

ARCADIS GUIDANCE TO THE CIVIL AVIATION AUTHORITY  
ON HEATHROW EXPANSION PROGRAMME

# **REVIEW OF THE INITIAL TESTS (CAP1782) FOR THE HEATHROW WEST PROPOSAL**



March 2020

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## ARCADIS GUIDANCE TO THE CIVIL AVIATION AUTHORITY

### REVIEW OF THE INITIAL TESTS (CAP1782) FOR THE HEATHROW WEST PROPOSAL

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## NOTES

Differing terminology has been associated to the proposal by the Arora Group regarding expansion at Heathrow Airport. For the benefit of the reader and for consistency within our report, when referring to the proposals for expansion at Heathrow Airport by the Arora Group we commonly use the terminology the 'Heathrow West Proposal' and the Arora proposal for the 'Heathrow Western Campus' (HWC).

We are aware of multiple stakeholders / consultants that have and will be appointed by the Arora Group in support of its proposal. For ease of reference within our report, we refer to the Arora Group, stakeholders and consultants from all organisations as the 'Heathrow West team' or 'Heathrow West'.

# INTRODUCTION

In the CAA's March 2019 Consultation (CAP1782 - Economic regulation of capacity expansion at Heathrow: policy update and consultation), the CAA consulted on "Initial Tests" for Arora. These Initial Tests intend to allow the CAA to understand Heathrow West's proposals better, so that, if appropriate, the CAA would be in a position to properly commence work on developing any possible future regulatory framework.

Arcadis has been engaged to undertake a review of the evidence to support Heathrow West's responses to the initial tests, and to consider and understand the maturity of the Heathrow West proposals.

## 1. Context

In October 2018, Arcadis was appointed by the Civil Aviation Authority (CAA) to undertake a high-level, information gathering, and evidence led review of Heathrow West's proposals. The key findings of the review were that:

- At a high-level Heathrow West's proposal were at an early stage of maturity and Arcadis were unable to confirm whether the proposals would meet the requirements of the ANPS or whether they would be consistent with the aspiration for no real increase in charges.
- There are parts of the Heathrow West Campus design that could allow for interesting and innovative opportunities to be realised as plans develop.
- Significantly more information and a greater level of detail and maturity is needed in Heathrow West's proposals, and that they appear committed to taking its proposals forward in this manner.

Following this review, the CAA responded that

*"The Arcadis review of Heathrow West's proposals provides some helpful initial evidence. Based on the evidence provided by Arcadis, we currently consider there is insufficient detail in Heathrow West's proposals for us to apply our initial tests at this stage in a way that will provide us with meaningful information as to how to proceed, and it is clear from the Arcadis report that there remains significant work for Heathrow West to do if it is to meet our initial tests."*

The CAA stated that they would continue to be open to further discussions with Heathrow West on the tests and how it might best provide the information necessary for us to gain a fuller understanding of its plans and may commission further work by Arcadis to review developments in Heathrow West's plans.

## 2. Initial Tests Review

In Chapter 4 and Appendix E of the CAA's March Consultation (CAP1782 - Economic regulation of capacity expansion at Heathrow: policy update and consultation), the CAA consulted on "Initial Tests" for Heathrow West. The "Initial Tests" are designed to give the CAA further understanding into whether the Heathrow West proposals are credible, plausible and deliverable.

Arcadis, as the CAA's Technical Advisor, has been engaged to undertake a two-phase review of the "Initial Tests".

### Phase 1 – Refining the tests

Arcadis has undertaken workshops with Heathrow West to consider refinement of the Initial Tests into appropriate requirements that are relevant and pertinent to the scope and maturity of the Heathrow West Campus proposal.

Heathrow West has submitted their proposals for the refined tests, along with a rationale for the refinements, for review by Arcadis and the CAA and ultimately for acceptance by the CAA.

### Phase 2 – Reviewing the evidence

On the CAA's acceptance of the refined Initial Tests, Arcadis has undertaken a review of the initial evidence provided by Heathrow West to support their responses to the tests.

Arcadis has undertaken a document review and workshops with the Heathrow West Team, where required, to produce this technical note outlining Arcadis' perspective of the evidence provided by Heathrow West against each initial test.

# INITIAL TEST REVIEW

This section provides Arcadis' commentary in turn against the Heathrow West responses to the initial tests, considering the evidence available to date.

