

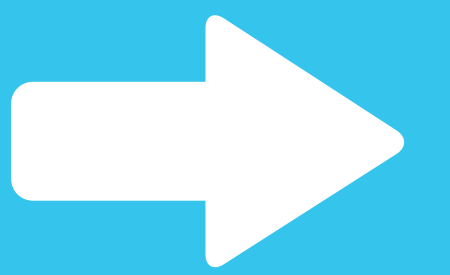
||| MARSHALL

Marshall Aerospace Relocation

Welcome to our second exhibition on the relocation of Marshall Aerospace operations to Cranfield Airport.

Marshall is bringing forward proposals to relocate its global Aerospace headquarters and operations to Cranfield Airport. This exhibition presents an overview of our proposals for the development ahead of making an outline planning application.





Relocation plans

In May 2019, we announced our intention to relocate our Aerospace business from Cambridge, as part of our commitment to invest in the long term future of this unique, private company.

In doing so, Marshall Aerospace will vacate the existing Cambridge Airport site making it available for a mixed use redevelopment known as Cambridge East to further build on Cambridge's incredible success as a centre for world leading academia, research, technology and life sciences. We are committed to creating an extraordinary future for our business and our communities, both in Cambridge and at Cranfield.



Relocation plans

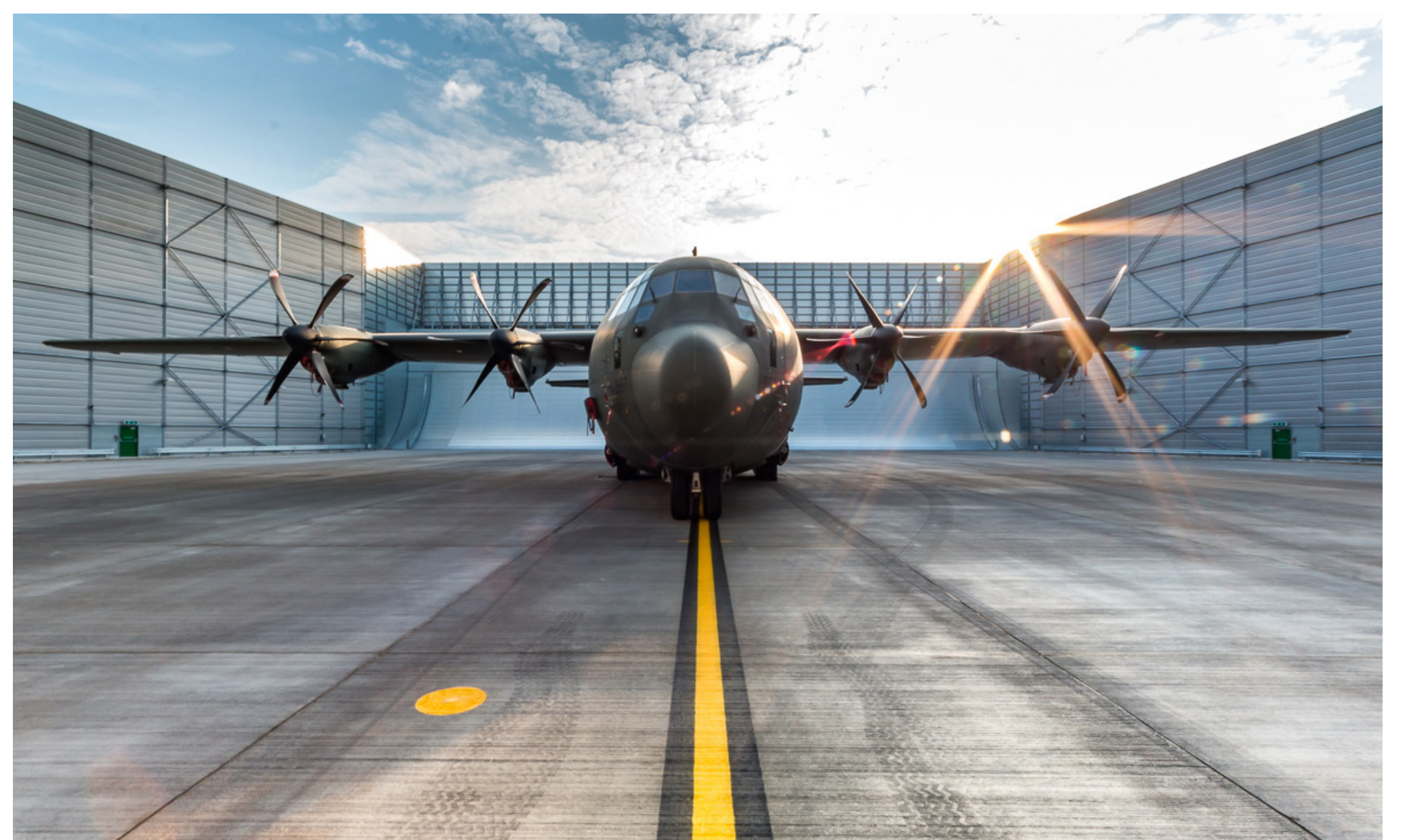
As we continue to expand our capabilities, grow our order book and evolve the nature of our operations, we have recognised the need to establish a new global headquarters in the UK, with supporting satellite operations in North America and the Middle East.

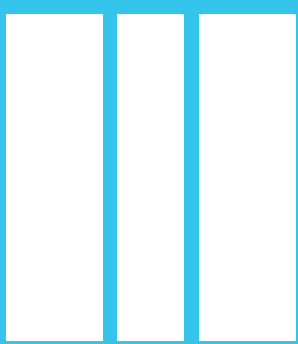
Marshall has undertaken an exhaustive site assessment process to identify the preferred UK location for the relocation of Marshall Aerospace and investment in new, state-of-the-art facilities. This is a big decision for us to take, given our long standing relationship with Cambridge, our workforce and our 113 year history.

Overall, Cranfield represents a very good option for our relocation, as it has much of the Airport infrastructure already in place, and noting that there is an established planning permission on the site for the proposed Air Park.

Given the positioning of Cranfield as the UK's leading university for Aerospace and Aviation, it also allows us to explore research and other partnership opportunities with Cranfield University, our customers and leading aerospace companies, many of whom are already present at and work with Cranfield. We see the potential to work with Cranfield to develop a vibrant ecosystem of research, technology demonstration and innovation.

The next key stage in our forward planning is to seek outline planning permission for our proposed development, prior to us making a final commitment to move.






Marshall in the community

Wherever we are in the world, Marshall works hard to be a good neighbour by taking care of the communities in which we operate. We have shared some of our current initiatives here.

STEM Outreach

Marshall is proud to be a founding member of Cambridge LaunchPad which delivers a programme of hands-on activities across the city to show young people, from all backgrounds, that Science, Technology, Engineering and Maths is for everyone.





Marshall Volunteering

Our teams get to spend at least one paid day a year volunteering in the local community.

Abbey People

We partner with our neighbouring community charity 'Abbey People' to help improve the lives and wellbeing of local residents. Despite being in Cambridge, Abbey Ward is ranked in the 20% most deprived wards in the UK according to the government's Index of Multiple Deprivation.

"Marshall has been a strong supporter of ours from the early days of Abbey People. Whether providing practical support, funding, mentorship or joint projects, we know we can depend on Marshall as a good friend to our charity and our community."

Nicky Shepard, Abbey People CEO



Marshall 'Extraordinary' Fund

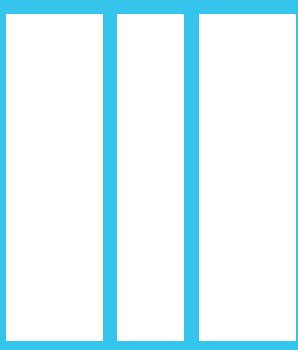
Each year Marshall employees are able to make applications for grants from our community fund up to the value of £1,000 on behalf of local charities, good causes or organisations they feel passionate about.

North Yorkshire Fire and Rescue Service

Marshall support the local fire service in the small village of Kirkbymoorside in North Yorkshire by releasing team members to work as on-call fire fighters when required – providing a vital local service to the community.

"It's great to be able to recognise a local employer like Marshall that allows their staff members to respond to incidents as on-call fire-fighters in this way." Stuart Hopkin, North Yorkshire Fire and Rescue





Marshall Skills Academy

Marshall Apprenticeships

Marshall apprentices are widely acknowledged as being some of the very best in the aerospace sector thanks to our blended learning approach involving time spent acquiring valuable hand skills in the training workshop, classroom learning and shop floor experience.

Every year we receive hundreds of applications from young people across the UK keen to start their career in aviation through our Level 3, 4 and 5 apprenticeship scheme. Many of them are still with us and many of them have gone on to hold senior positions within the industry but are still very proud to be part of the Marshall Alumni.



Setting people up for success

It is really important to us that our apprentices are well prepared to enter the full time world of work and we offer a full package of practical and pastoral support to set them up for long term success.

We also love to give them the chance to shine, whether that's winning Gold Medals at the World Skills Olympics, representing Marshall at the House of Commons or sharing their passion for STEM with the next generation.

"They have secured contracts with major defence departments and airline companies. This provides apprentices with the opportunity to work on cutting-edge aircraft technology, ensuring that they gain highly sought-after knowledge and skills."

Ofsted 2022

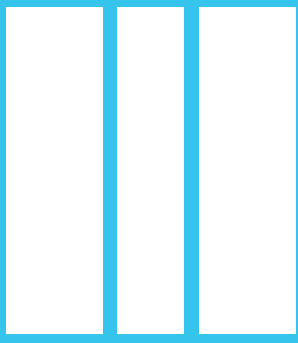


We are delighted to have very recently maintained our overall effectiveness rating of 'Good' by Ofsted in the main areas of quality of education, apprenticeships, personal development, and leadership and management, having been recognised as outstanding in relation to behaviour and attitudes.

"Leaders and managers have designed a curriculum that is highly valued globally by the aviation industry. Apprentices are very proud and passionate about the standard of their work, they demonstrate exceptional professional behaviours. In every element of their work apprentices complete, they demand perfection."

Ofsted 2022.





Working at Marshall

Careers at Marshall

Marshall offers a wide range of career choices for people of all ages and backgrounds – from our highly skilled engineers through to our front of house reception team – everyone has a vital part to play in our success.

In fact, Marshall Aerospace currently has around 100 different roles, some of which require a formal degree level education and others that are more widely accessible and, no matter where people sit in our business, we like to see them fulfil their potential.

“There is scope to do anything within Marshall.”

Mason Homes, HR Administrator



Our employees

We’re proud of our ability to produce ‘home grown’ talent – the majority of our aircraft fitters and technicians joined us as apprentices and we have numerous examples of people who came to Marshall straight out of school who have gone on to rise through the ranks, such as Mark Johnston, our chief engineer, or Steve Silk, our head of Manufacturing Support, both of whom started with us nearly 40 years ago.

“I am happy to have helped Marshall grow, evolve and protect people in critical situations. I’m proud to have been involved in some amazing projects over the years where we have been part of making history.”

Steve Silk, Head of Manufacturing Support

Our people often stay with us for years, which is testament to the interesting and varied opportunities we offer. Our average length of service is over 10 years, however we also know that young people are increasingly looking for more varied, portfolio careers and we work to make that possible too ensuring plenty of opportunity to try different things and move across the different areas of the Marshall business.

Aerospace Services at Marshall

Maintenance, Repair and Overhaul (MRO)



Technical Services and Support



Design changes and modifications



Training





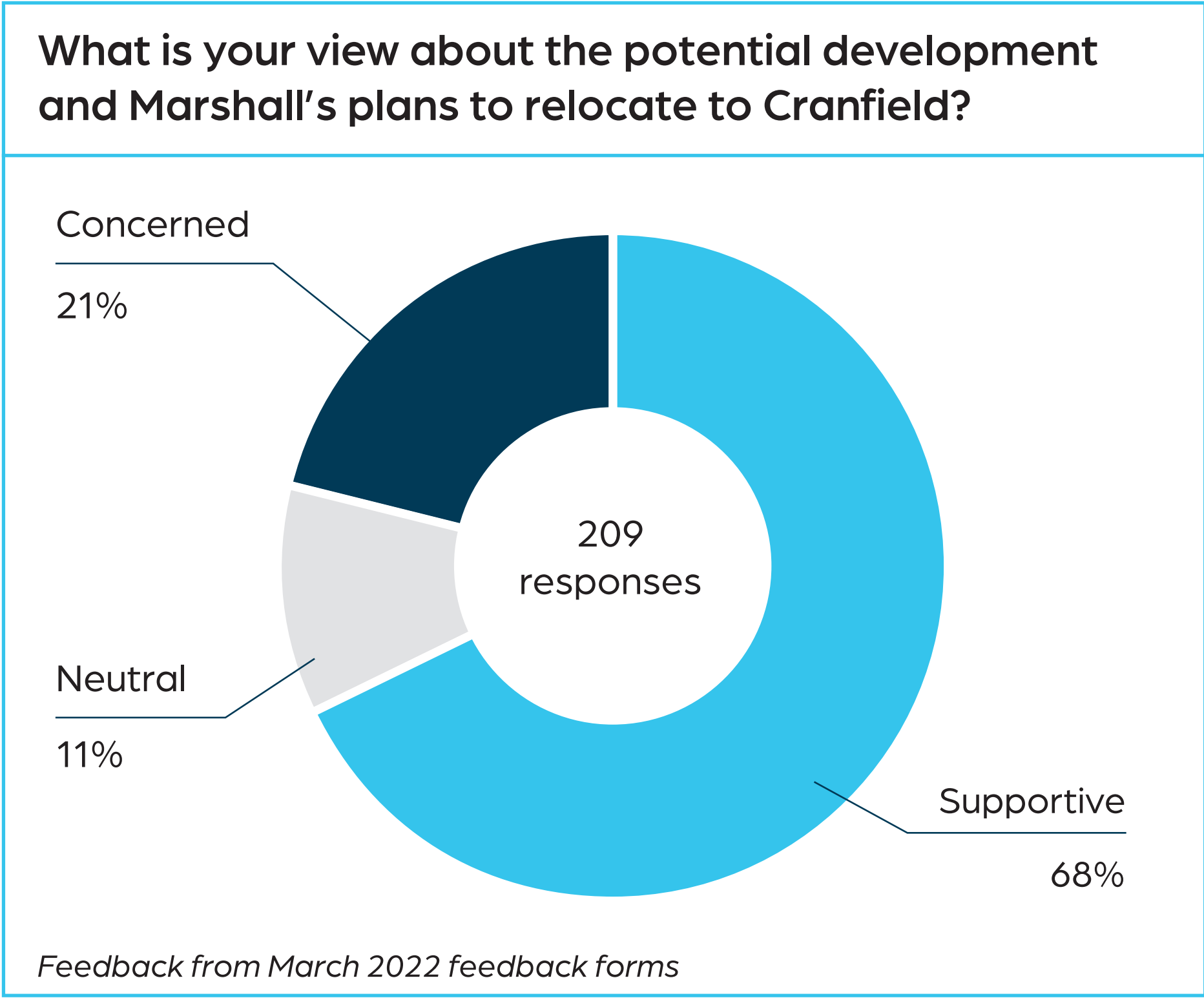
Cranfield community engagement

Initial consultation

In March 2022, we held an initial public exhibition to share our relocation plans and the design proposals for Cranfield. Nearly 400 community members attended the events to discuss and comment on the emerging proposals.

Alongside the many conversations we were able to have with attendees at the exhibitions in Cranfield and North Crawley, 209 people provided written feedback through the events and the website.

Much of the feedback on the proposals was supportive of Marshall’s ambition, the principle of relocation and the employment opportunities it could create; however, there were a number of areas where queries were raised and additional information sought, which we have sought to address as part of this exhibition.



What we’ve heard so far

The summary below highlights the key areas of feedback provided in March along with areas where additional information was sought.

Potential noise impacts
Many of the participants wanted more information on likely noise levels generated by the proposed operations and the potential impact in the surrounding areas. This was in relation to air noise from overflying, arrivals and departures, as well as engine testing on the ground. Comments also related to ensuring noisy activities did not take place in evenings and weekends.

Impact on local roads
The impact on local road networks was an issue for some attendees, with many requesting additional information on traffic volumes and routes for new commuters, and traffic management and mitigation measures – including whether traffic was likely through any of the local villages, and seeking clarity on what improvements will be made to local infrastructure.

Construction impact and mitigation measures
The principal query raised related to construction road traffic, including the likely duration of construction, clarity on when construction works are likely to commence, as well as the volume, type and routing of construction traffic.

