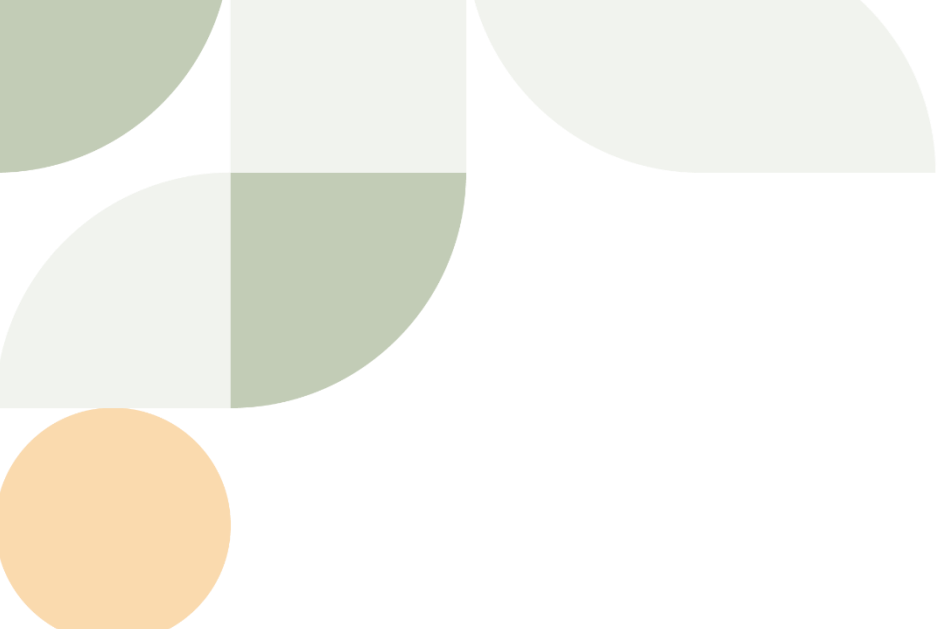




Lime Down

Solar Park

Equine Business Report (Tracked)

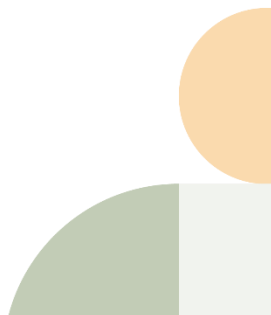
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Schedule of Changes

<u>Revision</u>	<u>Section Reference</u>	<u>Description of Changes</u>	<u>Reason for Revision</u>
<u>2</u>	<u>Table 2, Table 3</u>	<u>Additions to Table 2 and 3 to cross refer with SLD Baseline/</u>	<u>Update to cross refer with the SLD baseline provided in their Deadline 6 submission. [REP6-082]</u>

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1 Introduction

1.1 Purpose of the Document

- 1.1.1 This document has been drafted in response to requests for additional information by the Examining Authority (ExA), pursuant to the examination of the Lime Down Solar Project DCO ('the Scheme').
- 1.1.2 The following information requests were made as part of the ExA's First Written Questions:
- SE1.9 Part 1: *"...provide a more detailed assessment of the impacts on job losses in and business viability of the equine sector (and its supporting industries) beyond the information presented in Table 2-10 of ES Appendix 16-2 [APP-241]. When providing your response you are asked to consider the specific concerns from the above noted submissions focusing on evidence relating to equine health".*
 - SE1.9 Part 2: *'You are also asked to submit a map showing the location of equestrian facilities with a commentary of the name, address and business activities. This should be split between stud farms, stabling/livery yards and details of any other equine facility type within the 20km study area'.*
 - AQ1.5: *"In the case of a thermal runaway event at the BESS, what effect is this likely to have on animals, including wildlife, livestock and pets? The applicant is specifically asked to include an assessment on horses in its response to take account of the potential effects on equine businesses".*
- 1.1.3 Question SE2.8 of the ExA's Second Written Questions advised that the above assessments needed to be submitted no later than Deadline 5 and that they should include *"a detailed response to the concerns raised in REP4-116, REP4-117, REP4-107, REP4-108, RR-0145, RR-2102, RR-0472, RR-0098, RR-3583 and the sensitivities of these businesses to the proposed development. Please note this should be submitted as a technical note, provide a more detailed and considered assessment than that provided in PDA-009, PDB-004, REP1-117 and demonstrate an understanding of the effects of the proposed development on equestrian businesses".*
- 1.1.4 This Technical Note provides a consolidated report responding to the above questions, considering the likely effects on equine businesses, specifically relating to employment and business viability, noting specific submissions made in relation to equine health.

1.2 Summary of Findings from the Environmental Statement

- 1.2.1 This section presents a brief summary of how impacts on equestrian facilities have been assessed in the Applicant's Environmental Statement, together with a summary of key findings.

