwick Airport.

Mitigation Measures

7.2.8 A number of measures have been designed into the Project to reduce the potential for impacts on landscape, townscape and views including:

- retention of and protection of existing vegetation;
- proposed planting;
- proposed new areas of open space;
- lighting strategy;
- proposed earthworks/earth shaping; and
- proposed visual screens.

Potential Significant Effects

Landscape and Townscape Character

7.2.9 Due to the largely urban character of the airport within the Project site, its redevelopment would result in the removal of a limited number of important landscape or townscape features. New buildings and infrastructure would form an intensification of the existing character of the airport and neighbouring settlements of Crawley and Horley. Development of currently undeveloped land within the airport would have a greater impact on the character of more sensitive areas.

7.2.10 In terms of landscape effects, major adverse and significant effects on Pentagon Field are predicted during all phases of the Project (due to the development of Pentagon Field and change in character from pastureland to decked car park). These effects would be very limited in extent (arising as a result of the change in the landscape character of the field itself). The effects on the wider Gatwick Airport Urban Character Area would not be significant.

7.2.11 Significant adverse effects on surrounding landscape character areas within the study area are unlikely as the airport context would remain largely similar and screening provided by existing vegetation, built development and earth mounds would remain or would be replaced as party of the Project.

7.2.12 In terms of cumulative effects, the Project has the potential to contribute to significant effects on the High Woodlands Fringes, Upper Mole Farmlands, Low Weald and Mole Valley Open Weald Character Areas. By 2033 and during 2038, the effect on the Low Weald Character Area would reduce such that it would not be significant, whilst the effect on the Mole Valley Open Weald and

High Woodlands Fringes Character Areas would reduce such that cumulative effects would not be significant, while the effect on the High Woodlands Fringes and Upper Mole Farmlands Character Areas would remain significant. However, the Project (specifically the decked car park at Pentagon Field and A23 improvements in this case), would, on balance, make a negligible contribution to this cumulative effect due to the comparatively large scale and extent of the other proposed cumulative developments.

Visual Amenity

7.2.13 There are likely to be very few people who would experience significant adverse effects as a result of the Project.

7.2.14 During construction, some temporary significant effects on views are possible. Major adverse and significant effects are predicted for walkers using the public right of way at Pentagon Field and pedestrians using Balcombe Road during the initial construction phase (2024-2029) and in the first period of operation (2030-2032) before mitigation planting has matured.

7.2.15 Occupiers of the Hilton Hotel would experience moderate to major adverse visual effects between 2030 to 2032 due to temporary construction effects.

7.2.16 No other effects on visual amenity would be significant. The operational elements of the Project and the construction activities described above would be visible to members of Gatwick staff working in different locations within the airport or using staff car parks and internal access roads. The activities and developments may be barely perceptible when seen at distance, or prominent and at times dominant when in close proximity. This would result in effects that would not be significant due to the established airport development. No significant permanent visual effects are predicted, once new vegetation has matured.

7.2.17 No significant cumulative visual effects on visual receptors previously identified in Chapter 8: Landscape, Townscape and Visual Resources are predicted based on the information available to date.

Tranquillity

7.2.18 It is anticipated that there would be up to a 20% increase in the number of overflying aircraft at less than 7,000 feet above ground level. This increase is most likely in areas currently overflown by the largest number of aircraft. This change may be discernible to some people or barely perceptible to others, due to the existing conditions. The change to the existing level of tranquillity within the nationally designated landscapes within the study area would not be significant.

7.3. Ecology and Nature Conservation

Introduction

7.3.1 Chapter 9: Ecology and Nature Conservation of the PEIR identifies and assesses the potential effects of the Project on the ecology and nature conservation interest of the Project site and surrounding receptors.

Assessment Methodology

7.3.2 Information on ecology and nature conservation was collected through a data gathering exercise to obtain information relating to statutory and non-statutory nature conservation sites, priority habitats and species, and legally protected and controlled species.

7.3.3 Records of protected or otherwise notable species have been requested from the local records centres within a 2 km radius of the Project site boundary, except for bats and otter where a larger 10 km radius has been used in accordance with relevant guidance.

7.3.4 A number of site-specific surveys were also undertaken to assess the Project site conditions. The following surveys were conducted:

- phase 1 habitat survey;
- hedgerow survey;
- badger survey;
- bat activity, emergence and trapping surveys;
- breeding bird survey;
- wintering bird survey;
- dormouse survey;
- great crested newt survey;
- reptile survey;
- water vole and otter survey;
- national vegetation classification survey;
- fish survey;
- invertebrate habitat appraisal;
- terrestrial invertebrate survey; and
- aquatic invertebrate survey.

Current Baseline Environment

7.3.5 There are 17 statutory designated sites located within the search area. These include three internationally designated sites which are situated within 20 km and 14 nationally designated sites within 5 km of the Project site boundary (see Figure 7).

7.3.6 There are no statutory designated sites within the Project site boundary with the nearest being Willoughby Fields Local Nature Reserve, which is located approximately 786 metres to the south of the Project site.

7.3.7 A total of 21 non-statutory designated sites were identified within 5 km of the Project site boundary through the desk study.

7.3.8 The Project site was found to largely comprise low value habitats associated with the airport and infrastructure, comprising large areas of hardstanding and amenity grassland with areas of ornamental shrub and tree planting. These areas are predominantly located within the centre of the Project site. Areas around the periphery of the airport were identified as more natural and included areas of broadleaved woodland and neutral grasslands.

7.3.9 In terms of species, the baseline study and surveys identified 61 species of wintering bird and 72 species of breeding bird within the survey boundary, 48 of which were confirmed to be breeding and three potentially breeding. Grass snakes were recorded within the Project site in two distinct

areas, along the River Mole corridor and within the land east of the London to Brighton railway. Great crested newts, smooth newts, common toad and common frogs were also recorded in ponds across the Project site.

7.3.10 The desk study search provided records for at least 14 bat species within and immediately adjacent to the Project site and at least six bat species were recorded across the survey area, including rare species. Two buildings within the Project site were identified as having suitable features present to support roosting bats. However, no bats were recorded emerging from either building, and bat activity was generally very low during the emergence surveys.

7.3.11 Signs of badger activity were recorded during badger surveys. Due to the sensitive nature of badger data, the full findings of the surveys are reported in a confidential report, which is available upon request to those with a legitimate need for the information.

7.3.12 No signs of dormice, otters or water voles were recorded within the Project site boundary.

7.3.13 An invertebrate habitat appraisal identified features of moderate invertebrate interest within the land south of the Aviation Museum and west of the Fire Training Ground, Museum Field and Pentagon Field. The River Mole and Gatwick Stream also supported macroinvertebrate communities and both watercourses had consistently high fish populations.

Mitigation Measures

7.3.14 A number of measures have been designed into the Project to reduce the potential for impacts on ecology and nature conservation. These measures include:

- avoidance of development at designated sites, areas of woodland (including ancient woodland) and other sensitive habitats wherever practicable;
- protection of retained woodland, trees, scrub and hedgerows;
- measures for the appropriate storage of material and fuels and the management of runoff to avoid the pollution of designated sites;
- suitable timing of required vegetation clearance to reduce impacts to breeding birds;
- translocation of reptiles and amphibians;
- creation of artificial badger setts;
- measures to ensure that no badgers are harmed during the construction phase;
- lighting designed to avoid disturbance to areas of value for bats;
- creation of new, high value habitats comprising woodland, tree, shrub and scrub planting, grassland and wetlands/ponds;
- restoration of temporary land take to habitats of existing or greater ecological value;
- provision of bat roost features;
- replacement of non-native hedgerow with native species-rich hedgerow;
- tree and scrub planting to reinforce habitat connectivity;
- creation of a new high value pond in the Gatwick Stream flood compensation area;
- realignment of the River Mole to provide a more natural river profile; and
- creation of new habitats for great crested newts, grass snake, aquatic and terrestrial invertebrates.

7.3.15 The Project would include monitoring to determine the success of the mitigation measures implemented and to identify any required remedial measures. Monitoring would be undertaken for great crested newts, grass snakes, bats and badgers.

Potential Significant Effects

7.3.16 An assessment of the effects found that the Project would have no effect on statutory or non-statutory designated sites or areas of ancient woodland. The effects on habitats and species are generally found to be not significant. The potentially significant effects are described below.

7.3.17 In terms of effects on habitats, the initial construction phase of the Project (2024-2029) and the following period (2030-2032) would require the removal of species-poor hedgerow and loss of plantation woodland and scrub habitat. The loss of these habitats would result in moderate adverse and significant effects that would not be mitigated for until the end of the construction phase. Additional hedgerow planting would be undertaken early in the construction phase on other parts of the Project site, which would enhance habitat connectivity in these areas. This would result in a moderate beneficial and significant effect in the longer term.

7.3.18 The Project would require the removal of habitats in the initial construction phase which would result in the temporary displacement of breeding birds. The loss of suitable breeding sites would result in a moderate adverse and significant effect during the initial construction phase (2024-2029). The habitat loss would also result in a temporary moderate adverse effect on the bat and invertebrate assemblages. This would be a temporary effect until new tree, grassland and shrub planting had established.

7.3.19 No permanent significant effects would arise as a result of the Project. Some negligible to minor beneficial permanent effects would arise as a result of habitat creation.

7.3.20 Based on the information available regarding other proposed developments at this stage, no potential for significant cumulative effects has been identified.

7.4. Geology and Ground Conditions

Introduction

7.4.1 Chapter 10: Geology and Ground Conditions of the PEIR assesses the effects on land and groundwater quality, land instability and mineral resources as a result of the Project. It includes an appraisal of baseline conditions informed through collation of data from a range of sources, including published data sources and previous ground investigation and assessment reports.

Assessment Methodology

7.4.2 The assessment includes an evaluation of ground conditions and the nature of any contamination present. Part of the assessment includes a review of existing ground investigation data pertaining to the Project site from which a generic quantitative risk assessment has been carried out in accordance with current guidance and best practice. Chemical analytical data have been compared to published assessment criteria and exceedances identified.

7.4.3 The study area includes the Project site and an additional buffer of up to 500 metres. This is considered to be sufficient to enable the identification of off-site potential sources of contaminants of concern, other factors which may have influenced site conditions and/or sensitive off-site receptors that require consideration.

7.4.4 Baseline information on geology, hydrogeology and ground conditions was collected through a detailed desk review of existing studies and datasets.

7.4.5 A site walkover was also undertaken to validate the information collected from the desk review and to identify any existing sources of potential contamination.

Current Baseline Environment

7.4.6 The Project site is underlain by superficial deposits including Alluvium, Head and River Terrace Deposits. The deposits are associated with the surface watercourses that flow across the site and are classified as Secondary A aquifers and have a medium sensitivity. The underlying bedrock comprises Weald Clay, which is classified as an Unproductive stratum and has a low sensitivity.

7.4.7 The Project site is located within a Brick Clay Resource Mineral Safeguarding Area as designated by the West Sussex County Council Minerals Planning Authority.

7.4.8 A review of historic maps shows that the Project site had been developed as an aerodrome by the 1930s and major airport development had occurred by the 1950s. Prior to this, the site was used as farmland, a racecourse and golf course, with a railway line through the site. The airport has been subject to further development, which has been accompanied by an extensive drainage and balancing pond network and hotel, car parking and commercial development.

7.4.9 A number of previous investigations have been undertaken on the Project site, the review of which has focused on the areas of the site proposed for redevelopment. Elevated levels of contaminants were detected in soil, leachate and groundwater samples taken from various locations, together with elevated levels of ground gas.

7.4.10 A site walkover was undertaken in September 2019 in order to ground truth information from the desk study and to identify potentially contaminating land uses.

Mitigation Measures

7.4.11 The desk study and site walkover information was used to identify potentially contaminating land uses. This information was combined together to identify Potential Areas of Concern. A strategic approach has been used to target parts of the Project site where further investigation may be required based on the potential for contamination to exist and the future use of the area.

7.4.12 The approach to mitigation includes ground investigations, together with implementation of a remediation strategy where necessary. The Code of Construction Practice will include measures to prevent and control spillage of oil, chemicals and other potentially harmful liquids, in addition to measures to protect groundwater during construction.

7.4.13 A Materials Management Plan will be prepared to document the management of soils on the site, undertaken in accordance with best practice.

Potential Significant Effects

7.4.14 The assessment has considered potential impacts on the underlying aquifers, surface watercourses, human health (construction workers and future site users) and mineral resources. The significance of effect is predicted to range from temporary minor adverse effects during construction where remediation is required, to no change during the operational phase. No significant effects have been identified.

7.4.15 Given the measures in place, the Project is not anticipated to have any significant cumulative effects.

7.5. Water Environment

Introduction

7.5.1 Chapter 11: Water Environment of the PEIR assesses the effects of the Project, on all aspects of the water cycle including: flood risk, surface water drainage, geomorphology, water quality, groundwater resources, water supply and wastewater.

Assessment Methodology

7.5.2 A baseline assessment of all sources of flood risk and surface water drainage has been undertaken. The findings are reported in a Flood Risk Assessment in accordance with planning practice guidance and the National Planning Policy Framework. The Flood Risk Assessment considers flood risk to the Project site from all sources, including fluvial, surface water, groundwater, flooding from reservoirs and sewer/ water supply flooding. The assessment is primarily based on site-specific fluvial hydraulic modelling that has been developed by GAL, in partnership with the Environment Agency.

7.5.3 A geomorphological walkover survey of the site study area was undertaken to develop an understanding of channel characteristics on the watercourses which are potentially impacted by the Project.

Current Baseline Environment

7.5.4 Gatwick Airport is located in the Thames River Basin District and within the Upper Mole catchment. The River Mole flows through the airport, passing under the existing main and northern runways in culvert. Tributaries of the River Mole, including Crawter's Brook, the Gatwick Stream and Westfield Stream all run through or adjacent to the Project site.

7.5.5 There are areas classified as being within Flood Zone 3 (areas at risk of flooding in a 1% (1 in 100 annual probability) and Flood Zone 2 (area at risk of flooding in between a 1% and 0.1% (1 in 100 to 1 in 1000 annual probability) within the Project site. These are associated with the River Mole, Westfield Stream, Man's Brook and Crawter's Brook on the western and southern sides of the airport and with the Gatwick Stream on the eastern side.

7.5.6 According to the Environment Agency's Risk of Flooding from Surface Water mapping, surface water flooding occurs in several areas of the airport. Areas at high risk (greater that 3.3% (1 in 30 annual probability) are predominately associated with areas around existing watercourses or drainage features, although there are isolated pockets of high risk likely to be the result of rainfall filling local depressions rather than overland flow paths. Areas at medium risk (between 3.33% and 1% (1 in 30 and 1 in 100 annual probability) are generally small and adjacent to the areas at high risk. A large area at medium risk is located near the River Mole and south of the existing main runway. There are larger areas predicted to be at low risk (between 1% and 0.1% (1 in 100 and 1 in 1000 annual probability) within the airport, particularly to the south of the main runway and in proximity to existing terminal buildings.