Marshall operations and employment opportunities
Participants in the first events were eager to understand more about what Marshall would be doing at Cranfield. Related to this, there was significant interest in the types of employment and training opportunities that could be created and the routes into these.

We have provided as much detail as we can on each of the above points as part of this exhibition.





Providing local benefits

It is important for us to build a long standing and positive relationship with the communities we work in. We will continue our commitment to being a good neighbour by limiting the environmental impacts of our operations, and making a positive contribution to our local communities.

As a family owned business, our existing workforce has been very loyal, and it is important to us that we provide as many of our people as possible with continued employment with Marshall following the move. We anticipate employment of up to 1,200 employees at Cranfield across a range of skills and disciplines and are committed to promoting training and employment opportunities to local people.



Jobs and skills

Given our intention to be operational at Cranfield from 2027 onwards, we anticipate that we will be promoting job opportunities in the Central Bedfordshire, Milton Keynes and Bedford Borough area from 2023, with targeted recruitment of our future workforce through the apprenticeship scheme from around this time. Job opportunities will be across a range of areas including:

- An annual intake of new apprentices every year
- Skilled technicians and fitters
- Engineers across a wide variety of disciplines
- Managerial and senior leadership roles
- Specialist and wider support roles



Local investment

The benefit to the local economy from these jobs will be in the order of £200m per annum. The construction of the development alone will provide hundreds of employment opportunities. These new jobs and the economic benefits they bring will contribute to the prosperity of Central Bedfordshire and the surrounding areas. We will also ensure that local supply chains and businesses benefit during the construction and operational phases.



Our proposals



We have prepared an illustrative masterplan proposal to show how the site could be developed under the principles we have developed for the site. However, as we are making an application for flexible development parameters, the site may not be built exactly as shown here.

Aircraft facilities

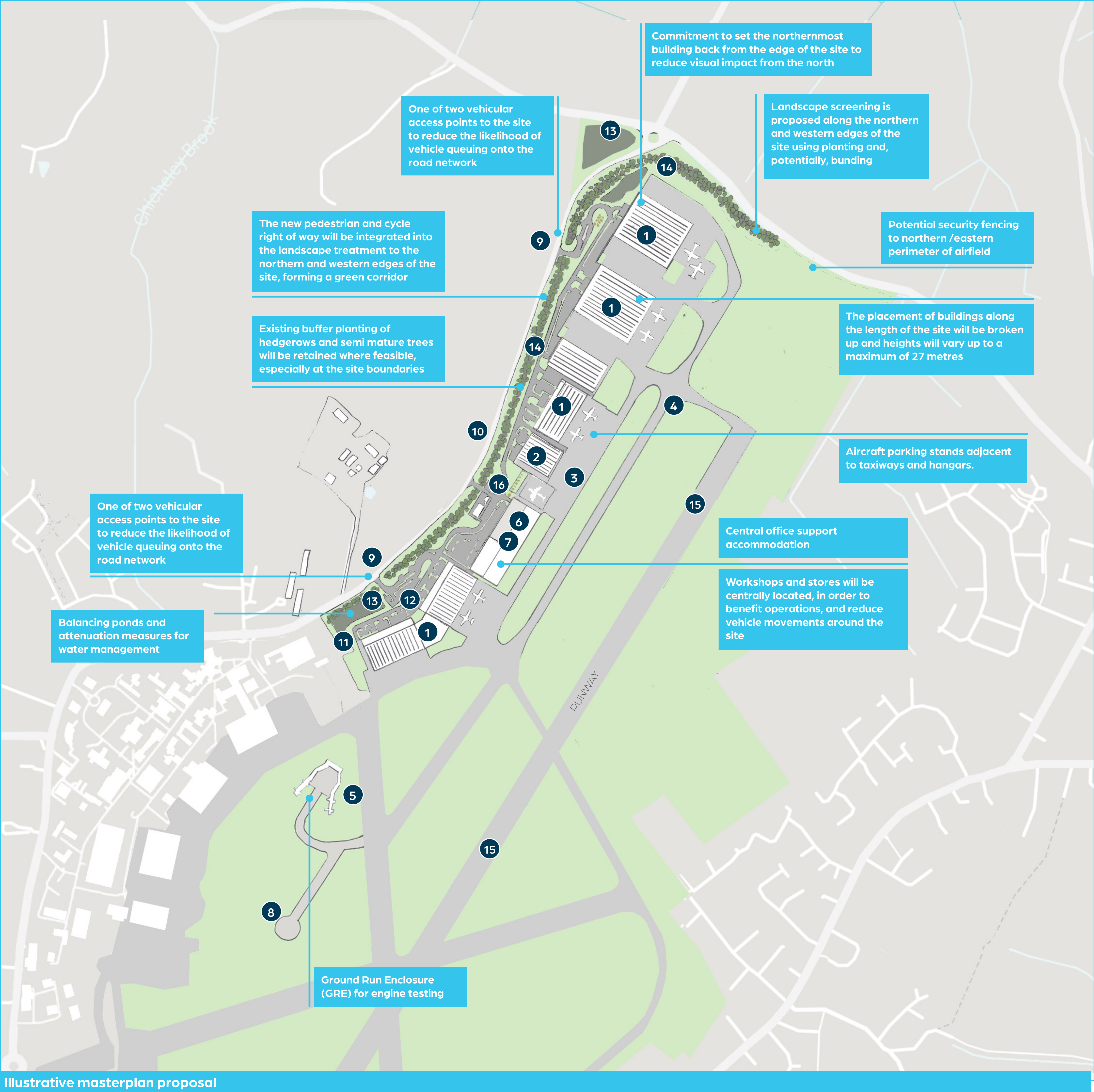
- 1 Up to 16 hangar bays able to provide space for the servicing of C-130 Hercules aircraft (or equivalent), together with support space for technical workshops, offices and training rooms
- 2 Enclosed aircraft paintshop and support plant
- 3 Aircraft parking stands and manoeuvring areas
- 4 New taxiways and link to existing runway
- 5 Enclosed ground run enclosure for engine testing

Support operations

- 6 General manufacturing support workshops and stores
- 7 Central office support accommodation
- 8 Compass swing pad for instrument testing
- 9 Security gatehouses and controlled vehicle and pedestrian access
- 10 Secure fencing to landside perimeter of Air Park site

Landscape and amenity

- 11 Employee and visitor car parking, vehicle circulation roads
- 12 Delivery and loading yard, waste management areas
- 13 Surface water attenuation measures including balancing ponds
- 14 Landscape screening bunds, general soft landscaping
- 15 Existing runway and taxiway refurbishment
- 16 External amenity areas for employees





Landscape views

Landscape character and views

Cranfield Airport is located in a medium to large scale plateau landscape, with an open and exposed character with long distant views. A number of ancient semi-natural woodlands, such as Holcot Wood, are located predominantly along the slopes falling towards the north of Marston Vale.

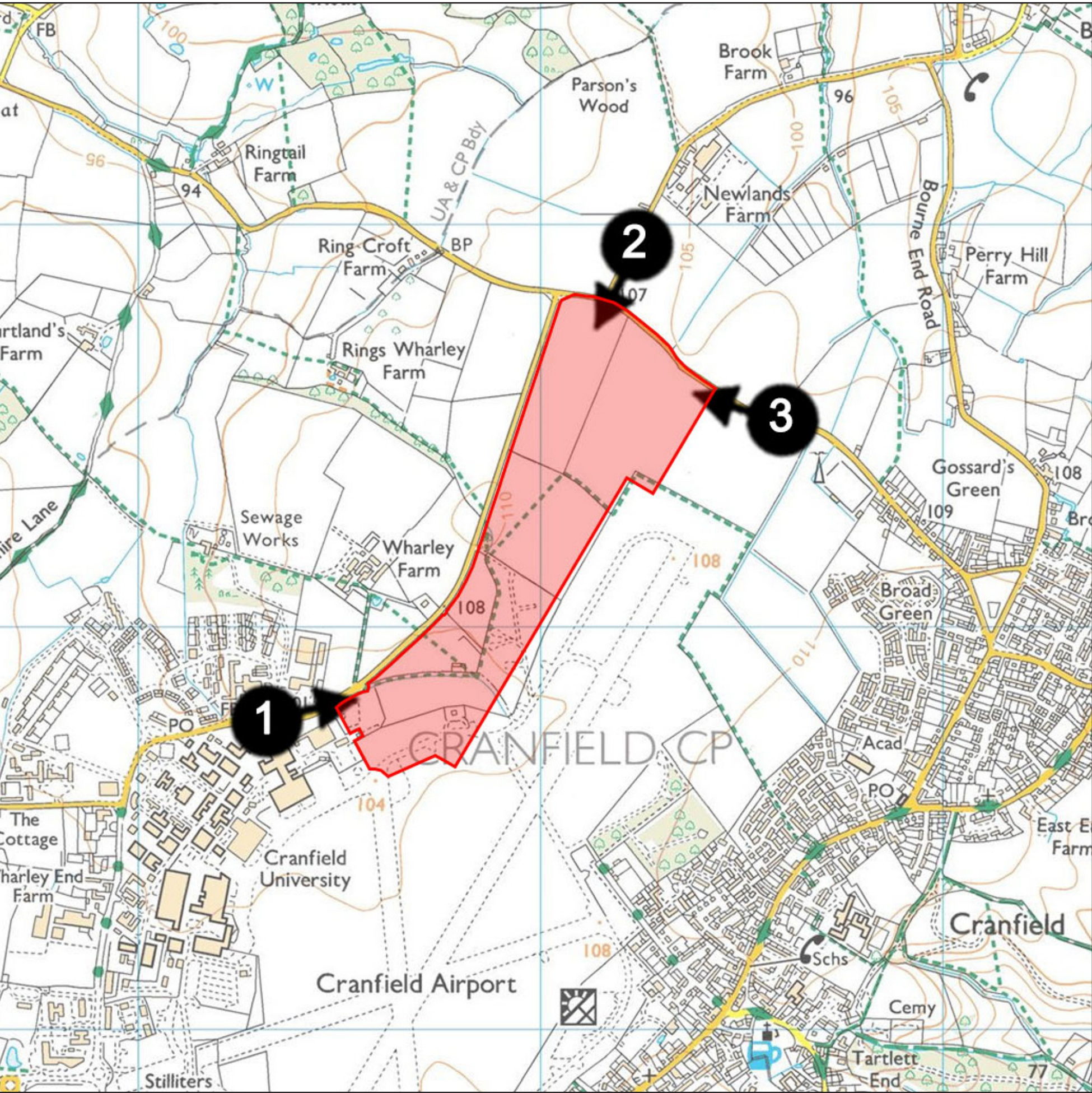
Alongside the village is Cranfield University, whilst the main area of settlement is located on the plateau, the nature of the hilly surrounds and well vegetated settlement edges ensures that it is not visible until you are upon it. Further east the views open up allowing longer distance views across Marston Vale.

A range of building types are proposed including hangars of up to 27 metres in height, which will be visible in the landscape. Tree screening and a landscaped bund are proposed along College Road and Crawley Road to help soften the views. Building materials will be selected to be sensitive to the surrounding landscape.

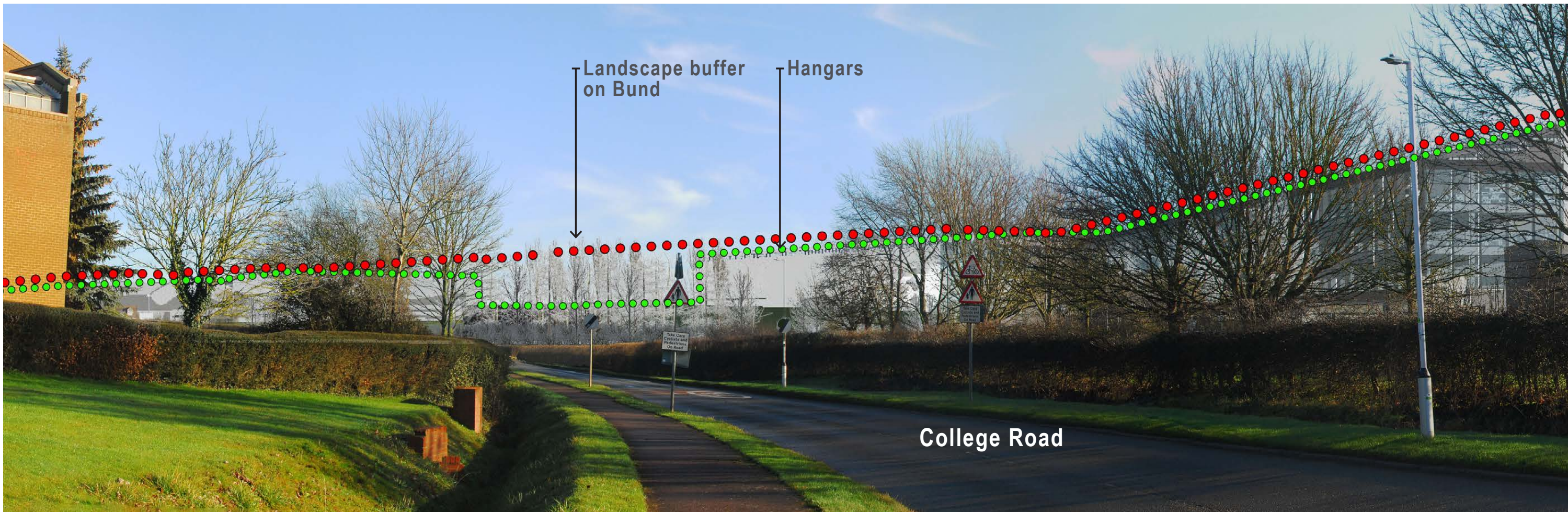
Key

- Maximum extent of the proposed parameters for the outline planning application. It is unlikely that the full parameter will ever be built out.
- Outline showing the area of development indicated in the illustrative masterplan presented in this exhibition.