## 1. Do the proposals consider how to ensure safe and secure airport operation, including during the construction phase?

Heathrow West has developed a number of draft documents, that address the safe and secure operation of Heathrow Airport. Such key documents cited by Heathrow West include:

- **Code of Construction Practice & Delivery Strategy** – a key requirement for the DCO will be adequate demonstration of Heathrow West to safely and securely deliver their proposal and mitigate all potential impacts in short and long term. This includes a phased schedule.
- **Integrating and Consenting Plan** – this document describes how Heathrow West will integrate with the retained elements of the HAL scheme from a physical, operational, regulatory, consenting, construction, environmental and community perspective. This includes specific references to safety and security.
- **Safety and Security (SMS) Manual** – developed in compliance with CAP 795 as well as EASA (EU Reg 139/2014). The SMS fully addresses the need for accountable safety managers, as well as setting out policies for safety risk management, safety assurance and safety promotion.
- **Security Assessment** – how Heathrow West has taken into account security in the development of proposals.
- **Emergency and Escape Facilities** – similarly how Heathrow West has taken into account these safety items in the development of proposals.

Furthermore, Heathrow West has stated that specialist expertise has been engaged to provide safety and security expertise. Please see appendix B for list of consultants and scope of service summary. Specifically:

*"We have provided the delivery strategy as developed by [REDACTED]. They have also developed a code of construction practice to ensure the safe construction of the project along with defined mitigation to minimise impact of the project. A draft level 2/3 showing the work in progress construction phase schedule is also provided.*

*A number of documents are provided to address the issues of safety and security. [REDACTED] have provided a security assessment of the project. [REDACTED] have also produced a threat vulnerability and risk assessment (produced but unseen as part of this review).*

*[REDACTED] have analysed the emergency and escape facilities"<sup>1</sup>.*

Arcadis considers that the documents provided with respect to safety and security are of adequate maturity and breadth for this stage. This reflects the use of specific consultants, along with supporting manpower levels to deliver the current drafts.

Heathrow West has provided initial evidence of *sufficient completeness*.

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<sup>1</sup> Supplement – Test 1 (Safe & Secure)

## 2. Is there initial evidence that the proposals will deliver a single accountable operator, in line with safety and security regulation expectations? As a minimum, CAA expects proposals to reflect the need for accountable safety managers, and integration with the existing safety management systems of NATS En Route plc and HAL.

Similarly, to their response to Initial Test 1, Heathrow West's response to this Initial Test demonstrates emerging evidence. Such documents cited include:

- **Safety and Security (SMS) Manual** – developed in compliance with CAP 795 as well as EASA (EU Reg 139/2014). The SMS fully addresses the need for accountable safety managers, as well as setting out policies for safety risk management, safety assurance and safety promotion.
- **Security Management System (SeMS)** - drafted in compliance with CAP 1223, CAP 1224 and CAP 1273. A systematic approach to threat & risk management, security accountability and responsibilities, resources, security performance monitoring, assessment & reporting, among other regulatory requirements.
- **Heathrow West / NATS Memorandum of Understanding (MoU)** – how Heathrow West would seek to agree with NATS.
- **Operations Integration (Statutory Consultation)** – how Heathrow West outline the key passenger journey touchpoints in the development of the Heathrow West Terminal 6 operations integration plan.

To provide expertise of airport operations, Heathrow West has appointed [REDACTED], as a strategic advisor to the project and working with the Heathrow West team, are advising on all aspects of airport and terminal operations and supporting the preparation of relevant documentation for Statutory Consultation that is compliant with the aviation and airport safety, security and operational requirements for passenger terminal operators.

The SMS Manual and SeMS, although in draft form, are well developed and exhibit considerable maturity.

Heathrow West does state that full compliance in answering this question is, at this stage, problematic:

*“Neither NATS, HAL or the primary law enforcement agencies have been willing to co-operate on any matters that in due course will require co-operation between our organisations”<sup>2</sup>.*

**Arcadis takes the view that Heathrow West will appoint an Airport Operator.**

**Whilst the development of the two cited safety / security documents provides significant evidence, the inability to progress with HAL and NATS is noted. However, the NATS MoU provides a comprehensive explanation on how Heathrow West intend to undertake this task and, as such, is under consideration. Arcadis understands that engagement with NATS and HAL is subject to separate discussions.**

**On balance, Heathrow West has provided initial evidence of *sufficient completeness*.**

## 3. Does Arora have an initial plan for how it will develop a security programme for the Heathrow West Campus in compliance with security regulations?