7.5.7 British Geological Survey mapping identifies that there is susceptibility to groundwater flooding throughout areas of the Project site underlain by superficial deposits (ie superficial deposits

flooding), with a moderate level of confidence. Based on the Crawley Brough Council Strategic Flood Risk Assessment there have been only two occurrences of groundwater flooding recorded in the Crawley area. These are not located near the airport.

7.5.8 In terms of water quality, the River Mole upstream of Horley is classed as 'Heavily Modified' with a current potential status of 'Good'; and overall objective of 'Good', as defined by the Water Environment Regulations.

Mitigation Measures

7.5.9 A number of measures have been designed into the Project to reduce the potential for impacts on the water environment. Mitigation measures would include the following:

- provision of floodplain compensation areas;
- relocation and reconfiguration of the existing Pond A surface water attenuation facility;
- diversion of the River Mole;
- new culvert design;
- provision for new syphons to connect the floodplain on both sides of taxiways;
- provision of a drainage strategy for the proposed highway improvements;
- pollution monitoring system installation at ponds; and
- wastewater system capacity upgrades.

7.5.10 Gatwick would continue to monitor the quality of water discharges to ensure compliance with environmental permits post-consent.

Potential Significant Effects

7.5.11 Overall, the significance of flood risk effects from the Project on all sources of flood risk has been assessed to be (at worst) negligible or minor adverse and therefore not significant in terms of EIA regulations, taking into account the proposed mitigation measures. The Project would therefore be safe for its users and would not increase flood risk elsewhere. For certain receptors, the Project would result in an improvement in terms of flood risk, which would be a significant beneficial effect in some cases.

7.5.12 There would be very limited adverse effects throughout all phases of the Project. The Project would require modifications to the alignment of the River Mole, including the re-meandering and restoration of the natural channel morphology, and improved channel diversity and floodplain coupling. In the long term this would deliver an overall improvement to the geomorphology of the watercourses resulting in an overall beneficial effect for this watercourse.

7.5.13 No significant cumulative effects on the water environment have been identified in the assessment.

7.6. Traffic and Transport

Introduction

7.6.1 Chapter 12: Traffic and Transport of the PEIR identifies and assesses the potential environmental effects on traffic and transport arising from the Project.

Assessment Methodology

7.6.2 The traffic and transport environmental effects on severance, driver delay, driver stress, view from the road, pedestrian and cyclist delay and amenity, accidents and safety, hazardous loads, and public transport services and users have been assessed.

7.6.3 The assessment of the environmental effects of traffic and transport has been based on the relevant guidance from the Institute of Environmental Assessment.

7.6.4 Strategic modelling work has informed the assessment undertaken to date. The modelling work has been undertaken in consultation with Highways England and the relevant highway authorities.

7.6.5 Desk studies have been undertaken to inform the baseline conditions and update GAL's modelling tools to assess the likely effects of the Project.

7.6.6 A number of site-specific surveys of the Project site were also undertaken to inform the assessment including traffic counts, employee surveys, journey time data and airport-related cargo and goods movement data.

7.6.7 For the purposes of this assessment, the receptors are considered to be pedestrians, cyclists, bus and coach passengers, rail passengers, and car drivers and passengers.

Current Baseline Environment

7.6.8 Gatwick Airport can be directly accessed from the national strategic road network via the M23 motorway, which runs north-south adjacent to the airport. Junction 9 of the M23 is the main access point, with an onward link of dual carriageway motorway (M23 Spur) to Junction 9a at the South Terminal roundabout.

7.6.9 The A23, which runs parallel to the M23, continues north beyond the M25 into London via Croydon and Brixton to the West End and the City. It connects south London and Croydon, through Redhill then Horley and Gatwick Airport, through Crawley and providing a connection to the south through Pease Pottage to Brighton.

7.6.10 Transport facilities within the airport boundary are made up of on-airport roads, forecourts and car parks, including facilities for coaches, taxis and car rental companies. GAL has recently completed works to improve the North Terminal forecourt.

7.6.11 Gatwick Airport has a very high level of rail connectivity, with 22 trains to and from central London in the morning peak hour (12 via London Bridge and 10 to London Victoria, of which four are Gatwick Express services).

7.6.12 The airport is served by frequent bus and coach services at both North and South Terminals. The operators include Metrobus, National Express, Megabus, Oxford Bus Company, and easyBus. On average there are approximately 450 and 500 daily arrivals and departures respectively, offering services to destinations throughout the UK.

7.6.13 There are off-road pedestrian and cycle links available, which provide access to the local catchment areas of Horley and Crawley. National Cycle Route 21 provides a continuous route between Crawley, Gatwick, Horley, Reigate and London. Route 20 continues south towards

Brighton and Route 21 continues east towards Royal Tunbridge Wells before heading south towards Eastbourne.

Mitigation Measures

7.6.14 As part of the Project, measures have been incorporated to reduce the potential for significant effects on traffic and transport. This includes highway improvement works to the North and South Terminal roundabouts, which involve grade-separated (flyover) solutions. The Longbridge roundabout is proposed to be substantially improved, providing full-width running lanes throughout the junction, replacing the sub-standard narrow lanes that currently exist.

7.6.15 Other mitigation measures include Road Safety Audit and the implementation of a Construction Traffic Management Plan and Travel Plan.

7.6.16 Ongoing monitoring of travel patterns is expected to ensure the success of the Travel Plan and to implement measures to further encourage the use of sustainable modes of transport as part of the Airport Surface Access Strategy. Annual reporting will be undertaken to assess the performance against targets.

Potential Significant Effects

7.6.17 The assessment shows that, given the existing high traffic flows on the highway network, the Project is not expected to generate substantial traffic flows beyond the local highways. However, due to redistribution effects, the strategic modelling work shows that there could be some increases in traffic flows in areas such as Croydon during certain times of day (which are not as a result of the Project), particularly during the interim assessment year 2032.

7.6.18 Within the vicinity of the airport, there are segregated pedestrian and cycle routes which reduce the sensitivities of the highway links. The proposed highway works as part of the Project would improve pedestrian and cycle routes and reduce junction conflicts, which would improve safety and minimise the risk of accidents.

7.6.19 Construction of highway improvements is expected to take place after the main airport construction activities are complete. Construction would be undertaken with the aim of minimising disruption both to airport and local traffic.

7.6.20 Based on the methodology, assessment criteria and assignment of significance set out in this chapter, the majority of identified effects would not be significant. However, for a small number of road links, potentially significant effects on car drivers/passengers (in terms of driver delay) and, in one case, on pedestrians and cyclists (in terms of severance) have been identified. This will be considered further as the EIA process continues and it is anticipated that with further measures in place, long term effects would not be significant.

7.6.21 Cumulative traffic and transport effects are inherently included in the future baseline scenarios modelled within the assessment.

7.7. Air Quality

Introduction

7.7.1 Chapter 13: Air Quality of the PEIR evaluates the likely environmental effects of the Project on air quality from emissions from aircraft, road traffic and other emission sources.

Assessment Methodology

7.7.2 The existing air quality conditions were established using a variety of sources including monitoring undertaken by the consultant team and local authorities, background concentrations predicted by Defra and data provided by GAL on the operation of the airport.

7.7.3 Emissions from road traffic and airport activity have been calculated and input into an atmospheric dispersion model to calculate predicted concentrations of pollutants at sensitive receptors (both human and ecological). The resultant concentrations have been compared against air quality standards and predicted changes to assess the impact of the Project.

7.7.4 Site-specific monitoring of ambient concentrations of nitrogen dioxide using diffusion tubes with measurements taken on a monthly basis was undertaken to inform the assessment.

Current Baseline Conditions

7.7.5 Both Crawley Borough Council and Reigate and Banstead Borough Council have declared Air Quality Management Areas in their administrative areas due to exceedances of the annual mean nitrogen dioxide air quality standard.

7.7.6 The Horley Air Quality Management Area was declared by Reigate and Banstead Borough Council in 2002 and encompasses an area of the south west quadrant of Horley near the airport. The Hazelwick Air Quality Management Area was declared by Crawley Borough Council in 2015 and encompasses the Hazelwick roundabout and areas along the adjoining roads; the A2011 Crawley Avenue, Hazelwick Avenue, the A2004 Northgate Avenue and Gatwick Road. The Hazelwick AQMA is currently in the process of being extended to include the Three Bridges area, forming a single extended Crawley AQMA. This will add an additional area onto the south eastern ‘arm’ of the current AQMA. Consultation has ended and the extension recommendation has been approved.

7.7.7 Monitoring data for the continuous monitoring sites indicate that annual mean nitrogen dioxide concentrations over the five year period from 2015 to 2019 have consistently been below the air quality standard (ie no exceedances of the standard detected).

Mitigation Measures

7.7.8 Air quality mitigation measures are proposed to ensure best practice is followed for all on site activities during construction. Measures from best practice guidance would be implemented through the Code of Construction Practice. The measures would include the development and implementation of a Dust Management Plan with mitigation such as water spraying, covering of dusty materials and speed limits on site.

7.7.9 Low emission plant would be used during construction of the Project elements. GAL is committed to mobile construction equipment meeting zero or ultra-low emission standards by 2030.

7.7.10 There will be a Construction Traffic Management Plan to reduce construction traffic and minimise impacts on the highway network. Construction traffic routing will direct traffic through the M23 Junction 9 in order to avoid any routing through the M23 Junction 10 and Hazelwick AQMA. There will also be a Construction Workforce Travel Plan with measures encouraging more sustainable travel patterns.

7.7.11 Traffic during operation of the Project would be further mitigated through the Airport Surface Access Strategy and the Travel Plan for Gatwick Airport.

7.7.12 In relation to aircraft emissions on the airfield, the airport has provision for fixed electrical ground power on any new stands. In relation to other airport emissions, the airport is using airside electric vehicles. GAL is committed to all on-airport vehicles and ground support equipment meeting zero or ultra-low emission standards by 2030.

7.7.13 In terms of monitoring, GAL is currently carrying out continuous monitoring within the airport. It is anticipated that this monitoring will continue in the future.

Potential Significant Effects

7.7.14 With the implementation of appropriate mitigation, the effects of construction-related activities on dust soiling and human health are not anticipated to be significant. The mitigation measures are applicable throughout the construction works, which would continue beyond the initial construction phase in 2024-2029, through to 2038.

7.7.15 The results of the assessment model show that during all future year scenarios (2024, 2029 and 2032) and for the 2038 design year (aircraft emissions only), no significant effects for air quality are anticipated as a result of the Project. Predicted pollutant concentrations at all receptors in the two AQMAs would be below the air quality standard (ie no exceedances are predicted) and the Project would therefore not create exceedances of the air quality standard in these areas.

7.7.16 An ecological assessment of the change in nitrogen dioxide concentrations and change in nitrogen deposition as a result of the Project was undertaken for future year scenarios at sensitive ecological receptors. The change in nitrogen dioxide was assessed against the site's capacity to adapt to change. No significant effects are anticipated at the ecological receptors due to the Project.

7.7.17 No significant cumulative effects to air quality have been identified in the assessment.

7.8. Noise and Vibration

Introduction

7.8.1 Chapter 14: Noise and Vibration of the PEIR assesses the impact of the Project on the following types of noise:

- air noise – noise from aircraft in the air or departing or arriving (including reverse thrust) on a runway, generally assessed to a height of up to 7,000 feet above ground level;
- ground noise – noise generated from airport activities at ground level including aircraft taxiing and traffic within the airport boundary;
- road traffic noise – noise from traffic vehicles outside the airport on the public highway; and

- construction noise and vibration – noise and vibration from temporary construction of the Project, including the use of construction compounds.

Assessment Methodology

7.8.2 Baseline noise level measurements were conducted at a number of locations relevant to the Project. Measurements were conducted continuously over a two week period.

7.8.3 The approach to assessing noise effects from the Project has focused on firstly identifying significant adverse effects that may arise and identifying mitigation measures to avoid these, and secondly identifying adverse effects that may arise that may be below the threshold for significance and identifying mitigation measures to minimise these as far as practicable. Thirdly, opportunities to reduce noise levels from the baseline case and identify improvements to the noise environment have been explored.

Current Baseline Conditions

7.8.4 For ground noise, the current baseline noise levels have been assessed at twelve of the nearest noise sensitive receptors.

7.8.5 For air noise, modelling was carried out by the Civil Aviation Authority's Environmental Research and Consultancy Department. Day and night noise levels were predicted using a variety of noise metrics to estimate populations and noise sensitive buildings within defined noise contours.

Mitigation Measures

7.8.6 Construction would be undertaken in accordance with the Code of Construction Practice which will require contractors to adopt and implement appropriate management measures. These measures include strategies and control measures for managing the potential environmental effects of construction and limiting disturbance from construction activities as far as reasonably practicable. Where best practicable means to reduce noise on site are insufficient, noise insulation would be offered for qualifying buildings. Noise insulation or, where appropriate, temporary re-housing would avoid residents being significantly affected by levels of construction noise inside their dwellings.

7.8.7 The Project would not require a formal airspace change. This will avoid the noise impacts often associated with new flight paths. Only departures would use the northern runway, except during maintenance or emergency use as is currently the case. The majority of these would be above 1,000 feet before they leave the airfield.

7.8.8 It is proposed that the use of the northern runway would be limited to the period 06:00 hour to 23:00 hours, avoiding the majority of the more sensitive night-time period.

7.8.9 GAL would operate flights from the northern runway using procedures designed to minimise noise impacts, in line with its current processes and the commitments of the Noise Action Plan. GAL would continue to work with communities, the Noise Management Board and its aviation industry stakeholders to develop ways to minimise noise for all operations at the airport.

7.8.10 An enhanced Noise Insulation Scheme is proposed, providing greater coverage than currently offered. Residents in the highest noise Inner Zone would be offered a full package of acoustic insulation to avoid significant adverse effects, with residents in the Outer Zone being offered a

lesser package but which would also include acoustic ventilation. In addition, assistance for homeowners looking to move from the most affected properties would also be provided.

7.8.11 GAL proposes a noise envelope that would set limits in terms of the areas affected by specified day and night noise levels (or contours). The identified contours have been chosen because they represent the lowest level of observable adverse effects during the day and night. Limiting noise contour areas are proposed at two points in the future as air traffic increases, with the latter being smaller than the former to ensure noise levels reduce in the longer term.

7.8.12 Mitigation for ground noise from aircraft taxiing and within the airfield has been incorporated into the design of the Project including bunding situated at the western end of northern runway, and noise barriers adjoining the bund installed at the western end of the northern runway.

7.8.13 With regards to noise from road traffic, noise barriers have been incorporated in the eastern side of the new highway to reduce the adverse effect of existing high noise levels in Riverside Garden Park and the surrounding residential area.