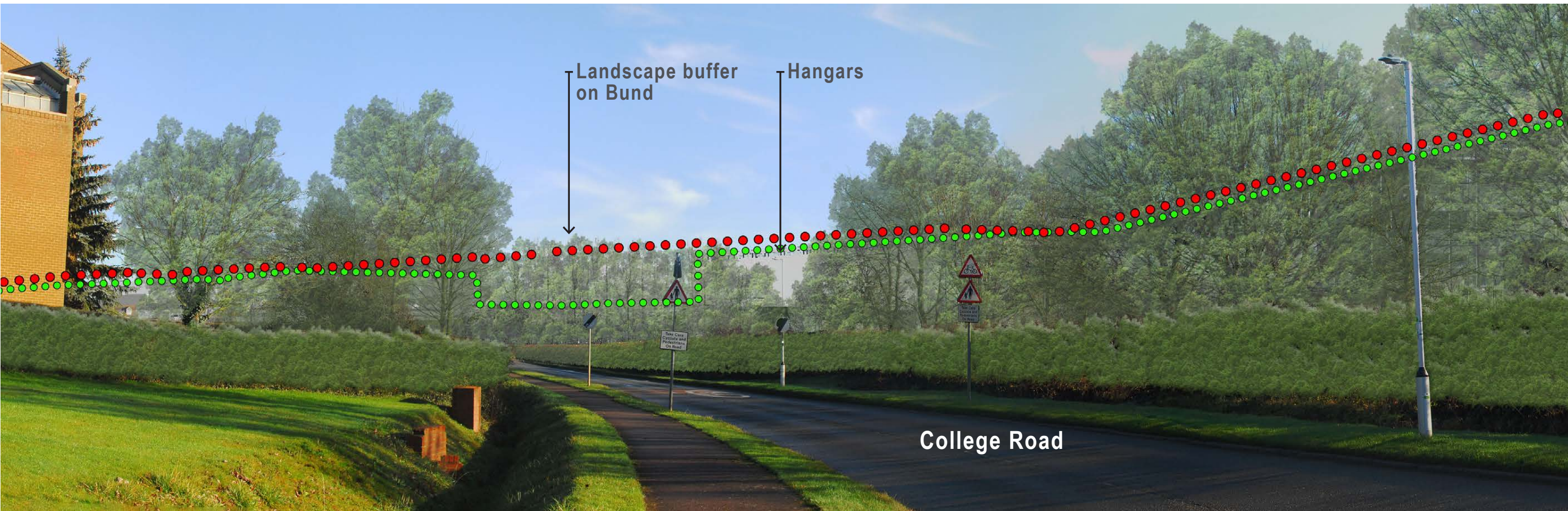
Viewpoint Locations



1 Viewpoint 1: Looking north along College Road



Winter View

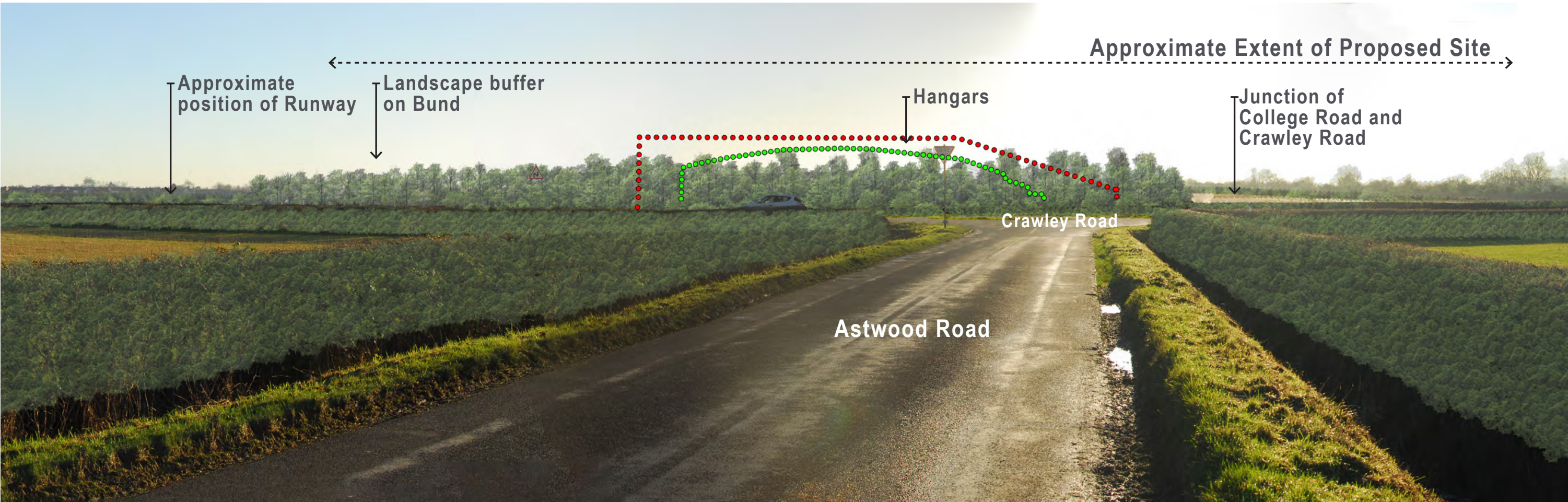


Summer View

2 Viewpoint 2: Looking south from Astwood Road

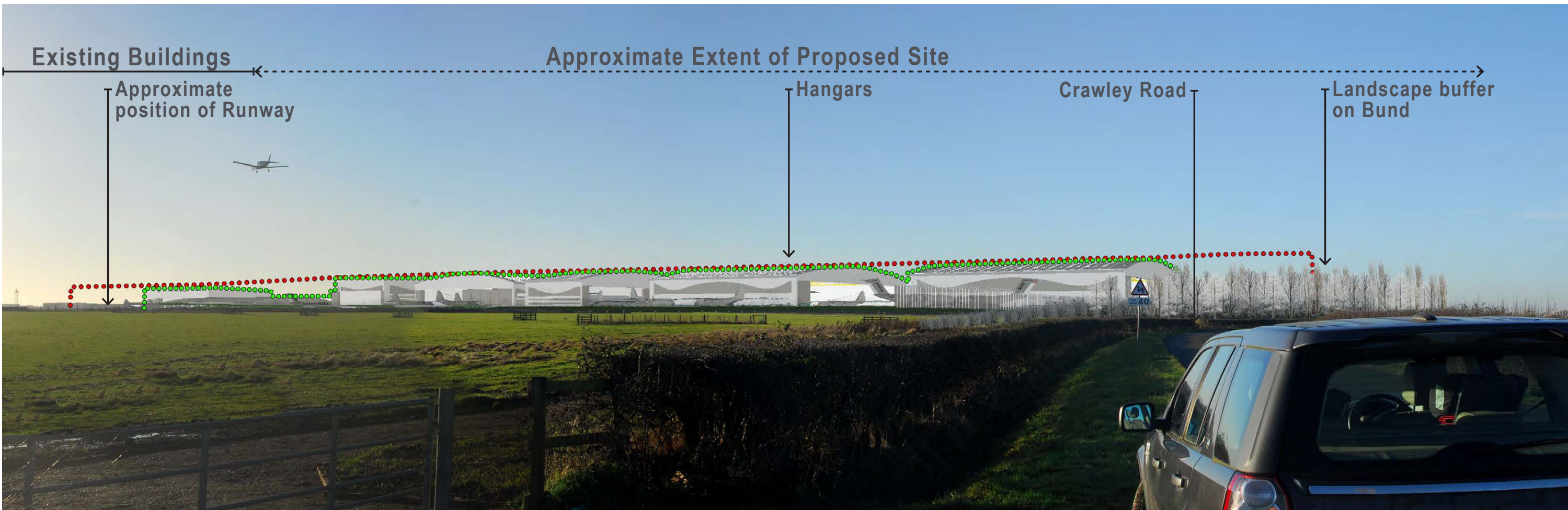


Winter View

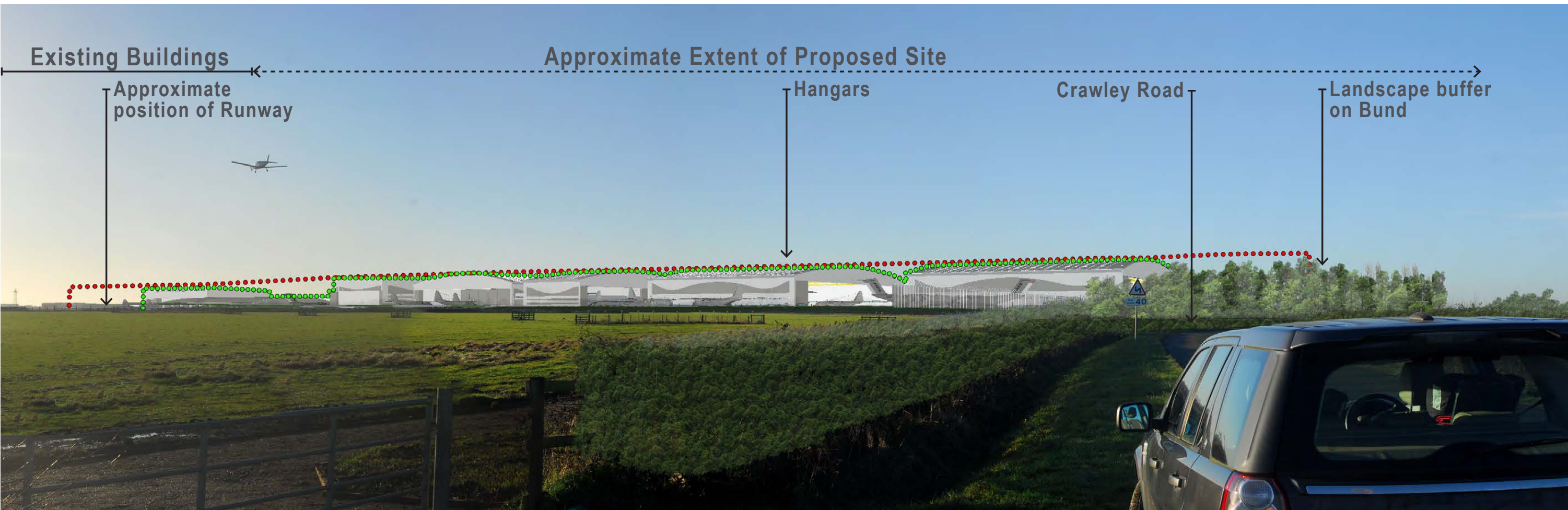


Summer View

3 Viewpoint 3: Looking west on Crawley Road

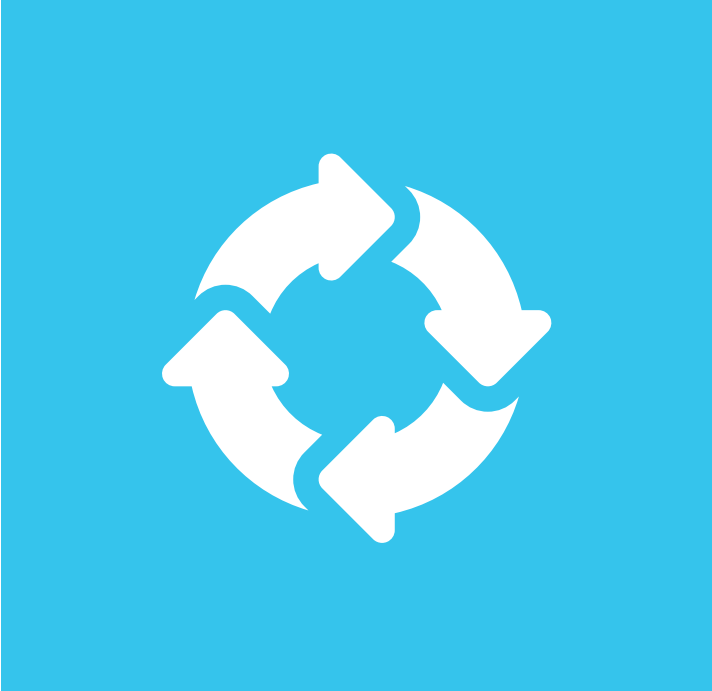


Winter View



Summer View

Environmental considerations



Marshall's Ambition 2030

Marshall is committed to making a difference and alleviating the pressures placed on the environment, whilst maximising social and economic benefits through the business's investments.

We are working towards operating more sustainably through our new Ambition 2030 strategy. This focuses on three core elements:

- Taking ambitious climate action and building climate resilience
- Ensuring a healthy environment for employees and the local community
- Using and developing sustainable products and services

The relocation to Cranfield represents a major opportunity to invest in efficient buildings and low carbon technologies, which will help us move towards our net zero targets by 2030.








Environmental assessments

Our proposals are subject to the requirement for an Environmental Impact Assessment (EIA). Already we have submitted to Central Bedfordshire Council (CBC) an EIA Scoping Report where we set out clearly those environmental effects that we believe need to be subject to detailed assessment and proposed methodologies for doing such. CBC, in consultation with a range of expert stakeholders, have responded to this by providing a Scoping Opinion which provides the basis for our detailed environmental assessment.

As part of our planning application, we will submit an Environmental Statement, which will document the assessment of environmental impact that occurs as a result of our development and will detail the measures that are necessary to mitigate any effects.

The following topics will be considered in the EIA:

- Air Quality
- Historic Environment
- Biodiversity
- Carbon and Climate Change
- Flood Risk and Drainage
- Ground Conditions
- Landscape and Visual
- Noise and Vibration
- Transport and Access
- Socio-economics
- Health
- Major Accidents and Disasters

Our ambitions	
Climate Action & Resilience	<div><p>OPERATE AS NET ZERO CARBON</p><p>Marshall is committed to reducing the risks posed by climate change through the delivery of energy efficient buildings and site infrastructure and renewable energy generation to support operational needs.</p></div>
	<div><p>MANAGE EMBODIED CARBON & PROMOTE CIRCULARITY</p><p>We recognise that relocation to Cranfield will require significant construction activities in order to realise our vision. Our approach will aim to reuse and re-locate what we can and reduce embodied carbon of the new development in line with best practices.</p></div>
	<div><p>BUILD IN CLIMATE RESILIENCE</p><p>Buildings and infrastructure will be designed to be robust and resilient to future climate risks and use green and blue infrastructure to reduce climate stress.</p></div>
Healthy Environment	<div><p>MANAGE OUR ENVIRONMENT RESPONSIBLY</p><p>The scheme is being designed to address key environmental considerations such as biodiversity, air quality and odour and flood and drainage risk to mitigate our impact</p></div>
	<div><p>PROMOTE HEALTH & WELLBEING</p><p>Marshall is committed to facilitating a healthy environment for employees and the local community through initiatives such as the promotion of active travel where possible, including facilities for walking and cycling.</p></div>
Sustainable Products and Services	<div><p>MAXIMISE LOCAL BENEFITS</p><p>Marshall is exploring how the development can support local businesses and social and economic benefits within the area, through community engagement and collaboration with Cranfield University.</p></div>
	<div><p>ENSURE SUSTAINABLE PROCUREMENT</p><p>Marshall has always aimed to use sustainable products and services in its operations, which would extend to the construction of the new development. The project will be delivered through responsible sourcing of goods and services.</p></div>

Air quality

Air quality around Cranfield Airport is currently considered to be good; however, we have been looking into the potential effects that our proposed development could have on air quality due to emissions from aircraft and road vehicles.

The number of extra flights will only be a small increase on current operations and, therefore, it is expected that the impacts of aircraft flights on local air quality will be minimal. We will confirm this by undertaking detailed modelling of aircraft engine testing emissions which is currently underway.

We are also assessing the potential impacts of both construction and operational traffic, including considering the measures that could be implemented to ensure that impacts are not significant. Specifically, this includes such things as informing construction traffic routing with a proposed route shown elsewhere in this consultation, travel planning for employees and encouraging use of electric cars by providing electric vehicle charging points.

Extensive monitoring of Marshall's activities at Cambridge has demonstrated that aircraft related emissions and odour are not a concern to local residents. We will ensure this is assessed as part of our application



Biodiversity

We are committed to delivering Biodiversity Net Gain (BNG) through the development to improve the existing levels of biodiversity and avoid habitat loss wherever possible. The development itself will be designed to accommodate habitats and features of value for biodiversity by introducing a variety of tree species for biodiversity and ecological benefits as well as attractive wildflower meadows to provide increased biodiversity linked to a network of green corridors.

There will still be a need to provide additional biodiversity enhancement in areas away from the development itself if we are to make a positive contribution to the area.

Marshall has been working with the Forest of Marston Vale Trust and Central Bedfordshire Council to support biodiversity enhancement of local areas. We are currently exploring proposals to provide enhanced biodiversity measures at other nearby sites. We are confident that these, coupled with our on-site measures, will help us to achieve a local Biodiversity Net Gain.





Aircraft noise

Current Cranfield Airport operations

During 2019, the last full year without Covid influence, 18,000 flights to and from the Airport occurred. This included approximately 1,000 business jets and 13,000 light aircraft flights – in particular, those occurring from the flying schools and other general aviation (private flying). The remaining aircraft include emergency, private and occasional military aircraft movements.