Prior to DCO submission, Heathrow West will develop a draft “Heathrow West SAS (Safety and Security) Plan (ASP)” which will describe the approach to security and safety from the high-level masterplan and operational basis through to specific details as required by regulation and legislation.

Heathrow West's response provides evidence that the ASP will consider relevant guidance and legislation, in particular:

*“The plan will indicate the multi-level requirements for security and relevant programmes underpinned specifically in UK by the Aviation Security Act 1982 and response to NASP (National Aviation Security Programme). In addition, we will undertake to develop the principles of the IATA Security Management System Manual (SeMS) which will include the essential elements of a comprehensive security management approach including accountabilities and responsibility*

<sup>2</sup> Supplement – Test 2 (Operator Accountability)

*assignment, threat risk assessment and establishing comprehensive communication plans amongst some of the many requirements.”<sup>3</sup>*

Although Arcadis has not seen this specific plan, evidence of how elements of this plan could work is shown by:

- **Safety and Security (SMS) Manual** – developed in compliance with CAP 795 as well as EASA (EU Reg 139/2014). The SMS fully addresses the need for accountable safety managers, as well as setting out policies for safety risk management, safety assurance and safety promotion.
- **Security Management System (SeMS)** - drafted in compliance with CAP 1223, CAP 1224 and CAP 1273. A systematic approach to threat & risk management, security accountability and responsibilities, resources, security performance monitoring, assessment & reporting, among other regulatory requirements.
- **Security Assessment** – how Heathrow West has taken into account security in the development of proposals.

Similarly to our views on Initial Test 2, the SMS Manual and SeMS, although in draft form, are well developed and exhibit considerable maturity in how Heathrow West intend to comply with security regulations in development of its overall Security Plan.

As such, Heathrow West has provided an initial plan of *sufficient completeness*.

#### **4. Is there initial evidence that Heathrow West has considered how to deliver key airport operation services such as air traffic management, firefighting, aircraft and vehicle traffic management, or ground handling services?**

Heathrow West provide commentary to state that their fundamental principle for development is to focus on developing and operating components where they can add value and where there are benefits of separate operational responsibility.

Heathrow West's response to this Initial Test provides commentary against the key airport operational services included in the Initial Test:

- **Airspace** – we would expect common management by a single operator (HAL) and air traffic control (NATS). We appreciate that the principles of airspace will be finalised following submission of both the HAL and Heathrow West DCO's. In the interim we follow the principles outlined in the HAL Statutory Consultation – Future Runway Operations June 2019 on runway usage and respite.
- **Air traffic management** – we would expect common management by a single operator (HAL) and air traffic control (NATS). Heathrow West has engaged its own specialist ATC management advisor, [REDACTED], to provide expert knowledge and guidance with particular emphasis on ensuring that our principles of Aircraft Movements within Heathrow West are complimentary to the future runway and ATC requirements across all of Heathrow.
- **Airport Rescue and Fire Fighting (ARFF) Services** – the current approach is for landside services to be delivered by the London Fire Authority and for airside services by HAL's own fire service. There is unlikely to be any advantage in duplicating this and so it is likely that the same responsibilities would continue for a separate terminal operator.
- **Aircraft management** – we would expect common management by a single operator outside of the immediate separate terminal campus.
- **Vehicle traffic management** – the current approach is for HAL to manage landside roads, supplemented by policing by the Metropolitan Police Service. For common airport roads there is unlikely to be a significant advantage to change this arrangement, save that internal terminal roads would likely fall under a separate terminal operators control, but subject to appropriate integration.
- **Ground handling and aircraft servicing services** – these are primarily appointed by airlines and the current arrangement would likely continue

Heathrow West has also provided a matrix of the likely services that would be required for the Heathrow West Campus and an early view as to the likely provider of such services.

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<sup>3</sup> Supplement – Test 3 (Security Plan)



There is also significant overlap with evidence submitted as part of Initial Test 9, primarily the draft **Scheme Development Report (Volume 2)**, which discusses a number of the aspects as part of this Initial Test. Arcadis notes that this, and the other volumes (1 & 3), are in a constant iteration of maturity.

