M42 Junction 6 Development Consent Order

Scheme Number TR010027

8.20 Statement of Common Ground with Birmingham Airport Ltd

Planning Act 2008

Rule 8 (1)(e)

The Infrastructure Planning (Examination Procedure) Rules 2010

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The Infrastructure Planning (Examination Procedure) Rules 2010

M42 Junction 6 Development Consent Order

Development Consent Order 202[ ]

STATEMENT OF COMMON GROUND
Birmingham Airport Ltd

Regulation Number	Rule 8(1)(e)
Planning Inspectorate Scheme Reference	TR010027
Document Reference	8.20
Author	Highways England and Birmingham Airport

Version	Date	Status of Version
1	June 2019	Draft

STATEMENT OF COMMON GROUND

This Statement of Common Ground has been prepared and agreed by (1) Highways England Company Limited and (2) Birmingham Airport Ltd.

Signed……
Chris Harris
Project Manager
on behalf of Highways England
Date: [DATE]

Signed……
[NAME]
[POSITION]
on behalf of Birmingham Airport
Date: [DATE]

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1 Introduction

1.1 Purpose of this document

1.1.1 This Statement of Common Ground ("SoCG") has been prepared in respect of the proposed M42 Junction 6 Development Consent Order ("the Application") made by Highways England Company Limited ("Highways England") to the Secretary of State for Transport ("Secretary of State") for a Development Consent Order ("the Order") under section 37 of the Planning Act 2008 ("PA 2008").

1.1.2 The order, if granted, would authorise Highways England to carry out the following works:

a. a new dumbbell junction approximately 1.8km south of the existing Junction 6 on the M42;

b. construction of a new 2.4km dual carriageway link road between the new junction and Clock Interchange (an existing junction on the A45);

c. modifications to the existing Clock Interchange junction;

d. upgrades to the existing Junction 6; and

e. realignments and improvements to local roads to the west of the existing M42 in proximity to the proposed bypass.

1.1.3 This SoCG does not seek to replicate information which is available elsewhere within the Application documents. All documents are available in the deposit locations and/or the Planning Inspectorate website.

1.1.4 This SoCG has been produced to confirm to the Examining Authority where agreement has been reached between the parties to it, and where agreement has not (yet) been reached. SoCGs are an established means in the planning process of allowing all parties to identify and so focus on specific issues that may need to be addressed during the examination.

1.2 Parties to this Statement of Common Ground

1.2.1 This SoCG has been prepared by (1) Highways England as the Applicant and (2) Birmingham Airport Ltd.

1.2.2 Highways England became the Government-owned Strategic Highways Company on 1 April 2015. It is the highway authority in England for the strategic road network and has the necessary powers and duties to operate, manage, maintain and enhance the network. Regulatory powers remain with the Secretary of State. The legislation establishing Highways England made provision for all legal rights and obligations of the Highways Agency, including in respect of the Application, to be conferred upon or assumed by Highways England.

1.2.3 Birmingham Airport's role in relation to the DCO process derives from Section 42(1)(d) of the Planning Act 2008 as a land interest and neighbouring business which may be affected by the Scheme. Birmingham Airport own land within the red line boundary and is a key traffic generator and employer in the surrounding area.

1.2.4 Collectively Highways England and Birmingham Airport are referred to as 'the parties'.

1.3 Terminology

1.3.1 In the table in the Issues chapter of this SoCG:

a. "Agreed" indicates where the issue has been resolved.

b. "Not Agreed" indicates a final position, and

c. "Under discussion" where these points will be the subject of on-going discussion wherever possible to resolve, or refine, the extent of disagreement between the parties.

1.3.2 It can be taken that any matters not specifically referred to in the Issues chapter of this SoCG are not of material interest or relevance to Birmingham Airport's representation and therefore have not been considered in this document. It is recognised however that engagement between both parties will need to continue due to their joint vested interest in the area of the Scheme.

2 Record of Engagement

2.1.1 The parties have been engaged in consultation since the beginning of the proposed development. A summary of the meetings and correspondence that has taken place between Highways England and Birmingham Airport in relation to the Application is outlined in **Table 2-1**.

Table 2.1 - Record of Engagement

Date	Form of correspondence	Key topics discussed and key outcomes (the topics should align with the Issues tables)
26.04.16	Meeting	Early discussion meeting to present details of the scheme to date and listen to thoughts and concerns before developing the options in more detail.
16.06.16	Meeting	Birmingham Airport shared growth strategy and discuss implications
28.10.16	Meeting	Meeting to share progress on the options and discuss presentation of the options at public consultation
03.10.17	Email	Email to circulate initial drawings for the proposed scheme showing the PRA, and the PRA in greater engineering detail. These drawings were circulated ahead of the meeting on 11.10.17.
11.10.17	Meeting	Meeting to share progress in advance of Statutory Consultation and requested and information relating to airport safeguarding requirements.
07.02.18	Email	Highways England requested another meeting with Birmingham Airport to discuss the scheme in more detail as part of Statutory Consultation.
13.02.18	Email	Birmingham Airport suggested time and date of next meeting of 28 February 2018.
13.02.18	Email	Highways England confirmed suitability of meeting time and date
15.02.18	Email	Highways England requested confirmation of the latest airport safeguarding information and any other limitations that the project need consider as part of ongoing design development.
16.02.18	Email	Statutory Consultation response received from Birmingham Airport

Date	Form of correspondence	Key topics discussed and key outcomes (the topics should align with the Issues tables)
16.02.18	Email	Birmingham Airport confirmed safeguarding queries raised in the email on 15 February 2018. Also provided crane operation guidance
28.02.18	Meeting	Statutory consultation meeting
02.03.18	Email	Issued meeting minutes and general arrangement drawings to Birmingham Airport
08.05.18	Meeting	Joint meeting with Birmingham Airport and the Environment Agency to agree the surface water attenuation and treatment strategy following responses to statutory consultation.
20.07.18	Email	Highways England issued technical note covering the revised drainage attenuation and treatment strategy in more detail.
24.07.18	Email	Request for access to Birmingham Airport land for surveys
30.07.18	Email	Received email confirmation from Birmingham Airport accepting the revised drainage attenuation and treatment strategy in principle
28.09.18	Meeting	Scheme update and discussion regarding signage and traffic impacts during construction.
02.10.18	Letter	Birmingham Airport additional consultation response
18.6.19	Letter	Highways England's response to the issues raised in Birmingham Airport's Relevant Representation Letter
20.6.19	Draft SoCG	Draft Statement of Common Ground – First Draft

2.1.2 It is agreed that this is an accurate record of the key meetings and consultation undertaken between (1) Highways England and (2) Birmingham Airport in relation to the issues addressed in this SoCG.

3 Issues

3.1 Issues Raised

Table 3-1 – Record of Issued Raised

Sub-topic	Birmingham Airport Comment	Highways England Response/Actions	Status/Agreement
Design			
Clock Interchange – Segregated left Turn Lane	The Airport previously had concerns that the location of the segregated left turn lane may preclude the provision of two merging lanes onto the A45 westbound, as part of any future works required to be implemented by the airport to facilitate growing passenger numbers. Additional detail has been provided in the current application where the proposed scheme design now indicates that two lanes are able to exit the Clock Interchange circulatory carriageway onto the A45 westbound, in addition to the proposed segregated left turn. However, concerns previously raised relating to potential high growth at the airport necessitating the reconstruction of Clock Interchange and in turn requiring the segregated left turn to be relocated remain valid.	The Applicant notes Birmingham Airport's concerns and provided additional information in its response in the letter dated 18.6.19 and will continue to provide further detail.	Under Discussion

Sub-topic	Birmingham Airport Comment	Highways England Response/Actions	Status/Agreement
	In addition, the plans showing the proposed scheme also highlight a very short length of queue storage between the stop line at Clock Interchange and the diverge point of the segregated left turn, which is dictated by the existing bridge width. This short length of queue storage suggests that blocking back of the segregated left turn lane may occur during busy periods when queues develop back from the stop line. Whilst the LinSig modelling exercise undertaken as part of the Transport Assessment did not highlight significant blocking back from the junction, the high volumes of traffic which are likely to use the segregated left turn lane mean this is potentially a cause for concern.		
	We also have concerns that the proposals may struggle to accommodate future traffic growth associated with large scale developments such as the UK Central Hub Area, NEC or JLR, all of which are likely to result in increased volumes of traffic passing through Clock Interchange during peak periods. As such we strongly recommend that any changes which would increase the queue storage area, or move the segregated left turn diverge further back from the roundabout stop line are	The Applicant notes Birmingham Airport's concerns and provided additional information in its response in the letter dated 18.6.19 and will continue to provide further detail.	Under Discussion

Sub-topic	Birmingham Airport Comment	Highways England Response/Actions	Status/Agreement
	investigated to maximise junction capacity and provide operational flexibility in future years.		
Junction 5A	Whilst a northbound on-slip/ southbound off-slip at the proposed southern M42 junction would not strictly be required to accommodate airport related traffic movements, it is noted that a significant proportion of traffic associated with potential developments such as the UK Central Hub Area, NEC or JLR would require these slip roads to avoid congestion being created on the existing highway network, which in turn may affect access to/from the airport. For example, it would allow road users travelling from the north to access the airport/ NEC and UK Central Hub area from the new junction if Junction 6 is heavily congested.	Operational traffic modelling of Junction 6 indicates that the junction will perform in a satisfactory manner up to the year 2041 during average conditions. The traffic modelling indicates minimal traffic demand for north-facing slips at Junction 5A due to the greater distances and travel times that will be incurred.	Under Discussion
	There does not appear to be anything contained within the application which would preclude the northbound on/off-slips from being constructed at a later date. Birmingham Airport would support the provision of these slips when development in the surrounding area is implemented that necessitates their construction to reduce the likelihood of congestion on the existing highway network.	The proposed junction layout and design at Junction 5A will not preclude north facing slip roads being introduced to the junction at a later stage if the need arises. For example, should the proposed new Motorway Service Area (MSA) receive planning permission and subsequently be constructed, north-facing slip roads will be provided by the developer of the MSA as per their planning application.	Under Discussion

Sub-topic	Birmingham Airport Comment	Highways England Response/Actions	Status/Agreement
M42 Northbound to A45 Westbound Free-Flow Link (Airport Way Connector Road)	The existing free-flow link between the M42 northbound off-slip and A45 westbound is a key part of the highway network for the airport, allowing vehicles to enter the airport with minimal interaction with general traffic at M42 Junction 6. Whilst the creation of the new motorway junction and dual carriageway link will effectively duplicate this existing provision, it is noted that a significant volume of traffic travelling towards the A45 westbound will also be using the dual carriageway link. In the event of an incident creating congestion along the new dual carriageway link or at the new southern motorway junction, traffic wishing to access the airport from the northbound M42 carriageway would be required to continue along the M42 to Junction 6. As such, in the event of the existing free-flow link being closed to general traffic, all airport related traffic would be required to travel through the junction itself, which has the potential to cause queuing and delays at this already congested location. We therefore consider it would be preferable to retain the potential to use this free-flow link to guard against these possible circumstances.	As stated in our letter dated 18.6.19. The closure of the existing segregated left turn at Junction 6 (from the M42 Northbound to A45 westbound) is anticipated to enable further improvements to the junction in the form of an additional fourth lane at the stop-line, and improved geometry to the A45 westbound on slip. These improvements have been modelled and the results indicate slight benefits to the overall future performance of the junction. This is because the amendment now permits two continuous lanes to exit the junction interchange onto the A45 westbound, whereas previously the two exiting lanes merged into one. An important point to note is that, if the free flow link were to be retained, the reduction in traffic utilising this link may lead to an increased risk of traffic weaving between the M42 Junction 6 and Clock Interchange across the existing ‘ladder’ road marking. This increased risk in traffic weaving across the ‘ladder’ road marking, combined with the lower frequency of traffic and therefore increased travelling speed, is likely to incur side swipe and rear shunt accidents potentially leading to fatal or serious injuries to the road users.	Under Discussion

Sub-topic	Birmingham Airport Comment	Highways England Response/Actions	Status/Agreement
	Furthermore, Birmingham Airport part-funded the construction of the free-flow link to mitigate the impact of the proposed increase in passenger numbers following the completion of the runway extension in 2014. As such, if this free flow link is removed, we seek assurance that we will not be required to fund an alternative scheme in the future to compensate for its loss should we carry out further development on or adjoining our site.	Highways England note Birmingham Airport's concerns and shall continue to engage with Birmingham Airport to clarify and resolve this matter.	Under Discussion
Signage	The proposed highway works will result in a choice of options for road users to access the airport and neighbouring uses such as the NEC and Resorts World. Furthermore, it will allow for alternative routes when a traffic incident or congestion impacts the surrounding road network. Having a clear, flexible and cohesive signage strategy is therefore vital if road users are to be directed via the most efficient route under both normal and exceptional circumstances to their destination. Given the importance of this issue we would ask that the signage strategy is agreed prior to the application being determined to ensure that such an important part of the proposal forms part of the approved scheme.	Highways England is working closely with Solihull Metropolitan Borough Council (SMBC) and Highways England's Operations Directorate (HE OD) to develop a robust signage strategy catering to the demands of the strategic and local road networks alongside any flexible requirements to cater for key businesses within the region. Highways England note Birmingham Airport's desire to have the Signage Strategy agreed prior to the application being determined and shall continue to liaise with Birmingham Airport Limited in regard to the development of a signage strategy that meets its expectations following primary agreement with SMBC and HE OD.	Under Discussion

Sub-topic	Birmingham Airport Comment	Highways England Response/Actions	Status/Agreement
Cyclist Provision	A pedestrian footbridge is proposed to cross the A45 adjacent to the West Coast Mainline. However, cyclists should also be able to ride across this bridge without the need to dismount.	Highways England can confirm that the proposed A45 Pedestrian Overbridge has been designed as a 3.5m wide pedestrian cycleway in accordance with the Design Manual for Roads and Bridges (DMRB) BD29/17, Design Criteria for Footbridges. Subsequently cyclists wishing to cross the A45 shall not need to dismount.	Agreed
Land and Property			
	Highways England have previously been made aware that Birmingham Airport Limited (BAL) has easements in its favour over a large part of the land included in the Order limits for the Development Consent Order to the South of the A45 Coventry Road. These are to ensure we can reduce the height of trees to below the level of the Obstacle Limitation Surface for the Airport runway in the interests of aviation safety. No provisions are included in the application to preserve and maintain these easement rights following acquisition of land for the Scheme. In addition, BAL has issued a draft Order under Section 44 of the Civil Aviation Act 1982, the Birmingham Airport (Rights over Land) Order 2014 seeking to acquire such rights over other areas of land.	Where Highways England is seeking to use land temporarily, Highways England confirms that the existing easement shall be retained. Where Highways England is seeking to acquire land permanently, Highways England confirmed that the existing easement shall be retained under Article 28(7) of the DCO. Further discussion between both parties are required in order to determine protocols for co-ordination regarding land access and traffic management.	Under discussion/Agreed