- 1.2.2 **ES Volume 1, Chapter 16: Socio-Economics, Tourism and Recreation [APP-068]** assesses potential impacts on equestrian facilities including private stables and paddocks, liveries, stud farms, and riding schools primarily from the perspective of recreational receptors, albeit with an understanding that equine businesses of this nature also have an economic function within the local area. Paragraph 16.10.38 of Chapter 16 states that *“Private facilities are considered to be of local importance and therefore low sensitivity, whilst riding schools, liveries and studs, or equine care businesses are considered to be of medium sensitivity due to their prevalence and combined recreational and economic importance within the local area.”*
- 1.2.3 Equine businesses and equestrian facilities within 5 km of the Scheme’s Order Limits were identified following statutory consultation in early 2025. Facilities were identified through site visits during 2024 (noting that site visits were limited to PRoW and highways/locations from which facilities could be viewed), representations made by individual equestrian facilities and business owners during the statutory consultation process, and a desk-based review of publicly available records and services using online mapping, business websites, directories of equine-related businesses, or where appropriate, information available through Companies House. The results of this information gathering exercise are set out in Table 2-10 in **ES Volume 3, Appendix 16-2: Tourism and Recreation Receptor Tables [APP-241]**. Table 2-10 also provides a high-level summary of whether or not significant effects from the Scheme were likely for each receptor, and whether or not further assessment was required.
- 1.2.4 Although the Applicant acknowledges that there are limitations associated with this method of data collation (for example in relation to the level of detail captured for individual equestrian facilities), the approach is considered to be robust and sufficient to enable an appropriate assessment of effects.
- 1.2.5 The assessment of effects on equestrian facilities is set out in Table 3-20 of **ES Volume 3, Appendix 16-2: Tourism and Recreation Receptor Tables [APP-241]**. For each phase of the Scheme assessed (construction, operation, peak replacement, and decommissioning), Table 3-20 provides a description of likely effects, the sensitivity of each receptor (‘low’ for private facilities and ‘medium’ for equine businesses), the magnitude of impact and resultant significance of effect, mitigation measures secured to reduce the significance of effect, and the residual impact. A final assessment of inter-project cumulative effects is also provided for each receptor, based on the list of cumulative developments detailed in Section 16.13 of **ES Volume 1, Chapter 16: Socio-Economics, Tourism and Recreation [APP-068]**.

Construction Impacts

- 1.2.6 Paragraph 16.10.38 of **ES Volume 1, Chapter 16: Socio-Economics, Tourism and Recreation [APP-068]** sets out the principal matters taken into

consideration when assessing likely impacts to equestrian facilities during construction:

“The Scheme’s construction is likely to impact on equestrian facilities by way of views impacting the desirability of the facilities for users, the potential for disruption and noise from construction to facility users and horses in paddocks, and the potential for HGV and construction traffic on local roads to impact on recreational use and access to the PRow network for hacking.”

- 1.2.7 The assessment has therefore drawn from other key topic areas within the ES, including **ES Volume 1, Chapter 8: Landscape and Visual Impact [REP3-025]**, **ES Volume 1, Chapter 13 Transport and Access [REP4-014]**, **ES Volume 1, Chapter 14: Noise and Vibration [REP1-021]** and **ES Volume 1, Chapter 15: Air Quality [REP2-008]** to build a comprehensive understanding of the likely effects. Whilst these assessments primarily focused on human receptors, they were considered to be a suitable proxy for understanding the likely effects of the Scheme on horses located at individual facilities.
- 1.2.8 Furthermore, due to the recreational function of most equestrian facilities and their dependence on the surrounding highway and PRow network for hacking, the assessment of individual equestrian facilities has considered likely effects of HGV movements on the surrounding highways, as well as spatial and visual impacts on those PRow identified as being most likely to be used for hacking from each individual facility. This has included consideration of which PRow are likely to be preferential for horse riding, which highways are preferred, and where significant constraints to safe or legal horse riding (primarily busy roads or bridleways terminating at footpaths) would discourage use by equestrians. This consideration was reliant on the assessment of impacts to non-motorised highway users as set out in **ES Volume 1, Chapter 13 Transport and Access [REP4-014]**, and the assessment of individual PRow affected by the Scheme presented in **ES Volume 1, Chapter 16: Socio-Economics, Tourism and Recreation [APP-068]** and the supporting **ES Volume 3, Appendix 16-2: Tourism and Recreation Receptor Tables [APP-241]**.
- 1.2.9 The assessment found that with the implementation of embedded visual and traffic mitigation measures, impacts to equestrian facilities were anticipated to range between neutral and high in magnitude, dependent on the proximity of the receptor to the Scheme, the type of construction activity likely to be experienced, and the amount by which access to public hacking routes may be affected during construction. When considering the overall impact on equestrian facilities within the Scheme’s Study Area, no significant effects were identified. The greatest level of effect was a medium-term temporary moderate adverse effect to Park Farm, Yatton Keynell, due to the routing of the Cable Route Corridor unavoidably causing significant adverse effects to their ability to keep horses at their facility during construction works at that location.

Operation and Replacement

- 1.2.10 During the operational lifetime of the Scheme (see paragraphs 16.10.68 and 16.10.70 in **ES Volume 1, Chapter 16: Socio-Economics, Tourism and Recreation [APP-068]**), principal considerations for impacts on equestrian facilities and businesses include direct visual impacts to human receptors (largely in consideration of business clientele), visual and experiential impacts to highway and PRow alongside Solar PV Array areas, and short-term impacts from HGV movements associated with Battery Energy Storage System (BESS) or solar infrastructure replacement work.
- 1.2.11 Similarly to the construction phase, the assessment of operational effects considered findings from other environmental disciplines to provide an overarching understanding of the types of effects likely to be experienced by equine businesses and facilities. This has included consideration of long-term effects to the PRow network around those facilities considered most likely to be used by equestrians.
- 1.2.12 During operation, the assessed effect on equestrian facilities reported in **ES Volume 1, Chapter 16: Socio-Economics, Tourism and Recreation [APP-068]** was a long-term negligible effect across the Scheme's 2 km Study Area with the most closely affected facilities experiencing a long-term moderate-minor adverse effect to their operations. These were not considered to be significant effects.