Potential Significant Effects

7.8.14 Air noise has the potential to affect residents, and other noise sensitive receptors over an area beyond the airport boundary. As aircraft age, airlines replace them with next generation aircraft so that over time the fleet transitions to next generation aircraft and, other things being equal, overall noise levels reduce. The forecasts used for the modelling of noise in the future are based on estimates of how the fleet will transition based on assumptions around airlines' fleet procurement programmes and business models. The 'central case' used in the noise assessment is based on what is considered today to be the most likely rate of fleet transition. However, there is uncertainty around this, particularly at the current time due to the global pandemic and the financial impact on the airlines. Therefore air noise modelling has also been carried out for a 'slower transition fleet' case, based on forecasts in which the rate of fleet transition is delayed by about five years and which would result in higher noise levels than the central case.

7.8.15 The existing northern runway is currently only used when the main runway is unavailable; for example, due to maintenance work at night. In 2018, the northern runway was used by 3,543 flights, and in 2019 it was used for 2,842 flights. The Project would make alterations to the existing northern runway, resulting in increased use of this runway using the same flight paths. The smaller aircraft (below 36 metre wingspan) would use the northern runway. Consequently, any noise impacts of the Project would be the result of increases in noise due to the increased number of flights on the northern runway, rather than new noise impacts over areas previously unaffected. This would therefore avoid the noise impacts often associated with new flight paths.

7.8.16 Air noise has been assessed in 2029, 2032, 2038 and 2047 and the period of highest noise impact is expected to be the 2032 interim assessment year. At this time, the majority of effects would be in the range negligible or minor adverse to negligible or minor beneficial (not significant). The greatest noise increases are predicted mainly to the west but also to the east of the northern runway. Approximately 40 properties to the west on Ifield Road and near Russ Hill have been identified as experiencing increases of 3-6 decibels, which are potentially moderate adverse significant effects. These houses would be eligible for full noise insulation under the proposed new Noise Insulation Scheme to mitigate the potentially significant effects. For all other receptors, increases and decreases in air noise are not predicted to be significant. However, the enhanced noise insulation scheme would offer full noise insulation to homes within the new Inner

Zone and a lesser package but also including acoustic ventilation to a further approximately 3,300 homes in a new Outer Zone. Noise changes at night would be lower than during the day because it is assumed that the current Night Restrictions would continue to cap aircraft numbers and noise quotas in the 23:30 to 06:00 hours period.

7.8.17 A noise envelope is proposed to set limits on noise from future operations at the airport. Noise limits are proposed for two periods, first for the period from when the northern runway opens up to when the noise impacts are expected to be greatest about three years later, and second for when the airport grows to operate at 382,000 commercial air traffic movements and thereafter.

7.8.18 Construction noise has some potential to give rise to significant effects for occupants of those properties closest to the construction works. This will be considered further during the EIA process to identify the effects more fully and to identify mitigation, to be implemented through the Code of Construction Practice.

7.8.19 Mitigation for ground noise from aircraft taxiing and within the airfield has been incorporated into the design of the Project. With this mitigation in place, levels of ground noise are not predicted to be significant for most receptors. Approximately 90 properties at Povey Cross and Charlwood and approximately 10 properties south of the airport may experience up to moderate adverse effects from ground noise. The Noise Insulation Scheme will be offered to mitigate significant effects where the noise levels exceed the significant observed effect level.

7.8.20 Remodelling of the Longbridge, North Terminal and South Terminal roundabouts and associated highways works has the potential to increase noise levels in the adjacent Riverside Garden Park and residential area. Noise barriers have been incorporated in the elevated sections of new highway to reduce the adverse effect of existing high noise levels in Riverside Garden Park and the surrounding residential area. Negligible to minor/moderate beneficial effects are predicted. Significant beneficial effects may arise in some areas.

7.8.21 With respect to cumulative effects, the majority of other development sites are located to the south of the airport. In most cases, they fall within the lower air noise contours bands, and in areas where the Project would slightly reduce air noise levels. There is potential for noise impacts on the future residents of developments as a result of Gatwick Airport's operations, which in some cases would increase or decrease due to the Project. In seeking permission to develop sites for residential use in noisy areas developers are required to consider the potential for noise impacts on future residents and to design the developments with suitable mitigation accordingly.

7.9. Climate Change and Carbon

Introduction

7.9.1 Chapter 15: Climate Change and Carbon of the PEIR evaluates the resilience of the design, construction and operation of the Project to potential climate change impacts; the combined effects of the Project and potential climate change impacts on the receiving environment; and the likely effect of the Project on greenhouse gas emissions.

Assessment Methodology

Climate Change Resilience and In-combination Climate Change Impacts

7.9.2 Information regarding current and projected future climate conditions has been used in assessment of the following:

- Climate Change Resilience: the resilience of the design, construction and operation of the Project to projected future climate change impacts.
- In-combination Climate Change Impacts: the combined effects of the Project and potential climate change impacts on the receiving environment and community.
- Greenhouse Gas Emissions: the likely effect of the Project on emissions.

7.9.3 Three sets of climate data have been assembled:

- current climate conditions - based on observed weather observations;
- future climate scenario for 2020-2049; and
- future climate scenario for 2050-2079.

7.9.4 These climate data sets are based on the most recent and comprehensive climate change projections for the UK. In addition to projections for future climate they also contain a comprehensive set of observed historical climate observations.

Greenhouse Gas Assessment

7.9.5 The greenhouse gas assessment considers the emissions of greenhouse gases arising from the construction and operation of the Project, some of which are emitted within the site boundary, but the majority of which are emitted outside of the boundary. This covers both construction and operational emissions as summarised in the list below:

- For construction emissions, the physical scope extends to the extraction and sourcing of materials nationally and internationally, as well as construction processes within the Project site boundary. Transportation of waste, and transport of workers to the Project also take place outside the Project site boundary.
- For the operational phase, emissions arise from the energy, waste arising and water consumed within the Project site boundary. However, many of the upstream emissions associated with these (eg energy for electricity generation and potable water treatment) are outside the physical boundary of the Project site.
- Emissions from aviation and from surface access during operation also arise outside the physical boundary of the Project site.

7.9.6 In the absence of actual consumption data for specific activities it has been necessary to draw on benchmark information to understand typical operations. The future baseline greenhouse gas emissions (in the absence of the Project) are based on developing forecasts of activity data.

Current Baseline Environment

Climate Change Resilience and In-combination Climate Change Impacts

7.9.7 Information regarding historical climate conditions at Gatwick Airport was obtained from the national observed climate data sets. All the data for the current baseline were obtained from this

source. Baseline data collection included climate averages and information regarding occurrence of extreme weather events, including hot days, frost days, heavy rainfall and dry spells.

Greenhouse Gas Assessment

7.9.8 The baseline refers to Gatwick Airport's greenhouse gas emissions in the calendar year 2018. It draws together information from a range of documents, analyses and sources.

Mitigation Measures

7.9.9 Mitigation measures to reduce greenhouse gas during construction and operation would be implemented across a wide range of emissions sources, including design optimisation, energy strategy, surface access strategies, and airport operations. Best practice construction methods will be followed to mitigate potential impacts from climate change.

7.9.10 In addition to GAL's existing net zero carbon commitments, as set out within their Decade of Change document, GAL are currently developing a detailed Carbon and Climate Change Action Plan, to enable the airport to continue to reduce carbon emissions and to deliver sustainable development.

Potential Significant Effects

7.9.11 The climate change resilience assessment identified several risks as being high or very high during the construction and operational phase of the Project, for example the increased number of very hot days brings the risk of overheating in temporary building accommodation for construction workers, or passengers and staff in operational terminal buildings. A number of measures have been designed as embedded mitigation as part of the other environmental topics which would also reduce the potential for impacts in terms of resilience (eg flood risk mitigation). With such measures in place, significant effects are not likely.

7.9.12 No significant effects have been identified through the in-combination climate change impacts assessment for the construction or operational phases of the Project.

7.9.13 The greenhouse gas assessment has assessed the calculated greenhouse gas emissions arising from the Project and confirms that these would be significant, in line with current guidance which considers all new emissions arising from development as significant. The Project would incorporate a range of embedded environmental design measures that would contribute positively to mitigation of the greenhouse gas emissions associated with the Project. Work to develop mitigation activities remains ongoing, and the impact of these on greenhouse gases will be included in the Environmental Statement.

7.9.14 Next steps will include close working with the Project design teams to confirm the adoption of mitigation measures through design of the airport facilities and highways infrastructure, optimisation of material sourcing and recycling of cut/fill materials, management of construction stage emission, and the adoption of the energy strategy to reduce emissions arising from airport operations. The opportunities to mitigate impacts of the Project through both construction and operation will be collated into the draft Carbon and Climate Change Action Plan, to be published as part of the application for development consent.

7.9.15 On the basis of the assessment undertaken to date it is expected that the Project would not have a material impact on the ability of Government to meet its carbon reduction targets, including carbon budgets as they stand at present.

7.10. Socio-Economics

Introduction

7.10.1 Chapter 16: Socio-Economics of the PEIR considers the potential socio-economic effects of the Project during the construction and operational phases. Socio-economics is a broad topic that includes the assessment of multiple effect types such as new employment, implications for the labour market and population, disruption to business and community activities.

Assessment Methodology

7.10.2 The assessment analyses the potential socio-economic effects of the Project on receptors in up to four separate study areas (ie site, local, labour market and five authorities area[2] – see Figure 9), depending on the nature of the effect being assessed. The study areas are cumulative, so the wider areas incorporate the local areas.

7.10.3 A desk study has been undertaken to identify the existing and future socio-economic conditions within each of the study areas. A range of further sources has been consulted in respect of social and community infrastructure provision as part of the desk study. Economic modelling undertaken for the Project has also informed the assessment.

Current Baseline Environment

7.10.4 The local study area has seen an increase in its total population of 6.7%, growing from 140,798 to 150,244 over the period from 2011- 2019. The population of the labour market area increased by 6.4% over the same period, with the largest growth among residents aged 65 and over, and lowest growth in the working-age population (people aged 16-64) (17.6% and 3% respectively). The five authorities area also saw the number of residents increase from 4,210,913 to 4,489,665 between 2011 and 2019.

7.10.5 In total, there were 111,000 employees within the local study area in 2019. In the labour market area, there were an estimated 1,055,377 people in employment in 2019, while the equivalent in the five authorities area was 2,335,127 people.

7.10.6 Mean workplace earnings in the labour market and five authorities area were all lower than the equivalent resident earnings values as of 2020. The mean values of workplace earnings in the labour market area for full-time workers and total workers were lower than in the five authorities area, while part-time earnings were higher in the labour market area.

7.10.7 In terms of housing, the average price of dwellings sold in the local study area was £319,098 in the year ending in September 2020, representing an increase of 20% since 2015 and 53% since 2010. House prices in the five authorities area vary widely between authorities ranging from £230,000 in Hastings to £600,000 in Elmbridge. With average prices of £319,098 the local study area has slightly higher average prices than Crawley (£295,000).

[2] The five authorities area reflects where the widest socio-economic effects of the Project could impact on receptors.

7.10.8 In 2011, there were 57,531 dwellings in the local study area. In 2019, the total housing stock in the labour market area and five authorities area equated to 918,755 and 1,945,531 dwellings respectively. The total housing stock in both study areas increased by 7.8% and 7.5% respectively between 2009 and 2019, compared with the England average for the period (7.6%).

7.10.9 There are 17 community spaces within the local study area. These serve a range of functions and include local community-owned or operated community centres and public halls, halls or centres owned by or connected to places of worship and halls connected to local Scout or Brownie clubs. There are also a number of open spaces, including public parks and gardens within the local study area. A total of 217 designated open spaces (equating to approximately 544 hectares of open space) are identified within the local study area. Within the Project site boundary or adjacent to it, are three open spaces: an area of urban open space at St. Bartholomew's Church to the north of the A23, a tennis court in Buckingham Gate car park and Riverside Garden Park.

Mitigation Measures

7.10.10 A number of measures have been designed into the Project to reduce the potential for socio-economic impacts.

7.10.11 The Code of Construction Practice will include measures to ensure construction contractors and processes follow practices that minimise disruption. This includes measures such as construction traffic management, set hours of work and alternative access routes. This will inform the preparation of detailed mitigation measures for any other adverse effects on local businesses and the community for the duration of the Project construction phase. The Code of Construction Practice will also detail measures for community engagement.

7.10.12 Funding linked to the operation of the Project is likely to be distributed through measures such as the Gatwick Airport Community Fund and grants for noise insulation. Details on such measures are yet to be confirmed and will be informed through further consultation. Additionally, compensation would be provided to adversely affected stakeholders to help mitigate effects such as business displacement and the viability of community facilities and services during construction.

7.10.13 In terms of enhancement measures, an Employment, Skills and Business Strategy would be adopted to continue and expand activities undertaken by Gatwick to support career entry (for graduates and apprenticeships), training and other work opportunities. These measures would enhance the potential beneficial employment and labour market impacts of the Project. The Project would also include the adoption of a Business Support Strategy to link Gatwick with providers in the supply chain and through local procurement initiatives. These measures would enhance the potential catalytic and wider impacts/benefits of the Project.

Potential Significant Effects

7.10.14 The assessment shows that the Project would generate additional construction jobs which can be filled by the existing and projected labour supply within the labour market area. The Project is expected to generate some disruption to business and residents (eg through changes to traffic and noise levels); however, no significant effects are expected in most cases. The Project is not expected to increase the need for housing above what is already planned for by neighbouring local authorities.

7.10.15 Some significant effects have been identified including beneficial effects through the generation of construction and operational employment across the four different phases of this socio-economic assessment. In particular, within the local study area the Project has been assessed to have a significant beneficial effect on employment at the interim assessment and final design years. There is also a significant beneficial effect identified on the supply chain employment opportunities in the opening year. Some of these effects will be subject to further enhancement measures which will be outlined in further detail at the Environmental Statement stage.

7.10.16 There are also some significant adverse effects identified by the assessment. The first relates to the loss of Open Space (ie less than one hectare of open space) and measures including re-provision of the entire loss and further enhancements to the rest of the open space provision are predicted to mitigate the effect. The second relates to business disruption within the site boundary during the interim year. Mitigation measures would include a detailed construction management plan and a compensation schedule that will address and minimise those impacts. Finally, there are moderate adverse effects on labour market in the local study area identified in the interim assessment and design years. These effects would be mitigated by the Outline Employment, Skills and Business Strategy. In all cases, mitigation would reduce the effects to not significant.

7.10.17 The majority of the developments identified which could potentially result in cumulative effects are estimated to be completed during the early stages of initial construction phase for the Project. Therefore, the construction activity generated by the other proposed developments is unlikely to overlap with the Project. In addition, most of the operational effects for the Project are considered to remain valid and unchanged by the inclusion of the cumulative developments across all the assessment phases.

7.11. Health and Wellbeing

Introduction

7.11.1 Chapter 17: Health and Wellbeing of the PEIR considers the effects of the Project on health and wellbeing and draws from other technical topic assessments (most notably: traffic and transport; air quality; noise and vibration; and socio-economic effects).

7.11.2 The assessment applies a broad socio-economic model of health that encompasses conventional health impacts such as disease, accidents and risk, along with wider socio-economic health determinants vital to achieving good health and wellbeing.