**As such, and taken together, significant effort is being undertaken by Heathrow West in ensuring that key aspects of their proposal can be delivered in conjunction with other stakeholders.**

**On balance, Heathrow West has provided initial evidence of *sufficient completeness*.**

## **5. Is there a reasonable prospect that the proposals would be in the interests of consumers?**

Heathrow West's response to this test considers the presumption that competition is beneficial for passengers, and that competition has been historically beneficial to the Aviation Industry in the UK.

The response states that Heathrow West is in a position to deliver this competitive vision, and that the introduction of competition in this case will result in a terminal which provides an efficient, cost effective quality product.

Heathrow West has highlighted a report by the Competition and Markets Authority (CMA) in 2016 that reviewed the Competition Commission (CC) 2009 market investigation remedies study into the break-up of BAA.

*"Airline competition, facilitated by airport capacity, has been good for passengers. Airport competition, facilitated by the break-up of BAA, has been good for passengers, as the detailed analysis of the CMA concludes".<sup>4</sup>*

Heathrow West has cited a limited number of studies that in its view demonstrate that competition in terminal capacity provision is in interest of the consumer which include the Wallbrook Report, Adam Smith Institute, Alix Partners Report and Frontier Economics studies.

In itself, Arcadis notes that *Prima Facie* this provides some evidence that such competition is in the interest of the consumer.

**Information cited for Initial Test 9, provides additional evidence in answering this question as there is an overlap. The Scheme Development Report (Volume 1) outlines the objectives, approach and methodology for the Heathrow West Proposal; it is clear that the 'interest of the consumer' is considered a core objective in the delivery Heathrow West's proposals.**

**Heathrow West has provided initial evidence of *sufficient completeness*.**

## **6. Is there initial evidence that the proposed costs of these proposals are economic and efficient including evidence that the project increases the chance that the overall programme (including the work of HAL) makes it more likely that the affordability challenge set by the Secretary of State is met?**

Heathrow West has provided an extract of their cost plan which includes Terminal 6 and associated infrastructure. This is an evolving document but demonstrates a significant degree of maturity.

Arcadis notes that this extract provides evidence that a comprehensive cost plan exists and is being evolved as the Heathrow West proposal develops. However, the 'affordability' element is harder to demonstrate.

Heathrow West state that:

*"It is not possible for Heathrow West to demonstrate that the costs satisfy the affordability challenge as we do not have a clear understanding as to what is included in HAL's costs of expansion. We believe that there may be a degree of overlap in what Heathrow West has included and what HAL has included. To address this concern, we have requested that the CAA provide a breakdown of HAL's capital expenditure forecast, at least to the level published by the Airports Commission. This has not yet been forthcoming."<sup>5</sup>*

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<sup>4</sup> Supplemental – Test 5 (Competition)

<sup>5</sup> Supplement - Test 6 (Cost Plan)

Arcadis generally agrees that it is difficult for Heathrow West, at this stage, to demonstrate that the costs satisfy the affordability challenge as they do not have a clear understanding as to what is included in HAL's costs of expansion. It is noted by Arcadis that, affordability, is a key component in the development of the proposal:

*“The reduced land take, and feasibility of constructing the Preferred Option, would provide a more affordable expansion project than the alternatives, while the ability to phase the works is retained”<sup>6</sup>.*

**Overall, the existence of the cost plan, at its apparent level of maturity provides, adequate evidence for this Initial Test.**

**Heathrow West has provided initial evidence of *sufficient completeness*.**

## **7. Is there initial evidence that the proposals have been informed by consumer engagement and evidence of consumer requirements?**

Heathrow West has provided evidence of a number of consumer engagement initiatives, primarily detailed in Initial Tests response. Namely, they are:

- Quantitative Survey undertaken by [REDACTED]. The research, conducted in 2018, intended to test general population and sample participants as aviation/airport consumers across UK, with c. 3000 consumers, on topics including aviation travel, UK airports, departures and arrivals features, needs in terminals and boarding, thoughts on innovation and Heathrow expansion.
- The appointment of [REDACTED] to support engagement with stakeholders and provide insight and feedback on DCO application and proposals, through direct engagement (such as focus groups), media and social media.
- Heathrow West has undertaken an Informal Consultation, supported by consultant [REDACTED] which provides clear evidence of consumer engagement.