Updates during Examination

- 1.2.13 Where further information relating to equestrian facilities has been provided during the examination process, the Applicant has, where relevant, provided a written response to set out potential impacts in line with the assessment methodology described in **ES Volume 3, Appendix 16-2: Tourism and Recreation Receptor Tables [APP-241]**. No further significant effects to individual businesses or facilities have been identified during this process.

1.3 Approach to Assessing Potential Impacts on Employment and Business Viability

- 1.3.1 The assessment of potential impacts on employment and business viability of the equine sector (and its supporting industries) has adopted a holistic approach taking into consideration horse health and welfare, the different types of equestrian businesses and facilities operating in the local and wider area and an understanding of proposed mitigation measures secured under the draft Development Consent Order (DCO). The assessment has been informed by specialist veterinary input, primary data collation, relevant case study findings and desk-based research, enabling the consideration of both direct impacts on equestrian receptors and indirect impacts on supply chain and ancillary businesses. The approach has comprised:

- **Baseline understanding:** a desk-based review of the state of the equine sector from national (UK), regional (South West of England) and local perspectives, drawing on a variety of data sources. The review has considered the various categories of equestrian facilities, including stud and bloodstock operations, livery yards, riding schools, eventing operations and private paddocks located within a 5km study area from the Scheme (to align with that used in the ES); for a review of supporting industries/supply chain, a much wider area has been used, based on postcode areas, which equates to approximately 20km from the centre of the Scheme. Information relating to challenges and trends over time facing different categories of facility has been collated where relevant. At local level, the baseline review has been informed by information gathered from a questionnaire survey distributed to around 30 equestrian businesses. This has provided evidence relating to the scale and nature of equine businesses in the local area (e.g. employment, scale of operation, understanding of supply chain). Further information has been obtained through engagement with businesses during the course of the Examination, for example through written representations [REP4-116], [REP4-117], [REP4-107], [REP4-108], [RR-0145], [RR-2102], [RR-0472], [RR-0098] and [RR-3583], as well as information presented during hearings, or other more informal engagement.
- **Review of findings from case studies:** a desk-based review of case studies, including projects of a similar scale and nature (for example the Sunnica Energy Farm near Newmarket), to identify potential impacts on equestrian businesses, lessons learnt and the effectiveness of mitigation measures. Case studies have been treated as contextual evidence only, noting that the extent to which findings can be applied directly to the Scheme is limited. For this reason, the case studies have been included in Annex B of this document for reference.
- **Identification of relevant impact pathways:** Potential ways in which business viability could be impacted have been identified through a review of the Environmental Statement and associated project documentation, as well as a review of representations made to date. This has established the mechanisms by which the Scheme could potentially affect equestrian receptors during construction and operation phases, for example through changes to visual amenity, noise and vibration levels, traffic movements, access arrangements, and other environmental conditions. Other, less tangible impact pathways may include investor deterrence and 'brand erosion'.
- **Assessment of impacts:** The assessment of potential impacts on business viability has considered both direct and indirect impacts. Direct impacts are those experienced by equestrian receptors as a result of changes to environmental conditions arising from the Scheme which may affect the operation of equestrian businesses and the health, welfare and behaviour of

horses. Specialist input has been provided in the form of expert veterinary opinion on matters relevant to horse health and welfare. Indirect impacts are those experienced within the wider supply chain, for example changes in demand for goods and services provided by businesses supporting the sector such as veterinary practices, farriers, feed suppliers, transport providers and other equine-related service operators.

1.4 Structure of the Document

1.4.1 This report is structured as follows:

- **Section 2:** presents an overview of written representations submitted to the Examination in relation to equine facilities and businesses
- **Section 3:** describes baseline characteristics as they relate to the national, regional and local equine industry, including factors relevant to employment, contribution to the local economy, supporting industries and characteristics of equestrian facilities in closest proximity to the Scheme
- **Section 4:** provides an assessment of potential impacts on business viability, including the assessment framework used and discussion of impacts taking into account equine health characteristics. This includes a section specifically responding to AQ1.5, summarising potential effects on horses as a result of a thermal runaway event at the BESS
- **Section 5:** summarises mitigation proposed to date and additional mitigation measures that could be considered
- **Section 6:** sets out conclusions and recommendations.

1.5 Document Author Competence

1.5.1 This Technical Note has been authored by Dr Suzanne Green (Director, Greenway Equine Veterinary Services Ltd), Alison Powell (Senior Technical Director, Arcadis) and Stephen Flynn (Senior Planner, Lanpro).

1.5.2 **Dr Suzanne Green, Greenway Equine Veterinary Services Ltd:** Suzanne Green has a Bachelor's and Master's degree in Veterinary Medicine and Surgery from Edinburgh University. She completed a Master's degree in Veterinary Forensic Science in April 2022 and a Certificate in Advanced Veterinary Practice in December 2024. Suzanne is a Director of Greenway Equine Veterinary Services Ltd (a private equine veterinary practice). From 2010 to 2018, Suzanne was Equine Veterinary Surgeon at the Oakhill Veterinary Centre in Lancashire and was the Veterinary Surgeon in attendance at World Horse Welfare, Penny Farm, between November 2011 to September 2018. Suzanne is on the National Equine Welfare Councils for the North West, North Wales, Shropshire and Midlands, North Yorks and North East areas, which tackle welfare issues of horses across the UK in partnership with horse

welfare charities. She won the British Equine Veterinary Association award for services to equine welfare in 2019 and the British Horse Society award to equine welfare in 2021.