Assessment Methodology

7.11.3 Environmental health determinants (such as changes to air quality and noise exposure) are likely to have a more local impact where potential change in hazard exposure is limited by physical dispersion characteristics. As a result, the local study area for health-specific baseline statistics relating to population and human health effects focuses on the local authority districts of Crawley, Reigate and Banstead, Tandridge, Mid Sussex, Horsham and Mole Valley, using regional and national averages as comparators.

7.11.4 The socio-economic health determinant study area remains consistent with the largest study area and comprises the County areas of East Sussex, West Sussex, Surrey, Kent and Brighton and Hove (five authorities area).

7.11.5 The desk study approach to defining the baseline conditions involved collation and interpretation of published demographic, socio-economic and existing public health and healthcare capacity data. Reports such as the relevant Joint Strategic Needs Assessment reports have been analysed to provide additional context on local health circumstances, inequalities and public health priorities (health protection, health promotion and health care). These reports partly draw from the open source websites and datasets detailed above.

Current Baseline Environment

7.11.6 The age structure in the local and wider study areas is relatively top-heavy, with a higher proportion of the population aged 5 to 14 years and aged 40 to 80+ years, and a lower proportion of the population aged 15 to 34 when compared to the national average. Total population growth in the local and wider study areas between the years of 2011 and 2019 have exceeded the national average by 0.7% and 0.6%, respectively.

7.11.7 Male and female life expectancy and healthy life expectancy (ie the amount of years spent in good health) in the local study area are both higher than the regional and national averages. Life expectancy and healthy life expectancy for males and females in the wider study area are also higher than the national average but are more comparable to the regional average.

7.11.8 The existing airport has an airport based paramedic on-site between the hours of 06.00 and 00.00. The paramedic is supported by 290 staff members who are trained to provide first aid. This figure excludes first aiders located in every commercial outlet with between 5-50 members of staff. In addition, there is a total of 56 Automated External Defibrillators located within the airport. As such, the airport is well prepared to respond, treat, and if required call for emergency assistance from the South East Coast Ambulance Trust. An example of the existing effectiveness of treatment is that Automated External Defibrillators treatment success rate is more than six times greater than the national average.

Mitigation Measures

7.11.9 Generally, mitigation focusses on limiting environmental precursors to preclude adverse health outcomes. As a result, any adopted mitigation measures are detailed within the relevant topic sections, including the Code of Construction Practice.

7.11.10 On-site health care would be provided for construction workers to avoid any potential adverse impact on the local health care system. As mentioned previously, enhancement measures implemented as part of the Project would include a series of training, employment and procurement initiatives that would aid in addressing existing local barriers to a range of employment opportunities locally.

Potential Significant Effects

7.11.11 Overall, no significant health and wellbeing effects (adverse or beneficial) have been identified during the initial construction phase for the range of determinants assessed. Potential health and wellbeing effects from changes in environmental health determinants assessed (ie air quality and transport nature/flow rate) are considered to be minor adverse on the basis that impacts would generally be temporary, intermittent and managed through the implementation of best practice construction methods. In addition, health and wellbeing effects from changes in exposure to

temporary lighting have been explored but predicted to have no change on the basis that no residential receptors would be impacted.

7.11.12 The first full year of runway opening (2029) and the interim assessment year (2032) would include a combination of construction and operation-related health and wellbeing effects. However, health and wellbeing effects associated with environmental determinants (ie air quality, noise and transport) would remain not significant. Similarly, there would be no significant change in exposure to temporary or permanent lighting for residential receptors. Health and wellbeing effects from changes in lifestyle factors would remain minor beneficial and not significant in both assessment scenarios.

7.11.13 The significance of health and wellbeing effects from changes in socio-economic factors (ie employment) would increase from minor beneficial in the first full year of opening (2029) to moderate beneficial in the interim assessment year (2032), which is considered significant in EIA terms. This is primarily due to the magnitude of indirect and induced job opportunities expected to be provided.

7.11.14 Finally, the design year (2038) is an operation only scenario. Health and wellbeing effects associated with environmental determinants would remain not significant. Operational employment opportunities (direct, indirect and induced) would reach their peak and continue to have moderate beneficial health and wellbeing effects, which are considered to be significant. There would no longer be a construction workforce, so any changes to healthcare capacity would be limited to emergency call outs associated with increased passenger throughput which would not be significant on the basis that any change is intended to be managed internally.

7.11.15 Based on the information available regarding other proposed developments at this stage, no potential for significant cumulative effects has been identified.

7.12. Agricultural Land Use and Recreation

Introduction

7.12.1 Chapter 18: Agricultural Land Use and Recreation of the PEIR considers the potential effects of the Project on agricultural land use and recreational resources, including areas of public open space, public rights of way and other linear recreational routes during its construction and operational phases. Specifically, the chapter assesses the potential effects on the following resources during the construction and operational stages of the Project:

- agricultural land quality and soils;
- farm holdings;
- public rights of way;
- national cycle routes;
- other walking, cycling and horse riding routes; and
- public open space.

Assessment Methodology

7.12.2 A desk study has been undertaken in relation to soils, agricultural land classification and farm holdings within the study area.

7.12.3 In addition to the desk study information on agricultural land use and soils, the assessment has been informed by site visits and detailed agricultural land classification survey work in agricultural areas that would be potentially temporarily or permanently affected by the Project. A recreational survey was undertaken along National Cycle Route 21 which runs through the north eastern area of Riverside Garden Park adjacent to the Gatwick Stream, on three occasions between May and August 2019 to ascertain the nature of the use of this area of public open space.

Current Baseline Environment

7.12.4 The agricultural land affected by the Project comprises predominantly poorly drained clayey soils. These soils are limited in their agricultural quality by a wetness and workability limitation. According to the Agricultural Land Classification Guidelines they are graded entirely as lower quality Subgrade 3b or Grade 4 agricultural land, with no land being defined as the best and most versatile (Grades 1, 2 or 3a) land.

7.12.5 The agricultural land is characterised by a high proportion of grassland use in the vicinity of Gatwick Airport, with the land holdings around the airport used mainly for livestock based farming enterprises and for horse grazing. A total of seven land holdings, including land owned by Gatwick Airport, could be permanently affected by the Project.

7.12.6 There is a network of public rights of way within the Project site boundary, including those public footpaths along which the Sussex Border Path runs (see Figure 10). Other linear recreational routes include the Millennium Trail which largely follows the same route as the Sussex Border Path and finishes in Riverside Garden Park, and the long distance National Cycle Route 21. This cycle route runs south from Greenwich to Eastbourne and runs northwards between the A23 London Road and the railway line as a traffic free route to the east of the main airport campus, under the A23 and through Riverside Park in Horley. Riverside Garden Park in Horley is designated as urban open space of high value by Reigate and Banstead Borough Council and forms part of the Riverside Green Chain. It is located on the south western edge of Horley between areas of residential development to the north east and the A23 and Gatwick Airport to the south west. It is bounded to the north by the Gatwick Stream and includes areas of amenity grassland, woodland and a man-made lake. A recreational survey undertaken within Riverside Garden Park indicates that it is a well-used resource by local residents and workers, as well as travellers using Gatwick Airport.

Mitigation Measures

7.12.7 A number of measures have been designed in to the Project to reduce the potential for impacts on agricultural land use and recreation. Mitigation measures include:

- implementation of a soil management strategy, including monitoring, to ensure the conservation of all soils;
- implementation of measures to reduce, as far as possible, the effect of construction activities on farm holdings;
- provision of replacement public open space to mitigate for the loss of land within Riverside Garden Park;
- improvement/enhancement of current public open space facilities;
- provision of a permanent diversion to the Sussex Border Path to the south of the A23 from the new North Terminal roundabout;
- provision of pedestrian route linkages; and

- implementation of management measures to maintain safe public access along public rights of way.

7.12.8 An enhancement measure comprises the provision of a new recreational route around a new flood mitigation area provide a circular route opportunity to local communities with the aim of promoting health and well-being.

Potential Significant Effects

7.12.9 No effects on agricultural land use are anticipated to be significant during the construction or operational phases of the Project.

7.12.10 During the initial construction phase (2024-2029), there is the potential for disruption to access along the Sussex Border Path and three public footpaths as a result of the commencement of the highway improvement works. In addition, it is proposed that a number of public access improvements would be implemented to provide health and well-being benefits to the local community and the public generally, including the provision of new circular recreational route around the flood compensation area to the east of Museum Field, with a link to the existing alignment of the Sussex Border Path.

7.12.11 There is also the potential for the disruption to the existing public footpath that runs along the boundary of the Pentagon Field during the construction activities associated with the new surface car parking. It is proposed that this route is maintained along its existing alignment outside the perimeter fencing on the construction site for the safety of pedestrians.

7.12.12 Taking all these factors into account, the temporary effect on public rights of way during construction is assessed to be of minor adverse significance, and the overall effect on recreational routes and facilities during operation is assessed to be of permanent minor beneficial significance.

7.12.13 The improvement works associated with the proposed new grade separated junction to serve the North Terminal may encroach into the southern fringe of Riverside Garden Park. This would result in permanent loss of approximately 0.75 hectares of public open space within these areas (a moderate adverse effect) and would impact on a section of the Sussex Border Path to the south of the A23.

7.12.14 To mitigate for these impacts the following measures have been incorporated into the Project design.

- New areas of public open space would be created totalling a minimum of 0.75 hectares or equivalent to the area of public open space lost as a result of the Project.
- A commitment would be given towards improvements/enhancements within Riverside Garden Park.
- A permanent on-airport diversion for the affected section of the Sussex Border Path which would be put in place prior to the commencement of construction works.
- Provision of a pedestrian link between the footway on the northern side of the A23 footway near the Longbridge Roundabout into Riverside Garden Park.
- Provision of an additional pedestrian route linking Riverside Garden Park with the Sussex Border Path to the north of the A23.

7.12.15 Taking these factors into account, the effect on the areas of public open space in Riverside Garden Park, is assessed to be of moderate adverse significance and significant; and the effect on the Sussex Border Path is assessed to be of permanent minor beneficial significance.

7.12.16 No further effects on recreational resources are anticipated to be significant as a result of the operation of the Project from 2038.

7.12.17 The assessment identified that the Project is not anticipated to contribute to any significant cumulative effects.

8 Further Information

8.1.1 The full PEIR, including this Non-Technical Summary can be viewed at the following locations.

DEPOSIT LOCATIONS	OPENING TIMES *(correct at time of publication)* MON	TUE	WED	THU	FRI	SAT	SUN
Crowborough Community Centre, Pine Grove, Crowborough, TN6 1FE	8am - 1pm						⊗
Uckfield Library, Library Way, High Street, Uckfield, TN22 1AR	10am - 1pm	10am - 4.30pm	2pm - 4.30pm	10am - 6pm	10am - 4.30pm		⊗
Tunbridge Wells Library, Level 1, Royal Victoria Place Shopping Centre, Tunbridge Wells TN1 2SS	9am - 6pm					9am - 5pm	10.30am - 4pm
Edenbridge Library, The Eden Centre, Four Elms Road, Edenbridge, TN8 6BY	9am - 1pm	9am - 5pm			1pm - 5pm	10am - 3pm	⊗
Dorking Library, St Martin's Walk, Dorking, RH4 1UT	9.30am - 5.30pm					9.30am - 5pm	⊗
Leatherhead Library, The Mansion, 68 Church Street, Leatherhead, KT22 8DP	⊗	9.30am - 5pm					⊗
Reigate and Banstead Town Hall, Castlefield Road, Reigate, Surrey, RH2 0SH	8.45am - 5pm				8.45am - 4.45pm	⊗	⊗
Horley Library, 55-57 Russell Square, Victoria Road, Horley, RH6 7QH	⊗	9.30am - 5pm					⊗
Oxted Library, 12 Gresham Road, Oxted, RH8 0BQ	⊗	9.30am - 5pm					⊗
Caterham Valley Library, Stafford Road, Caterham, Surrey, CR3 6JG	⊗	9.30am - 5pm					⊗
Crawley Library, Southgate Avenue, Crawley, RH10 6HG	9am - 6pm					9am - 5pm	⊗
Broadfield Library, 46 Broadfield Place, Crawley, RH11 9BA	10am - 5pm					10am - 2pm	⊗
Horsham Library, Lower Tanbridge Way, Horsham, RH12 1PJ	9am - 6pm					9am - 5pm	⊗
Billingshurst Library, Mill Lane, Billingshurst, RH14 9JZ	10am - 5pm					10am - 2pm	⊗
Mid Sussex District Council, Oaklands, Oaklands Road, Haywards Heath, RH16 1SS	8.45am - 5.15pm				8.45am - 4.15pm	⊗	⊗
East Grinstead Library, 32 - 40 West Street, East Grinstead, RH19 4SR	9.30am - 6pm					9.30am - 5pm	⊗
Jubilee Library, Jubilee Street, Brighton, BN1 1GE	10am - 5pm						11am - 5pm
Westdene Library, 24 Bankside, Brighton, BN1 5GN	9am – 5pm					9.30am - 5pm	11am - 5pm

8.1.2 Copies of the PEIR can be requested by post from:

FREEPOST reference RTRB-LUUJ-AGBY

8.1.3 Or through the Project website, by phone or by email at:

- www.gatwickairport.com/futureplans;
- feedback@gatwickfutureplans.com; or
- 0800 038 3486 during normal business hours (Monday to Friday, 9am to 5.30pm).

8.1.4 A charge will be made for paper copies.

9 Next Steps

9.1.1 This Non-Technical Summary provides a summary of the PEIR that forms part of the pre-application consultation for the proposal to make best use of Gatwick Airport's existing runways.

9.1.2 The PEIR has been published as part of the consultation process, which also includes a series of community consultation events in accordance with the process set out in the Statement of Community Consultation.

9.1.3 Following consultation on the PEIR, all consultation responses received will be reviewed and taken into account in the ongoing EIA and Project design processes and, ultimately, the production of the final Environmental Statement to be submitted with the application for development consent.

9.1.4 At the time the application for development consent is submitted to the Planning Inspectorate, details of the consultation undertaken during the preparation of the application will be set out in a Consultation Report. The Consultation Report will be submitted alongside the final Environmental Statement at the time of application.