Sub-topic	Birmingham Airport Comment	Highways England Response/Actions	Status/Agreement
	Assurance is sought that land included in the draft Order that is also required for the scheme will have the same rights granted by Highways England.		
	An area of about 1 acre from a total holding of 27 acres owned by First Castle Developments Limited at the junction of Catherine-de-Barnes Lane and Shadowbrook Lane (plot 3/32a) is shown for acquisition when it was understood a quarter to a third of this would be required for the realigned Shadowbrook Lane. The requirement for the acquisition of the larger area is questioned by First Castle Developments Limited as owners.	Parcel 3/32a has been included in the Development Consent Order as land to be permanently acquired to enable the scheme to realign the junction of Shadowbrook Lane and Catherine-de-Barnes Lane. The final location of this junction is subject to further discussion and agreement between Highways England and Solihull Metropolitan Borough Council. Once this is concluded the final land take required will be able to be confirmed.	Under Discussion
	The requirement for rights for the temporary use of a field at the junction of Catherine-deBarnes Lane and St Peters Lane (plot 51a) was not raised in previous discussions with Highways England and BAL is unaware of the purpose for which the land is required for and the duration of that use. A small strip of this land (plot 3/51b) is shown for acquisition contrary to indications given during previous discussions prior to the application being submitted and we are not aware of the purpose and justification for the acquisition of this area.	Parcel 3/51a has been included in the Development Consent Order application as temporary possession for the following requirements: Site to be used as a material stockpile point in relation to the construction of the new mainline link road, Bickenhill Roundabout and Catherine-de-Barnes North Overbridge. During the construction of the Mainline Link Road and Catherine-de-Barnes North Overbridge, the existing Catherine-de-Barnes Lane to be temporarily realigned within this land parcel to ensure the continued use of Catherine-de-Barnes Lane during construction.	Under Discussion

Sub-topic	Birmingham Airport Comment	Highways England Response/Actions	Status/Agreement
		Parcel 3/51b has been included in the Development Consent Order as land to be permanently acquired in order to accommodate the realigned Catherine-de-Barnes Lane and its associated limits of deviation.	
	The application shows an area of about 6 acres at Castle Hills Farm (plot 3/32c) owned by First Castle Developments Limited, forming part of the Bickenhill Meadows Site of Special Scientific Interest, as required for temporary use. The purpose and duration of that use and why the whole area is required have not been explained.	Parcel 3/32c, The Site of Special Scientific Interest (SSSI), has been included within the Development Consent Order Application in order to enable Highways England to continue to monitor the SSSI as part of the ongoing environmental assessments.	Under Discussion
	The requirement to acquire the land forming an embankment (plots 4/1au and 4.1j) was not advised during consultations and discussions prior to the submission of the application. This is land dedicated as public highway and we do not understand why there is the need to acquire this land when adjoining areas of land dedicated as public highway are shown as required for temporary use and acquisition of permanent rights.	Parcel 4/1au has been included in the Development Consent Order as land to be permanently acquired for the implementation of the mainline link road to Airport Way Connector Road free flow link. This parcel shall of land shall also feature new pedestrian facilities which include the construction of a new subway underpass to maintain pedestrian connectivity in the region. Parcel 4/1j has been included in the Development Consent Order as land to be permanently acquired for the mainline link road and surface water drainage assets designed to attenuate and treat surface water discharge. Surface Water shall be discharged to the	Under Discussion

Sub-topic	Birmingham Airport Comment	Highways England Response/Actions	Status/Agreement
		existing ditch at the toe of the Airport Way Connector Road embankment.	
	First Castle Developments Limited are the owners of ten residential properties on Clock Lane. The use and enjoyment of these properties by the tenants will inevitably be adversely affected by the scheme for the duration of the works. As owners we need to be satisfied that any Development Consent Order for the Scheme will include robust, effective conditions and measures to mitigate the adverse impacts and to compensate occupiers for disruption during the works.	Highways England shall continue to discuss these matters with Birmingham Airport.	Under Discussion
Existing Planning Permission			
	In 2009 Solihull Council granted planning permission for the airport runway extension (Council Reference 2008/22). The majority of the runway extension was subsequently built and became operational in 2014. However, part of the permitted proposal included the tunnelling of the diverted A45 to facilitate the construction of a Runway End Safety Area (RESA). This part of the scheme was not implemented at that time but is likely to be required at some point in the future. As such the proposed new motorway	The project team has evaluated the layout of the proposed scheme and its proximity to Birmingham Airport's plans to place a section of the existing A45 in a tunnel. Highways England assessments indicate that the safe connection of the proposed segregated left turn lane from the new dual carriageway link road to the A45 westbound carriageway is sited within close proximity of the proposed tunnel footprint and further collaboration with Birmingham Airport will be required to conclude the precise extents of which the slip road connects with the A45 and its impact on the approach to the tunnel entrance and associated features.	Under Discussion

Sub-topic	Birmingham Airport Comment	Highways England Response/Actions	Status/Agreement
	junction and link road should not prejudice the construction of the RESA. The plans submitted with the Highways England application do not show the extent of the tunnelling included in the runway extension proposal. However, it appears that the tie-in point of the segregated left turn lane which joins the A45 westbound carriageway from Clock Interchange is very close to the extent of the tunnel portal shown in the runway extension planning application drawings. As such, further clarification is needed to ensure that Highways England proposal would not prejudice the tunnelling of the A45 that forms part of the extant runway extension planning permission.		
Operation and Airport Safeguarding			
	The design needs to ensure that following completion there are no new obstacle features that will either infringe Obstacle Limitation Surfaces or compromise the Type A chart, potentially reducing aircraft performance on departure from Runway 15. This would have to be achieved through significant height limitation of street furniture and indeed the vehicles themselves with the CAA assuming a	Highways England has actively engaged with Birmingham Airport in regards to Airport Safeguarding and shall continue these discussion through examination and beyond.	Under Discussion.

Sub-topic	Birmingham Airport Comment	Highways England Response/Actions	Status/Agreement
	mobile obstacle height on the road of some 4.5m.		
	The design should not allow for landscaping or drainage features that have the potential to attract either wetland or flocking birds that can become a strike hazard for aircraft departing and arriving at the airport.	Highways England has actively engaged with Birmingham Airport and has taken steps to address these concerns in the revised drainage attenuation and treatment strategy.	Under Discussion
	Other issues to be aware of include light distraction, primarily during construction and the potential for radio altimeter issues to arise as aircraft pass over the below current ground level part of the proposed road. This latter issue was one that arose during construction of the revised A45 and could arise again.	Highways England has actively engaged with Birmingham Airport and shall continue these discussions through examination and beyond.	Under Discussion
	Consideration should be given to the Department for Transport's Public Safety Zone Policy. It may be that there is no issue arising, however it should be taken into consideration by Highways England.	Highways England has actively engaged with Birmingham Airport and shall continue these discussions through examination and beyond.	Under Discussion
Construction			
	With regard to the delivery of the proposed scheme, if the construction works have a significant impact on the ability of passengers to access the airport then some are likely to choose to	Highways England recognises the importance of working with Birmingham Airport to ensure that the Scheme does not impact the operation of the Airport during and following construction.	Under Discussion

Sub-topic	Birmingham Airport Comment	Highways England Response/Actions	Status/Agreement
	fly from other airports, possibly outside the region, which will mean that a proportion of the economic benefits that global connectivity brings to the Midlands will be lost to other regions in the north and south. We would therefore ask that Highways England work with us to produce a strategy to ensure that the impact of the construction works on the 13 million passengers who use our airport is minimised. For example, the works required for the new segregated left turn should not result in the closure of the existing westbound free flow link until the scheme is completed as this would lead to further congestion at Junction 6 during construction. Such a strategy would ideally be agreed prior to determination and form part of the approved scheme. However, if this is not possible, a condition should be attached that requires its submission and approval prior to the commencement of the development.	The Contractor will produce a construction strategy for the Scheme, detailing the process, procedures and responsibilities which the Contractor will undertake to protect the Obstacle Limiting Surfaces and the Airport Safeguarding area. This strategy will be developed with the Airport during the detailed design and construction planning phase of the Scheme which is planned to commence in late 2019.	
	During construction a high degree of liaison and co-ordination will be required to ensure that there are no impacts for aircraft performance or Obstacle limitation Surfaces. In addition, there will need to be significant efforts made by the contractor to ensure	The Contractor will produce a construction strategy for the Scheme, detailing the process, procedures and responsibilities which the Contractor will undertake to protect the Obstacle Limiting Surfaces and the Airport Safeguarding area.	Under Discussion

Sub-topic	Birmingham Airport Comment	Highways England Response/Actions	Status/Agreement
	that adequate bird control is maintained throughout the works. It is worth noting that Manchester Airport have been going through a very similar exercise recently which resulted in Airfield Operations staff being seconded to the contractors to ensure adequate bird control and obstacle limitation on site. The issues to be considered during construction also include ensuring appropriate locations for site accommodation including offices and welfare facilities.	This strategy will detail the processes and plans to be implemented to cover the following areas: Bird strike management, including feedback from current operations being implemented on Manchester Airport; Control of lifting operations and use of other tall construction equipment; Management of waste; Dust control; Management of temporary lighting; and Management of earthwork stockpiles.	

APPENDICES

Appendix A – Meeting minutes with Birmingham Airport on 11/10/2017

M42- J6
Stakeholder meeting notes

Meeting:	Birmingham Airport
Date:	11 October 2017
Venue:	Diamond House
Meeting notes by:	Lydia Barnstable
Attendees:	Andrew Davies (BA Safeguarding); Niki Bains (BA Planning Manager); Ian Bamforth (AECOM); Graeme Cowling (AECOM); Javaid Farooq (AECOM); Lydia Barnstable (AECOM)
Apologies:	Robert Eaton (BA)
Numbers attending (general public)	N/a

Notes	Action / Owner
1. A safeguarding assessment would be required for the proposals for M42 Junction 6 2. It is helpful that the link road is to be in cutting but the Airport would need some reassurance about the lighting and traffic issues. 3. The Telford office of AECOM provides some advice on airport restrictions such as height limitations etc. and would be worth consulting. 4. Obstacle limitations – a. Approach surface 3.3 b. Take- off climb surface c. Take off flight path (can have protrusions up to the height but this has to be taken into account by pilots and will have an impact on payload and commercial aspects. 5. There will be considerations during construction also regarding movement of materials around the sites, crane heights for bridge installation etc. will need close collaboration with the airport. 6. Lighting should be Ok if cut-of methods used to restrict light pollution 7. Wildlife management - Bare earth during construction can attract gulls that are considered very dangerous for aircraft. HE would need to have a bird management plan during construction to ensure active bird control and maintaining a hostile environment for birds. 8. Drainage can also be an issue is there is standing water – netting can work with bank treatment also. Airport would not therefore want temporary flooding areas. 9. Airport use Bird Strike Management Ltd to advise and support the measures used to reduce the chances of bird strikes. AD to provide	AD

their contact information. 10. A Bird management Plan and a Construction Management Plan would be required and would need to feature in any SoCG between HE and the Airport. Toll Bar Management Plans would be a useful reference. 11. Esso are the operators for the pipeline but this does not supply the Airport currently. The fuel for the Airport is currently tinkered in (40 one-way lorry movements per day). AD to provide contact details for ESSO. 12. AD confirmed the lighting arrangements being propose by the GAA is unlikely to be a problem for them in principle but they may wish to influence the type of lighting and baffles etc. to reduce glare. 13. Justine Howell is the contact at the Airport to speak to regarding travel planning and communications when we are considering construction management plans etc. 14. Public safety Zone – This is an area where people are restricted entry and will need to be taken into consideration in the construction management plan.	AD

Date of Next Meeting	*January 2018 – date to be arranged*

Appendix B - Meeting minutes with Birmingham Airport on 28/02/2018

Minutes

Meeting name
Meeting with Birmingham Airport

Meeting Date
28/02/2018

Location
Diamond House, Birmigham Airport

Project number
HE514465

Prepared by
James Hemingway

Subject
Review of the scheme with regards to Birmingham Airport constraints

Time
11:00 – 13:00

Project name
M42 J6 Improvement Works

AECOM project number
60543032

Attendees
James Hemingway (JCH)
Chris Manning (CM)
Andrew Evans (AE)
Robert Eaton (RE)
Nick Roberts (NR)
Andrew Davies (AD)
Nick Bartolo (NB)

Circulation list
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Javaid Farooq (JF)
Gerard Daly (GD)
Alastair McNeill (AM)
Phil King (PK)
Lydia Barnstable (LB)
Alan Darby (AD)
Gurpreet Gill (GG)
Lewis Brimmel (LB)
Clive Posford (CP)

Apologies
Graeme Colwing (GC)

Topic	Discussion
Introductions	Introductions around the table were made. JCH provided an overview of the scheme and its objectives coupled with a timeline of the works completed thus far and looking forwards. Birmingham Airport stipulated that they supported the scheme in principle but need to understand the scheme in more detail to determine if any interface issues with Birmingham Airport's requirements need to be addressed.
Birmingham Airport Questions	RE queried whether the traffic forecasts take into account HS2 and the proposed developed by UK Central. JCH clarified that the traffic calculations are based on future traffic predictions until 2041 (factored from 2038 due to completion of HS2 being in 2026). Sensitivity testing has been undertaken with regards to the UK Central development however it currently has no planning permission and is not included in the traffic forecasts. RE queried whether the UK Central development shall necessitate further upgrades to the M42. JCH clarified that any future upgrades to the M42 in the coming years will be the prerogative of Highways England to identify and programme under the next regional investment release. RE queried whether the works to clock and the construction of a free flow link onto Airport Way from the mainline link would be compatible with the current airport road infrastructure. Birmingham Airport wants to have the opportunity to influence the design on this matter prior to the DCO applications. RE queried whether the red line boundary is likely to change or impact Car Park 6. JCH clarified that the redline boundary will likely reduce in some areas upon submission for DCO due to the conservative red line boundary at preferred route announcement. It is currently not the intention of the scheme to impact Car Park 6. JCH detailed the current proposed location of the site compound; however JCH noted that it is still subject to further study and confirmation. RE queried to what level the M42 J6 Improvement Works are aligned to HS2. JCH clarified that the M42 scheme is currently looking at opportunities to share the enabling works in certain places in order to minimise the disruption caused by the two schemes. The M42 J6 Improvement Works and HS2 shall aim to minimise the impacts to motorist and stakeholders so far as reasonably practicable. RE and AD queried whether the free flows links at the M42 J6 were now an integral part of the design. JCH confirmed that under the preferred route announcement this is now the case. RE queried whether an MOU could be established between Birmingham Airport, the appointed contractor and Highways England to manage construction.
Airport Safeguarding	AD provided an overview of the airport safeguarding measurements and provided clarity on a number of constraints that would need to be considered by the M42 J6 Improvement Works Scheme. There a number of airport surfaces that the design needs to take consideration of:

Topic	Discussion
	• Obstacle Limitation Surfaces - No penetration of the OLS is allowed. • Take off flight path – any obstacles introduced into these systems has the potential to impact the economic validity of flights due to limiting the weight or flight duration. Birmingham Airport therefore do not want any new obstacles being added to the take-off flight surfaces. Birmingham Airport currently assess in a 13km radius to ensure that no proposed works have the potential to attract birds which would cause an increased flight risk. Any ponds would be undesirable even if mitigated and ideally Birmingham Airport would like any surface water attenuation device to be buried. Any excavation works shall need to be carefully managed otherwise freshly excavated earth will attract birds. Lighting will need to be carefully designed within the approach surfaces so as not interfere with any take-off or landing aircraft. Lighting to be designed in this region to ensure that no light is directed or pointed towards any aircraft. Full cut off lighting would be the preferred approach of Birmingham Airport. Any cranes required during the construction phase would need to consider the airport surfaces and would need to be carefully co-ordinated with the airport to ensure that no obstructions are temporarily added to the flight zone Birmingham Airport requested an agreed construction management plan and safeguarding statement would be required prior to the DCO process in order to catalogue all the steps being taken by the scheme to work within the constraints stipulated by Birmingham Airport. JCH queried whether the latest surface information provided by our Telford colleagues is up to date. Birmingham Airport clarified that European Directives have now narrowed the requirements that the surfaces encompass the runway from 150m to 140m. Therefore the latest airport surfaces shall be slightly narrower than the current information being used. These changes do not affect the vertical surface plane.
Review of M42 J6 Structures	CM provided an overview of the latest structure proposals having sought buildability advice from Skanska to take cognisance of the airport constraints. The assumption that structures would be able to go right up to the take-off climb surfaces for construction purposes was confirmed by Birmingham Airport, however AD stated that the further away the scheme can stay from the surface the better. CM stipulated that a number of structures shall be heavily constrained from a constructability perspective, it would therefore be important to understand when Birmingham Airport scheduled closures for maintenance would be and subsequently prioritise the construction of structures which are most impacted. AD confirmed that there are scheduled closures of Birmingham Airport for maintenance purposes. These are normally 15 nights conducted over a 3 week period, currently only 2018 closures are planned. AE clarified that the maintenance window is typically between November and March, with November being the most preferable month due to the most favourable weather on average. Birmingham Airport expressed a desire to plan future closures for the following years as has been done previously. However this information will not be available for some time. Birmingham Airport recommended any programmes take cognisance of a likely November closure window. CM requested confirmation as to whether crane permits would be required on a daily basis for the construction of the structures. AS clarified that daily permits would provide an unnecessary level of bureaucracy, how crane permits are to be issued and controlled would need to be agreed through further communication once the construction programme is more concrete to see whether permits can be provided that take cognisance of multiples days/activities. Supplementary to the AIP's for the structures Birmingham Airport will need to issue a NOTAM to inform pilots of any additional temporary obstacles that need to be considered. Birmingham Airport has requested that a crane management plan is prepared in order to provide an agreed strategy moving forwards for the DCO.
Review of Highway features	JCH provided an overview of the 3D model to seek clarification on the flight surfaces in relation to the proposed realigned Catherine de Barnes lane. AD clarified that the works in within the flight surfaces should not be above existing ground level so as to create increase the level of obstruction. JCH highlighted that the lighting strategy is currently being compiled for the realigned Catherine de Barnes Lane and there is the potential the Bickenhill roundabout may need to be lit. Birmingham Airport requested that any lighting

Topic	Discussion
	within the area of the airport surface is issued to the Airport for consideration. AD clarified that all measures of placing surface water attenuation below ground must be exhausted before Birmingham Airport would even consider reviewing surface water attenuation devised such as detention ponds.
Environment Features	JCH raised the issue that the scheme shall be impacting the scheduled ancient woodland adjacent to the proposed southern junction and replanting would be required, ration to be confirmed. The replanting would ideally be contiguous to the existing scheduled ancient woodland; however as this is within the airport constraint a surface JCH requested clarification that this would be acceptable. AD confirmed that the height of the airport surfaces in this region is suitably elevated to allow replanting, so long as the full mature height of the trees is likely not to intercept the airport surfaces. JCH stated that around Bickenhill where the airport surfaces are already constrained by the existing ground there are likely to be replanting required for any existing trees removed by the scheme. AD confirmed that any replanting in this area would need to be outside the airport surface so as not to provide an additional obstruction. AD stipulated that and landscaping would need to take cognisance of the future bird attraction and should be clarified within the bird management plan.
Other Items	To inform the traffic management plan, JCH requested information on what Birmingham Airports evacuation and emergency measures are. RE to request guidance from the airport fire team on the matter. JCH raised the matter of layby's along the mainline link – Birmingham Airport recommended that the police is consulted on this matter. Birmingham Airport would like to share any information with the air traffic controllers to gauge their input on the scheme.

Ref	Action	Initial
01	AECOM to provide copies of the latest general arrangement drawings to Birmingham Airport for comment.	**JCH**
02	AECOM to produce clarification to Birmingham Airport as to how the Improvements at Clock and Airport Way shall impact Birmingham Airport Infrastructure.	**CP**
03	Highways team to review the surface water attenuation strategy to determine whether it is possible to use buried attenuation devices. Mitigated ponds shall only be reviewed by Birmingham Airport as a proposal unless all buried attenuation proposals have been exhausted. This action includes both the northern and southern proposed detention ponds.	**JF/GD**
04	AECOM to produce bird management plan and provide to the airport for comments	**GC/PK**
05	Lighting strategy to consider the obstacle limitation surfaces for Birmingham Airport and lighting to be designed to ensure conformity to Birmingham Airport's requirements. Lighting strategy and designs to be provided to the airport for comment.	**JF/GD**
06	AECOM to prepare (with Skanska's assistance) the Construction Management Plan and Safeguarding Statement and issue to Birmingham Airport for comment.	**AECOM**
07	Birmingham Airport to provide clarity with regards to their maintenance shutdown periods once available.	**RE**
08	Create Crane Management Plan and issue to Birmingham Airport for review and agreement	**AECOM/Skanska**
09	Realigned Catherine de Barnes Lane vertical alignment to be adjusted so that it does not rise above existing ground level.	**JF/GD**
10	Lighting Strategy and drawings to be issued to the Airport for comment.	**JF/GD**
11	Environment to review the replanting strategy to ensure that it takes cognisance of the airport surface constraints in proximity to the airport.	**GC**
12	Birmingham Airport to clarify emergency producers to inform the Traffic Management Plan	**RE**

Ref	Action	Initial
13	Provision of maintenance layby's on the scheme in proximity to the airport surfaces to be raised with the Police with regards to counter terrorism.	**AECOM**

Appendix C – Meeting minutes with Birmingham Airport and the Environment Agency 08/05/2018

Minutes

Meeting name
M42 J6 Drainage Strategy Review

Meeting Date
08/05/2018

Location
Diamond House
Birmingham Airport

Project number
HE514485

Prepared by
James Hemingway

Subject
Review of attenutation strategy with respect to Airport and EA requirements

Time
15:00

Project name
M42 J6 Improvement Works

AECOM project number
60543032

Attendees
James Hemingway (JCH)
Graeme Cowling (GC)
Gerard Daly (GD)
Timothy Jones (TJ)
Andrew Davies (AD)
Nick Roberts (ND)
Jonathon Pizzey (JP)
Noreen Nargas (NN)
Giles Matthews-Pipe (GMP)
Andrew Crawford (AC)

Circulation list
James Hemingway (JCH)
Graeme Cowling (GC)
Owen Tucker (OT)
Gerard Daly (GD)
Timothy Jones (TJ)
Andrew Davies (AD)
Nick Roberts (ND)
Jonathon Pizzey (JP)
Noreen Nargas (NN)
Giles Matthews-Pipe (GMP)
Andrew Crawford (AC)
Javaid Farooq (JF)
Robert Eaton (RE)
Ian Bamforth (IB)
Robin Hughes (RH)
Lydia Barnstable (LB)
Phil King (PK)
Jamie Gleave (JG)

Apologies

Topic	Discussion
Introductions	Jonathon Pizzey provided an overview of the scheme and the issues related to the detention basins that had led to this meeting being required.
Design Principles	GD provided an overview of the drainage strategy and the options which were considered as part of the technical note submitted to the Environment Agency and Birmingham Airport following a meeting with the airport on the 28th February 2018. These options considered the following: • Detention Basins • Detention Basins with netting • Buried attenuation tank systems • Buried attenuation tank system with swales.
Specific Items Discussed.	• Environment Agency expressed a desire to see detention basins still implemented as part of the scheme. AC raised the point that similar devices have been installed at Stonebridge Island at the confluence of the A45 and A452. AD's response to this matter was that the Airport already has a wide range of existing constraints that need to be considered and would not permit any additional water bodies being introduced that would create issue~~d~~s for bird nesting/migration. Furthermore AD stressed that unlike the detention basins at Stonebridge Island, the southern detention basin would be on the centreline of the take off and approach surfaces, with the northern detention basin far closer but just outside of these surfaces. • The key issue for the Environment Agency is that the northern surface water attenuation system ultimately discharges to the River Blythe, this is a Site of Special Scientific Interest (SSSI) and is already a severely impacted environment which the Environment Agency does not want to see affected further by the M42 J6 Scheme. • Birmingham Airport clarified that they consider any applications for water bodies within a 13km radius of the centre of the Airport. • AC stressed that Heathrow Airport operates with a number of large reservoirs adjacent to the runway. AD accepted this point but stressed that these water bodies subsequently rely on a robust bird mitigation plan to ensure that these reservoirs do not create an issue for the continued operation of the airport. A fact that Birmingham Airport is also in currently with Pendigo Lake in close proximity. • Birmingham Airport have concerns that any new detention basins features would create a migratory link between other existing water features in the vicinity. AD raised such species as Gulls, Canada Geese and Waterfowl as particular concerns. • For any detention basins to be acceptable to the Airport they would need to be netted and any water

Topic	Discussion

present in the basins during rainstorm events would need to be removed within a timeframe of hours as opposed to days. However Birmingham Airport stressed that even the presence of a water body for a couple of hours still has the potential to attract bird species and is therefore still not their preferred option.

- AC challenged the number of birds that would be attracted to a basin of such a size being promoted by the scheme in the technical note. AD highlighted that a similar basin situated in Hampton in Arden often sees 1000 to 1500 birds present and therefore something of a similar nature so close to the airport would not be acceptable due to placing undue risks to the flight path.
- JCH stressed that currently when comparing the various options proposed in the technical note there is a clear conflict in opinion between the Environment Agency and Birmingham Airport as to the desired surface water attenuation strategy. Ultimately from a design perspective it is the airport safeguarding requirements that take the higher priority due to the risk to aeroplanes of bird strikes. As a consequence it is essential that a middle ground is reached between the two parties to allow a decision to be reached.
- GD highlighted that a storage tank had been identified ~~that it~~ is considered to provide greater treatment and sediment removal than typical tanks. EA raised concerns over BOD levels with the use of tanks. AECOM to provide details of the tank.
- The issue of deep excavation required for a gravity pipe system into the detention basins was highlighted. It was queried whether a pumping station could be provided prior to the basin, AECOM to investigate this option.
- For the southern storage device a decision was reached for AECOM to investigate the use of reed beds under the following conditions:
    - The reed bed system should be netted during the period where the reeds are being established to prevent the system being used by birds.
    - The reed bed density should be designed to a level whereby it does not attract bird species.
    - The reed bed layout should not be designed so as to create a flight path suitable for landing for birds. This can mean that the reed bed is either in a terraced, zig-zag, or installed in sections connected by culverts.
    - The configuration of the reed bed is to minimise where possible farmland land take which is a concern for the Gooch Estate landowners.
    - A suitable maintenance regime is established and operated to ensure the desired water quality is maintained.
- For the northern storage device a decision was reached for AECOM to investigate the use of an underground storage tank under the following conditions:
    - The attenuation tank uses a system designed to capture sediments prior to discharge.
    - The existing ditch that runs parallel to the A45 is to be upgraded into a swale in order to treat any dissolved metals identified during borehole surveys.
    - The pump system location is to be confirmed (prior or after the attenuation device)
    - The attenuation system is to be suitably designed to ensure that farm vehicles can continue to use the area.
    - A suitable maintenance regime is established and operated to ensure the desired water quality is maintained.
- GD highlighted that the EA had requested treatment and attenuation of runoff from networks where the sections of the existing drainage ~~-~~were picked up by the proposed drainage networks, these were to the south east of the proposed Junction 5A and to the north east of M42 Junction 6. It was highlighted that the area to the south east would be on the same line as the mainline south basin and the airport runway. It was agreed that a similar approach to the south basin should be taken at this location.

Other Items Discussed	• AC queried whether the culvert extension for Holywell Brook underneath the M42 could have an otter bridge installed as otters are regularly killed attempting the M42 crossing.

Topic	Discussion
	• JP highlighted that although it would be possible to add an otter bridge to the extension, the existing section of culvert may not be possible due to being defined as a confined space for working. However, JP did state that it might be possible to undertake a direction drill adjacent to the culvert to create a suitable crossing point. This action might be possible under designated funds. • GC provided an overview of the proposed contiguous replanting to be undertaken for the scheduled ancient woodland. AD has no issues with the proposed replanting location so long as the species and density did not provide a natural attraction point for birds. However AD conceded that there is little issue caused by the current tree types and density to the airport and therefore there should be no issue. • GC provided an overview of the environmental mitigation measures being proposed across the scheme. • JP raised the issue of whether a GAA pitch could be relocated into the field to the north of the clubhouse. AD had immediate concerns with this as it would move the pitch and any associated goal posts within the airport safeguarding zones. AD requested that a study be undertaken to determine whether the goal posts would penetrate the airport safeguarding surfaces. • JP raised the matter of the lighting strategy and areas such as the onslip and offslip for the mainline link being flagged as requiring to be lit. AD stated that he would like to see any proposals in this area, full cut off lighting would be essential. However JCH stressed that the offslip to Bickenhill would be the key issues as it is in the most sensitive area with regards to airport safeguarding and any lighting required would undoubtedly penetrate these surfaces. JP stated that it may be prudent to investigate whether a departure could be ascertained to remove this lighting in order to mitigate this issue.