- 1.5.3 **Alison Powell, Arcadis:** Alison is a Senior Technical Director at Arcadis, with over 25 years' experience in undertaking a range of socio-economic impact assessments across a variety of infrastructure projects within the UK, including TCPA and DCO scale schemes. She leads the Arcadis socio-economics discipline and is a Chartered Town Planner. The wider Arcadis team has contributed equine and economic assessment experience.
- 1.5.4 **Stephen Flynn, Lanpro:** Stephen Flynn is a Senior Planner at Lanpro with a master's degree in Urban and Regional Planning from the University of Westminster, and is an Associate member of the Institute of Sustainability and Environmental Professionals. Stephen is Lanpro's technical lead for socio-economic and population and human health assessments and has 8 years of experience of socio-economic and health assessments for TCPA and DCO projects. Stephen has been the Applicant's lead technical consultant for socio-economics since 2024 and was the lead author of **ES Volume 1, Chapter 16: Socio-Economics, Tourism and Recreation [APP-068]** and its supporting figures **[APP-168 to APP-170]** and appendices **[APP-240 to APP-242]**.

2 Overview of Representations Received to Date

- 2.1.1 This section presents an overview of the main themes arising from relevant representations and written responses submitted to the Examination to date in relation to potential impacts on equine facilities and businesses. Specific representations and responses considered, as referenced in the ExA's Second Written Question SE2.8 were **[REP4-116]**, **[REP4-117]**, **[REP4-107]**, **[REP4-108]**, **[RR-0145]**, **[RR-2102]**, **[RR-0472]**, **[RR-0098]** and **[RR-3583]**.

Failure to Assess Equine Welfare Properly

- 2.1.2 A number of written and oral submissions from Interested Parties have raised concerns that the Scheme has not been assessed through an equine welfare lens. The submissions state that horses have been treated as general recreational or agricultural receptors rather than as highly sensitive flight animals, even though the Site is located in an equestrian area, described in representations as a concentrated, interconnected equestrian setting rather than a collection of isolated receptors. Interested Parties argue there has been no meaningful equine-specific assessment of the impacts of:
- Construction noise and vibration;
 - Movement of tracking solar panels;
 - Operational noise;
 - Lighting;
 - Traffic; and
 - Nearby industrial activity on broodmares, foals, yearlings and other stock, including the effects of ongoing maintenance activity, contractor presence, security activity and machinery movement over the operational life of the Scheme.
- 2.1.3 Various submissions refer to evidence that acknowledges horses are highly sensitive to sudden noise, movement and vibration, and that there is no standard methodology for assessing construction noise impacts on horses. For that reason, Interested Parties argue that the assessment should be veterinary- or equine-specialist led.
- 2.1.4 Submissions note that any assessment of equestrian activity in the area should also take into account the variation in activity by season, weather, breeding cycles, competition schedules, school holidays and daylight hours.

Risks to Safety of Horses, Staff and the Public

- 2.1.5 A key concern raised by Interested Parties is the risk that horses may spook, bolt, break through fencing or escape onto roads, potentially causing injury to handlers, vets, farriers, motorists and the horses themselves. These risks are

said to arise during both construction and operation because of machinery, noise, abrupt movement, ongoing maintenance, security activity and moving trackers adjacent to paddocks.

- 2.1.6 Submissions also refer to welfare and handling risks during specific routine equine activities, including feeding, turnout from stables, veterinary treatments, pregnancy scanning, vaccinations, farriery, sale preparation, hand-walking of yearlings, bringing mares and foals or yearlings into barns, evening feeding and dusk/night-time checks, particularly for heavily pregnant mares. A number of representations reference the fact that horses at premises in the local area may be young, fresh, highly valuable, temporarily resident, or otherwise difficult to acclimatise, so there may be little or no realistic opportunity for them to adapt to neighbouring activity.

Business Viability and Economic Harm

- 2.1.7 Another key concern is that the Scheme could make nearby thoroughbred businesses, which form part of an international bloodstock industry, commercially unviable, resulting in impacts in terms of annual investment, supporting jobs, trainees and a wide supply chain. Representations suggest that the economic role of equine businesses and the wider equestrian economy, including vets, farriers, transporters, feed suppliers, contractors, hotels and restaurants, has been underestimated in the Environmental Statement.

Wrong Characterisation of the Local Area

- 2.1.8 The representations argue that the surrounding countryside is not an ordinary rural setting but a densely interconnected equestrian environment of national and international importance. The area supports stud farms, competition yards, veterinary practices, riding schools, polo, hunting, Pony Club activities and recreational riding, all dependent on quiet lanes, rights of way and rural tranquillity. Representations argue that the Applicant's assessment fails to reflect this specific character and sensitivity, instead treating individual equestrian sites in isolation or assuming lower sensitivity than is justified.

Environmental Concerns

- 2.1.9 Further objections relate to various environmental concerns such as flooding, soil disturbance, silt run-off, dust, air quality and biodiversity. Aspects of relevance to equine businesses specifically include:
- for equine businesses, dust is highlighted as a serious issue because young horses require a dust-free environment, and respiratory problems are described as a major performance risk in thoroughbreds
 - biosecurity concerns linked to bird mortality around solar farms, including the possibility of carcasses contaminating grazing land and creating risks such as botulism in horses.