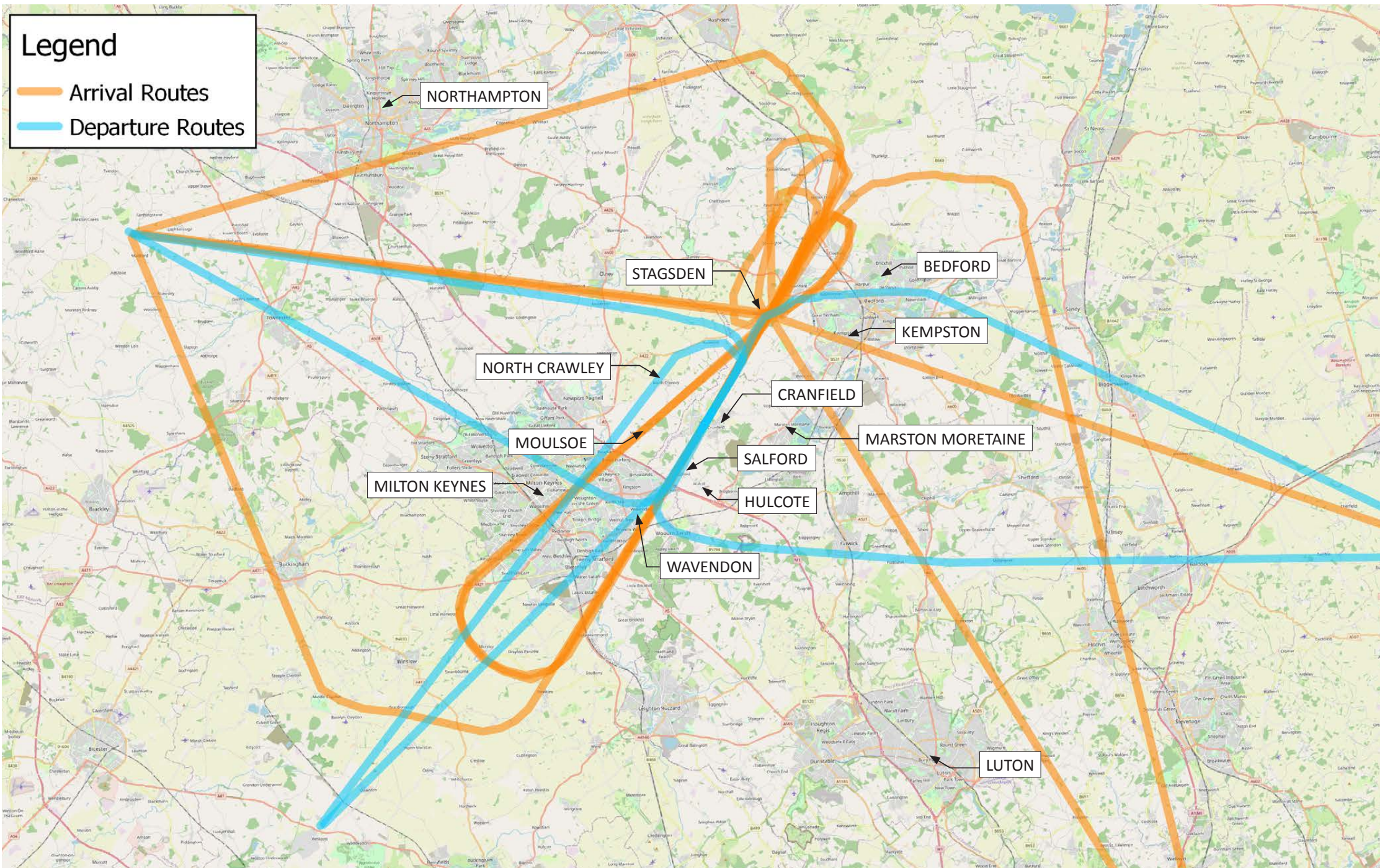
In 2021 there were c. 31,000 flights from Cranfield Airport. Cranfield predict that flights in total will increase over the next 10 years or so to a maximum of 45,000 Air Traffic Movements (ATMs). An ATM refers to an aircraft which is either arriving at, or departing from, the airport.

Marshall operations

At the last consultation we told you some of what we are proposing as a way to manage noise that will occur as a result of aircraft flying to and from the Airport. In particular, we committed to there being:

- No more than an additional 1,500 flights in any one year, averaging out at **approximately two arrivals and two departing flights daily**
- That there will be no night-flights save for in exceptional circumstances such as when we might need to receive or despatch an aircraft in support of a critical military mission.

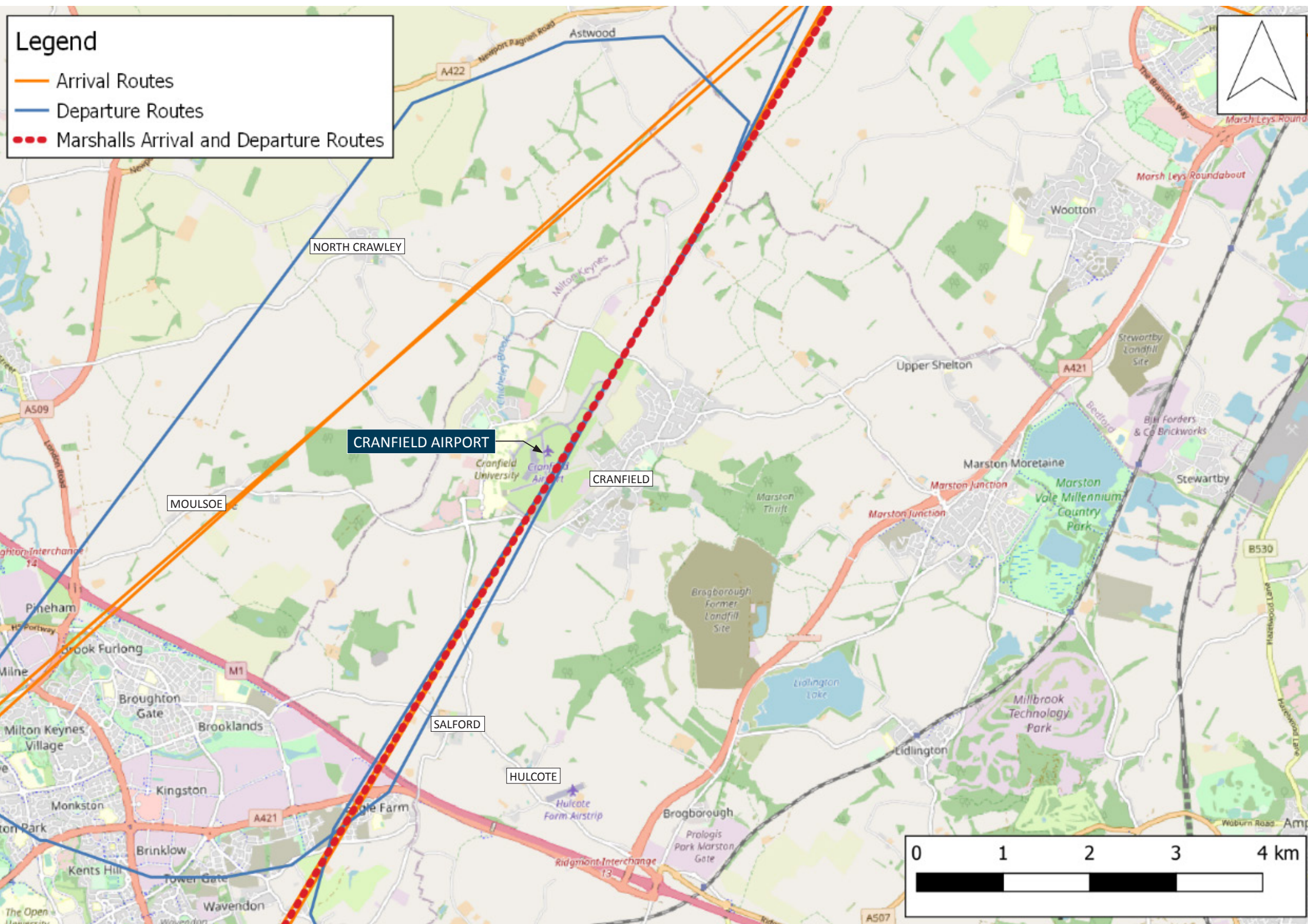
Since then, we have been developing our proposals and testing them to gain a detailed understanding of the noise effects likely to occur.



Cranfield Airport – Current common arrival and departure routes

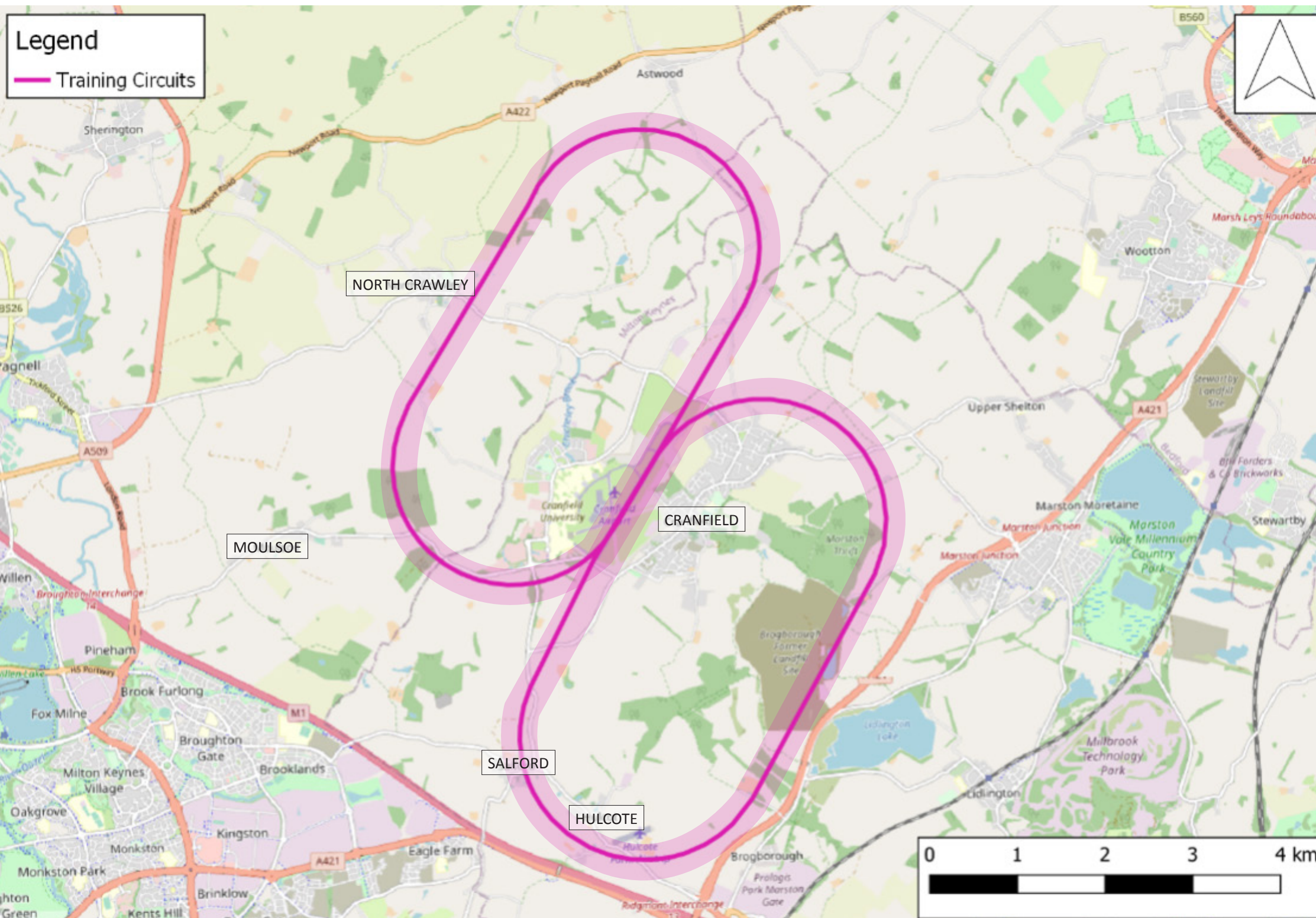
Diagram showing typical arrival routes (orange) and departure routes (blue) used by aircraft for Cranfield Airport currently.

This plan shows the areas within which communities are more likely to be aware of aircraft activity.



Cranfield Airport – Existing arrival and departure routes and Marshall's proposed arrival and departure routes

Map showing a zoomed in extract of Cranfield Airport, with an additional line showing that Marshall related aircraft arrivals and departures are expected to be on specific flight paths.



Cranfield Airport – Current common aircraft training circuits (unaffected by Marshall)

Routes typically adopted by the flying clubs / flying schools for circuit flights. These are not the only routes that are used, but are intended to be representative of typical activities. These will not be subject to change following the arrival of Marshall Aerospace related aircraft as our aircraft are not expected to be flying circuits.



Air noise considerations

Air noise

The aircraft that will use the new Marshall facilities are larger than many that operate from the Airport currently. Due to their size, we expect them to arrive and depart in a straight line. This makes understanding the noise that will be generated from them more predictable than noise generated from many smaller aircraft which, within defined safety parameters, have more freedom to fly around the area close to the airport (for example as part of flight training).

We have been developing computer models that predict the average levels of noise from the Airport's current and future operations. These noise levels can be shown as noise contours – lines or areas on a map which define the levels of noise different areas are exposed to.

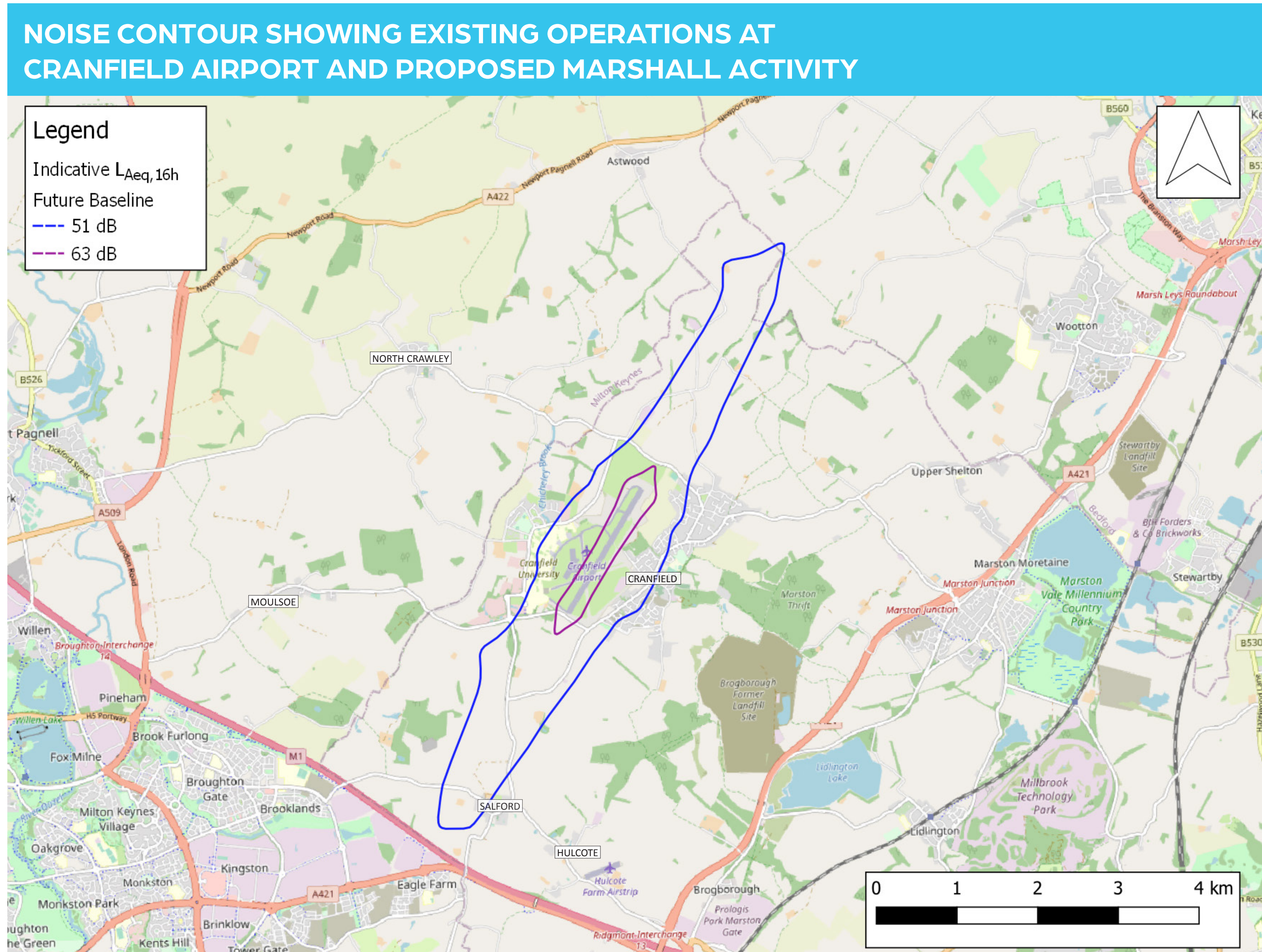
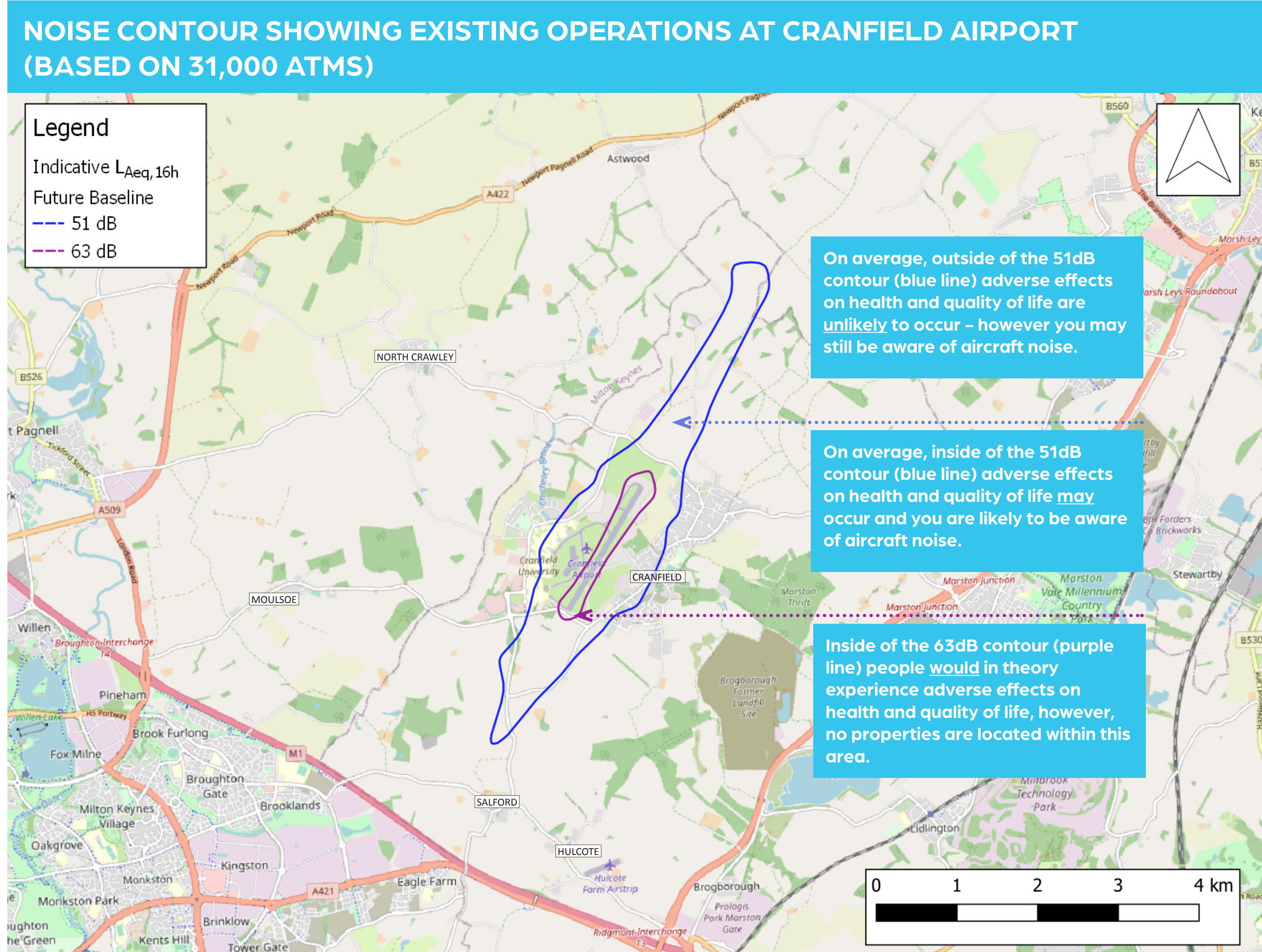
Noise contours are shown in the adjacent figures, to show the average daily noise exposure (16 hour daytime average contours), representative of the existing operations at the Airport, and how these would change with the introduction of Marshall's operations.