Ref	Action	Initial
01	AECOM to revise the surface water attenuation design based upon the agreed course of action outlined above.	**GD/JF**
02	AECOM to revise technical note to show how the agreed strategy has been developed and detail how the new configuration will address EA and Birmingham Airport concerns.	**GD/JF**
03	AECOM to issue design and technical note for approval from HE Project Management team.	**GD/JF/IB**
04	AECOM to circulate designs and revised technical note to the EA and Birmingham Airport for review by their respective specialists.	**GD/JF**
05	AECOM to circulate design and revised technical note to Area 9 (Stephen Callister) for review from a maintenance perspective for approval.	**GD/JF**
06	Birmingham Airport and the EA to pass back any comments on the revised design and technical note if required.	**AD/AC**
07	AECOM to prepare statements of common ground to initiate the process of getting agreement in advance of Development Consent Order application.	**JCH/IB/LB**
08	AECOM to investigate the GAA relocation with regards to airport safeguarding	**JCH**
09	AECOM to issue environmental mitigation strategy and associated drawings to Birmingham Airport for review.	**GC**
10	Possibility of an otter bridge to be provided to be added to the list of prospective designated funds ideas to be implemented by the scheme	**JCH/IB/JP**
11	Lighting strategy to be reviewed at Bickenhill Offslip with regards to airport safeguarding. Detailed to be passed to Birmingham Airport.	**JF/JCH**

Appendix D – Letter dated 18.06.19

Our ref: M42 Junction 6_BAL

Chris Harris
Project Manager
Floor 5
2 Colmore Square
Birmingham
B4 6BN

Tel: 0300 123 5000
18 June 2019

Mr R. Eaton
Birmingham Airport Limited
Diamond House
Birmingham Airport
Birmingham
B26 3QJ

Dear Robert,

RE: Birmingham Airport Limited Relevant Representation

Thank you for a copy of Birmingham Airport Limited's Relevant Representation, submitted to the Planning Inspectorate in reference to the M42 Junction 6 Improvement (the Scheme) and accepted into Pre-Examination on the 30 January 2019.

Highways England welcomes your comments. Whilst we would very much welcome the opportunity to discuss the matters set out with you directly, this letter seeks to provide you with some additional information in relation to the points raised as part of your relevant representation:

Clock Interchange – Segregated Left Turn Lane

The traffic modelling for the Scheme was undertaken to demonstrate that the proposed improvements at Clock Interchange would provide the required level of capacity up to, and including, the 2041 design year. Based upon the modelling, the northbound approach to Clock Interchange identifies a mean-maximum queue (MMQ) length of 13 vehicles in the morning and 4 vehicles during the evening peak hours by 2041 respectively. The vehicle numbers identified as part of the MMQ assessment will be spread over three lanes that form the approach to Clock Interchange.

Between the stop line at Clock Interchange and the diverge for the segregated free flow link onto the A45 Westbound, the proposed improvements offer approximately 30m of space. Assuming 6 meters per vehicle, this would provide space for around 5 vehicles before access to the segregated free flow link is blocked. Therefore, subject to the distribution of vehicles across the three lanes, the queue should fit within the 30m space available.

In regards to future traffic growth, the core forecast includes predicted traffic growth numbers based on Department for Transport predictions while taking into account traffic growth associated with specific 'committed' developments, i.e. projects currently under construction, projects with planning permission and/or 'more-than-likely' to occur. Committed proposals that have been incorporated as part of the traffic forecast include:

- The Resorts World proposal for the National Exhibition Centre (NEC), catering for 1,158 new jobs
- The proposed Jaguar Land Rover Logistics Operations Centre, catering for 1,437 new jobs.

The traffic model forecasts therefore do not include the UK Central Hub developments unless these have been commenced through the planning process.

New M42 Junction – Northbound On-Slip / Southbound Off-Slip

Operational traffic modelling of Junction 6 indicates that the junction will perform in a satisfactory manner up to the year 2041 during average conditions. The traffic modelling indicates minimal traffic demand for north-facing slips at Junction 5A due to the greater distances and travel times that will be incurred. These slip roads would only be 1km south of the existing junction, and the potential additional resilience these slips may add does not offset the day to day operational dis-benefits they could cause. As such, although north-facing slip roads were considered at an earlier stage of the Scheme development, they are no longer proposed for the new Junction 5A,

The scheme also includes works around M42 Junction 6 which will improve the way traffic can join the M42 northbound, and exit the M42 southbound onto the A45, which further reduce the need for these slip roads at Junction 5A, this work includes:

- A dedicated free flow link enabling A45 eastbound traffic direct access to the M42 Northbound.
- A dedicated free flow slip road enabling M42 southbound traffic direct access to the A45 eastbound.
- Removal of the free flow link between the M42 northbound traffic to the A45 westbound, will enable improved flow from the M42 southbound to A45 westbound.

It is recognised traffic volumes using Junction 6 can vary due to changes in seasonal demand for travel to/from the airport and daily changes due to different event-traffic associated with the NEC, National Motorcycle Museum (NMM) and National Conference Centre (NCC) respectively. The junction is currently heavily managed by Highways England and the NEC to reduce problems during major events, and it is anticipated that a reduced level of management may need to continue with the improvement scheme in place. With increased traffic demand in the future it is, however, possible that the junction may on occasion become congested, but these occurrences are likely to be infrequent.

Please note the proposed junction layout and design at Junction 5A will not preclude north facing slip roads being introduced to the junction at a later stage if the need arises. For example, should the proposed new Motorway Service Area (MSA) receive planning permission and subsequently be constructed, north-facing slip roads will be provided by the developer of the MSA as per their planning application.

Planning Permission for Runway Extension

The project team has evaluated the layout of the proposed scheme and its proximity to Birmingham Airport Limited's plans to place a section of the existing A45 in a tunnel. Our assessments indicate that the safe connection of the proposed segregated left turn lane from the new dual carriageway link road to the A45 westbound carriageway is sited within close proximity of the proposed tunnel footprint and further collaboration with Birmingham Airport Limited (BAL) will be required to conclude the precise extents of which the slip road connects with the A45 and its impact on the approach to the tunnel entrance and associated features.

M42 to A45 Westbound Free-Flow Link

The Scheme has been commissioned by Highways England in order to meet a number of key objectives, which include, but not limited to, the following:

- increasing the capacity of the Junction, supporting smoother flow of traffic around the M42 Junction 6; and
- improving access to key businesses and supporting economic growth in the area.

The introduction of a new junction on the M42, Junction 5A, and the construction of a new 2.4km dual carriageway link road to Clock Interchange will offer a new means of access off the strategic road network to and from Birmingham Airport from the south. Traffic modelling identifies that Junction 5A, and the new link road, will significantly reduce the amount of northbound traffic entering Junction 6 and travelling west towards Clock Interchange. Therefore, traffic will be primarily directed via the new dual carriageway link road from Junction 5A.

The closure of the existing segregated left turn at Junction 6 (from the M42 Northbound to A45 westbound) is anticipated to enable further improvements to the junction in the form of an additional fourth lane at the stop-line, and improved geometry to the A45 westbound on slip. These improvements have been modelled and the results indicate slight benefits to the overall future performance of the junction. This is because the amendment now permits two continuous lanes to exit the junction interchange onto the A45 westbound, whereas previously the two exiting lanes merged into one.

An important point to note is that, if the free flow link were to be retained, the reduction in traffic utilising this link may lead to an increased risk of traffic weaving between the M42 Junction 6 and Clock Interchange across the existing 'ladder' road marking. This increased risk in traffic weaving across the 'ladder' road marking, combined with the lower frequency of traffic and therefore increased travelling speed, is likely to incur side swipe and rear shunt accidents potentially leading to fatal or serious injuries to the road users.

Signage

Highways England is working closely with Solihull Metropolitan Borough Council (SMBC) and Highways England's Operations Directorate (HE OD) to develop a robust signage strategy catering to the demands of the strategic and local road networks alongside any flexible requirements to cater for key businesses within the region.

Highways England note BAL's desire to have the Signage Strategy agreed prior to the application being determined and shall continue to liaise with BAL in regard to the development of a signage strategy that meets its expectations following primary agreement with SMBC and HE OD.

Provision for Cyclists

Highways England note BAL's concerns in relation to the wider sustainable transport use in the region.

Highways England can confirm that the proposed A45 Pedestrian Overbridge has been designed as a 3.5m wide pedestrian cycleway in accordance with the Design Manual for Roads and Bridges (DMRB) BD29/17, Design Criteria for Footbridges. Subsequently cyclists wishing to cross the A45 shall not need to dismount.

Land and Property

As part of the application, Highways England identified all land and rights that would be required to implement the scheme under the following classifications:

- Land to be acquired permanently;
- Land to be used temporarily; and
- Land to be used temporarily and rights to be acquired permanently.

In reference to the request for clarity on a number of land parcels owned by BAL, please refer to the enclosed spreadsheet which provides a detailed breakdown on the purpose outlined as part of the Development Consent Order application.

The M42 Project Team are currently working in collaboration with Natural England and Warwickshire Wildlife Trust to develop a sustainable drainage solution to protect an affected unit the Bickenhill Meadows Site of Special Scientific Interest (SSSI), located south-east of Bickenhill Village. Once we have finalised a solution, we will coordinate with you in due course.

If you have any further queries in relation to these land parcels, we would be happy to meet with you to discuss these matters in detail.

In reference to the easements to enable BAL to reduce the height of trees to below the level of the Obstacle Limitation Surface (OLS), where Highways England is seeking to use land temporarily, Highways England confirms that the existing easement could be retained.

Where Highways England is seeking to acquire land permanently, Highways England confirms that the existing easement could be retained under Article 28(7) of the DCO. We would welcome the opportunity to discuss the appropriate agreements required to be in place in order for BAL to access any land (proposed to be) owned by Highways England for the purposes of reducing the height of trees below the level of the OLS.

Construction

Highways England recognises the importance of working with BAL to ensure that the Scheme does not impact the operation of the Airport during and following construction.

The Contractor shall produce a construction strategy for the Scheme, detailing the process, procedures and responsibilities which the Contractor will undertake to protect the Obstacle Limiting Surfaces and the Airport Safeguarding area.

This strategy will be developed with the Airport during the detailed design and construction planning phase of the Scheme which is planned to commence in the summer of 2019.

This strategy will detail the processes and plans to be implemented to cover the following areas:

- bird strike management, including feedback from current operations being implemented on Manchester Airport;
- control of lifting operations and use of other tall construction equipment;
- management of waste;
- dust control;
- management of temporary lighting; and
- management of earthwork stockpiles.

If you have any further queries on the Scheme or the responses above, please don't hesitate to contact me.

I look forward to working with you as the scheme progresses.

Yours sincerely

[redacted]

Chris Harris
Project Manager, M42 Junction 6 Improvement
Email: M42Junction6@highwaysengland.co.uk

Enclosed:

Birmingham Airport Limited Relevant Representation Plot Queries

Bird Strike Management Plan

Birmingham Airport Limited, relevant representation plot queries

Land Plans Sheet No.	Plot Ref	Description of Land	Extent of acquisition or use	Category 1			Category 2	HE
				Owners	Lessees or Tenants	Occupiers		HE details / why plot required
3	3/32a	approximately 10076 square metres of agricultural land, underground electricity cables, water pipe, trees and shrubbery; east of Catherine-de-Barnes Lane, B4438 and north of Shadowbrook Lane WM712271 – Freehold	Land to be acquired permanently	First Castle Developments Limited Diamond House Birmingham Airport Birmingham B26 3QJ *(Co. Reg. 02783202)*	-	-	Birmingham Airport Limited Diamond House Birmingham Airport Birmingham West Midlands B26 3QJ *(Co. Reg. 02078273)* (in respect of deed of grant of easement dated 5 March 2014 on title WM712271)	Parcel 3/32a has been included in the Development Consent Order as land to be permanently acquired to enable the scheme to realign the junction of Shadowbrook Lane and Catherine-de-Barnes Lane. This junction shall be moved further north to accommodate the introduction of Catherine-de-Barnes South Overbridge. Final location subject to agreement between Highways England and Solihull Metropolitan Borough Council.

Land Plans Sheet No.	Plot Ref	Description of Land	Extent of acquisition or use	Category 1			Category 2	HE
				Owners	Lessees or Tenants	Occupiers		HE details / why plot required
3	3/32c	approximately 25299 square metres of grassland, trees and shrubbery; west of Catherine-de-Barnes Lane, B4438 and north west of Páirc na hÉireann WM573595 - Freehold	Land to be used temporarily	First Castle Developments Limited Diamond House Birmingham Airport Birmingham B26 3QJ *(Co. Reg. 02783202)*	-	First Castle Developments Limited Diamond House Birmingham Airport Birmingham B26 3QJ *(Co. Reg. 02783202)*	Birmingham Airport Limited Diamond House Birmingham Airport Birmingham West Midlands B26 3QJ *(Co. Reg. 02078273)* (in respect of deed of grant of easement dated 5 March 2014 on title WM573595)	Parcel 3/32c, The Site of Special Scientific Interest (SSSI), has been included within the Development Consent Order Application in order to enable Highways England to continue to monitor the SSSI as part of the ongoing environmental assessments.