3 Baseline Characteristics –Overview of the Equine Sector

3.1 Overview

- 3.1.1 This section provides an overview of the equine sector in the UK in terms of contribution to the national economy, workforce and recent trends; an overview of the regional equine sector in the South West of England (key facilities, events and so on); and a review of the equine sector local to the Scheme. The latter has considered specific equestrian facilities (for example commercial bloodstock enterprises, stud farms, livery yards and riding schools) located within a 5 km study area which is aligned with the study area used for the ES. For supporting businesses and supply chain (e.g. feed merchants, vets, farriers), a wider study area extending to around 20 km has been used.

3.2 UK Equine Industry

- 3.2.1 The UK equine industry is a broad and economically significant sector spanning riding schools, livery and equestrian centres, bloodstock and breeding services, supporting services including veterinary, farrier and equine health, equestrian retail and manufacturing, welfare organisations, and the professional horseracing industry. Recent industry reporting in British Equestrian¹ indicates that the wider equestrian sector contributes about £5 billion annually to the national economy (of which a significant contribution is made by the horseracing industry), supports a workforce estimated in the hundreds of thousands, and engages around 1.8 million regular riders and roughly 3 million total participants.
- 3.2.2 The report also highlights that the sector's importance is not purely financial: equestrian activity has been estimated to generate an additional £1.2 billion per year in social value, reflecting benefits linked to health, wellbeing, inclusion, and community participation².
- 3.2.3 Over time, the equine industry in the UK has moved from a historically under-measured rural activity to one supported by regular surveys, sector strategy work, and more formal governance arrangements. Industry and government sources have described horses as central to a dispersed but substantial rural economy, while sector bodies such as the British Horse Industry Confederation, British Equestrian, the British Equestrian Trade Association, the British Horseracing Authority, and the British Horse Society have helped frame the industry as both a major economic activity and a socially important one.

¹ British Equestrian (2023) State of the Nation Report. Available at: https://www.britishequestrian.org.uk/assets/EXTRA_Docs/Short%20State%20of%20the%20Nation.pdf

² Ibid.

- 3.2.4 Over the last two decades, participation and consumer engagement appear to have broadened rather than contracted. The most recent British Equestrian Trade Association (BETA) survey data (2023) showed a small increase in participation of 4.8% compared with 4.7% in 2018, and that 3.2 million people had ridden in the UK over the last 12 months, up from 2.7 million in 2018³. More recent British Equestrian reporting (2025) suggests continued momentum, with memberships across member bodies increasing by 16% between 2024 and 2025, while social media followings increased by 21% over the same period⁴. This indicates a long-term pattern of expanding interest, broader visibility and sustained demand, with equestrianism retaining relevance even during periods of wider economic strain.
- 3.2.5 In recent years there has been a widening gap between participation demand and grassroots delivery capacity. Research undertaken by British Equestrian in relation to the health of riding establishments in 2023 found that riding schools were operating at around 75% capacity on average, with many wanting to expand but unable to do so because of workforce shortages, limited horse availability and rising costs and waiting lists of 50 or more clients reported as common⁵. The State of the Nation Report (2025) highlighted that although there was a gradual decline in the *number* of clubs, riding schools and coach memberships in recent years, there was a consistent upward trend in participants in the same period⁶. Riding centres and equestrian establishments therefore show a pattern of resilience combined with fragility. Livery businesses also report higher costs, with 77% of yard owners reporting they have increased fees, and 29% have raised charges by at least £20 per month⁷; converting engagement into accessible participation is constrained by staffing, finance, horse availability, business capability and operating cost pressures.
- 3.2.6 As noted earlier, horseracing remains one of the most economically significant and visible components of the sector, described in parliamentary evidence as the UK's second largest sport after football by attendance, employment and revenue⁸. The long-term pattern in relation to horseracing is one of relative resilience, with racing maintaining scale while adjusting to changes in betting, regulation and weather-related disruption.
- 3.2.7 Research prepared by PwC on behalf of the Thoroughbred Breeders Association in January 2023 highlighted that the UK is home to a large thoroughbred breeding industry with a Gross Value Added (GVA) impact of £375m on the UK economy and a role as critical enabler for the horseracing

³ Reported in Your Horse [Survey finds increase in participation and drop in ownership - Your Horse](#)

⁴ British Equestrian [State of the Nation 2025 FINAL.pdf](#)

⁵ British Equestrian 2023 [Health of Riding Establishments](#)

⁶ British Equestrian [State of the Nation 2025 FINAL.pdf](#)

⁷ *ibid.*

⁸ [Future of British horseracing - House of Commons Library](#)

industry⁹. The Association supports around 21,000 jobs as well as significant broader social impacts, suggesting a world-leading thoroughbred breeding industry in GB¹⁰. The report notes that profitability has worsened significantly over the last decade and flags concerns about the potential impacts this may have on breeders leaving and decreases in the foal crop, should it be left unchecked. Other challenges highlighted in the report include the fact that high percentages of breeders face recruitment, skills and retention challenges, with the proportion of breeders facing these difficulties rising significantly since 2019. Accordingly, staff shortages are likely to be a blocker to industry growth unless solutions can be found¹¹. Some of the trends highlighted in the report are likely to apply equally to other areas of the UK equine industry.