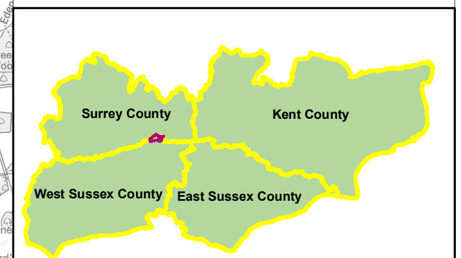
10 Glossary

Term	Description
EIA	Environmental Impact Assessment
GAL	Gatwick Airport Limited
mppa	million passengers per annum
NPS	National Policy Statement
PEIR	Preliminary Environmental Information Report

YOUR LONDON AIRPORT Gatwick

KEY

- Project Site Boundary (PEIR)
- District Boundary
- County Boundary



DOCUMENT

Preliminary Environmental Information Report Non-Technical Summary

DRAWING TITLE

County and District Boundaries

DATE

September 2021

ORIENTATION	DRAWING NO.	REVISION
N	FIGURE 1	For PEIR Issue
	DRAWN BY: CR	PM / CHECKED BY: JT

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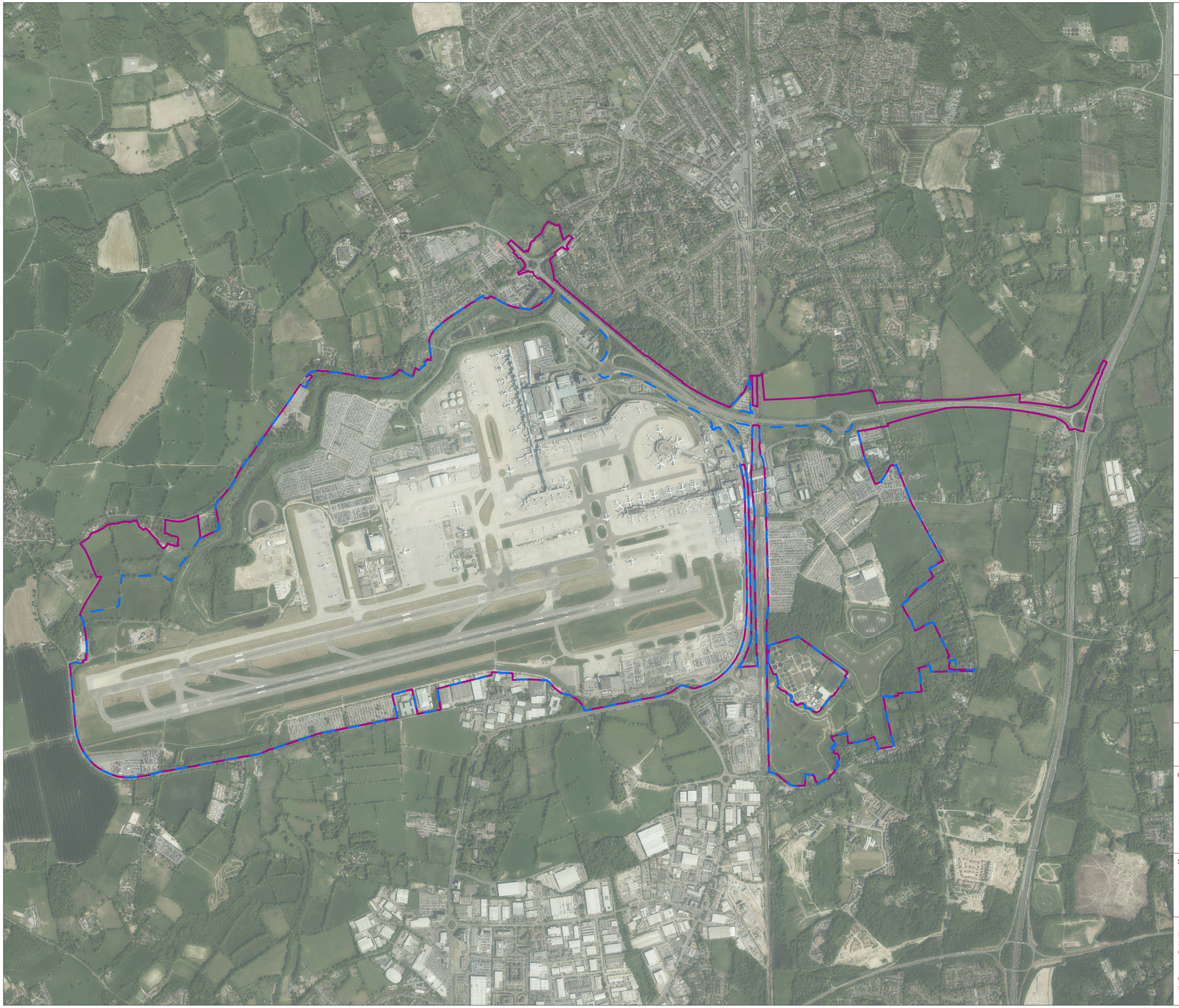

YOUR LONDON AIRPORT Gatwick

KEY

- Project Site Boundary (PEIR)
- Land in the Ownership of Gatwick Airport

DOCUMENT

Preliminary Environmental Information Report
Non-Technical Summary

DRAWING TITLE

Project Site Boundary

DATE

September 2021

ORIENTATION	DRAWING NO.	REVISION
N	FIGURE 2	For PEIR Issue
	DRAWN BY: CR	PM / CHECKED BY: AR

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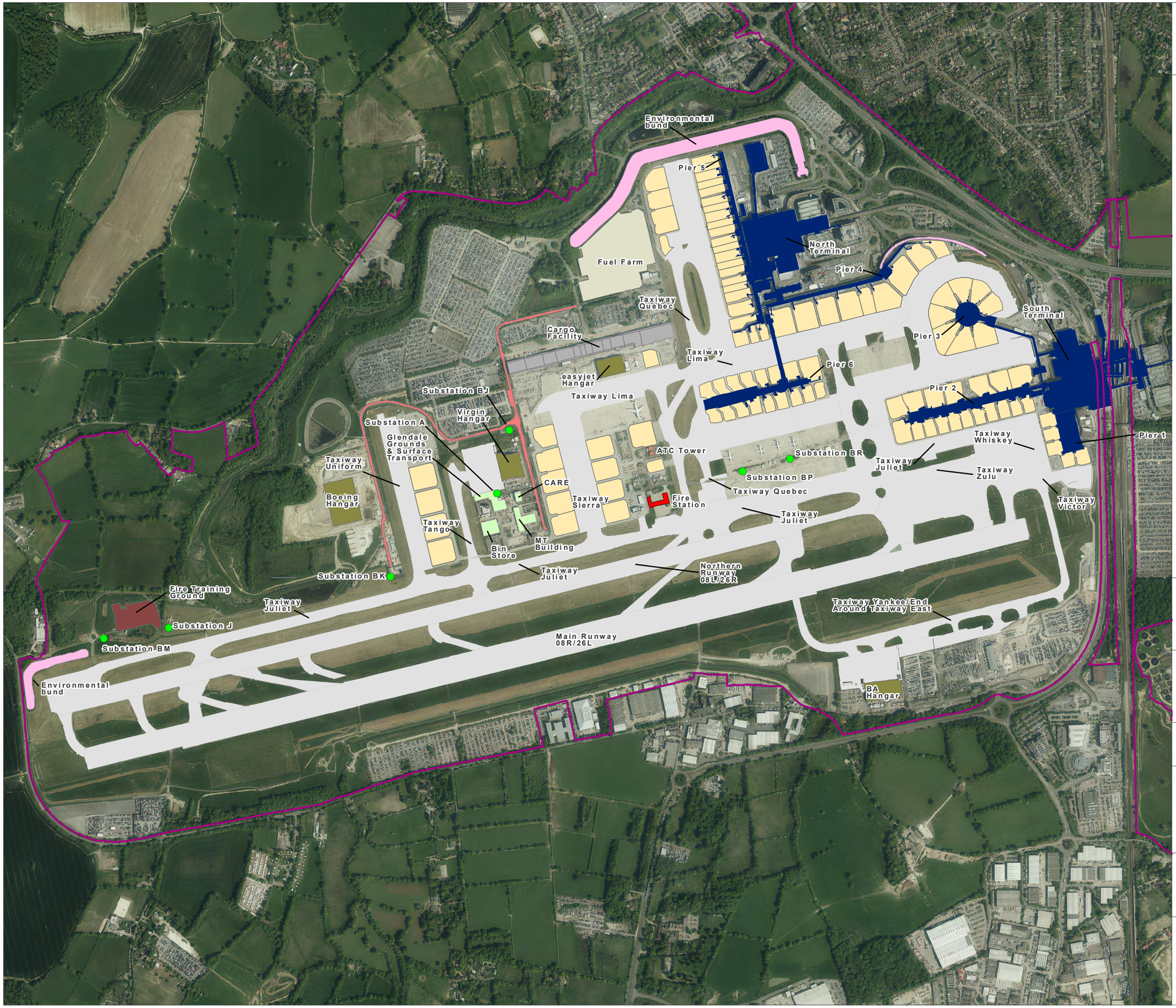

YOUR LONDON AIRPORT Gatwick

KEY

- Project Site Boundary (PEIR)
- Runway or taxiway
- Terminals and piers
- Stands
- Aircraft Hangar
- Airport Fire Station
- CARE / Motor Transport / Surface Transport / Grounds Maintenance
- Cargo Facility
- Fire Training Ground
- Air Traffic Control Tower
- Noise mitigation (environmental bund)
- Larkins Road
- Fuel Farm
- Substation

DOCUMENT

Preliminary Environmental Information Report Non-Technical Summary

DRAWING TITLE

Existing Airfield Infrastructure

DATE

September 2021

ORIENTATION	DRAWING NO.	REVISION
N	FIGURE 3a	For PEIR Issue
	DRAWN BY: BG	PM / CHECKED BY: NB

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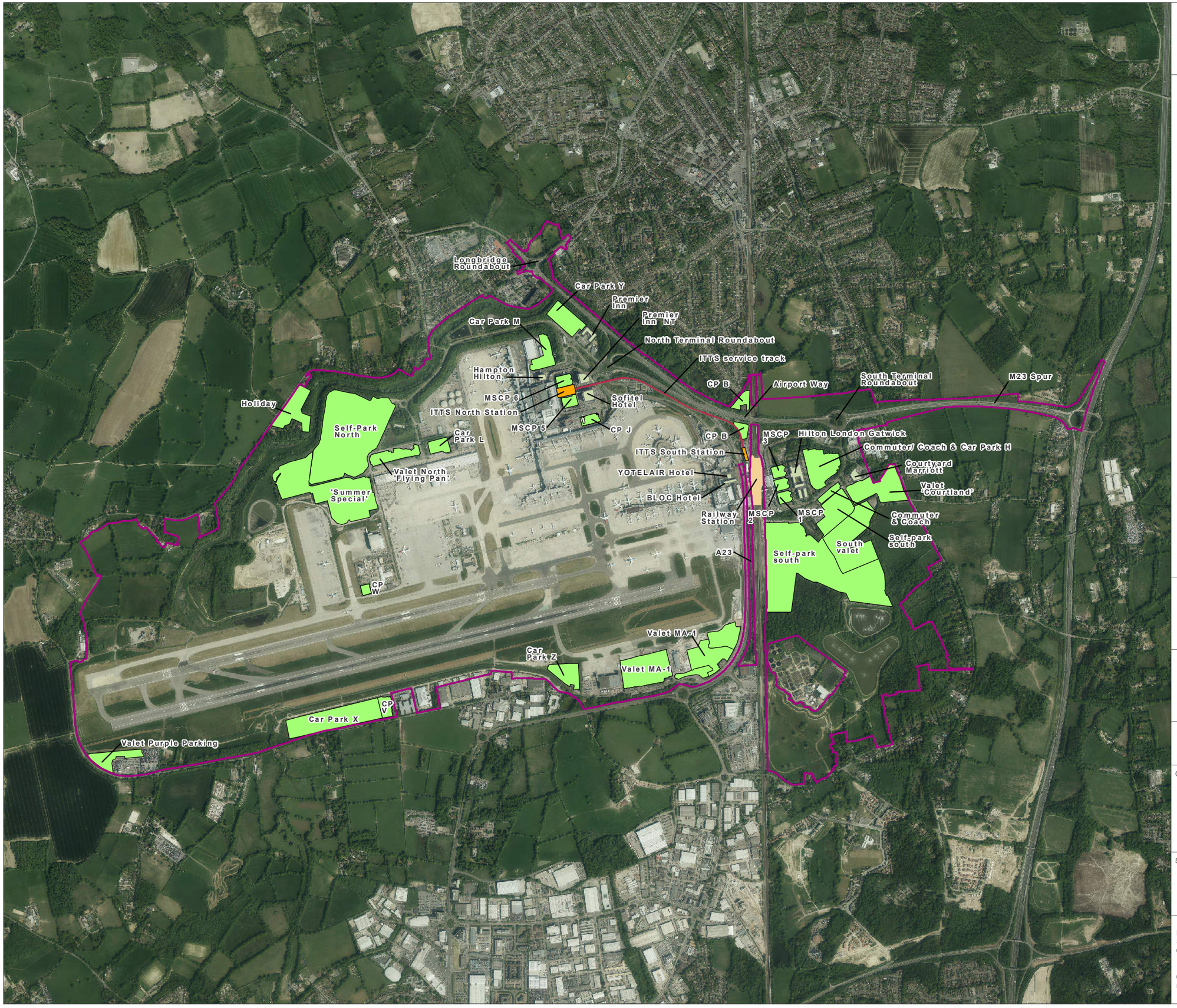

YOUR LONDON AIRPORT Gatwick

KEY

- Project Site Boundary (PEIR)
- Car parks within the GAL estate
- Hotel
- Inter-terminal transit system stations
- Inter-terminal transit system track
- Gatwick Railway Station