Noise levels

The 51 dB noise contour is representative of the level at which adverse effects on health and quality of life* may begin to occur, and the areas within the 63 dB contour are where those effects become significant.

What is noticeable is that with the introduction of Marshall's activities, the noise contours extend south-west and north-east along the arrival and departure routes. However, the areas of the greatest levels of noise (within the purple line) remain relatively unchanged, concentrated close to the airfield.

**This is in reference to terminology used by the Government in setting noise assessment policy (Noise Policy Statement for England (NPSE, 2010). This sets out aims to avoid, or mitigate and minimise adverse impacts on health and quality of life.*



Potential future growth at Cranfield Airport

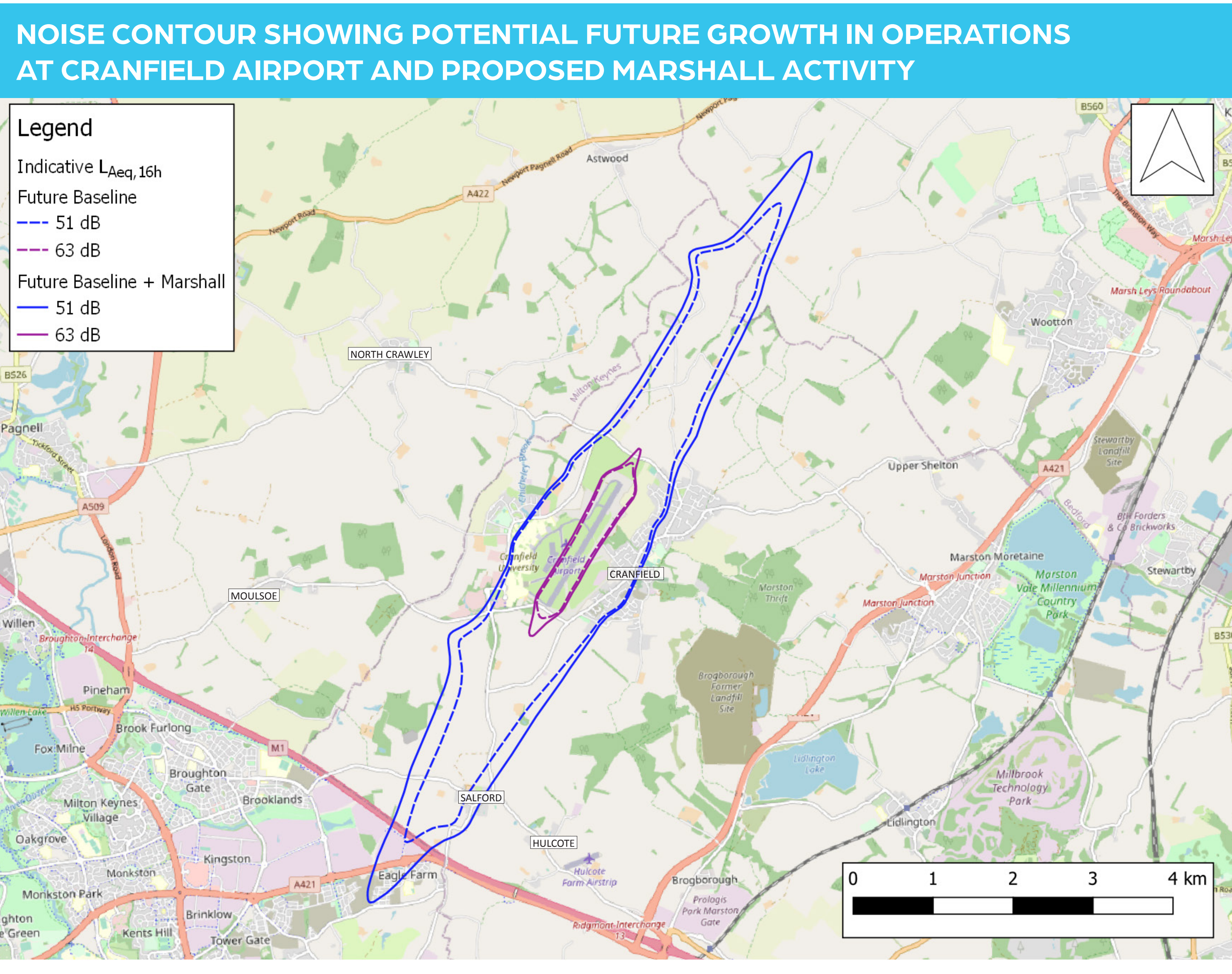
Regardless of Marshall operations, the Airport may still grow in the future.

Our application for new facilities for Marshall should not have any direct bearing on the future business plan for Cranfield Airport. Whilst we will develop a plot of c.35 hectares, the remaining airport land will remain in control of Cranfield University.

Due to this potential for future growth, we are seeking to illustrate the implications of additional Marshall related traffic on the local noise environment. To demonstrate this, we have illustrated the contours for some growth in operations at Cranfield up to a maximum of 45,000 flights a year, and our own proposal for up to 1,500 ATMs.

We anticipate that Central Bedfordshire Council, as Local Planning Authority, will seek to ensure that the impacts on the community are no worse than those set out in the assessments that accompany our planning application.

We have presented noise contours below which show the potential combined influence of Marshall's activities and allowing for this potential growth in Airport traffic. As shown, the Airport's noise contours extend south-west and north-east, with Marshall flights making a relatively small change. Again, the greatest levels of noise (purple line) remain relatively unchanged and in close proximity to the Airport.





Engine testing at Cranfield

What is engine testing?

Aircraft engine testing or Engine Ground Running (EGR) refers to the running of aircraft engines on the ground to test engine performance and aircraft systems.

This is an essential activity during or following completion of a significant proportion of our aircraft maintenance repair and overhaul activity to ensure that aircraft are safe to fly.

We are keen to ensure that the community impacts of this activity are understood as it is a core part of our future operations at Cranfield.

Ground Run Enclosure

At the last consultation we told you that we are proposing to build a Ground Running Enclosure (GRE) to reduce the noise impact of our own engine testing, and also to abate the engine testing that currently occurs at Cranfield. We also told you that engine testing in total will only occur within prescribed hours and will be limited to a maximum of 500 hours in any year.

Since then we have been refining our proposals such that we have now chosen a location for the GRE on the existing grassland to the north of the runway, and a preferred design which is four-sided and with a height in the region of 16m, sufficient to offer significant reductions in the associated noise levels.

We have also undertaken an assessment of the effects of engine testing using a C-130 Hercules, which will also use the GRE. These results are shown on the next board.

Marshall’s Engine Testing Regime

Marshall will need to undertake regular engine testing on its aircraft as part of its operations at Cranfield.

Based on records taken from our facility in Cambridge, the vast majority of our engine testing is completed with the aircraft engine operating at low power. High power tests, which have higher noise levels, occur for much shorter durations. There are significant differences in noise levels between low and high power tests.

For a majority of the proposed engine testing at Cranfield, the noise levels would be representative of those associated with low-power engine testing. If Marshall were to undertake engine testing for the maximum of 500 hours in any year then high power testing is expected to take place approximately 50 hours a year, or on average 1 hour per week.

We want to stress that these results are provisional and based on maximum assumptions. We will be refining our assessment right up to the point that our planning application is made. Included within this application will be our final assessment of the impact of noise from engine testing, considering all the many mitigation measures that we are proposing.



Birds eye view of the GRE at Cambridge Airport



Engine testing

The current situation at Cranfield Airport

Unabated engine testing already happens at Cranfield Airport on the runway and taxiway. BAe 146 jet aircraft are tested on average eight times a month, and up to one to three times a week.

These figures all show short duration (1 minute) noise contours – lines or areas on a map which define the levels of noise different areas are exposed to.

Current testing on runway

This is based on records from December 2020 – November 2021 and 60 annual Engine Ground Run (EGR) events.

Total Annual EGR Duration	28 hours
Average Duration of EGR Event	0.5 hours
Average Number of EGR Events per Week	1-3

Legend

Noise Level, $L_{Aeq,1min}$

< 55 dB [Level below which noise effects are likely]

55 - 60 dB [Onset of speech interference outdoors and indoors with windows open]

60 - 65 dB

65 - 70 dB

70 - 75 dB [Onset of speech interference outdoors and indoors with windows closed]

75 - 80 dB

> 80 dB

Marshall Aerospace Engine Testing

The vast majority of future engine testing will take place in the new Ground Run Enclosure (GRE). Existing testing activity at Cranfield will be moved into the GRE to reduce impacts of the tests currently carried out on the runway.

The noise plots below help to explain the existing impacts of engine testing and how these impacts will change following Marshall Aerospace’s relocation and the construction of the GRE.

Future scenario with Marshall Aerospace

This is based on testing C-130 aircraft in the GRE.

Total Annual EGR Duration	500 hours (inclusive of existing testing)
Average Duration of EGR Event	4 hours (0.5 hours at high power)
Average Number of EGR Events per Week	2-3

Legend

Noise Level, $L_{Aeq,1min}$

< 55 dB [Level below which noise effects are likely]

55 - 60 dB [Onset of speech interference outdoors and indoors with windows open]

60 - 65 dB

65 - 70 dB

70 - 75 dB [Onset of speech interference outdoors and indoors with windows closed]