Arcadis considers that Heathrow West has provided initial evidence of good practice consumer engagement, as evidenced above.

Heathrow West has provided a Case Study highlighting how consultation feedback from sessions in May 2019 has altered the extent of proposed 'off airport' development [REDACTED]

Heathrow West has also provided a further Case Study of how consultation feedback has altered initial designs, [REDACTED]

**It is clear that consumer interests are being considered and reflected in Heathrow West's proposals.**

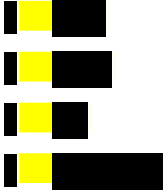
**Heathrow West has provided initial evidence of *sufficient completeness*.**

## **8. Is there initial evidence that the proposals have been informed by engagement with airlines to understand and meet their needs?**

Heathrow West has discussed the comprehensive and ongoing schedule of meetings undertaken with airlines to date. These include:

- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]

<sup>6</sup> Scheme Development Report (Volume 1). Table 3-2 – Preferred Option Assessment Summary



Arcadis consider that this group provides a broad spectrum of the airline stakeholders at Heathrow Airport, and that this provides initial evidence of engagement with airlines.

Arcadis has also seen further initial evidence that demonstrates how airline engagement has changed preliminary proposals and they include:

- A one campus terminal expansion in the west of Terminal 5 which Heathrow West state deliver a better passenger experience, improved transfer connectivity and earlier capacity.
- A more flexible apron layout that delivers the required capacity of 40 mppa, in a smaller footprint, easier to operate/integrate and less disruptive to build.

**Heathrow West has recognised that early airline engagement forms a key part in the development of its proposals and can demonstrate comprehensive engagement.**

**Heathrow West has provided initial evidence of *sufficient completeness*.**

## **9. Is there initial evidence that the proposals will work operationally and be able to be delivered including baggage, inter-terminal connectivity, airside and landside operations and resilience?**

Heathrow West have provided a range of documents that consider how their design will work operationally. They include:

- **Scheme Development Report (Volumes 1, 2 & 3)** – which covers approach, methodology and Masterplan development, airfield design and terminal facilities; airport support facilities; the M25 junctions and local roads; car parking and public transport; river diversions and flood storage and other areas.
- **Baggage Strategy** – which covers, overall approach, including connectivity, construction phasing and operational concept.
- **Terminal Function Brief** - determines the requirements that will be used in the planning for the development of additional terminal capacity and related facilities. This document also covers the concept of operations.
- **Integrating and Consenting Plan** – this document describes how Heathrow West will integrate with the retained elements of the HAL scheme from a physical, operational, regulatory, consenting, construction, environmental and community perspective.

This suite of four documents are comprehensive and well developed. For example, more detailed analysis such as airfield simulation and Mechanical / Electrical strategy have been undertaken to inform the proposals.

Resilience forms a key part of the evaluations and is discussed explicitly from a design perspective.

**The ongoing work in the development of various design documents and operational briefs, shows that considerable effort is being made to ensure an operationally workable proposal. The maturity of these documents is notable.**

**Heathrow West has provided initial evidence of *sufficient completeness*.**

**10. Is there initial evidence that Heathrow West has a robust programme plan for preparing its DCO application, including the planning milestones, deliverables and submission date?**

Heathrow West has provided both a Level 2 and Level 3 programme which detail the activities to be undertaken through to DCO submission.

Arcadis consider that this provides initial evidence of a plan for preparing their DCO application.  
Heathrow West has provided initial evidence of *sufficient completeness*.

**11. What are Heathrow West's initial views on the commercial and regulatory arrangements that might support its proposals?**

Not reviewed by Arcadis.

**12. Can the regulatory framework be developed to support these proposals?**

Not reviewed by Arcadis.

**13. Is there evidence to suggest this framework would aim to protect the interests of consumers?**

Not reviewed by Arcadis.

**14. Is there evidence of how Heathrow West may propose to manage costs, for example by being willing to accept a regulatory cost control mechanism?**

Not reviewed by Arcadis.

**15. Is there initial evidence that the proposals will be compliant with the ANPS and other relevant statute?**

Heathrow West has provided their Airports Requirements Compliance Report to provide evidence of compliance of the Heathrow West Development Consent Order with the requirements contained in the Airports National Policy Statement (ANPS).