- 3.2.8 The UK remains a major global player, ranking among the largest exporters and importers of horses, with especially strong flows to and from Ireland, the United States and other leading racing and sport-horse markets. This reflects the global value of British and Irish bloodstock systems and the integration of racing, breeding and sales across borders. Brexit introduced a break in what had previously been relatively frictionless movement under the Tripartite Agreement with Ireland and France, creating uncertainty around export certification, tariffs and cross-border participation; the sector remains sensitive to regulation, macroeconomic conditions and buyer confidence.
- 3.2.9 Another long-term pattern is the wider contribution of the equestrian industry to social value, marking a shift in how the industry presents itself, i.e. not only as a leisure or sporting economy, but increasingly as a contributor to physical health, mental wellbeing, youth development, volunteering and community cohesion. The broader driver behind this change is the need to justify the sector in policy terms, especially in a context of pressure on public services, inequalities in physical activity and rising scrutiny of animal-related sport.
- 3.2.10 Recent public-attitudes research suggests that trust in equestrian sport is moderate rather than assured, with welfare, ethics and accessibility emerging as critical conditions for maintaining the sector's social licence¹². This reflects a shift in social expectations, with high-profile equestrian and racing activity increasingly judged not only by sporting success or economic contribution, but by transparency, inclusiveness and demonstrable welfare standards.
- 3.2.11 There is evidence that the recent cost-of-living crisis intensified pressures on the equine sector. Recent evidence from the National Equine Welfare Council (NEWC) which surveyed more than 6,000 horse owners, showed many struggling with veterinary bills, feed, forage and emergency care, with some

⁹ PwC (2023) [TBA-Economic-Impact-Study-2023-report.pdf](#)

¹⁰ Ibid.

¹¹ Ibid.

¹² [d57ccf39-uk-citizen-attitudes-towards-horse-sports-2024-final.pdf](#)

owners sacrificing their own food or heating to maintain horse care¹³. The survey highlighted that some behavioural shifts have had positive welfare aspects, such as longer turnout, forage-based diets and testing-led worm control, but that the broader pattern was one of heightened financial fragility.

- 3.2.12 From a workforce perspective, riding establishments have identified labour shortages as a principal reason for constrained operations, with factors including low wages, contract non-compliance and mental health concerns among grooms. Brexit added further strain by increasing uncertainty over the availability of international labour in racing and breeding. The long-term implication has been for labour to become a strategic bottleneck across the industry. Although demand, participation and business opportunity can grow, without better employment practices and recruitment pathways, delivery capacity remains limited.
- 3.2.13 Looking ahead to the future of the UK equine industry, a relatively positive trajectory would assume that participation growth seen in recent British Equestrian reporting continues, with riding schools converting stated expansion interest into additional capacity, and innovation in equipment, data-enabled horse management and wider social-value recognition helping to broaden demand and justify more public and private support. The sector would therefore remain economically significant across racing, breeding, leisure riding, welfare services and consumer markets, with stronger links to public health, inclusion and rural development agendas. A more constrained trajectory would assume that cost pressures, weak profitability in breeding, workforce shortages and uneven regulatory conditions continue to erode business viability, leaving participation more dependent on higher-income owners and reducing resilience in grassroots infrastructure.

3.3 The Equine Industry in the South West

- 3.3.1 The South West remains one of the UK's strongest equine regions, with a dense mix of leisure riding, racing, breeding, livery, training and equine tourism. The region benefits from a rural land base, established horse culture and strong tourism offer. However, the South West also reflects some of the pressures seen at national level, notably rising costs, workforce shortages and affordability pressures, which may constrain growth and access. These issues can be especially significant in rural areas where equestrian businesses often operate on narrow margins and rely on seasonal income.
- 3.3.2 Looking at the types of equestrian activity within the South West, Figure 1 shows a clustering of trainers located around the Marlborough area in particular.

¹³ National Equine Welfare Council (2024) [NEWC-COL-Survey-2024-Equine-Owners.pdf](#)

Figure 1 Location of Trainers in the South West of England



Source: British Horseracing Authority, Interactive Trainers Map July 2026

- 3.3.3 High-profile venues in the wider region include Cheltenham Racecourse, with other important racecourses including Exeter, Wincanton, Taunton and Bath. Hartpury University and Hartpury Equine are nationally recognised for equestrian training, competition and skills development. Gloucestershire is also home to the internationally renowned Badminton Horse Trials, one of the UK's premier eventing competitions, which is situated approximately 4 km from the Scheme. As one of the UK's oldest and most prestigious equestrian events, the annual five-day competition attracts around 200,000 visitors and draws competitors and spectators from across the UK and internationally. The Duke of Beaufort's Hunt also covers land in this area.

3.4 Local Equestrian Facilities and Supply Chain

- 3.4.1 The Applicant has mapped identified equestrian facilities within 5 km of the Scheme, with supporting services, such as equine healthcare, dentistry, veterinary practices, and farriers identified within a wider 20 km area. This is based on locations identified in **ES Volume 3, Appendix 16-2: Tourism and Recreation Receptor Tables [APP-241]**, locations declared through representations made during the examination to date, and responses to the questionnaire issued to inform this Technical Note.
- 3.4.2 A map showing the location of equestrian facilities, together with a commentary of the name, address and nature of the business activity is provided at **Annex A. Annex A**. Facilities are categorised according to their primary purpose (e.g. thoroughbred breeding, stud farm, livery yard, riding school, supporting service or private facility). The latter category relates to private paddocks, stables and manège facilities, which are assumed not to be commercial enterprises. It is noted from a desk-based review of facilities (and information gathered from

engagement with individual facilities where relevant) that the majority have multiple purposes (for example the West Wiltshire Equestrian Centre at Holt offers livery services, riding school and training facilities and also operates as an event centre).