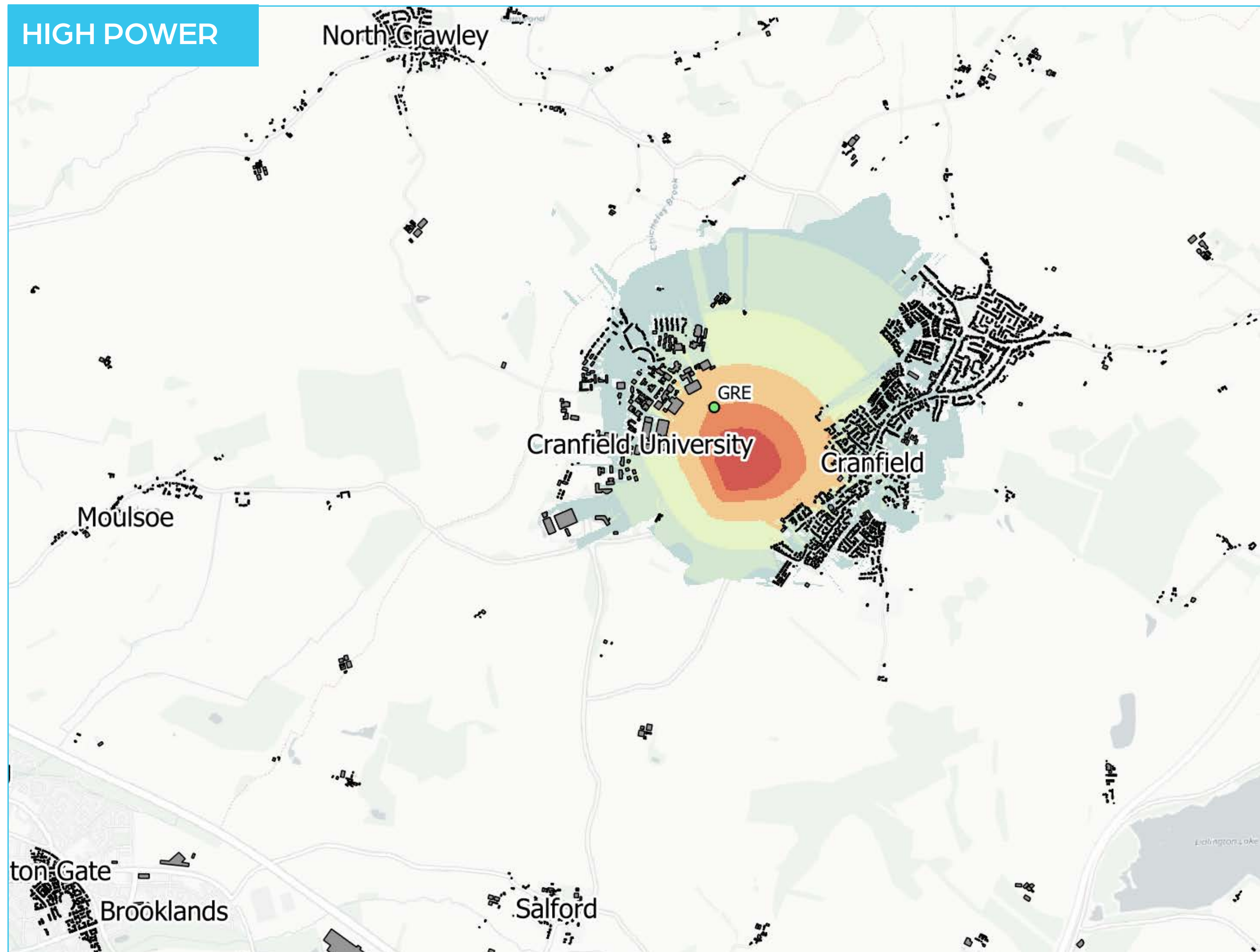
75 - 80 dB

> 80 dB



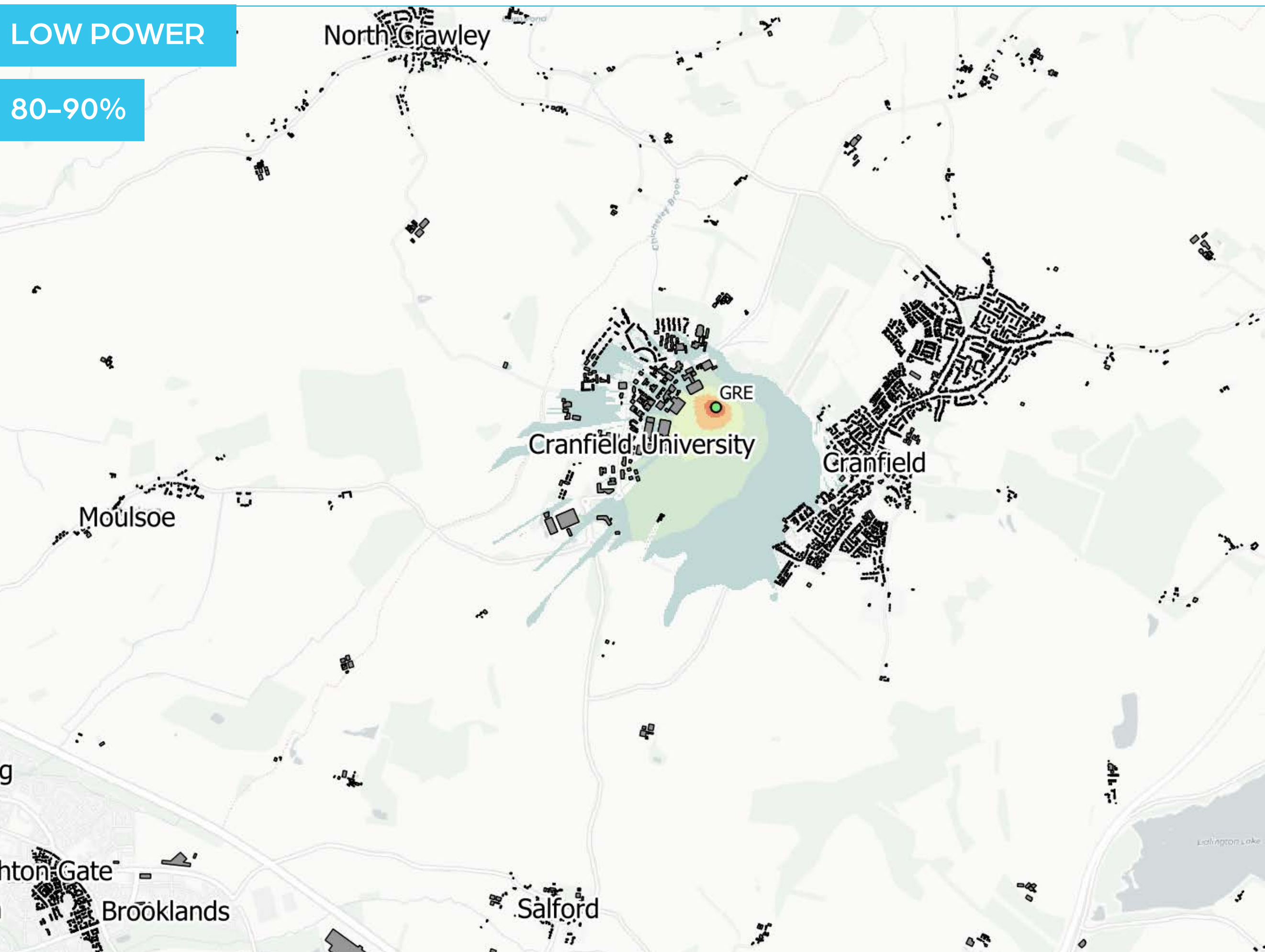
GRE at Cambridge Airport

EXISTING TESTING (BAE 146 ON RUNWAY)

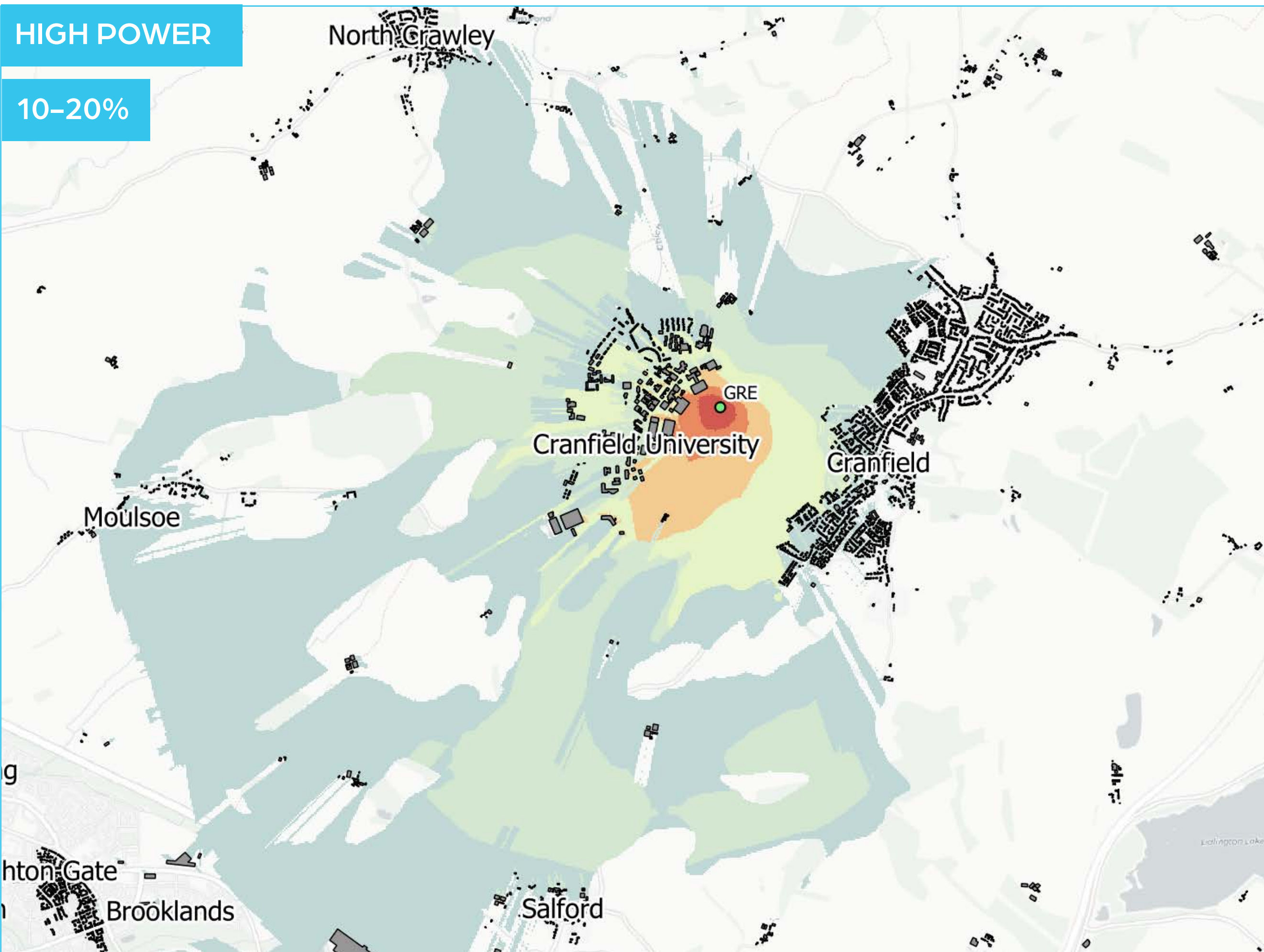


The high power element of an existing engine test is represented above. The darker colours (red and orange) represent the highest noise levels (above 70dB) and can be seen to effect properties closest to the runway. It is likely that the residents of Cranfield will already be familiar with this sound. This happens on average 1-3 times a week for a relatively short duration.

PROPOSED TESTING (C-130 WITHIN GROUND RUN ENCLOSURE)



The most likely aircraft Marshall will operate is the C-130. The noise contour above illustrates the low power element of a C-130 engine test. You will see that the darker areas (red and orange), which represent the highest noise levels, are focussed within the airport boundary. This activity will take place more often than current testing (on average 10 hours a week).

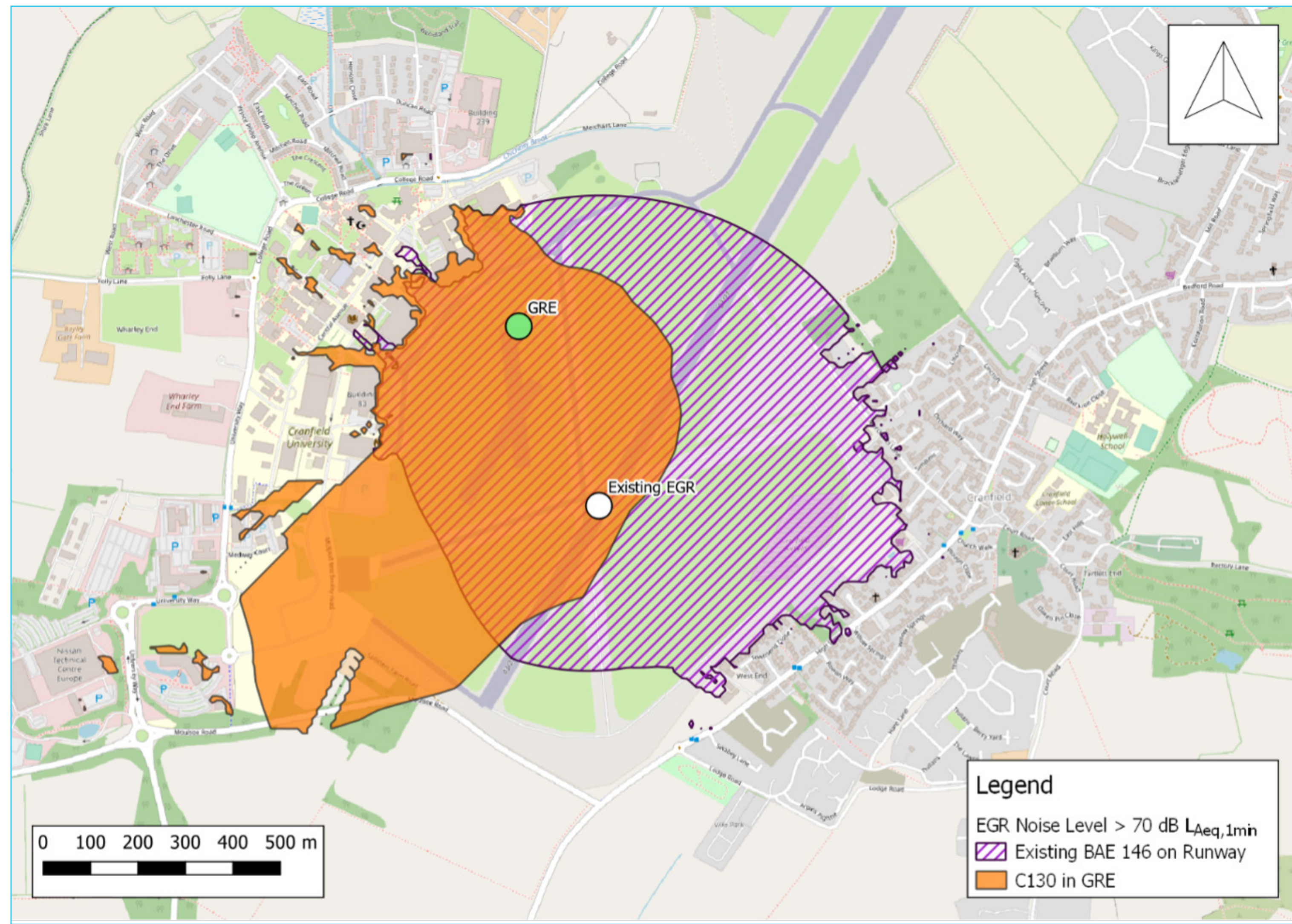


This figure shows the high power element of a C-130 engine test. The darker areas (red and orange) have moved towards the University away from the village and are significantly smaller than those associated with existing engine testing, demonstrating the effectiveness of the GRE. During high power testing there is a greater potential for community disturbance, however, it would typically be for no more than 30mins at a time. The introduction of the GRE means we are able to more effectively manage noise levels at properties most affected by current engine testing, however, there is the potential for activities to be audible to a greater number of people at lower levels.

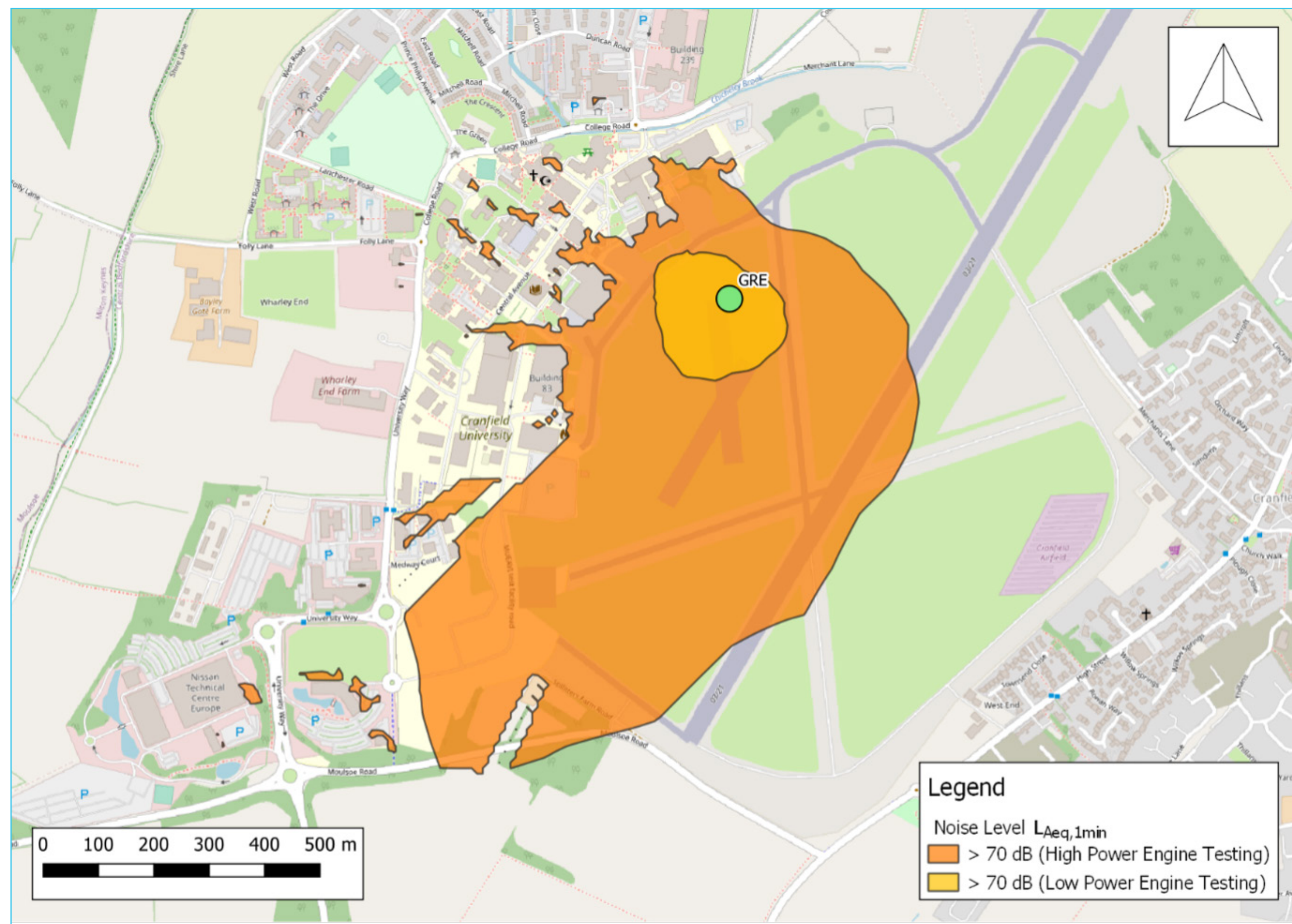


Engine testing

The noise plots below are focused on the areas immediately adjoining Cranfield Airport. These communities are likely to be most affected by engine testing and is consistent with the information on the previous board.



Map showing 70dB noise level comparing existing high power engine testing on the runway (purple) and future Marshall testing in the proposed GRE (orange).



Map showing difference in the 70dB noise level contour between high and low power engine testing within the proposed GRE.

Approximately 90% of our engine testing will be completed with the aircraft engine operating at low power.

High power testing is expected to be for approximately 50 hours a year, or on average 1 hour per week.