DOCUMENT

Preliminary Environmental Information Report Non-Technical Summary

DRAWING TITLE

Existing Supporting Airport and Highways Infrastructure

DATE

September 2021

ORIENTATION	DRAWING NO.	REVISION
N	FIGURE 3b	For PEIR Issue
	DRAWN BY: BG	PM / CHECKED BY: NB

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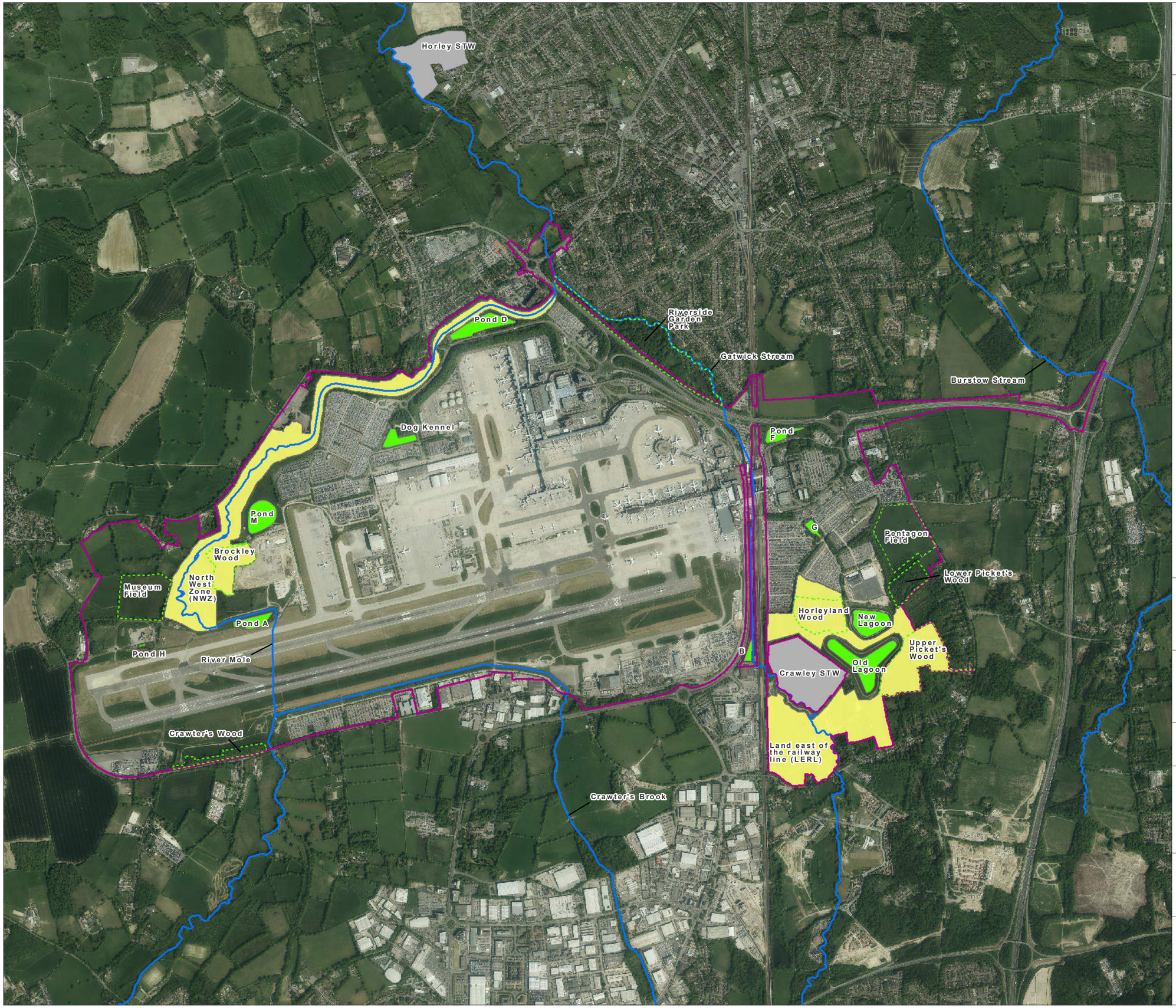

YOUR LONDON AIRPORT Gatwick

KEY

- Project Site Boundary (PEIR)
- Environmental feature / location identified in PEIR
- Gatwick Biodiversity Area
- Sewage Treatment Work
- River
- Artificial waterbody

DOCUMENT

Preliminary Environmental Information Report Non-Technical Summary

DRAWING TITLE

Existing Location / Environmental Features Identified in PEIR

DATE

September 2021

ORIENTATION	DRAWING NO.	REVISION
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	DRAWN BY: CR	PM / CHECKED BY: NB

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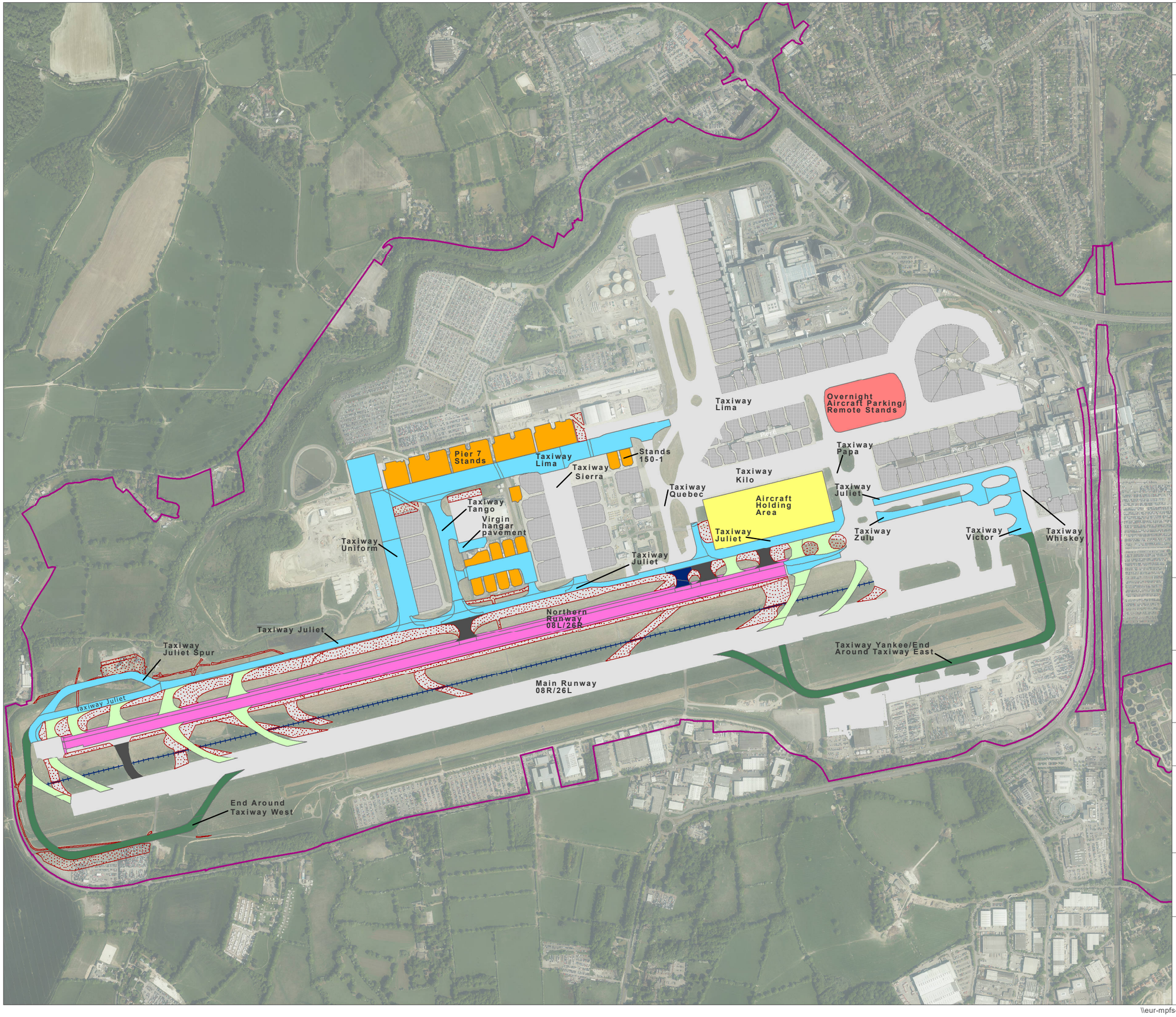

YOUR LONDON AIRPORT Gatwick

Project Site Boundary (PEIR)

Existing

- Existing stands
- Existing exit/entrance taxiway
- Existing taxiway

Northern Runway Project

- Existing taxiway to be replaced with grass
- Overnight parking/remote stands
- Northern Runway 08L/26R
- End Around Taxiways
- Taxiway
- Modified exit/entrance taxiway
- Stands
- Aircraft Holding Area
- New exit/entrance taxiway
- East-West track between runways

DOCUMENT

Preliminary Environmental Information Report
Non-Technical Summary

DRAWING TITLE

Airfield/Airport Works
Sheet 1

DATE

September 2021

ORIENTATION	DRAWING NO.	REVISION
N	FIGURE 4a	For PEIR Issue
	DRAWN BY: MS	PM / CHECKED BY: AR

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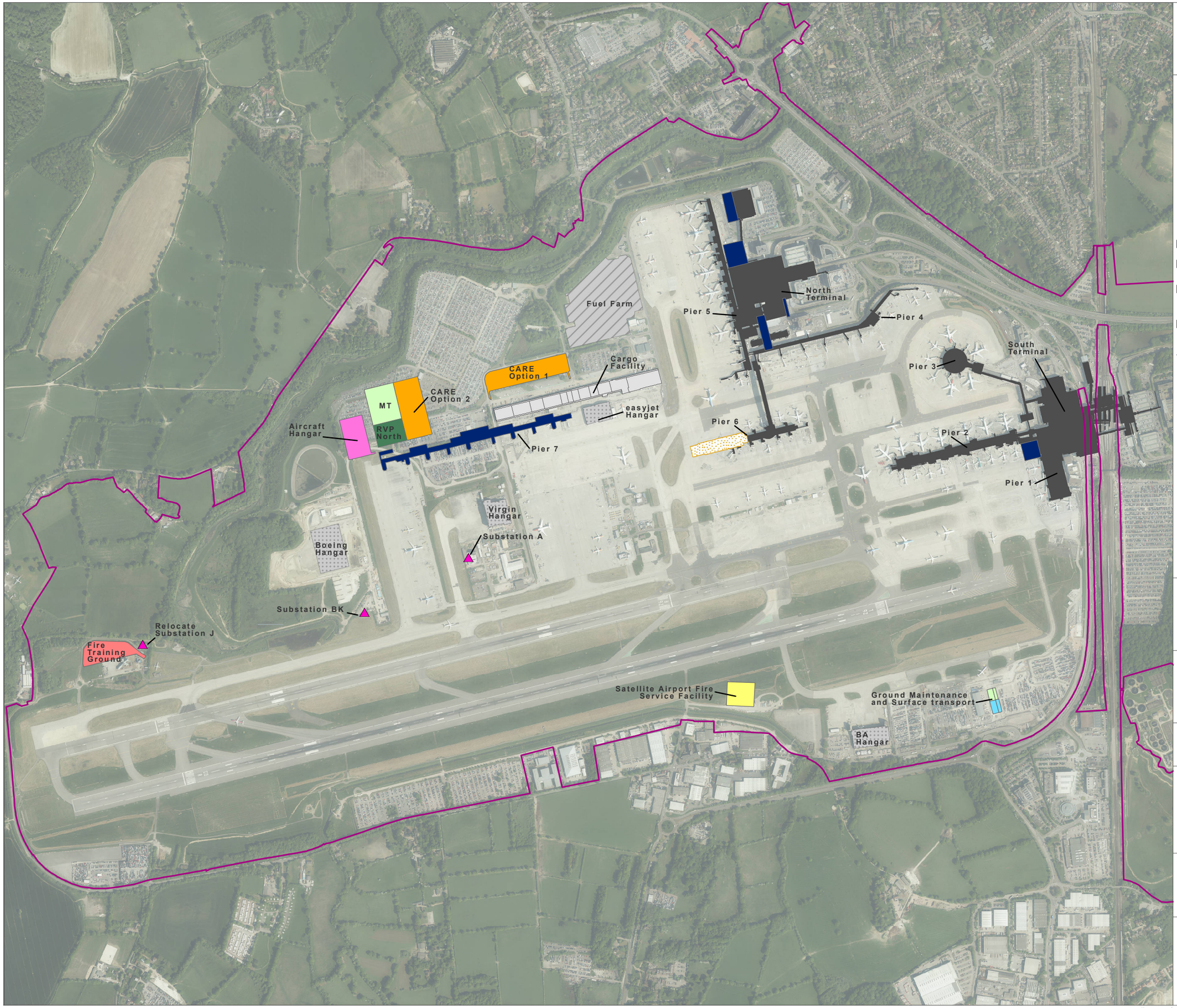

YOUR LONDON AIRPORT Gatwick

Project Site Boundary (PEIR)

Existing

- Terminal buildings
- Fuel Farm
- Cargo facility buildings
- Hangar

Future Baseline

- Pier 6 West Extentsion

Northern Runway Project

- Terminal works
- Hangar
- Relocation of Fire Training Ground
- Relocation of Ground Maintenance and Surface transport
- Substation
- Relocation of Surface transport
- Central Area Recycling Enclosure (CARE)
- Rendezvous point north
- Satellite Airport Fire Service Facility provision south of main runway

DOCUMENT

Preliminary Environmental Information Report
Non-Technical Summary

DRAWING TITLE

Airfield/Airport Works
Sheet 2

DATE

September 2021

ORIENTATION	DRAWING NO.	REVISION
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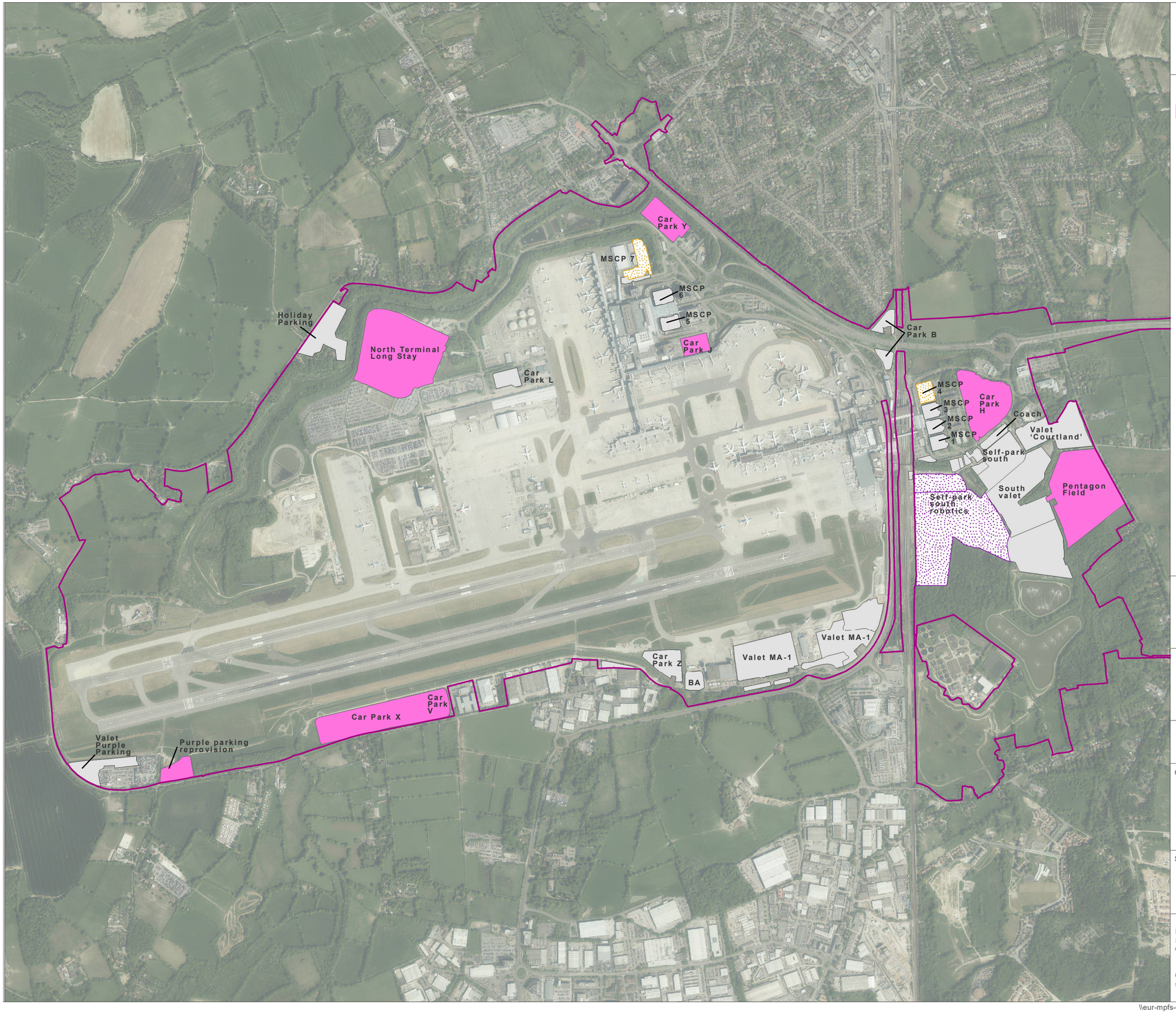