At the time of writing, Heathrow West has stated that they are over 95% compliant with the ANPS with the remainder under review and has provided satisfactory initial information with regards to this Initial Test.

Heathrow West has provided initial evidence of *sufficient completeness*.

**16. How do the proposals seek to manage the environmental impact?**

The management of environmental impact is a key requirement of the DCO process, primarily covered in the EIA process. Heathrow West's EIA process is currently underway and should capture how the project is seeking to avoid, minimise, mitigate or offset environmental impacts.

Heathrow West's draft Preliminary Environmental Impact Report (PEIR), has been made available and provides satisfactory initial information with regards to this Initial Test.

Heathrow West has provided initial evidence of *sufficient completeness*.

# CONCLUSION

On the Initial Tests reviewed by Arcadis, Heathrow West has provided initial evidence which is sufficient.

Initial Test	Arcadis View
1.	Heathrow West has provided initial evidence of sufficient completeness
2.	Heathrow West has provided initial evidence of sufficient completeness
3.	Heathrow West has provided an initial plan of sufficient completeness
4.	Heathrow West has provided initial evidence of sufficient completeness
5.	Heathrow West has provided initial evidence of sufficient completeness
6.	Heathrow West has provided initial evidence of sufficient completeness
7.	Heathrow West has provided initial evidence of sufficient completeness
8.	Heathrow West has provided initial evidence of sufficient completeness
9.	Heathrow West has provided initial evidence of sufficient completeness
10.	Heathrow West has provided initial evidence of sufficient completeness
11.	Not reviewed by Arcadis
12.	Not reviewed by Arcadis
13.	Not reviewed by Arcadis
14.	Not reviewed by Arcadis
15.	Heathrow West has provided initial evidence of sufficient completeness
16.	Heathrow West has provided initial evidence of sufficient completeness

## Appendix A – Documents Register

To note, this table was compiled at the end of January 2020.

Initial Test	Register	Comments
1. Do the proposals consider how to ensure safe and secure airport operation, including during the construction phase?	Supplement – Test 1 (Safe & Secure)	Commentary from HW
	Code of Construction Practice & Delivery Strategy	Draft Report
	Construction Phase Schedule	Draft Report
	Integrating and Consenting Plan	Draft Report
	Heathrow West SMS (Safety and Security) Manual	Draft Report
	Security Assessment	Draft Report
	Emergency and Escape Facilities	Draft Report
	Threat Vulnerability & Risk Assessment	Not seen – but available in a secure location
2. Is there initial evidence that the proposals will deliver a single accountable operator, in line with safety and security regulation expectations? As a minimum, CAA expects proposals to reflect the need for accountable safety managers, and integration with the existing safety management systems of NATS en Route plc and HAL.	Supplement – Test 2 (Operator Accountability)	Commentary from HW
	Heathrow West SMS (Safety and Security) Manual	Draft Report
	Security Management System (SeMS)	Draft Report
	Heathrow West / NATS Memorandum of Understanding (MoU)	Draft Report
	Statutory Consultation: Operations Integration	Draft Report
3. Does Arora have an initial plan for how it will develop a security programme for Heathrow West in compliance with security regulations	Supplement – Test 3 (Security Plan)	Commentary from HW
	Heathrow West SMS (Safety and Security) Manual	Draft Report
	Security Management System (SeMS)	Draft Report
	Security Assessment	Draft Report
4. Is there initial evidence that Arora has considered how to deliver key airport operation services such as air traffic management, firefighting, aircraft and vehicle traffic management, or ground handling services?	Matrix of Services	Table
	Scheme Development Report – Volumes 1, 2 & 3	Draft Reports
5. Is there a reasonable prospect that the proposals would be in the interests of consumers?	Supplement - Test 5 (Competition)	Commentary from HW