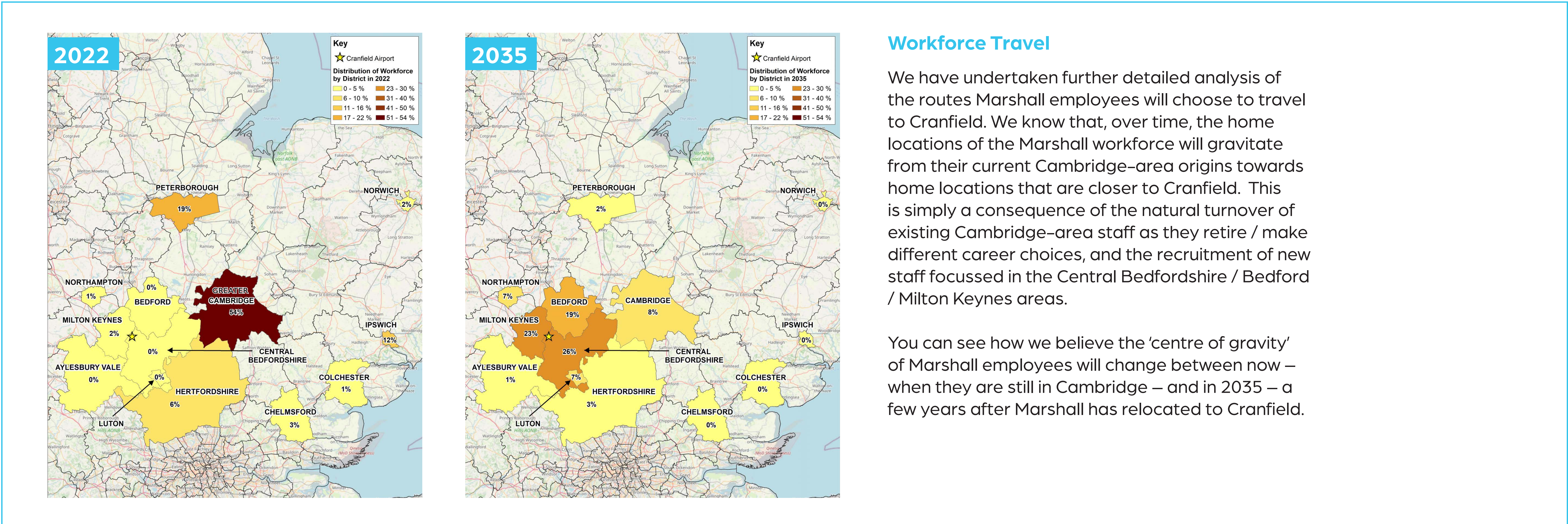


Transport strategy for future operations

Approach

Our transport approach for the relocation will be to maximise the accessibility of the site by non-car modes and minimise impacts on local road networks in Cranfield and the surrounding area. The aim is that we reduce reliance on private cars to access the site, so that we do our part to tackle issues of net zero carbon, air quality, road safety and local congestion.

We received invaluable feedback from you at the March 2022 public exhibitions to help guide us on the areas of transport work we would need to undertake in order to assess the transport impacts of the development. Key areas where further information was sought related to how much additional traffic the development would generate, and how this additional traffic would impact on local roads in the area.



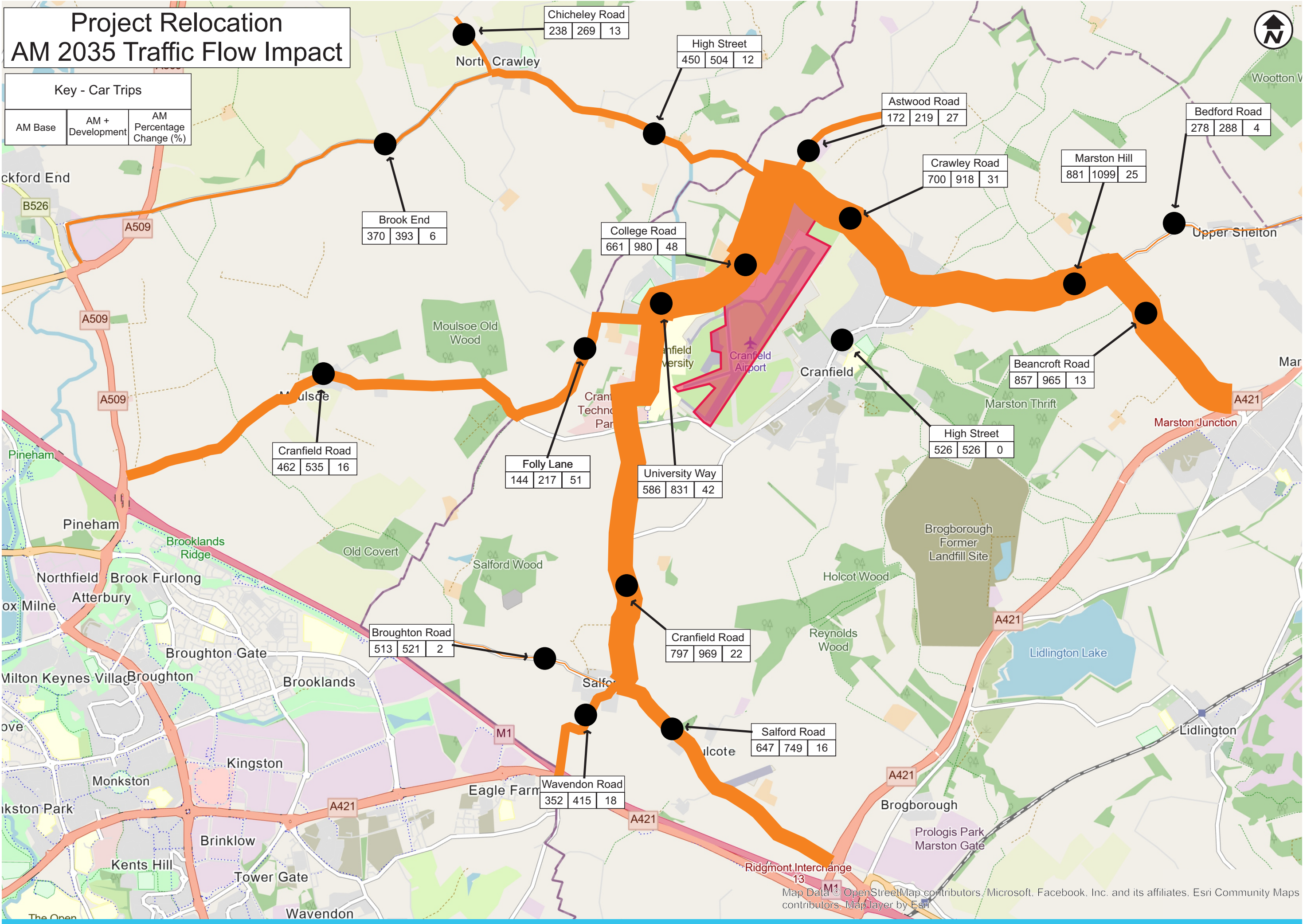
Travel Patterns

Since our last exhibition, we have modelled the workforce numbers that will be associated with the relocation to Cranfield, including potential working hours for different cohorts of our workforce. In summary:

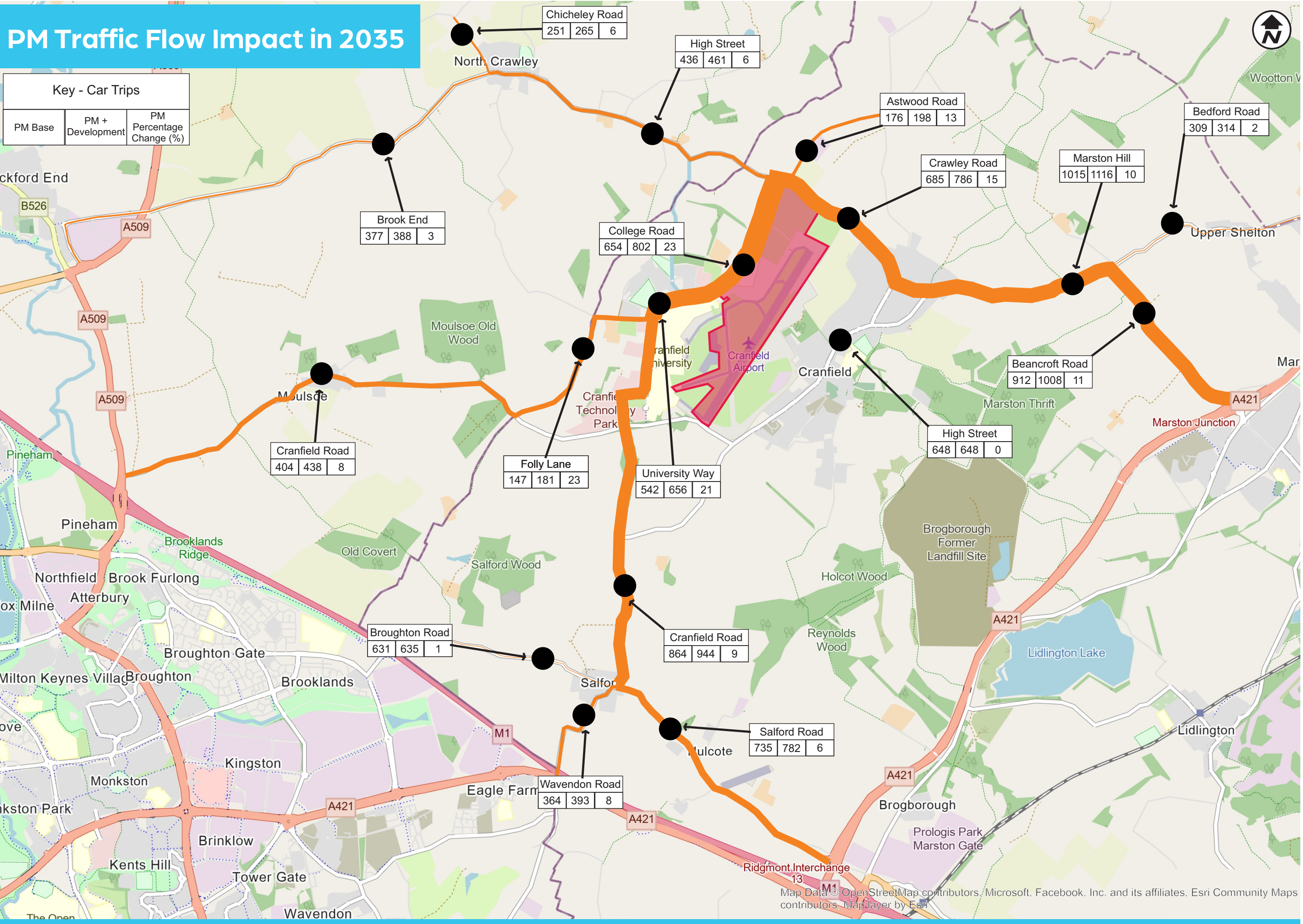
- The maximum workforce is 1,200 employees, but not all of these will be on-site at the same time;
- Hangar based staff may either work conventional hours or on a shift pattern of approximately 300 employees at a time. Hangar based staff will be on site;
- We are assuming flexible working options for office-based staff (e.g. home working and short term accommodation).

We are working with Central Bedfordshire Council Highways team, National Highways and the adjoining highways authorities to agree the scope and methodology of the transport assessment. Based on the above, we are able to estimate the number of trips the development will generate, the timing of these trips and which routes people are likely to use.

The resulting periods of peak trip generation occur between 7am and 8am for the morning, and 5pm and 6pm for the evening. These are the same peak hours that were assessed by the Air Park development, and so we are being consistent with analysis that has been undertaken by others of the operation of the local highway network.



The labels on this diagram show the predicted traffic flows in the 2035 AM peak hour without and including Marshall, and the % impact of the Marshall development. The orange 'bandwidths' represent the development traffic flows only. The thicker the bandwidth, the greater the development traffic flow.



This diagram shows traffic flows in the 2035 PM peak hour. The orange development flow 'bandwidths' are thinner than the AM peak because staff departures at the end of their working day are spread over two hours, whereas staff arrivals in the morning are more concentrated into one hour.

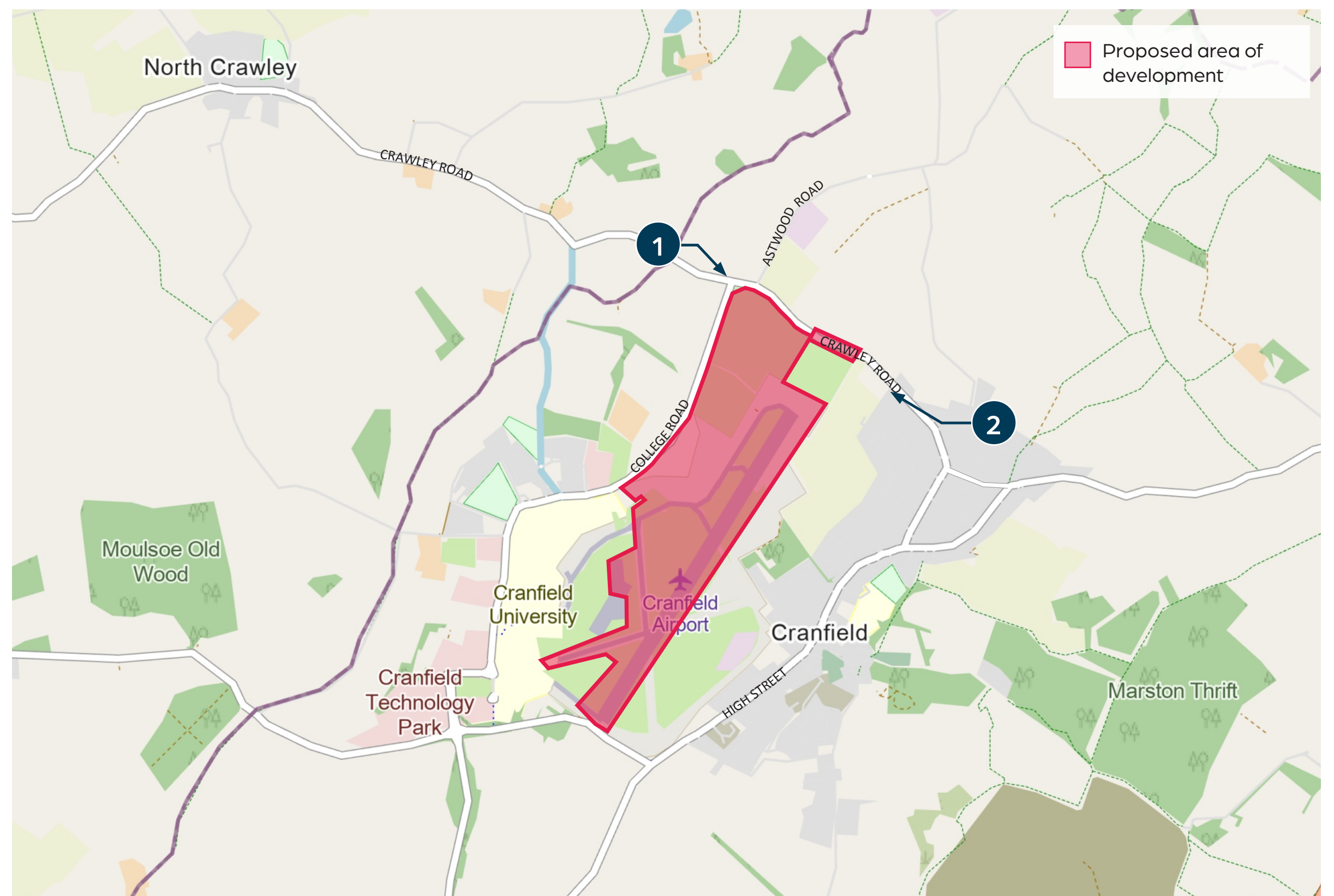


Transport strategy

In mid-May 2022, we commissioned traffic surveys to enable us to undertake detailed assessments of the operation of roads around Cranfield. These indicate that traffic flows are lower than pre-Covid conditions, and our impact assessments are consequently showing that most of the junctions in and around Cranfield will operate within capacity with the relocation. However, we do propose to improve the Crawley Road / College Road / Astwood Road staggered crossroads junction to a four-arm roundabout, not only to improve road safety, but also to remove the queuing that occurs on the College Road arm, particularly in the afternoon peak as people currently need to give way to Crawley Road traffic.

We are still working with Central Bedfordshire Council on these assessments, because they are affected by the various other developments coming forward in this area, for instance Marston Vale, Milton Keynes East and Stewartby Brickworks amongst others. In time, background traffic levels could also recover to pre-Covid levels, although there is no consensus on this. These further assessments may show that further improvements are required to mitigate our impacts. It is important to us that we get this right, so our own staff don't experience the frustrations of traffic delays on their way to work here, and so we are a good neighbour for many years to come.