YOUR LONDON AIRPORT Gatwick

KEY

- Project Site Boundary (PEIR)

Existing

- Gatwick Airport Car Park

Future Baseline

- Self-park south robotics
- Car park

Northern Runway Project

- Car Park

DOCUMENT

Preliminary Environmental Information Report
Non-Technical Summary

DRAWING TITLE

Car Parks

DATE

September 2021

ORIENTATION	DRAWING NO.	REVISION
N	FIGURE 4b	For PEIR Issue
	DRAWN BY: MS	PM / CHECKED BY: AR

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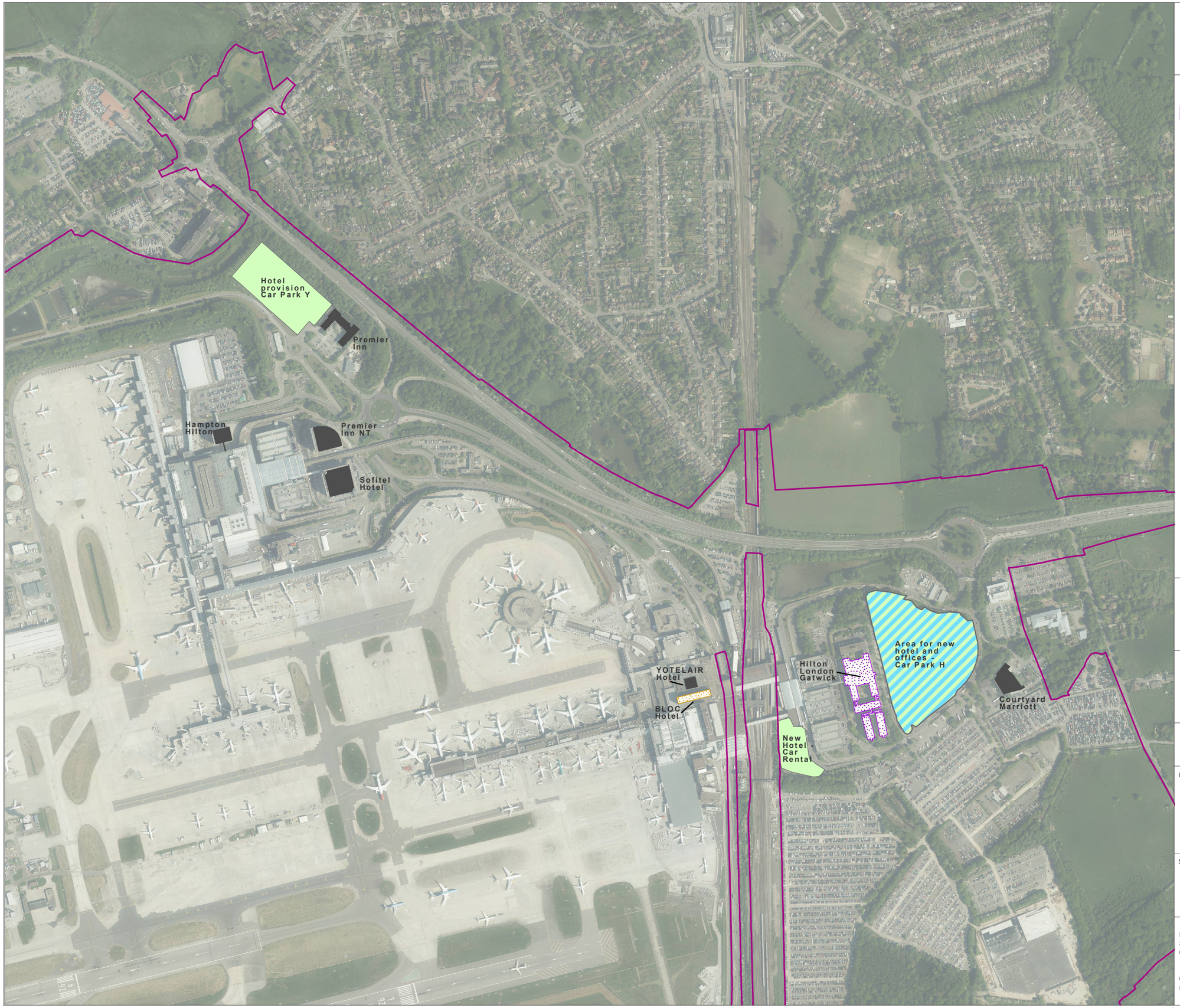

YOUR LONDON AIRPORT Gatwick

KEY

- Project Site Boundary (PEIR)

Existing

- Hotel

Future Baseline

- BLOC Hotel
- Hilton London Gatwick

Northern Runway Project

- Area for hotel provision
- Area for new hotel and offices

DOCUMENT

Preliminary Environmental Information Report Non-Technical Summary

DRAWING TITLE

Hotels and Commercial Elements

DATE

September 2021

ORIENTATION	DRAWING NO.	REVISION
N	FIGURE 4c	For PEIR Issue
	DRAWN BY: MS	PM / CHECKED BY: AR

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YOUR LONDON AIRPORT Gatwick

KEY

- Project Site Boundary (PEIR)

Existing

- Inter-Terminal Transit System Stations
- Inter-Terminal Transit System track

Future Baseline

- Gatwick Railway Station
- Junction Signalisation

Northern Runway Project

- Proposed Highway Improvement Works
- North Terminal Forecourt
- South Terminal Forecourt
- Inter Terminal Transit System station works
- North Terminal autonomous Vehicle Station
- South Terminal autonomous vehicles station
- South Terminal Coaching Gates
- Larkins Road diversion
- Autonomous vehicles route

DOCUMENT

Preliminary Environmental Information Report Non-Technical Summary

DRAWING TITLE

Surface Access Improvements

DATE

September 2021

ORIENTATION	DRAWING NO.	REVISION
N	FIGURE 4d	For PEIR Issue
	DRAWN BY: MS	PM / CHECKED BY: AR

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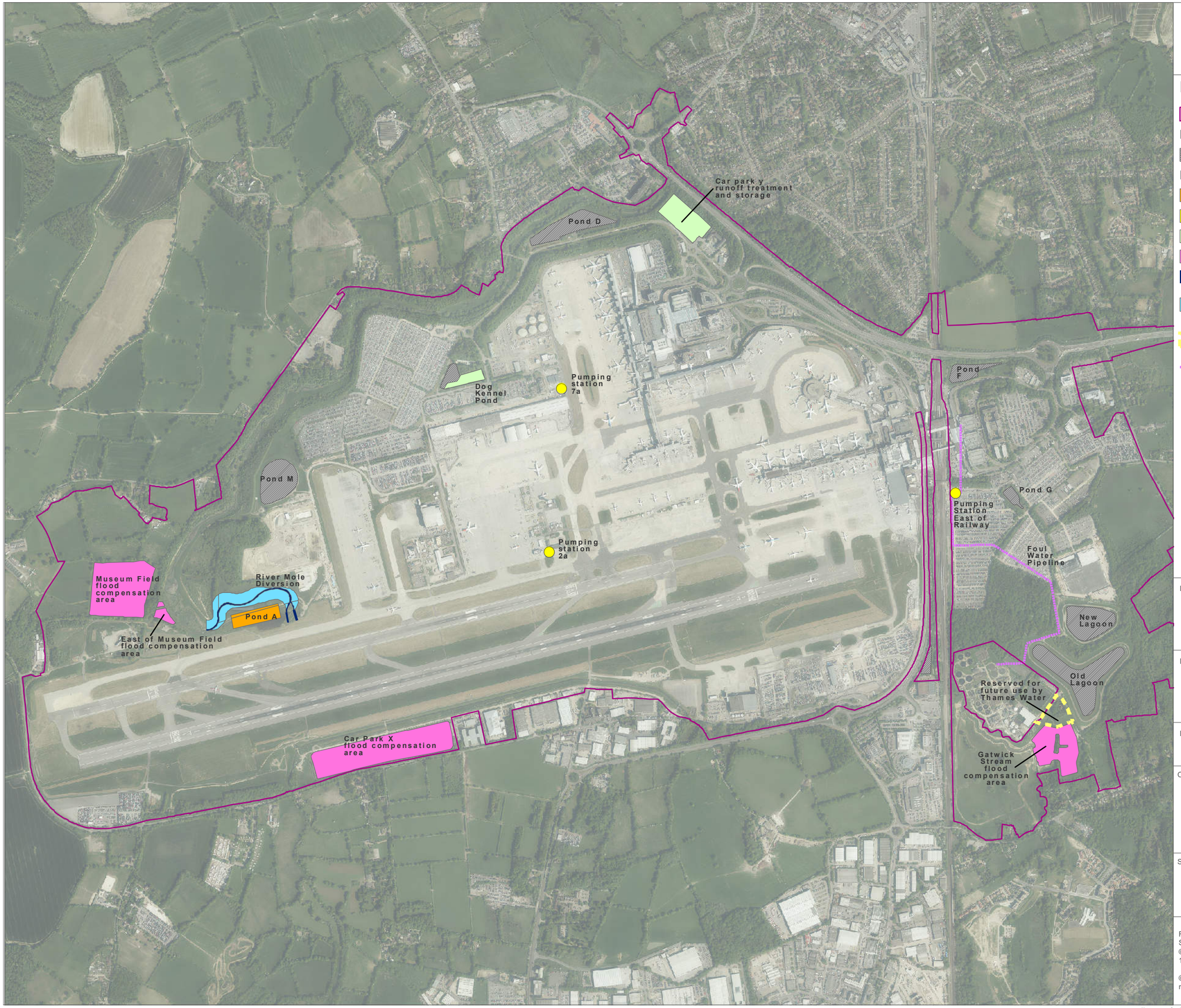

YOUR LONDON AIRPORT Gatwick

KEY

- Project Site Boundary (PEIR)

Existing

- Artificial waterbody

Northern Runway Project

- Water storage
- Water treatment
- Water treatment and storage
- Flood compensation / Storage Areas
- River Mole Diversion
- River Mole Diversion - secondary channel flood compensation
- Reserved for future use as waste water treatment by Thames Water
- Foul water pipeline
- Pumping station

DOCUMENT

Preliminary Environmental Information Report Non-Technical Summary

DRAWING TITLE

Surface Water and Foul Water Improvements

DATE

September 2021

ORIENTATION	DRAWING NO.	REVISION
N	FIGURE 4e	For PEIR Issue
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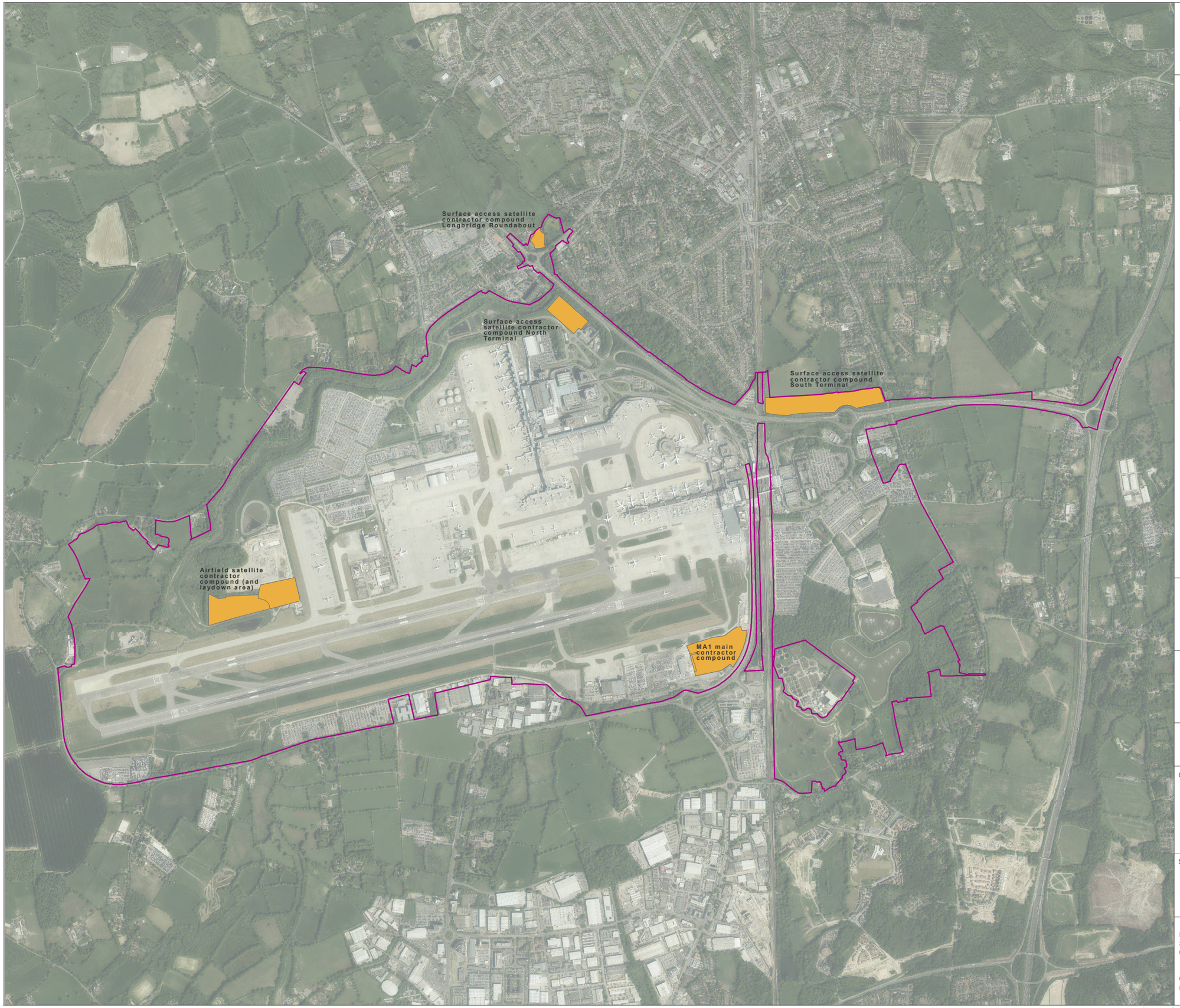

YOUR LONDON AIRPORT Gatwick

KEY

Project Site Boundary (PEIR)