- 3.4.3 In terms of commercial enterprises, the figure shows there to be around 16no. livery yards and 11no. stud farm operations identified within 5 km of the Scheme or identified for assessment in the Environmental Statement. There are a further 16no. facilities identified within the 'private paddocks and stable' category, although it is noted there are likely to be additional 'household' facilities within the area too (e.g. 1-2 horses at individual private premises). A summary of those commercial operations in closest proximity to the Scheme is provided in Table 1.

Table 1 Commercial enterprises in the local study area

Enterprise	Distance from Scheme (closest works area)	Summary of Operations
West Park Farm	0 m (Work No.9) 50 m (Work No. 1)	A commercial thoroughbred breeding and bloodstock enterprise forming part of Dermot Farrington Bloodstock, an international bloodstock business which has operated for more than twenty years. The farm specialises in broodmare management, foaling, youngstock rearing, sales preparation and the temporary management of high value thoroughbreds on behalf of clients in the UK and overseas. Unlike a livery yard, horses are continually arriving and leaving the farm as part of breeding, sales and bloodstock management. Information provided about the nature of the enterprise in [REP1-191] includes investment in approximately 50–100 horses per annum; boarding of valuable bloodstock on behalf of overseas clients with horses regularly in transit to destinations such as Hong Kong, Australia, and the United States, as well as to sales across Europe; and pinhooking foals (process of buying foals aged between six to eight months and selling as yearlings). The facility employs six full-time and five part-time members of staff.

Enterprise	Distance from Scheme (closest works area)	Summary of Operations
Ladyswood Farm and Stud	0 m (Work No.8B) 125 m (Work No.7) 225 m (Work No.1)	Specialist commercial thoroughbred breeding enterprise specialising in the breeding, foaling, rearing and preparation of thoroughbred racehorses for racing and public sale. Services include commercial thoroughbred breeding, broodmare management, foaling services, foal and youngstock rearing, seasonal boarding of mares, rest and rehabilitation for racehorses, sale preparation, permanent and seasonal equine boarding, grazing and pasture management, and horse transportation. The stud provides 24-hour foaling supervision using CCTV and dedicated night staff during the foaling season and maintains specialist facilities designed specifically for broodmares and young stock. The business currently accommodates approximately 45 horses, comprising broodmares, foals, yearlings, youngstock and horses on seasonal or permanent board. The stud typically produces up to 20 foals per annum, representing a significant annual breeding programme. The facility employs five full-time and two part-time (seasonal) members of staff.
Townleaze Farm	0 m (Work No.5A/5B) 265 m (Work No.1)	Livery yard supporting around 20 horses and 15 owners; owners visit a least twice a day all year round. The facility currently operates a waiting list. The facility employs around 20 members of staff (part-time/seasonal).
Tomlinson Equine Limited and Tomlinson Equine Stud	1.7 km (Work No.6) 1.8 km (Work No.1)	Equine stud and reproduction veterinary services based on site, including stallion semen collection (predominantly walk-in stallions, with a small number of resident stallions), artificial insemination, embryo transfer, and the management of brood mares through gestation and foaling, together with monitoring the health and the weaning of foals following birth. The facility also includes looking after youngstock livery until breaking in. Currently around 120 horses on site, with around 60 stud breeding client horses serviced

Enterprise	Distance from Scheme (closest works area)	Summary of Operations
		monthly and 150 veterinary clients serviced monthly. The facility employs 21 full-time and nine part-time members of staff.

- 3.4.4 In terms of direct employment by equestrian facilities within the 5 km study area, businesses range from small operations employing 2–5 staff through to larger operations supporting over 30 employees. Employment includes grooms, yard staff, farm workers, administrative staff and specialist breeding staff. Several businesses rely heavily on skilled and experienced staff whose expertise has developed over many years. Employment information provided by individual equestrian facilities has been converted to full-time equivalent (FTE) jobs to provide a consistent basis for analysis; an average headcount has been applied to individual businesses depending on their category (e.g. stud farm, livery yard). An indicative estimate of employment supported directly by equestrian facilities within the 5 km study area is considered to be between **275 to 340 FTE jobs**.
- 3.4.5 A standardised formula has been applied to the headcount data, using UK Office for National Statistics (ONS) regional information for the South West, and taking into account the range of business types (for example the GVA-per-worker is lower for full livery facilities due to high cost inputs (e.g. feed), whereas for elite facilities blending basic stabling with advanced sport horse training or elite reproduction services, the GVA-per-worker is likely to be higher, accounting for higher margins associated with international bloodstock sales and elite competition training fees). Annual GVA contribution from equestrian facilities within this 5 km study area is estimated to range between **£6mn to £11mn per annum**.
- 3.4.6 Further information of relevance relating to how commercial enterprises generally operate within the study area, gathered directly from engagement with local equine businesses includes:
- **Year-round use of equestrian facilities:** equestrian businesses within the 5 km study area have stated that they operate throughout the year, with no meaningful seasonal shutdown periods. Facilities have highlighted that horses require daily care, exercise, turnout and monitoring regardless of season. Stables, paddocks, exercise areas, arenas, gallops, canter tracks and hacking routes are used continuously, with businesses stating that all facilities are required 365 days per year. Stud farms and breeding operations emphasised that year-round use is particularly important due to foaling,