Land Plans Sheet No.	Plot Ref	Description of Land	Extent of acquisition or use	Category 1			Category 2	HE
				Owners	Lessees or Tenants	Occupiers		HE details / why plot required
3	3/51a	approximately 6029 square metres of grassland, trees and shrubbery; east of Catherine-de-Barnes Lane, B4438 and west of St. Peters Lane WM139124 – Freehold	Land to be used temporarily	Birmingham Airport Limited Diamond House Birmingham Airport Birmingham B26 3QJ *(Co. Reg. 02078273)*	-	Birmingham Airport Limited Diamond House Birmingham Airport Birmingham B26 3QJ *(Co. Reg. 02078273)*	-	Parcel 3/51a has been included in the Development Consent Order application as temporary possession for the following requirements: Site to be used as a material stockpile point in relation to the construction of the new mainline link road, Bickenhill Roundabout and Catherine-de-Barnes North Overbridge. During the construction of the Mainline Link Road and Catherine-de-Barnes North Overbridge, the existing Catherine-de-Barnes Lane to be temporarily realigned within this land parcel to ensure the continued use of Catherine-de-Barnes Lane during construction.
3	3/51b	approximately 132 square metres of trees and shrubbery; east of Catherine-de-Barnes Lane, B4438 and west of St. Peters Lane WM139124 – Freehold	Land to be acquired permanently	Birmingham Airport Limited Diamond House Birmingham Airport Birmingham B26 3QJ *(Co. Reg. 02078273)*	-	Birmingham Airport Limited Diamond House Birmingham Airport Birmingham B26 3QJ *(Co. Reg. 02078273)*	-	Parcel 3/51b has been included in the Development Consent Order as land to be permanently acquired in order to accommodate the Realigned Catherine-de-Barnes Lane and its associated limits of deviation.

Land Plans Sheet No.	Plot Ref	Description of Land	Extent of acquisition or use	Category 1			Category 2	HE
				Owners	Lessees or Tenants	Occupiers		HE details / why plot required
4	4/1j	approximately 464 square metres of public highway, verge, trees, drain and public right of way – M106 (Coventry Road, A45 slip road); east of Clock Lane WM725322 – Freehold WM730794 – Freehold	Land to be acquired permanently	Birmingham Airport Limited Diamond House Birmingham Airport Birmingham B26 3QJ *(Co. Reg. 02078273)*	-	-	-	Parcel 4/1j has been included in the Development Consent Order as land to be permanently acquired in order to facilitate the mainline link road and surface water drainage assets designed to attenuate and treat surface water discharge. Surface Water shall be discharged to the existing ditch at the toe of the Airport Way Connector Road embankment.

Land Plans Sheet No.	Plot Ref	Description of Land	Extent of acquisition or use	Category 1			Category 2	HE
				Owners	Lessees or Tenants	Occupiers		HE details / why plot required
4	4/1au	approximately 6220 square metres of wooded area, underground electricity cables, water mains, foul pipe, drain, trees, shrubbery and public footpath (Coventry Road, A45 slip road); north east of Clock Lane WM730794 – Freehold WM80316 – Freehold WM699106 – Freehold WM497815 – Freehold WM58632 – Freehold WM725322 – Freehold	Land to be acquired permanently	Birmingham Airport Limited Diamond House Birmingham Airport Birmingham B26 3QJ *(Co. Reg. 02078273)* (excluding mines and minerals on titles WM80316, WM699106, WM5863 and WM497815)	-	-	-	Parcel 4/1au has been included in the Development Consent Order as land to be permanently acquired to facilitate the implementation of the mainline link road to Airport Way Connector Road free flow link. This parcel shall of land shall also feature new pedestrian facilities which include the construction of a new subway underpass to maintain pedestrian connectivity in the region.

M42 Junction 6 Improvement Scheme Number TR010027

Outline Bird Strike Management Plan

Planning Act 2008

Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

June 2019

Infrastructure Planning

Planning Act 2008

The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2018

M42 Junction 6 Improvement Scheme

Development Consent Order 202[ ]

Outline Bird Strike Management Plan

Planning Inspectorate Scheme Reference	TR010027
Application Document Reference	
Author	M42 Junction 6 Improvement Project Team and Highways England

Version	Date	Status of Version
1	June 2019	Revision 1

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1 Introduction

1.1 Background to the plan

1.1.1 The Outline Bird Strike Management Plan (OBSMP) sets out outline management guidance to be implemented as part of the Scheme, to reduce as far as practicable the potential for an increase in bird activity and the subsequent possibility of a bird strike to aircraft, in general accordance with the safeguarding parameters of Birmingham Airport Limited.

1.1.2 The content of this document and the wider construction and operation of the Scheme has been informed and guided by consultation with Birmingham Airport Limited to minimise the disruption and the introduction of risk to aircraft using the airport.

1.1.3 This OBSMP will be updated by the Principal Contractor (PC) in to a final Management Plan, as appropriate and necessary, prior to commencement of works in accordance with the Requirements in Schedule 2 of the draft Development Consent Order (DCO) [**TR010027/APP/3.1**] and must incorporate the requirements of the Outline Environmental Management Plan (OEMP) and the Construction Environmental Management Plan (CEMP).

1.2 Responsibilities

1.2.1 In relation to the control and management of the general ecology, the PC shall establish the appropriate roles and responsibilities for site staff in accordance with the roles and responsibilities set out in Section 2 of the OEMP.

1.3 Regulatory framework & guidelines

1.3.1 The Scheme has been assessed in the context of the following regulatory framework and guidelines:

a. the Convention on International Civil Aviation, European Commission Regulation 139/2014 [REF 1];

b. guidelines set out in the UK Government DfT/ODPM Circular 1/2003 [REF 2];

c. CAP 772 Wildlife Hazard Management at Aerodromes, produced by the Civil Aviation Authority [REF 3]; and

d. The Town and Country Planning (safeguarded aerodromes, technical sites and military explosives storage areas) Direction 2002 [REF 4].

1.4 Report structure

1.4.1 The information contained within this document identifies the potential hazards which could occur during the detailed design of the landscaping and construction phases of the Scheme, considers the likelihood of the hazards occurring, and illustrates how risks of bird hazard will be minimised through bird avoidance measures. These avoidance measures include those to be implemented both during the construction and through the sensitive design and operational maintenance of the landscaping with the aim of reducing any residual risk to 'As Low as Reasonably Practicable'.

1.4.2 The structure of this report is as follows:

a. review of published guidance and planning policy relevant to aviation safeguarding, bird strike, its management and relationship to minerals development;

b. description of the current conditions (baseline) in the vicinity of the Scheme;

c. detail of risks likely to affect the risk of bird strike;

d. the proposed mitigation measures and assessment of the likelihood of bird strike within the Airfield Safeguarding Area (ASA) of Birmingham Airport arising from all stages of the proposed scheme; and

e. conclusions.

1.5 Airfield safeguarding areas

1.5.1 In the UK, ASAs are designated for areas that fall within 13km of an airfield. The purpose of ASAs are to ensure that the operation and development of civil and military airfields is not inhibited by developments, including those which have the potential to increase the number of birds and the 'bird strike' risk. ASAs are based on a statistic that 95% of bird strikes occur below 2,000ft, and that an aircraft approaching an aerodrome on a normal approach would descend below 2,000ft approximately 13km from the runway, reflecting historic angles of take-off and approach [REF 4].

1.5.2 For a consenting application that lies within the 13km ASA, the owner or operator of aerodromes are required to be consulted by the project proponent in order to consider the potential bird strike hazard as a result of a proposed development [REF 4].

1.5.3 The Scheme is located entirely within the 13km safeguarding zone (**Figure M.1**), with the nearest point approximately 300m southeast of the Birmingham Airport boundary.

1.6 Bird Strike

Definition

1.6.1 A bird strike is defined as a collision between a bird and an aircraft which is in flight or on a take-off or landing roll. The vast majority (around 90%) of recorded bird strike incidents in the UK occur within the perimeter of the aerodrome itself and at low altitudes [REF 5]. The risk of bird strike arises from birds moving into the path of aircraft, either because they are crossing an aerodrome or crossing flight paths as they move around the local area.

Statistics

1.6.2 Statistics released by the UK Civil Aviation Authority (CAA) for reported bird strikes between 2012 and 2016 [REF 6] indicate that:

a. a registered aircraft strikes a bird approximately once in every thousand flights;

b. approximately 5% of bird strikes cause damage to the aircraft;

c. approximately 55% of bird strikes occur between June – September; and

d. gulls cause more bird strikes than other bird species (approximately 10%).

1.6.3 In terms of altitude, the majority of bird strikes occur at very low altitudes (<500ft above ground level). Research by the European Aviation Safety Agency in 2008 [REF 7] indicates that approximately 70% of bird strikes occur at altitudes less than 200ft, 15% occur between 200ft and 800ft, and only 15% of bird strikes occur above 800ft.

1.6.4 Not all bird species pose a bird strike risk to aircraft. Species of birds specific to bird strike management are those that occur in flocks and/or are large in size. Typical “problem” groups of birds are gulls, waterfowl, feral pigeon, starling *Sternus vulgaris*, crows and raptors.

1.6.5 In the period 2012-2016, 95.3% (7,632) of incidents reported no damage to aircraft, and 4.7% (379) of reports reported damage to aircraft.

2 Conventions, Regulations and Guidance

2.1 International: Convention on International Civil Aviation Annex 14

2.1.1 Annex 14 of the Convention on International Civil Aviation, published by the International Civil Aviation Organization (ICAO) provides guidance on wildlife strike hazard reduction and relevant extracts follow below [REF 8]. The American English text is retained from the original document:

9.4 Wildlife strike hazard reduction

Note: — the presence of wildlife (birds and animals) on and in the aerodrome vicinity poses a serious threat to aircraft operational safety.

2.1.2 The wildlife strike hazard on, or in the vicinity of, an aerodrome shall be assessed through:

1. *the establishment of a national procedure for recording and reporting wildlife strikes to aircraft;*
2. *the collection of information from aircraft operators, aerodrome personnel and other sources on the presence of wildlife on or around the aerodrome constituting a potential hazard to aircraft operations; and*
3. *an ongoing evaluation of the wildlife hazard by competent personnel.*

2.1.3 9.4.2 Wildlife strike reports shall be collected and forwarded to ICAO for inclusion in the ICAO Bird Strike Information System (BSIS) database.

2.1.4 9.4.3 Action shall be taken to decrease the risk to aircraft operations by adopting measures to minimize the likelihood of collisions between wildlife and aircraft.

2.1.5 9.4.4 The appropriate authority shall take action to eliminate or to prevent the establishment of garbage disposal dumps or any other source which may attract wildlife to the aerodrome, or its vicinity, unless an appropriate wildlife assessment indicates that they are unlikely to create conditions conducive to a wildlife hazard problem. Where the elimination of existing sites is not possible, the appropriate authority shall ensure that any risk to aircraft posed by these sites is assessed and reduced to as low as reasonably practicable.

2.1.6 9.4.5 Recommendation: — States should give due consideration to aviation safety concerns related to land developments in the vicinity of the aerodrome that may attract wildlife.

2.1.7 Paragraphs **9.4.4** and **9.4.5** of this guidance are relevant to the Scheme, with the requirement to prevent the establishment of "…*any other source which may attract wildlife to the aerodrome, or its vicinity".*

2.2 European: European Commission Regulation 139/2014

2.2.1 The European regulatory framework for aviation safety is administered by the European Aviation Safety Agency (EASA) and within Regulation 139/2014 [REF 1] the sections relevant to wildlife management at aerodromes are as follows:

Article 9 - Monitoring of aerodrome surroundings

2.2.2 Member States shall ensure that consultations are conducted with regard to human activities and land use such as:

2.2.3 (e) the creation of areas that might encourage wildlife activity harmful to aircraft operations

Article 10 - Wildlife hazard management

Member States shall ensure that wildlife strike hazards are assessed through:

a. *the establishment of a national procedure for recording and reporting wildlife strikes to aircraft;*
b. *the collection of information from aircraft operators, aerodrome personnel and other sources on the presence of wildlife constituting a potential hazard to aircraft operations; and*
c. *an ongoing evaluation of the wildlife hazard by competent personnel.*

Member States shall ensure that wildlife strike reports are collected and forwarded to ICAO for inclusion in the ICAO Bird Strike Information System (IBIS) [1]database.

2.2.4 This document considers the potential relevant hazards that may arise with development of the Scheme, and provides the rationale for monitoring and addressing them.

2.3 National: Department of Transport/Office for the Deputy Prime Minister (ODPM) Circular 1/2003

2.3.1 Department for Transport/Office of the Deputy Prime Minister Circular 1/2003 [REF 2] places responsibility on aerodrome operators to ensure aerodrome safeguards through their involvement in the consultation process for any development proposals which may affect an aerodrome.

2.3.2 As a relevant aerodrome operator, the Birmingham Airport Limited must be consulted on any consenting application within the safeguarding area (13km). This process assists the aerodrome operator to take all reasonable steps to ensure that the aerodrome and its surrounding airspace are safe at all times for use by aircraft. The consultation process helps to identify any new potential flight hazards that need to be addressed.

[1] The ICAO Bird Strike Information System (IBIS) is a global reporting system designed to collect and disseminate information on bird strikes which occur as a result of the collision between an aircraft and a bird.

2.3.3 One of the purposes of safeguarding of aerodromes in this way is to:

"…*ensure that their operation and development are not inhibited…by developments which have the potential to increase the number of birds or the bird hazard risk*" [Circular 1/2003 Annex 2 para 3].

2.3.4 A primary purpose of the consultation process is to seek to identify proposed developments that may present a possible increase in bird strike risk that will need to be addressed.

2.3.5 Annex 2 to Circular 1/2003 sets out specific advice on bird strike hazard and identifies particular forms of development which are most important and where the primary aim is to guard against new or increased hazards.

2.3.6 Paragraph 9 from Annex 2 of the Circular 1/2003, which is relevant to the Scheme, advises that:

"…*A local planning authority will need to consider not only the individual potential bird attractant features of a proposed development but also whether the development, when combined with existing land features, will make the safeguarded area, or parts of it, more attractive to birds or create a hazard such as bird flight-lines across aircraft flightpaths*".

2.4 National: CAP 772 Wildlife Hazard Management at Aerodromes

2.4.1 CAP 772, produced by the Civil Aviation Authority [REF 3], provides guidance to assist aerodrome operators in establishing and maintaining an effective Bird Control Management Plan (BCMP), including the measures necessary to assess the bird strike risk at and around the aerodrome, and the identification of appropriate action to minimise that risk.

2.4.2 Aside from the main emphasis on control of bird strike hazard, this guidance also includes suitable landscaping recommendations for areas adjacent to aerodromes that may otherwise act as sources of potential bird strike risk.

2.4.3 In relation to the procedure for safeguarding of aerodromes, particularly with regard to the risks associated with off-site development, CAP 772 states:

"*Where an assessment shows that the wildlife strike risk may increase or could increase under certain conditions in the future, and the aerodrome certificate/ licence holder and developer are unable to agree a solution, the aerodrome operator may object to the planning application on aviation/ air safety grounds. Local knowledge of wildlife populations and activities or an appropriate similar safeguarding case to support any objection can be used and objections withdrawn when measures implemented to manage risks are deemed acceptable (to the airport operator). It may be possible to modify a development (e.g. exclusion of food wastes from a new landfill) or impose planning conditions. Where a safeguarding case is resolved through the imposition of planning conditions, it may be appropriate for the conditions (and 'wildlife control/ reduction management plan') to be subject to a legal agreement between the planning authority and the developer or property owner, or its successors*."