Northern Runway Project

Principal Construction Compounds

DOCUMENT

Preliminary Environmental Information Report Non-Technical Summary

DRAWING TITLE

Principal Construction Compounds

DATE

September 2021

ORIENTATION	DRAWING NO.	REVISION
N	FIGURE 4f	For PEIR Issue
	DRAWN BY: MS	PM / CHECKED BY: AR

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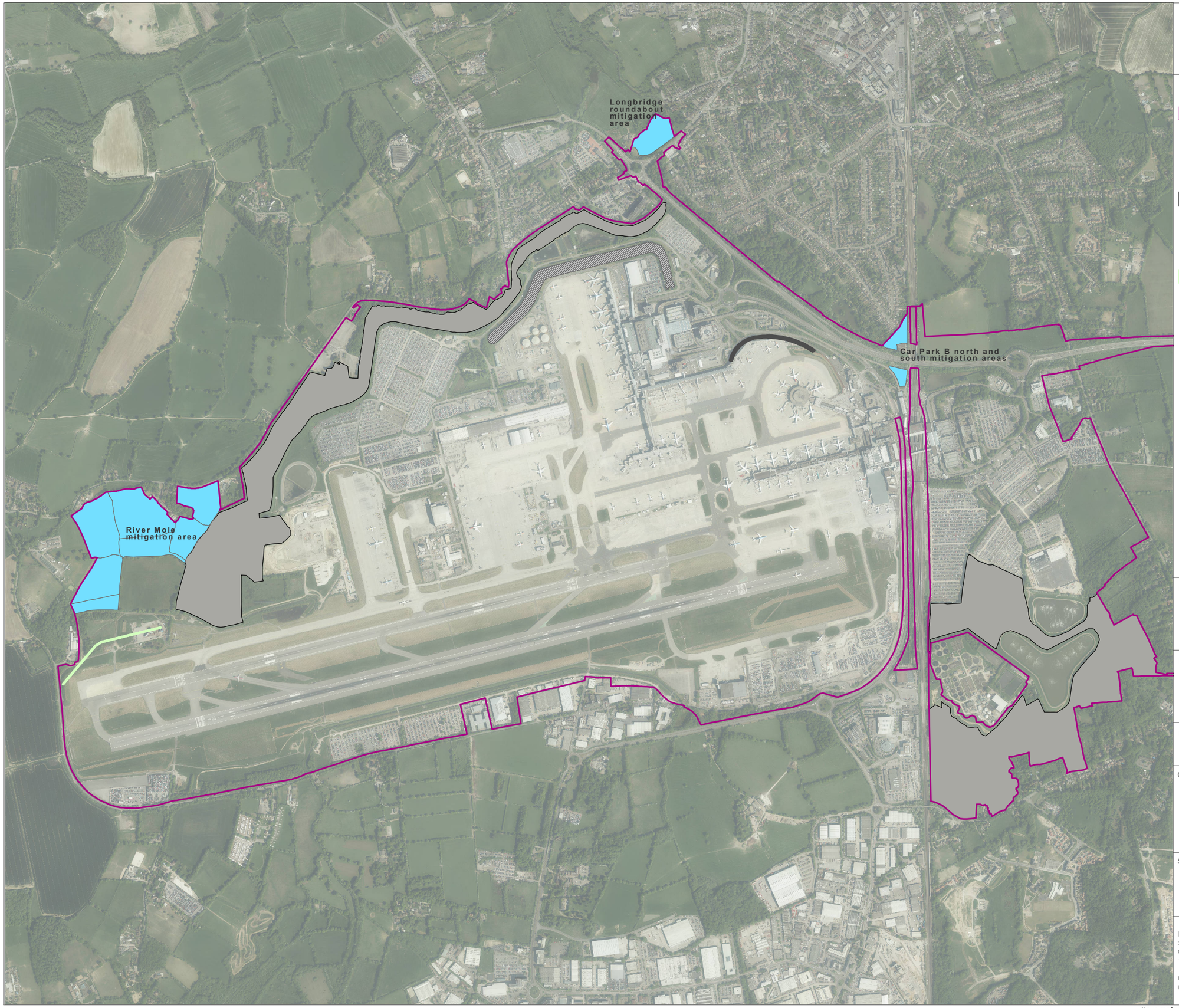

YOUR LONDON AIRPORT Gatwick

KEY

Project Site Boundary (PEIR)

Existing

Gatwick Biodiversity Area

Noise mitigation (environmental bund)

Noise wall

Northern Runway Project

Potential Environmental Mitigation and Enhancement Areas

Noise mitigation

DOCUMENT

Preliminary Environmental Information Report
Non-Technical Summary

DRAWING TITLE

Potential Environmental Mitigation and Enhancement Areas

DATE

September 2021

ORIENTATION	DRAWING NO.	REVISION
N	FIGURE 4g	For PEIR Issue
	DRAWN BY: MS	PM / CHECKED BY: AR

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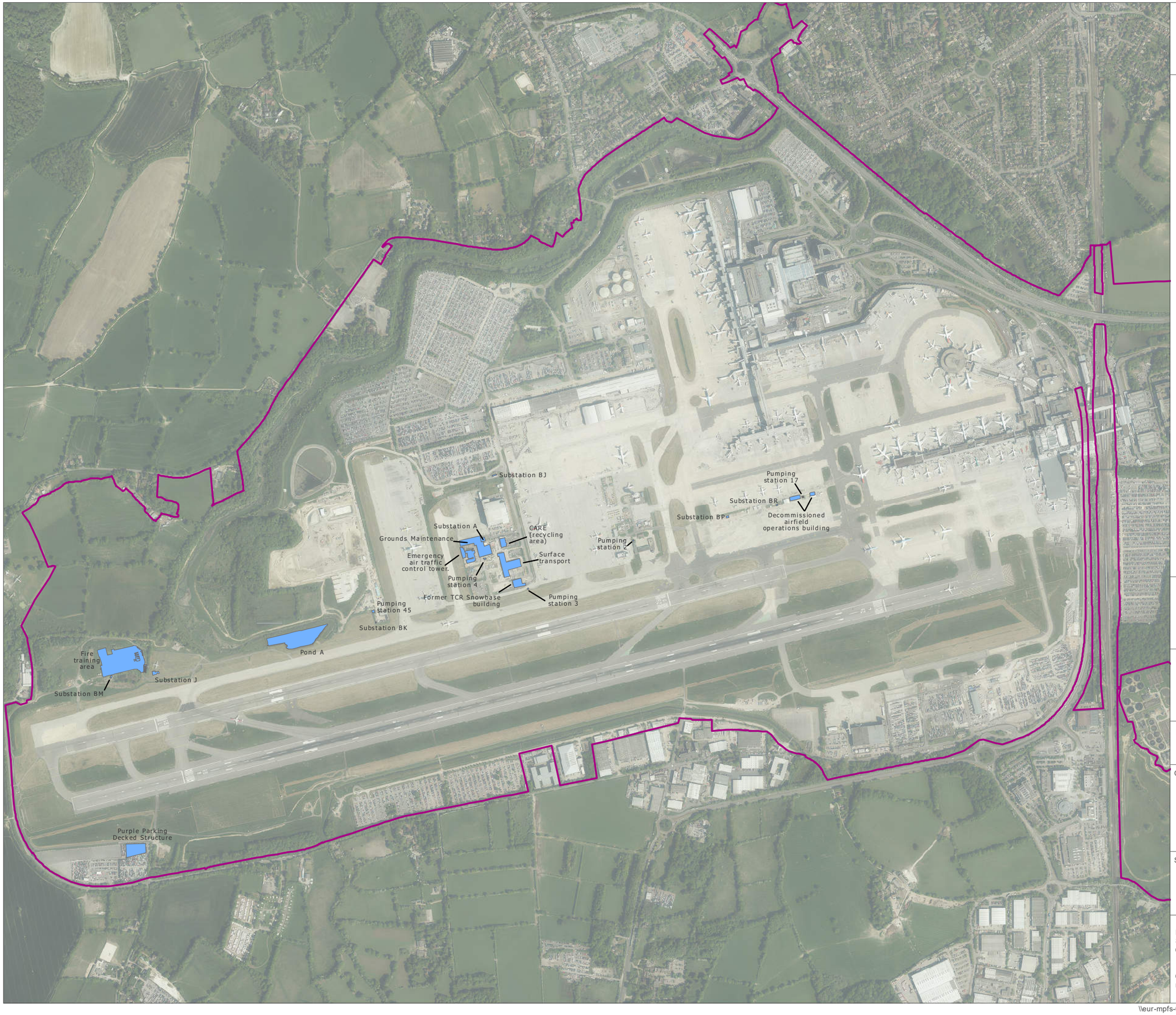

YOUR LONDON AIRPORT Gatwick

Project Site Boundary (PEIR)

DOCUMENT

Preliminary Environmental Information Report Non-Technical Summary

DRAWING TITLE

Existing Facilities to be Demolished or Removed

DATE

September 2021

ORIENTATION	DRAWING NO.	REVISION
N	FIGURE 4h	For PEIR Issue
	DRAWN BY: MS	PM / CHECKED BY: AR

SCALE @ A3 1:12,500

0 150 300 600 m

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YOUR LONDON AIRPORT Gatwick

KEY

- Project Site Boundary (PEIR)
- 1km buffer from Project Site Boundary
- Scheduled Monument
- Grade I Listed Building
- Grade II* Listed Building
- Grade II Listed Building
- Locally Listed Building
- Conservation Area

1 - Charlwood Park Farmhouse
2 - Edgeworth House
3 - Wing House
4 - Church Road
5 - Church of St Bartholomew
6 - Ye Olde Six Bells
7 - Tinsley Green Medieval Settlement
8 - Thunderfield Castle

DOCUMENT

Preliminary Environmental Information Report Non-Technical Summary

DRAWING TITLE

Designated Heritage Assets within 1 km of the Project Site Boundary

DATE

September 2021

ORIENTATION	DRAWING NO.	REVISION
N	FIGURE 5	For PEIR Issue
	DRAWN BY: MP	PM / CHECKED BY: MR

SCALE @ A3 1:25,000

0 250 500 1,000 m

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YOUR LONDON AIRPORT Gatwick

KEY

- Project Site Boundary (PEIR)
- 5km Buffer from Site Boundary (approximate study area for LTVIA)
- District Boundaries
- Gatwick Airport Urban Character Area

Crawley District

- Crawley Urban Area (including neighbourhoods)
- Crawley Character Areas

Tandridge District

- Low Weald Farmland
- Wooded High Weald

Reigate and Banstead (Sub-Areas)

- C1 - Low Weald
- Horley Townscape

Mid Sussex District

- LCA6 - High Weald
- LCA7 - High Weald Plateau
- LCA 8 - Worth Forest

Horsham District

- I2 - Warnham & Rusper Wooded Ridge
- K1 - Upper Mole Farmlands
- K2 - Faygate & Warnham Vale
- L1 - St Leonards Forest

Mole Valley District

- 4A - Open Weald
- 4B - Wooded Weald

DOCUMENT

Preliminary Environmental Information Report Non-Technical Summary

DRAWING TITLE

District Landscape and Townscape Character Areas within 5 km Radius

DATE

September 2021

ORIENTATION	DRAWING NO.	REVISION
N	FIGURE 6	For PEIR Issue
	DRAWN BY: CR	PM / CHECKED BY: PE

SCALE @ A3 1:55,000

0 500 1,000 2,000 m

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YOUR LONDON AIRPORT Gatwick

KEY

- 5km buffer from Project Site Boundary
- 20km buffer from Project Site Boundary
- Project Site Boundary (PEIR)
- Site of Special Scientific Interest
- Special Protection Area
- Special Area of Conservation
- Local Nature Reserve
- Ancient Woodland
- Country Park

Source:
Natural England

DOCUMENT

Preliminary Environmental Information Report Non-Technical Summary

DRAWING TITLE

Statutory Designated Sites

DATE

September 2021

ORIENTATION	DRAWING NO.	REVISION
N	FIGURE 7	For PEIR Issue
	DRAWN BY: CR/BG	PM / CHECKED BY: NB

SCALE @ A3 1:160,000

0 1,250 2,500 5,000 m

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YOUR LONDON AIRPORT Gatwick

KEY

Project Site Boundary (PEIR)

Main River

Ordinary Watercourses

1% (1 in 100) AEP Event + 35% CC Depth Difference

- -0.1 to -10
- -0.05 to -0.1
- -0.01 to -0.05
- 0 to -0.01
- 0 to 0.01 Neutral
- 0.01 to 0.05
- 0.05 to 0.1
- >= 0.1

Existing Elements

- Existing Buildings
- Existing Stands
- Existing Runways and Taxiways

Project Elements

- Terminals and Pier Works
- Hangar
- Hotel
- Offices
- Stands
- Runway and taxiway
- Relocation of Fire Training Ground
- Noise Mitigation
- Proposed Car Parks
- CARE and MT maintenance facilities

DOCUMENT

Non Technical Summary Report

DRAWING TITLE

Upper Mole Hydraulic Model Depth Difference to BAseline 1% (1 in 100) AEP event +35%cc (With-Project, With-Mitigation)

DATE

September 2021

ORIENTATION	DRAWING NO.	REVISION
N	FIGURE 8	For NTS Issue
	DRAWN BY: CW	PM / CHECKED BY: MS

SCALE @ A3 1:20,000

0 125 250 500 750 1,000 m

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YOUR LONDON AIRPORT Gatwick

KEY

- Project Site Boundary (PEIR)
- Local Study Area
- Labour Market
- Five Authorities Area Boundary

DOCUMENT

Preliminary Environmental Information Report
Non-Technical Summary

DRAWING TITLE

Project Boundary, Local Study Area, Labour Market Area and Five Authorities Area

DATE

September 2021

ORIENTATION	DRAWING NO.	REVISION
N	FIGURE 9	For PEIR Issue
	DRAWN BY: MAR	PM / CHECKED BY: CGJ

SCALE @ A3 1:550,000

0 15,000 30,000 m

Numbered unitary areas:

22 POOLE
23 BOURNEMOUTH
24 CITY OF SOUTHAMPTON
25 CITY OF PORTSMOUTH
26 READING
27 WOKINGHAM
28 BRACKNELL FOREST
29 WINDSOR AND MAIDENHEAD
30 SLOUGH

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YOUR LONDON AIRPORT Gatwick

KEY

- Project Site Boundary (PEIR)
- Bridleway
- Byway
- Footpath
- Other route
- National Cycle Route 21 (NCR21)

Sussex Border Path - footpath numbers highlighted in yellow form part of this route.

DOCUMENT

Preliminary Environmental Information Report
Non-Technical Summary

DRAWING TITLE

Existing Recreational Facilities

DATE

September 2021

ORIENTATION	DRAWING NO.	REVISION
N	FIGURE 10	For PEIR Issue
	DRAWN BY: CR	PM / CHECKED BY: ES

SCALE @ A3 1:20,000

0 125 250 500 750 1,000 m

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