There are certain measures within our control to minimise our impacts. These include re-timing of shift patterns to avoid peak hours, requiring more staff to car share, and continually reviewing the case for staff shuttle buses. We will shortly begin preparing a Staff Travel Plan to bring all this together. This will help deliver a 'soft landing' for the relocation so that staff are fully prepared for the change in travel requirements from first occupation and the sustainable travel options available.



Map showing location of proposed improvements to road network

- 1 New roundabout to be provided at the junction of Crawley Road, Astwood Road and College Road (see below).
- 2 Potential for footway improvements along the grass verge on Crawley Road to the north of the airfield subject to further discussion with Central Bedfordshire Council about technical feasibility.



Drawing showing the proposed introduction of a roundabout at the junction of Crawley Road, Astwood Road and College Road overlaid onto an aerial view of the existing junction. This is proposed to aid traffic flow at peak times.



Construction management

Construction programme

We currently anticipate that construction of the new facilities would take place in a phased approach, commencing in 2024, with an approximate construction period of two years.

We cannot be precise about the extent of our first phase development at this time, but we do know this will include all of the airfield infrastructure, the new GRE, as well as a first phase comprising construction of hangars, offices and associated facilities, including vehicular access, landscaping, drainage and car parking. The detailed proposals will require a further permission, known as a Reserved Matters approval. We will ensure further community consultation takes place ahead of submitting our detailed Reserved Matters application.

Management of construction traffic

Our approach to managing construction traffic will be to use the strategic road network as far as possible. An anticipated construction routing diagram is shown below. This anticipated routing is in accordance with the previously approved Air Park application.

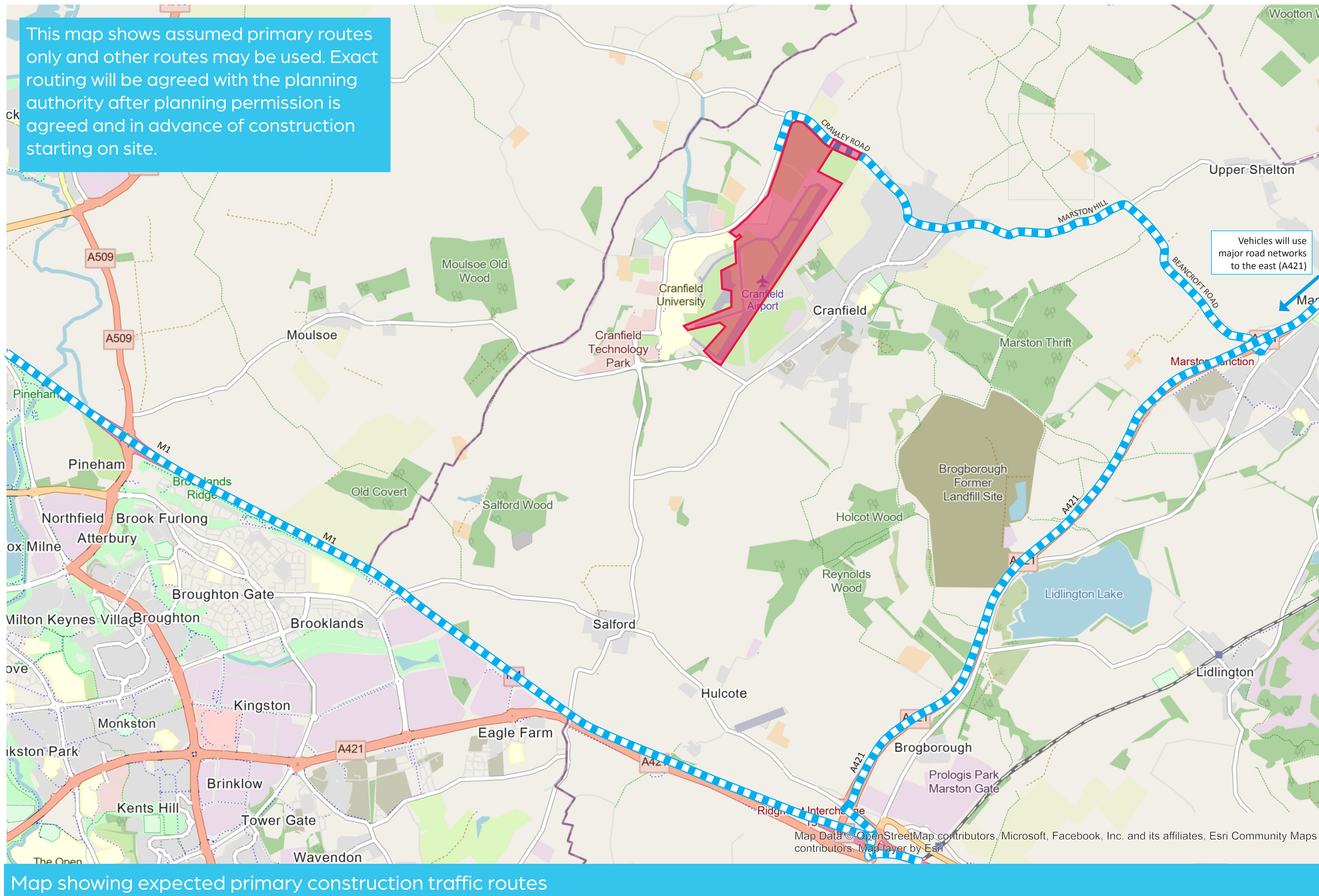
Vehicular access to the site will be provided at two points to reduce the likelihood of vehicle queuing onto the road network, and sufficient depth may be provided within the site to allow queueing prior to entry to the secure zone.

The proposed operating hours for the construction site are anticipated between 0700 and 1800, with staff arriving between 07:00 and 07:30, departing between 17:30 and 18:00.

Deliveries will off load on site only and will be controlled by a pre booking procedure and designated banksperson who will control access and egress from the site and also all movement and unloading on site.

The traffic generated by the construction is anticipated to be insignificant compared to the current level of traffic on the existing road network. A Construction Traffic Management Plan will be developed to further mitigate the impact of the construction traffic, encouraging construction traffic to avoid sensitive areas and periods of time.

As part of the Considerate Constructors Scheme, we will undertake best practice policies that aim to minimise the inconvenience to neighbours of the site and the local community.





Planning application approach

Outline planning application

In order to secure the key principles of Marshall Aerospace’s relocation to Cranfield, it is our intention to submit an application for outline planning permission to Central Bedfordshire Council later this year.

The application will contain a framework for future development, setting out the general design principles and guidelines for what can be built and will establish areas such as the amount of appropriate development, types of uses and functions, height parameters, site access and routes required to deliver the relocation. These principles will be set out in drawings known as ‘parameter plans’ which will be submitted as part of the application. Examples of these are provided below. However, it will not contain detailed designs for the buildings or other aspects of the scheme.

Indicative masterplan

An indicative masterplan has been produced and described in this exhibition to demonstrate how the development could be delivered within these parameters. This proposal is only **illustrative** of how the scheme could be built in the future depending on future discussions and approvals from Central Bedfordshire Council. The Council will also undertake its own consultation on the outline planning application once it is submitted.

An outline planning application does not require detailed designs to be developed at this stage. Further detailed planning applications, called ‘reserved matters’, will be made to confirm the detailed design of the site and buildings at a later date.

Contents of the application

The planning application will be made up of a series of documents that will either be ‘for approval’ or ‘for information’. The key documents that will be included are:

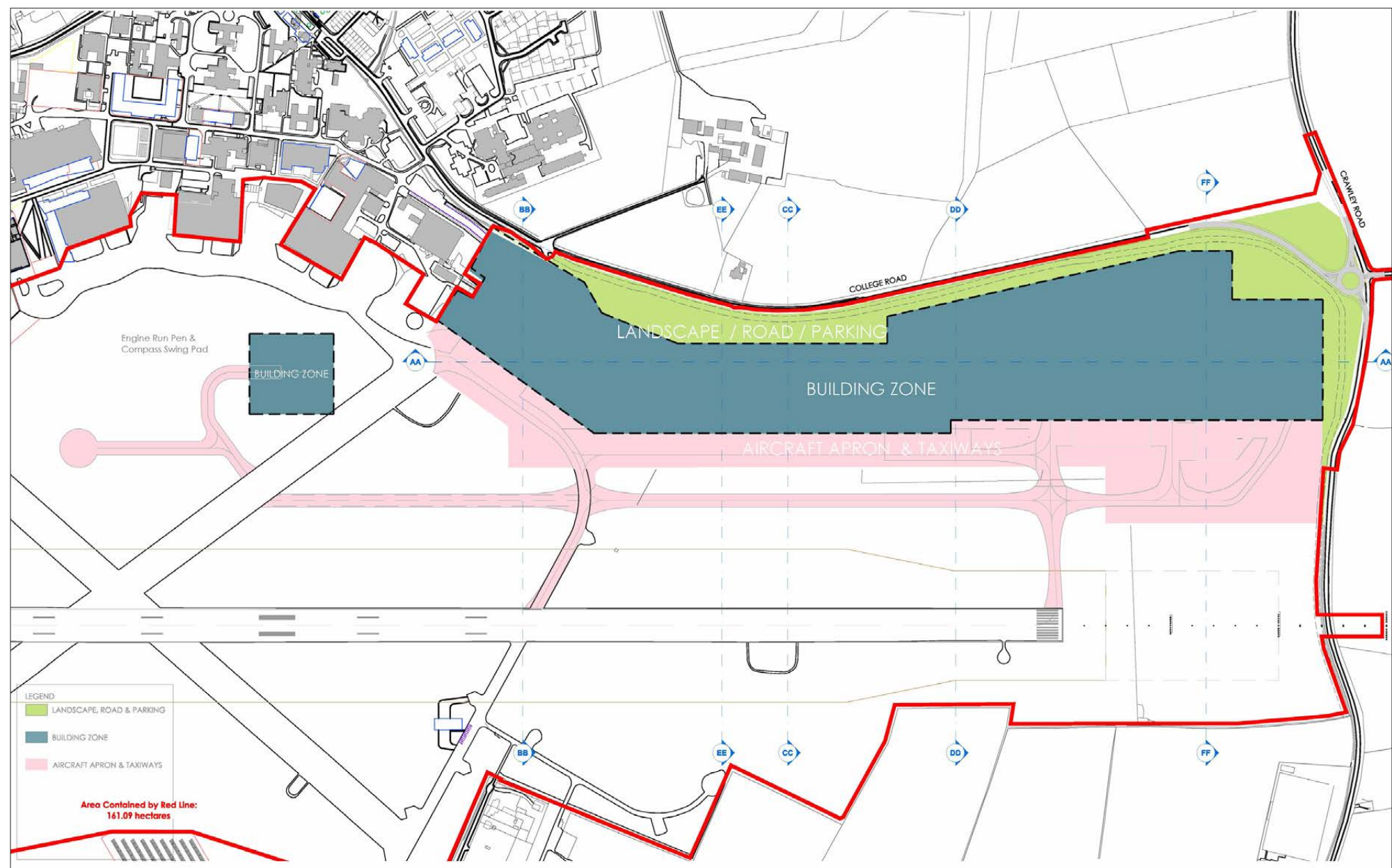
- Parameter Plans
- Design and Access Statement
- Landscape Strategy
- Environmental Impact Assessment
- Transport Strategy
- Construction Management Plan
- Statement of Community Involvement

Planning conditions and obligations

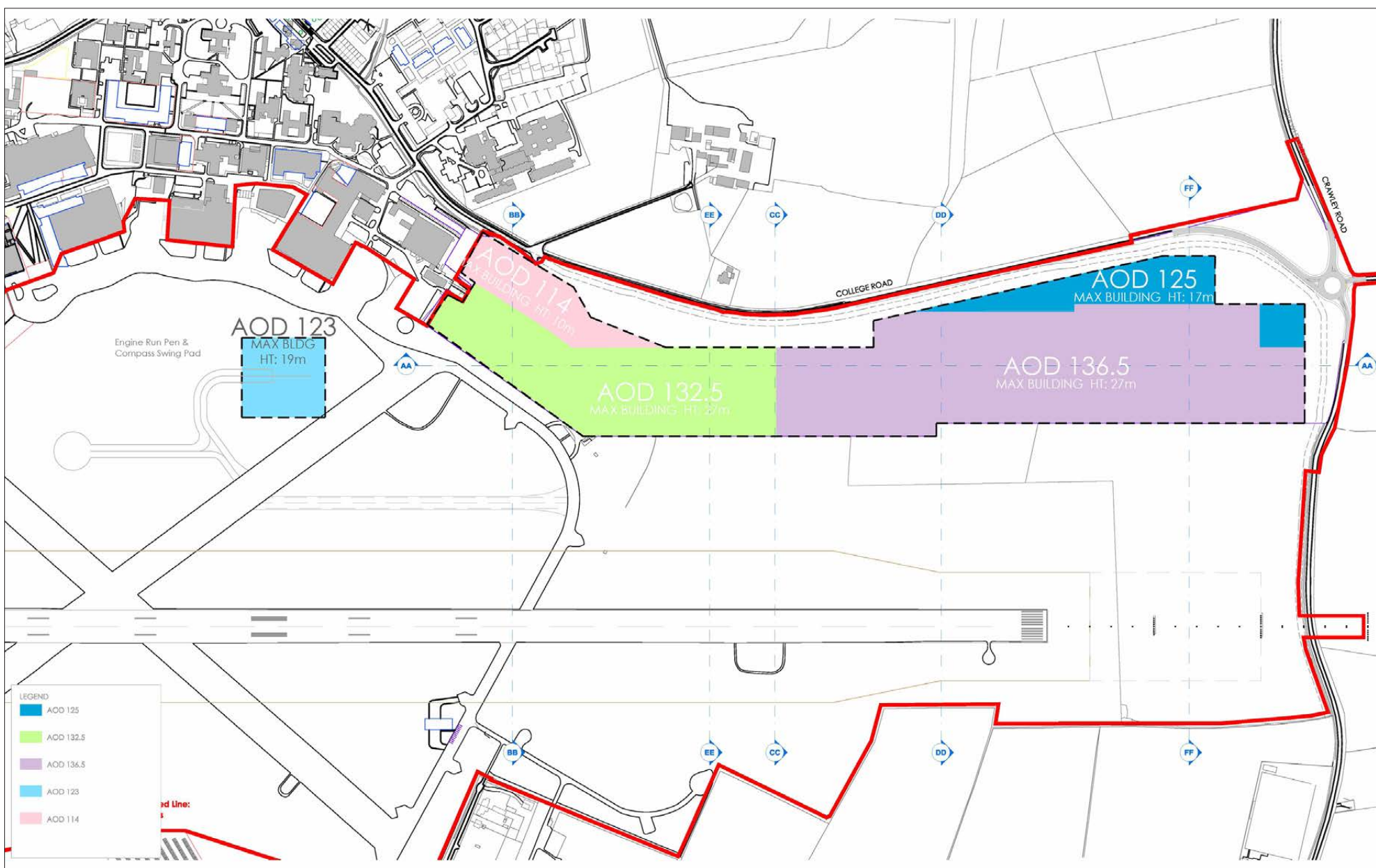
As with any planning permission, we would expect planning conditions to control the delivery of the development and ensure that the commitments set out in the application are secured, for example to secure any necessary environmental mitigation.

Any impacts from development that cannot be dealt with through planning conditions may be controlled by planning obligations for example under a legal agreement called a ‘Section 106 Agreement’. Such areas might include off-site infrastructure and biodiversity net gain.

Example Parameter Plans



Example parameter plan showing areas allocated for different land uses



Example parameter plan showing proposed heights in different areas of the site



Next steps

Preparation of the outline planning application

This exhibition provides a summary of the information that will be provided in the outline planning application when it is submitted to Central Bedfordshire Council later this year.

Once the application has been submitted, the Council will undertake its own consultation on the proposals prior to making a determination.

To aid community understanding of the planning application, we intend to submit Community Impact Assessments for those communities closest to the Airport. These will help signpost the relevant material within the application documents for each community.

Working with the community

We are committed to continuing to work with the local Parish Councils near to Cranfield Airport as our plans develop.

If you want us to keep you updated on our application and how the project is progressing, please sign up to our mailing list by leaving your details at the sign in desk.

NEXT STEPS



YOUR FEEDBACK

Please complete a feedback form to let us know your views on Marshall's proposals for Cranfield Airport.

You can also share your comments and questions online or by email.

 marshallaerospace.com/relocation

 consultation@marshallaerospace.com