"*After planning permission has been granted, the aerodrome operator should regularly monitor the development for compliance with any planning conditions relevant to them that are imposed and report any alleged breach or non-compliance to the local planning authority*."

Bird Species

2.4.4 The objective of CAP 772 [REF 3] is to reduce the potential for roosting, shelter or feeding and to make sure that landscape areas are not attractive to such large flocking bird species.

2.4.5 Species of birds specific to bird strike management are those that occur in flocks and/or are large in size(>100g). Typical 'problem' groups of birds are gulls, wildfowl (ducks geese and swans), wading birds, feral pigeon and corvids (crow family).

2.4.6 Smaller perching birds are generally considered less of a risk to aviation as they do not form dense flocks and are therefore considered to present a low air strike hazard potential, with the exception of starlings, which can exhibit flocking behaviour during roosting.

2.4.7 The main bird hazards lie in a limited group of species covering starlings *Sturnus vulgaris*, wading birds, pigeons and gulls, with a smaller risk posed by the crow family (corvids).

2.5 Other species such as Canada Geese *Branta canadensis* and Greylag Geese *Anser anser* are covered in the CAA Safety Regulation Group document Large Flocking Birds – An International Conflict between Conservation and Air Safety, but are of lesser concern in the UK.

Habitats & Features as Bird Attractants

2.5.1 CAP 772 [REF 3] details the habitats and features that may serve as attractants to birds, a summary of which are provided below.

2.5.2 Birds need high energy foods and many species depend upon earthworms, snails and slugs, millipedes and insects present in grassland and underlying soils. Thrushes and related birds may occur in large flocks to feed on invertebrates. Few birds eat grass except geese and some wildfowl, such as Eurasian wigeon *Anas penelope*, graze short grass habitats. Arable farming activities like ploughing, harrowing and cropping which disturb the soils and spraying and manure spreading, seed drilling, harvesting, all create feeding opportunities for species such as gulls, corvids (crows), plovers, starlings and pigeons.

2.5.3 Areas of open terrain may attract many species of bird, maintaining the grass sward at an appropriate height can eliminate the open aspect of the grassed areas.

2.5.4 Landscaping schemes of this nature (have much in common with natural and semi-natural features) and attract smaller concentration of birds from a smaller area. As such, have less potential for increasing bird strike risk than other developments such as landfill, sewage treatment plants and wetlands.

2.5.5 As such, bird attraction and potential bird strike risk of most landscaping development with the except for wetlands and starling roosts, is comparatively local in effect, i.e. usually limited to within about 6.5km of the aerodrome or less.

2.5.6 Many birds nest in trees and bushes and of particular importance are rooks which nest in large colonies (rookeries) and may be occupied through most of the year. From late-summer through the winter, starlings form large communal roosts in dense vegetation, such as thorn thickets, screening belts and reed beds.

2.5.7 Open standing water and watercourses attract waterfowl that are nearly all large birds and may occur in large flocks. The more open water sites there are the more complex the frequency of movements (both daytime and night time) of waterfowl between them.

2.5.8 Birds can travel long distances relatively quickly between feeding grounds, nesting sites and overnight roosts. Consequently flying from one site to another may establish bird flight lines that traverse an aerodrome or low level aircraft arrival and departure routes.

2.6 Consultation with Birmingham Airport Limited

2.6.1 Consultation with Birmingham Airport has continued throughout the pre-application DCO period for the Scheme. Relating to aerodrome safeguarding and the hazards represented by wildlife and planting, the following statement from Birmingham Airport Limited was made in correspondence dated 16 February 2018:

"Construction - During construction a high degree of liaison and co-ordination will be required to ensure that there are no impacts for aircraft performance or Obstacle limitation Surfaces. In addition, there will need to be significant efforts made by the contractor to ensure that adequate bird control is maintained throughout the works. It is worth noting that Manchester Airport have been going through a very similar exercise recently which resulted in Airfield Operations staff being seconded to the contractors to ensure adequate bird control and obstacle limitation on site. The issues to be considered during construction also include ensuring appropriate locations for site accommodation including offices and welfare facilities

Obstacle Management upon Completion - The design needs to ensure that following completion there are no new obstacle features that will either infringe Obstacle Limitation Surfaces or compromise the Type A chart, potentially reducing aircraft performance on departure from Runway 15. This would have to be achieved through significant height limitation of street furniture and indeed the vehicles themselves with the CAA assuming a mobile obstacle height on the road of some 4.5m.

Bird Hazard upon Completion - The design should not allow for landscaping or drainage features that have the potential to attract either wetland or flocking birds that can become a strike hazard for aircraft departing and arriving at the airport."

3 Baseline

3.1 Birmingham Airport

3.1.1 Birmingham Airport has a CAA Public Use Aerodrome Licence (Number P451) that allows flights for flying instruction and the public transport of passengers. Passenger throughput for Birmingham Airport in 2017 was over 12.9 million, making it the seventh busiest UK airport. The airport supports both domestic flights within the UK and international flights, and is an operating base for a number of airlines [REF 9].

3.1.2 The airport is located approximately 10km southeast of Birmingham city centre in the borough of Solihull. It is bordered by the National Exhibition Centre (NEC) to the east, Marston Green to the north, Sheldon to the west, the village of Bickenhill to the south, and the surburb of Elmdon to the south west.

3.2 The site and surroundings

3.2.1 The Scheme site location comprises an area of farmland and grassland, with hedgerows and mature trees with a number of field ponds.

3.2.2 The agricultural landscapes south of M42 Junction 6 are interspersed by small blocks and pockets of mature woodland, with particularly prominent examples located around the western fringes of Hampton in Arden, at Barber's Coppice on the eastern fringes of Catherine-de-Barnes, and at Aspbury's Copse adjacent to the Solihull Road overbridge over the M42 motorway.

3.2.3 Watercourses include Shadow Brook, which traverses agricultural fields and passes beneath the M42 motorway approximately 300m north of Solihull Road, and Holywell Brook, which flows east from the NEC under the M42 motorway approximately 500m north of M42 Junction 6 and parallel to the A45.

3.2.4 Birmingham Airport and the leisure complex of the NEC are located to the northwest of the site, the village of Bickenhill lies to the east, the village of Catherine-de-Barnes to the south and the urban fringe Solihull to the west.

3.2.5 Hollywell Brook flows across the north of the site and Shadow Brook lies immediately east. The A45 runs east-west across the north extent of the site and the corridor of the M42 runs north-south along the east edge of the site.

3.2.6 In the wider area around Birmingham Airport the urban areas of Birmingham and Coventry lie to the west and east of the ASA. The River Blythe flows south to north through the ASA and the River Cole flows from the west. These rivers confluence to the east of Water Orton where they form the River Tame.

3.3 Bird attractants in the local area

3.3.1 The following section provides a qualitative review of relevant features within the surrounding landscape that may serve as attractants to birds. The location of open waterbodies and local landfill sites are illustrated in **Figure M.1**.

Woodland and Trees

3.3.2 Large areas of tree cover within the wider ASA include Hay Wood (SP 210 714; approximately 9km south of the Scheme) and the woodlands of Close Wood, Birchley Hays Wood and Meriden Shafts (centred on SP 260 838; approximately 5km; east of the Scheme). There are also numerous smaller areas of woodland scattered throughout the ASA.

Open Waterbodies

3.3.3 Table 3.1 presents the most significant waterbodies within the ASA that have been identified from a review of on-line mapping data [REF 10] and the British Trust for Ornithology Wetland Bird Survey sites [REF 11].

3.3.4 The closest waterbody to the Scheme is Pendigo Lake, which is located within the NEC. In the wider area the majority of open waterbodies are associated with the River Blythe and River Tame, comprising a mix of recreational lakes and lakes associated with historical mineral extraction pits. There are also a number of larger waterbodies that serve as reservoirs and recreational lakes within the urban areas of Birmingham.

Table 3.1: Waterbodies within the ASA

Name	Approximate Distance and Direction from the Site*
Pendigo Lake (NEC)	300m north west (SP 193 835)
Packington Deer Park & associated lakes (Broadwater, Great Pool & Hal Pool)	1.2km east (SP 226 843)
Geary's Level, Moland's Mere and associated lakes	1.5km east (SP 221 823)
Lakes at Ravenshaw Hall	1.9km south west (SP 173 793)
Marsh Lane Nature Reserve & associated Sand & Gravel Pits	2.4km east (SP 216 805)
Sand & Gravel Pit	2.5km east (SP 232 823)
Lake at Elmdon Park	2.5km west (SP 159 825)
Lakes at West Midlands Golf Course	2.6km south east (SP 214 795)
Fishing Lakes (River Blythe)	2.9km south (SP 192 782)
Lakes at North Warwickshire Golf Course	3.7km east (SP 232 817)
Lake at Berkswell Hall	4.8km south east (SP 238 791)
Olton Reservoir	4. 9km west (SP 134 816)
Lakes at Heart of England Adventure Park	6.6km east (SP 271 852)
Ladywalk Nature Reserve, and associated lakes	8.1km north (SP 216 918)
Shurstoke Reservoir	8.2km north east (SP 227 912)
Kingsbury Water Park & associated lakes	9.8km north (SP210 961)
Plantsbrook Reservoir	9.9km north (SP 139 922)

Name	Approximate Distance and Direction from the Site*
Earlswood Lakes	10km south west (SP 113 741)
Boating Lakes at Stockland Green	11.6km north west (SP 092 912)
Edgbaston Pool	12.5km west (SP 055 841)
Witton Lakes	13km north west (SP 089 923)
Edgbaston Reservoir	14km north west (SP 043 868)
Lakes at Sutton Park Nature Reserve	14.5km north-west (SP 103 968)

* The direction and distance of the closest point for each waterbody or group of waterbodies is presented. Central grid references are provided for each waterbody or group of waterbodies.

Local Landfill Sites

3.3.5 The location of authorised landfill sites have been reviewed using data from the Environment Agency 'what's in my backyard' [REF 11].

3.3.6 There are a number of authorised landfill sites within the ASA and these are listed in together in Table 3.2. The closest are the Packington Landfill and the Lode Lane Landfill, both of which are no longer active. In the wider area the existing authorised landfill sites are located to the east and north of the site, occupying locations on the fringe of Birmingham and between Birmingham and Coventry.

Table 3.2: Authorised Landfill within the ASA

Site Name	Approximate Direction and Distance from the Site*
Packington Landfill	2km east (SP209 853)
Lode Lane Landfill Site	2.0km west (SP 158 823)
Meriden Quarry Area G	4.4km east (SP231 827)
Coleshill Quarry	5.7km north (SP 202 900)
Minworth Sewage Treatment Work	6.2km north east (SP 174 919)
Dunton Island Landfill Site	7.8km north (SP188 930)
Railway Cutting	7.8km north west (SP 090 888)
Lavender Hall Farm	7.3km east (SP 240 780)
Lea Marston Purification Lakes	13km north (SP 205 940)
Coneybury Farm	13km north (SP 195 981)

** The direction and distance of the closest point for each landfill is presented. Central grid references are provided for each landfill identified.*

3.4 Desk study and bird surveys

3.4.1 There is no publically available data that captures the number of confirmed bird strikes on aircraft using Birmingham Airport that originate from birds within the site.

3.4.2 A desk study[2] and specific bird surveys have been undertaken by AECOM of the site and surrounding area. These comprised a Breeding Bird Survey the spring/summer of 2018 reported in Appendix 9.6 [**TR010027/APP/6.3**] and Wintering Bird Survey in the winter period of 2017/18 reported in Appendix 9.7 [**TR010027/APP/6.3**].

3.4.3 The desk study identified that in the area surrounding the site:

a. small numbers of common wetland species make use of Elmdon Park (peak count of 61 mallard and 14 greylag geese);

b. larger numbers of wetland birds were associated with the lakes at Marsh Lane Nature Reserve (including 5 year peak means of 511 black-headed gull *Chroicocephalus ridibundus*, 505 lapwing *Vanellus vanellus*, 446 greylag geese and 315 wigeon); and

3.4.4 In summary the bird surveys undertaken by AECOM and presented within Breeding Bird Survey, Appendix 9.6 [**TR010027/APP/6.3**] and Wintering Bird Surveys, Appendix 9.7 [**TR010027/APP/6.3**] identified:

1) wading birds species were identified during the breeding and wintering surveys. Wading birds typically require unrestricted views of their foraging and breeding habitats, and will be deterred by planting species rich grassland in areas which would otherwise be attractive to these species;

2) the bird surveys confirmed that significant flocks of larger bird species, such as geese and swans, had not been recorded regularly using the area of the Scheme;

3) larger species of birds have been recorded in the local area, including arable fields to the east, Pendigo Lake to the north and Elmdon Park to the west;

4) winter surveys included a number of waterbodies in the surrounding area, including Pendigo Lakes at the NEC. Pendigo Lakes attracts an assemblage of birds that are typical of open waterbodies, including flocks of Canada goose (peak count 52) and mallard (peak count 12);

5) flocks of teal *Anas crecca* were noted in association with a tributary of the River Blythe, approximately 600m south-west of the Scheme;

6) flocks of gulls (peak count 50) were recorded in fields between Bickenhill and the M42;

7) the remainder of the existing habitats within the area of the study area support typical farmland and woodland birds, which include flocks of winter thrushes and occasional use by low numbers of larger species, including lapwing; and

8) no significant flocks of birds were recorded flying across the site during any survey dates as presented within Breeding Bird Survey, Appendix 9.6

[2] Wetland Bird Survey data, providing numbers of recorded wetland birds and corresponding 5 year peak means for the period 2011/12 to 2015/16 from waterbodies in the local area.

[**TR010027/APP/6.3**] and Wintering Bird Surveys, Appendix 9.7 [**TR010027/APP/6.3**].

3.5 Summary evaluation

3.5.1 As detailed in Section 1.4, the majority of known bird strike incidents happen at low levels where planes are either taking off or landing. As such, the immediate area surrounding the airport runway should be kept as free of bird attractant sites (and associated flyways[3] between sites) as possible.

3.5.2 The distribution of features (including manmade) within the landscape and the results of desk studies and bird surveys are consistent with the valleys of the River Blythe and River Tame, providing a flyway for birds.