6. Is there initial evidence that the proposed costs of these proposals are economic and efficient, including evidence that the project increases the chance that the overall programme (including the work of HAL) makes it more likely that the affordability challenge set by the Secretary of State?	Supplement - Test 6 (Cost Plan)	Commentary from HW
	Cost Plan Extract	Draft Report (Extract)
7. Is there initial evidence that the proposals have been informed by consumer engagement and evidence of consumer requirements?	Supplement - Test 7 (Consumer Engagement)	Commentary from HW
	Case Study [REDACTED]	Reports
8. Is there initial evidence that the proposals have been informed by engagement with airlines to understand and meet their needs?	Schedule of Meetings	Table
	Supplement - Test 8 (Airlines)	Commentary from HW
	Case Study [REDACTED]	Report
9. Is there initial evidence that the proposals will work operationally and be able to be delivered, including baggage, inter-terminal connectivity, airside and landside operations and resilience?	Scheme Development Report (Volumes 1, 2 & 3)	Reports
	Baggage Strategy	Reports
	Terminal Function Brief	Report
	Integrating and Consenting Plan	Report
10. Is there initial evidence that Arora has a robust programme plan for preparing its DCO application, including the planning milestones, deliverables and submission date?	Level 2 & 3 project programme	Draft Programmes
11. What are Arora's initial views on the commercial and regulatory arrangements that might support its proposals?	Not reviewed by Arcadis	
12. Can the regulatory framework be developed to support these proposals?	Not reviewed by Arcadis	
13. Is there evidence to suggest this framework would aim to protect the interests of consumers?	Not reviewed by Arcadis	
14. Is there evidence of how Arora may propose to manage costs, for example by being willing to accept a regulatory cost control mechanism?	Not reviewed by Arcadis	
15. Is there initial evidence that the proposals will be compliant with the NPS and other relevant statute.	ANPS Requirements Compliance Report	Draft Report
16. How do the proposals seek to manage the environmental impact?	Preliminary Environmental Impact Report	Draft Report



## Appendix B – Consultant Resources

[REDACTED]

	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
■	[REDACTED]	[REDACTED]	[REDACTED]	■
■	[REDACTED]	[REDACTED]	[REDACTED]	■
■	[REDACTED]	[REDACTED]	[REDACTED]	■
■	[REDACTED]	[REDACTED]	[REDACTED]	■
■	[REDACTED]	[REDACTED]	[REDACTED]	■

			<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	
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■	[REDACTED]	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	
■	[REDACTED]	[REDACTED]	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	
■	[REDACTED]	[REDACTED]	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	
[REDACTED]		<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	■

		[REDACTED]	[REDACTED] [REDACTED] [REDACTED]	
[REDACTED]		[REDACTED]	[REDACTED] [REDACTED] [REDACTED]	
[REDACTED]		[REDACTED]	[REDACTED] [REDACTED] [REDACTED] [REDACTED]	
[REDACTED]		[REDACTED]	[REDACTED] [REDACTED] [REDACTED]	
[REDACTED]		[REDACTED]	[REDACTED]	
[REDACTED]		[REDACTED]	[REDACTED] [REDACTED]	
[REDACTED]		[REDACTED]	[REDACTED] [REDACTED] [REDACTED]	
[REDACTED]		[REDACTED]	[REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]	
[REDACTED]		[REDACTED]	[REDACTED] [REDACTED] [REDACTED] [REDACTED]	

			[REDACTED] [REDACTED] [REDACTED] [REDACTED]	
[REDACTED]	[REDACTED]		[REDACTED] [REDACTED] [REDACTED] [REDACTED]	!
[REDACTED]	[REDACTED] [REDACTED] [REDACTED]		[REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]	!
[REDACTED]	[REDACTED]		[REDACTED]	!
[REDACTED]	[REDACTED]		[REDACTED]	!
[REDACTED]	[REDACTED]		[REDACTED]	!
[REDACTED]	[REDACTED]		[REDACTED]	!
[REDACTED]	[REDACTED]		[REDACTED]	!
[REDACTED]	[REDACTED]		[REDACTED]	!
[REDACTED]	[REDACTED]		[REDACTED]	!
[REDACTED]	[REDACTED]		[REDACTED]	!
[REDACTED]	[REDACTED]		[REDACTED]	!
[REDACTED]	[REDACTED]		[REDACTED]	!
			[REDACTED]	!

**Notes:**

[REDACTED]

Arcadis has not validated the consulting companies nor personnel used but notes that the companies secured by Heathrow West, are recognisable professional concerns.

Arcadis is the leading global Design & Consultancy firm for natural and built assets. Applying our deep market sector insights and collective design, consultancy, engineering, project and management services we work in partnership with our clients to deliver exceptional and sustainable outcomes throughout the lifecycle of their natural and built assets. We are 28,000 people active in over 70 countries that generate more than €3 billion in revenues.

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