3.5.3 Records indicate that smaller numbers of birds make use of the waterbodies within the urban area and fringe of Birmingham. The site and Birmingham Airport are situated between the river valleys and the urban area of Birmingham. Therefore, it is considered that although none were recorded during surveys in 2017/2018, there remains a reasonable likelihood that small flocks of birds will fly across the site, particularly during the passage and winter periods.

3.5.4 As a result, this OBSMP has been produced to reduce, as far as practicable, the risk to aircraft bird strikes by means of controlling the extent of the site that would be used to construct the Scheme.

[3] Flyways: the airborne route bird(s) take between attractant sites, either directly or using landscape features (such as rivers, valleys or other visible landscape features as a means of travelling from site to site).

4 Risk assessment & mitigation

4.1 Risk identification

4.1.1 The principal risks associated with the Scheme are as follows:

a. creating areas of open soil that provide new feeding opportunities, i.e. during site clearance for construction;

b. creating areas of open terrain, either during site clearance for construction or in the completed scheme design;

c. landscaping, planting or built structure that create bird attractants; and

d. creating open waterbodies that can attract flocks of birds.

4.1.2 In accordance with CAP 772 [REF 3], the habitats that are most likely to attract bird species include woodland/tree belts and wetland, and each of these are considered in the following paragraphs.

4.1.3 In summary, the clearance of existing habitats during construction and the proposed landscaping of the Scheme would create new or additional habitats that could prove attractive to birds, which as a consequence of their species and numbers could in turn increase the risk of bird strike to aircraft in the vicinity.

Bird Species

4.1.4 Not all bird species pose a bird strike risk to aircraft.

4.1.5 The bird species which may pose a risk to aviation safety and will require mitigation are as follows:

a. **Wildfowl:** the small reedbeds which would be created as part of the Scheme could provide a suitable breeding/roosting habitat for some wildfowl, such as mallard;

b. **Corvids (Rook):** rooks nest communally in woodlands and may be attracted to the new woodland (once it has established and a canopy formed, approximately 5-10 years post planting)

c. **Wood pigeon:** additional woodland would also provide a suitable nesting/roosting habitat for wood pigeons;

d. **Gulls:** there is a risk that aggregations of gulls would be attracted to the bare loose soil which would be exposed during ground works and excavations, undertaken during the construction phase of the proposed scheme. However, during the operation phase of the Scheme, foraging habitat availability for gulls would be reduced as areas which are currently arable land would become built development. No known breeding habitat currently exists on the site and none would be created; and

e. **Starling:** flocks may be attracted to litter or waste containers used during the construction phase or suitable roosting sites created as part of the landscaping.

4.2 Embedded mitigation

4.2.1 The following measures have been embedded into the Scheme to reduce the bird attractants created. These measures have been incorporated into the design of the Scheme following consultation with Birmingham Airport Limited and the Environment Agency. Each of the measures are illustrated in **Figure 2**:

a. where possible drainage and attenuation features have been located below ground, e.g. as attenuation tanks rather than ponds, which may have served as wildlife attractants. These are located to the south-west of the existing Junction 6 and to the north and south of the proposed Junction 5a (**Figure M.2**);

b. the Scheme has avoided the creation of additional wetland (i.e. other than for the purpose of essential drainage);

c. any above-ground drainage features have been designed to ensure that they comprise vegetated basins that do not permanently hold standing water. They have also been located as far as possible from the boundary of Birmingham Airport, i.e. to the north and south of the proposed Junction 5a and north of Junction 6 (**Figure M.2**);

d. planting of woodland and trees for the purpose of visual mitigation has been minimised where possible (**Figure M.2**);

e. where proposed replanting of woodland and clusters of trees will be planted, these have been located as far as practicable from Birmingham Airport boundary, i.e. to the south of and around the proposed Junction 5a (**Figure M.2**). Planting has also sought to reduce the possibility of increasing bird movements in a north-south and south-north direction within the wider surrounding areas to the east of Birmingham Airport; and

4.3 Standard Mitigation

Construction

4.3.1 The methods and measures to construct of the Scheme are outlined within the OEMP.

4.3.2 Due to the nature of the Scheme, extensive ground works would be required. In relation to ground works the guidance provided in CAP 772 should be taken into consideration, where practicable and which states:

"Ground works on, and immediately adjacent to, the airfield can create temporary havens for birds and other wildlife. Any works requiring the removal of the grassed surface should be undertaken by competent personnel working to a reinstatement programme guided by the habitat management specialist. The airside works programme should ensure a successful and timely reinstatement. Timing of works should be carefully planned to ensure ground is reinstated with full grass cover well before the onset of the winter period."

"Consideration should be given to the following when undertaking ground works":

a. Proximity to air traffic;

b. Time of year;

c. Control of dust generation and creation of foreign object debris (e.g. grass clippings;

d. Soil type;

e. Drainage; and

f. Grass species."

4.3.3 It should be noted that the required period for construction may not allow for all areas to be grassed in advance of winter. It is acknowledged that there is a risk that areas of open soil temporarily created during construction may form an attractant to birds, and this has been taken into consideration in the following recommendations for mitigation.

4.3.4 Regular (weekly at a minimum) monitoring of bird activity will be completed throughout construction of the Scheme, with particular emphasis during any phase of new topsoil stripping and excavations. In addition, reporting will include the identification of bird strike hazards (Section 4.4), which will be used to inform a system of continual improvement of the bird management strategy.

4.3.5 The following mitigation measures will be implemented based on monitoring and regular consultation with Birmingham Airport Limited and their bird hazard control team:

a. continual interface of the Birmingham Airport Limited Airfield Operations staff and the appointed contractor to ensure an adequate system of bird control is established;

b. education of all site personnel on the potential risks of bird strike, including ensuring that a copy of the most up to date version of the agreed Bird Strike Management Plan is available in all on-site offices;

c. ensuring appropriate siting of site accommodation, including both offices and welfare facilities;

d. careful control of vehicle movements to manage the risk of displacing any birds present into the flight path;

e. control of construction drainage to ensure that areas of permanent open water do not develop;

f. control and appropriate disposal of all on-site waste, including food waste, to avoid any unwanted build-up that could attract scavenging birds, such as gulls and corvids. This may include the depositing of waste in covered skips and signage in high risk areas warning site personnel of the dangers associated with littering and bird strikes;

g. compacting (where possible) bare loose soil to reduce its suitability for birds;

h. where possible the seeding of temporary spoil mounds and other areas of bare earth;

i. erection of fencing around earth mounds and other areas of exposed earth to deter birds, such as 'orange ticker fencing'. The fencing will be monitored to ensure their integrity until the earth mound is removed; and

j. the targeted use of bird deterrents, if necessary, including audio/ visual and the use of raptors.

Late Construction and Operational Phase

4.3.6 The following section applies specifically to those features created as part of the scheme that are considered to represent potential attractants to birds. This comprises the drainage and wetland features and areas of landscaping (i.e. woodland, scrub and grassland).

4.3.7 In all cases management and maintenance will be achieved by the following:

a. as a result of on-going management of the Highways England estate;

b. through the powers and rights of access granted to Highways England from the Development Consent Order; and

c. where land lies outside the Highways England estate, through the continuation of existing land management practices that are already subject to restrictions of the Birmingham Airport.

Drainage & Wetland Features

4.3.8 A drainage strategy has been incorporated into the Scheme to manage surface water runoff. In addition to storage tanks, new wetland features, including attenuation consisting of reedbeds and swales, will be created as part of the drainage strategy. The drainage strategy has been assessed using the Highways Agency Water Risk Assessment Tool (HAWRAT) [REF 12]. The purpose of the HAWRAT is to help highway designers decide whether or not pollution mitigation measures are needed in specific circumstances. The tool determined that the proposed mitigation measures provide adequate levels of treatment, particularly in terms of dissolved and sediment-bound pollutants.

4.3.9 New attenuation below ground tanks will be designed such that they will hold water to prevent flooding on or around the new road surfaces. Swales are a common component of Sustainable Drainage Systems (SuDS), and use shallow, broad and vegetated channels to store and/or convey runoff, aiding the removal of pollutants.

4.3.10 It is acknowledged that there is a risk that water may occasionally accumulate for short periods of time in the reedbeds and swales. Therefore, mitigation measures will be included to reduce the risk (as far as practicable) of attracting birds to water features. These measures will be discussed with Birmingham Airport as part of their wider management of the area.

4.3.11 The attenuation features and ponds will be constructed with consideration to the guidance provided in CAP 772 [REF 3] where practicable, which states the following habitat controls where drainage cannot be achieved:

"Wet and waterlogged grass areas that attract hazardous wildlife should be drained or the site re-graded to eliminate hollows that hold standing water. If drainage cannot be achieved, active control measures will be needed to ensure that the site does not result in increased risk."

"The following habitat controls may also reduce the attractiveness of water bodies to wildlife that are part of the safeguarding process":

a. *The water should be as deep as possible (over 4m) to minimise bottom - growing vegetation;*

b. *In order to reduce nesting opportunities, there should be no development of islands. Attached promontories or spits can be used to reduce the open expanse of water bodies and prevent gull roosts forming;*

c. *Banks should be as steep as possible (preferably vertical), with vegetation only deployed to prevent wildlife from walking in and out of the water;*

d. *A vertical fence approximately 1m high could be constructed around the water edge to prevent wildlife such as Canada geese getting access;*

e. *On smaller lakes, wires suspended above the surface may deter wildlife that requires long take-off and landing runs (e.g. swans and geese). The wires should be made visible with tags (10cm x 6cm minimum), to increase the visibility to wildlife;*

f. *Dense vegetation that provides nesting cover should be avoided. The water should be surrounded with long grass or a sterile substrate; and*

g. *Water should not be stocked with fish."*

4.3.12 The drainage design has not been engineered to include the creation of waterbodies that hold permanent water. Therefore, the recommendations of CAP 772 [REF 3] for deep waterbodies that deter aquatic plant growth are not appropriate in this case.

4.3.13 The embedded mitigation measures that have formed part of the design of the Scheme have sought to limit the creation of wetland features as per the discussions with Birmingham Airport Limited This comprises:

a. the use of below ground attenuation features;

b. avoiding the of wetland habitats (other than for the purpose of essential drainage); and

c. ensuring essential drainage features do not permanently hold water, but comprise vegetated basins.

4.3.14 In addition, the following measures are considered appropriate for the size and anticipated recharge/water capture regime of the reedbeds:

a. from the outset the reedbeds will be netted in order to deter birds from landing and/or roosting;

b. the netting will be maintained at a height to ensure the reed-bed remains inaccessible to roosting birds (such as starling); and

c. the banks shall be planted with shrubs (using non fruit & seed bearing species) to break up the available sight lines of birds.

4.3.15 The swales will also support stands of reeds that are required as part of the Sustainable Drainage Systems (SuDS)[4] treatment train. These stands of reed will have a limited width, which is likely to significantly reduce their suitability as breeding or roosting habitat for bird species. Notwithstanding this limitation further measures may be required to limit the suitability of swales for birds. In relation to the design and management of ditches, i.e. swales, CAP 772 [REF 3] states:

4.3.16 "Ditches should be regularly inspected and maintained to ensure throughput of water is not restricted at any time and to prevent bankside vegetation from providing a habitat attractant. Bankside vegetation may need to be cut to 50mm at least twice per year, with all arisings removed"

4.3.17 The inspection and management measures for the swales associated with the Scheme will be inspected and maintained in accordance with the measures outlined within CAP 772.

4.3.18 All drainage features discussed above will fall within the Highways England estate, and therefore there are considered to be no impediments to their long-term maintenance as set out herein.

4.3.19 Overall this combination of measures is considered sufficient to ensure that the suitability of the balancing ponds and swales for breeding/roosting birds is significantly limited in accordance with CAP 772 [REF 3].

Landscaping

4.3.20 Areas of new woodland, scrub and hedgerows will be planted to mitigate the loss of habitat due to the Scheme. The location of the new woodland and hedgerows areas have been carefully and sympathetically selected to expand upon existing habitats, to minimise the effect of habitat fragmentation and also to provide essential visual mitigation. These measures are an important part of the design that ensures the impacts upon protected and notable species are adequately addressed.

4.3.21 However, it is acknowledged that the planting of such landscaping will inevitably introduce attractant habitat for bird species. As such, and as detailed in Section 4.2 and illustrated in **Figure M.2**, the proposed replanting of woodland and clusters of trees have been limited in extent, planted as far as practicable from Birmingham Airport and have sought to reduce the possibility of increasing bird movements in a north-south and south-north direction within the wider surrounding areas to the east of Birmingham Airport. This measure is considered to reduce the risk of bird strike associated with woodland species.

[4] SuDS: Measures designed to control surface runoff close to its source, including management practices and control measures such as storage tanks, basins, swales, ponds and lakes. Sustainable drainage systems allow a gradual release of water and thereby reduce the potential for downstream flooding.

4.3.22 The following measures will be implemented (where practicable) to further manage the risk of increased bird strike that may be associated with these areas.

a. avoid the planting of species that provide an abundant winter food source, such as hawthorn *Crataegus monogyna*, holly *Ilex aquifolium*, rowan *Sorbus aucuparia*, crab apple *Malus sylvestris*, honeysuckle *Lonicera spp*. *Viburnum* sp. and *Cotoneaster* sp;

b. planting of wind-dispersed and non-seed or fruit-bearing species will be encouraged. Appropriate species include field maple *Acer campestre*, common alder *Alnus glutinosa*, silver birch *Betula pendula*, hazel *Coryllus avellana*, privet *Ligustrum vulgare*, goat willow *Salix caprea*, grey willow *Salix cinerea* and gorse *Ulex europaeus;*

c. reducing tree planting density to 4m centres or lower[5] and thinning existing stands to avoid formation of Starling roosts;

d. avoiding planting of large blocks and encourage the planting of small, single species groups comprising 3-15 plants;

e. no trees with potential to grow in excess of 20m, or to encroach the vertical safeguarding areas (whichever height limit is breached first), due to their potential to attract rooks; and

f. ensuring timely routine management of fruit forming hedges such as hawthorn to limit berry production.

4.3.23 As detailed above, the requirements of management and maintenance will be achieved through the Highways England estate, the powers and rights of access granted from the DCO and/or the continued enforcement of the safeguarding requirements of Birmingham Airport.

4.3.24 The Scheme includes areas of grassland on the verges, embankments and other areas of the highway. The majority of these grasslands will be subject to low intensity management for the purpose of maintaining their floral diversity. Although these areas shall necessarily include areas of long grass, their location on verges or embankments that are immediately adjacent to the highway is considered likely to significantly reduce their suitability for the majority of bird species. Therefore, these areas are not considered to represent a risk of increased bird strike.

[5] The density of tree planting will be approximately 2,250 trees/ha, in accordance with National Forest Guidelines [REF9] for establishing native woodlands. However, a reduced planting density may be applied if the risk of bird strike is deemed too high by Birmingham Airport Ltd. If deemed necessary, the planting density of the some woodland area could be reduced to make the area less attractive to birds, such as wood pigeons.

4.3.25 As illustrated in **Figure M.2**, some other grassland areas may also be established outside the highway for the purpose of benefiting wildlife. In these areas the restriction of field compartment size (by hedgerow planting) and the planting of scrub may be utilised to break up the available sight lines for birds, thereby reducing the suitability of any areas for any flocking species, such as waders and geese. These measures are considered sufficient to minimise the risk of any increase in bird strike from the creation of these grassland areas.

Nests

4.3.26 Removal of nests or additional roosting/ nesting deterrents would be considered as advised by monitoring and regular consultation with Birmingham Airport Limited.

4.3.27 As detailed in Appendix D of the OEMP [**TR010027/APP/6.11**], the removal will have due regard to the legal protection afforded to all wild birds and their active nests by the Wildlife & Countryside Act 1981 (as amended) [REF 13], and will only be conducted under the advice and supervision of a suitably qualified ecologist.

4.4 Monitoring and Liaison

4.4.1 During the construction phase of the Scheme, construction staff and contractors will be required to continuously survey high risk areas. Notwithstanding this, any observations of significant flocks of birds within the vicinity of the active construction area will be reported immediately to Birmingham Airport Limited.

4.4.2 The numbers of birds present in the vicinity of the Scheme during the construction period will be recorded and provided to Birmingham Airport Authority as part of the regular site monitoring.

4.4.3 Areas of the Scheme construction which are deemed to have a high potential of increasing the risk of bird strike to the airport (“high risk areas”) will be discussed in consultation with Birmingham Airport Limited.

4.4.4 Where hazardous bird activity is identified, the appointed contractor will report such activity to the airport, so that appropriate bird prevention methods can be actioned. The main contractor will include details of bird activities, or potential bird hazards, in daily briefing to all site staff and contractors in areas considered to ‘high risk areas’.

4.4.5 Additionally, start and end of shift visual inspections will be undertaken in high risk areas by a nominated person. This is to ensure that any aggregations of bird on the ground at this time don’t disperse without due control. If there are aggregations of birds on the ground, in particular Woodpigeon, Starling or Gulls, then this will be communicated immediately to the bird hazard control team of Birmingham Airport who will advise when/ how the birds can be dispersed; taking into account aircraft movements.

5 Conclusion

5.1.1 The information presented in this OBSMP has considered the local context and design of the Scheme to evaluate the likelihood of any increased risk to the operations of Birmingham Airport as a result of bird strike.

5.1.2 Birmingham Airport and the Scheme lie in close proximity to a bird flyway formed by the valleys of the River Blythe and River Tame.

5.1.3 The iterative design of the Scheme in consultation with Birmingham Airport Limited and the Environment Agency has sought to design out potential attractant habitat for birds. Notwithstanding this, there is a risk that management of the Scheme during both its construction and operation could result in an increased risk of bird strike.

5.1.4 To reduce this possible risk to aircraft:

a. embedded mitigation measures to reduce the risk of bird strike have been agreed in consultation with Birmingham Airport Limited;

b. in accordance with best practice guidance provided by CAP 772, a risk assessment has been carried out of the Scheme during both construction and operation, with recommendations made to mitigate any bird strike hazards. This includes:

(i) the monitoring and control construction activities; and

(ii) the sensitive design and maintenance of drainage and landscaping to reduce their suitability for birds (further detail presented in the body of this report).

5.1.5 The proposed measures will be continually reviewed through site monitoring and reporting to Birmingham Airport, thereby ensuring that a robust and pro-active approach to any risks of increased bird strike.

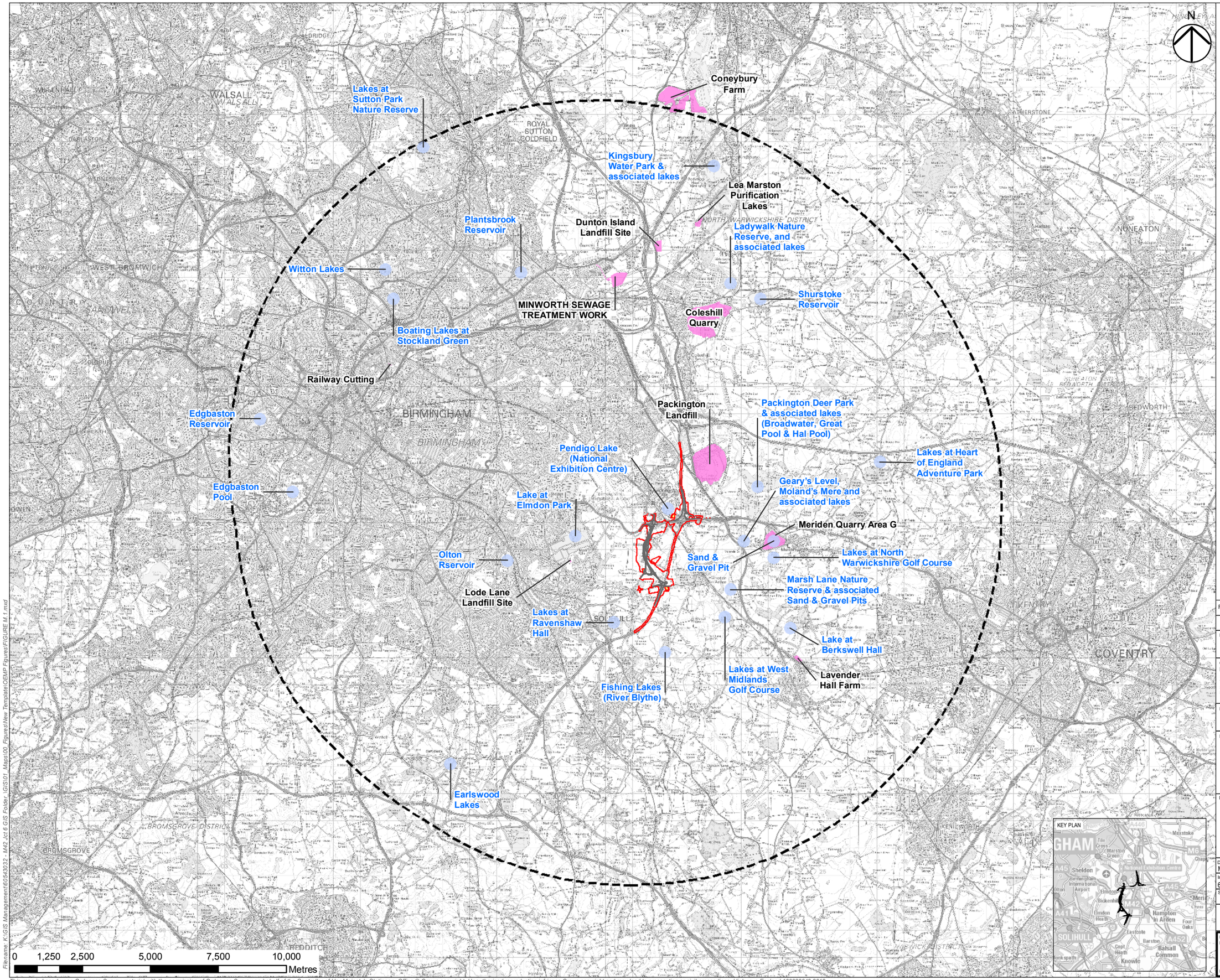
5.1.6 Overall it is considered that in accordance with best practice the mitigation measures detailed in this document are sufficient to ensure that any risks of bird strike associated with the Scheme have been reduced as low as reasonably practicable.

6 References

REF 1	Regulation 139/2014. Laying down requirements and administrative procedures related to aerodromes pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council. European Commission (2014). https://www.easa.europa.eu/document-library/regulations/commission-regulation-eu-no-1392014
REF 2	ODPM Circular 1/2003 - Safeguarding Aerodromes. UK Government DfT (2003). https://www.gov.uk/government/publications/safeguarding-aerodromes-technical-sites-and-military-explosives-storage-areas
REF 3	CAP 772: Wildlife Hazard Management at Aerodromes. Civil Aviation Authority (2017).
REF 4	The town and country planning (safeguarded aerodromes, technical sites and military explosives storage areas) direction 2002. Department for Transport (2016). https://publicapps.caa.co.uk/modalapplication.aspx?appid=11&mode=detail&id=2726
REF 5	Mineral Sites and Bird Strike Hazard and Risk: Practice Guide for Mineral Development and Restoration within Aerodrome Safeguarding Areas. Mineral Products Association (2015). https://mineralproducts.org/documents/MPA_Birdstrike_Guidance_Revised_Version_May_2015.pdf
REF 6	Civil Aviation Authority (2017) Reported Birdstrikes 2012-2016. https://www.caa.co.uk/Data-and-analysis/Safety-and-security/Datasets/Birdstrikes/
REF 7	Bird Strike Damage and Windshield Bird Strike. European Aviation Safety Authority (2008). https://www.easa.europa.eu/document-library/research-projects/easa2008c49

REF 8	Convention on International Civil Aviation Annex 14. Aerodromes - Aerodrome Design and Operations. International Civil Aviation Organisation (2010). http://cockpitdata.com/Software/ICAO%20Annex%2014%20Volume%201
REF 9	Birmingham Airport Celebrates Its Busiest Year in History. Birmingham Airport Website (2018). https://www.birminghamairport.co.uk/media-information/news/2018/01/birmingham-airport-celebrates-its-busiest-year-in-history/
REF 10	Magic map website. Department for Environment, Farming and Rural Affairs (2018). https://magic.defra.gov.uk/
REF 11	British Trust for Ornithology Wetland Bird Survey British Trust for Ornithology (2018). https://www.bto.org/volunteer-surveys/webs
REF 12	Highways Agency Water Risk Assessment Tool (HAWRAT). Highways Agency (2009). http://www.standardsforhighways.co.uk/ha/standards/dmrb/vol11/section3/hd4509.pdf
REF 13	Wildlife & Countryside Act 1981 (as amended). HMSO 1981. https://www.legislation.gov.uk/ukpga/1981/69

Figure M.1: Bird Strike Management Plan Location Plan



NOTES

THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DOCUMENTATION.

LEGEND

- THE SCHEME
- LIMITS OF LAND TO BE ACQUIRED OR USED PERMANENTLY OR TEMPORARILY (THE ORDER LIMITS)
- LIMITS OF LAND TO BE TEMPORARILY ACQUIRED FOR SIGNAGE INSTALLATION
- LAND NOT INCLUDED WITHIN THE ORDER LIMITS
- BIRD SAFEGUARDING
- LOCATION OF LAKES AND
- AUTHORISED LANDFILL

KEY PLAN

FIRST ISSUE	GB	JG	08/05/19	P01
Revision Details	By	Check	Date	Suffix

Purpose of Issue: FOR INFORMATION

Client: Highways England, Floor 5, Two Colmore Square, 38 Colmore Circus, B4 6BN

Development Consent Order Number: TR010027

Project Title: M42 JUNCTION 6 IMPROVEMENT

Drawing Title: FIGURE M.1 BIRD MANAGEMENT PLAN

Designed	Drawn	Checked	Approved	Date
MWH	GB	MWH	JG	08/05/19

Internal Project No: 60543032	Suitability: S2
Scale @ A3: NTS	Zone: M42

Drawing Number: Highways England Pin	Originator	Volume	Rev
HE551485	-ACM	-EGN-	P01
Location: M42_SW_ZZ_ZZ		-DR-DC-0254 (Type | Role | Number)	

Filename: K:\GIS Management\60543032 - M42 Jct 6 GI\S Folder_\GIS\01_Maps\00_Figures\New Template\OEMP Figures\FIGURE M.1.mxd

Figure M.2: Ecological Features and Airfield Safeguarding Areas Plan

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NOTES

THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DOCUMENTATION.

LEGEND

- THE SCHEME
- LIMITS OF LAND TO BE ACQUIRED OR USED PERMANENTLY OR TEMPORARILY (THE ORDER LIMITS)
- LIMITS OF LAND TO BE TEMPORARILY ACQUIRED FOR SIGNAGE INSTALLATION
- LAND NOT INCLUDED WITHIN THE ORDER LIMITS

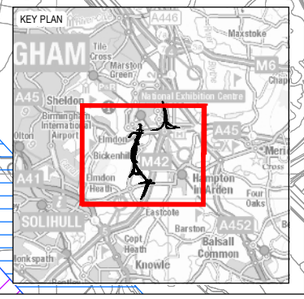
AIRPORT SAFEGUARDING ZONES

- TAKE OFF FLIGHT PATH & TAKE OFF CLIMB SURFACE
- APPROACH SURFACE
- TRANSITIONAL SURFACE
- EXISTING WOODLANDS

PROPOSED PLANTING

- AREA OF SHRUB
- LANDSCAPE - WOODLAND/WOODLAND EDGE - LE 2.1 / LE 2.2
- ECOLOGICAL - PROPOSED AREA FOR POSSIBLE ANCIENT WOODLAND TRANSLOCATION
- AREA OF HABITAT ENHANCEMENT
- AREA FOR HABITAT TRANSLOCATION
- PROPOSED REEDBEDS
- PROPOSED UNDERGROUND STOREAGE

KEY PLAN



FIRST ISSUE	GB / JG	07/05/19	P01
Revision Details	By / Check	Date	Suffix

Purpose of Issue

FOR INFORMATION

Client
Highways England
Floor 5
Two Colmore Square
38 Colmore Circus
B4 6BN

Development Consent Order Number

TR010027

Project Title

M42 JUNCTION 6 IMPROVEMENT

Drawing Title

FIGURE M.1
ECOLOGICAL FEATURES & AIRFIELD SAFEGUARDING AREAS PLAN

Designed	Drawn	Checked	Approved	Date
MWH	GB	MWH	JG	07/05/19

Internal Project No	Suitability
60543032	S2
Scale @ A3	Zone
NTS	M42

Drawing Number

Highways England Pin	Originator	Volume	Rev
HE551485	-ACM	-EGN-	P01
Location	Type	Role	Number
M42_SW_ZZ_ZZ		-DR-DC-	0253

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