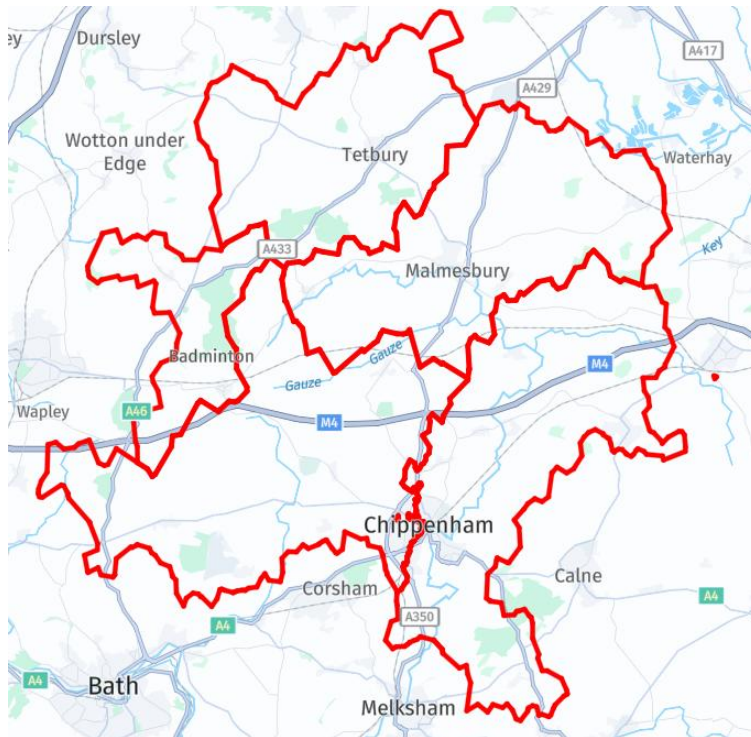
breeding, rehabilitation, youngstock rearing and pasture rotation requirements. Several facilities noted there is limited flexibility to relocate horses away from areas closest to the Scheme because all paddocks and facilities form part of integrated business operations.

- **Income and operation costs:** whilst only limited information on business turnover and financial performance has been shared by individual operators due to commercial sensitivities, primary income sources include livery services, competition and training activities, breeding operations, bloodstock sales, veterinary services and grazing. Several businesses reported operating at or near full capacity, with waiting lists or high occupancy rates (this is in contrast to some of the observations at national level). Staff costs were consistently identified as the largest operating expense. Other significant costs include feed and forage, bedding, veterinary services, farriery, transport, insurance, property and pasture maintenance, and machinery and utilities. It is generally noted that equestrian and breeding enterprises are capital-intensive businesses with relatively high operating costs.
- **Local supply chain expenditure:** evidence suggests extensive reliance on local and regional supply chains, with common expenditure categories including local veterinary practices, farriers, feed merchants, bedding suppliers, horse transport providers, equine healthcare (dentists, physiotherapists), agricultural contractors, machinery maintenance contractors and fencing and farm maintenance businesses. Overall, the employment supported by equestrian facilities in the local area extends beyond direct on-site jobs and contributes to a wider specialist rural workforce.

Supply Chain

- 3.4.7 The wider area surrounding the Scheme includes a range of supporting industries relevant to the equine sector. Supply chain analysis has focused on the five postcode areas surrounding the Scheme, which cover GL8 (Tetbury), GL9 (Badminton), SN14 (Chippenham/Badminton), SN15 (Chippenham rural/Calne), and SN16 (Malmesbury). Postcodes are shown on Figure 2 and cover an extensive rural area up to approximately 20 km from the Scheme in places, likely to comprise the majority of the functional regular supply chain for the commercial equestrian enterprises identified in the 5 km local study area.

Figure 2 Postcode Areas for Supply Chain Analysis



3.4.8 Although primary equestrian services have a dedicated Standard Industrial Classification code (01430 – Raising of horses and other equines), supply chain entities are nested within broader agricultural, veterinary, retail and engineering classifications. Broadly, the following categories and types of supporting business are present within this wider area:

- **Clinical & Veterinary Services:** equestrian facilities often rely on mobile vet services from other areas, however this area is home to a major regional centre for equine medicine, The George Equine Vets (operating out of Malmesbury) who run a dedicated equine specialist team providing 24/7 emergency response services, digital diagnostic imaging, pre-purchase vettings, and a fully equipped clinic facility.
- **Alternative Therapists and Specialists:** the horse population in this area also attracts mobile sports therapists, equine dentists, and specialised farriers operating as independent contractors across the rural network.
- **Manufacturing, Timber and Fencing Contractors:** including specialised structural suppliers able to build cross-country jumps, course elements and design fencing systems. Other local contractors specialise in concrete stable bases, lunge pens, and arenas.
- **Engineering and Transport Logistics:** bespoke engineering and logistics services have a dedicated base in this area with businesses relating to horsebox engineering, hire and related services (e.g. Wiltshire Horseboxes). Licensed transport operators serve this area to manage high-value horse

movements for stud visits, vet emergencies, and national competition calendars.

- **Feed, Forage, and Estate Merchants:** includes bulk suppliers and localised farms handling high demands for premium ryegrass haylage, specialised chaffs, and dust-free bedding required by high-performance facilities; Agricultural retail centres/country stores act as a vital retail supply chain tier, distributing a variety of equine-based products, including saddlers.

3.4.9 In addition to the above, mobile micro-contractors form a highly specialised, agile part of the equine supply chain. Operating as self-employed sole traders or micro-entities (typically 1–2 people), they run heavily optimised mobile setups (for example customised vans with integrated forge equipment, medical diagnostic tools, or therapy bays) and travelling between yards/establishments. Types of services within the mobile micro-contractor category in the local area include:

- **Master farriers and remedial podiatry:** farriers are strictly regulated by the Farriers Registration Council and handle a blend of routine shoeing and clinical, vet-referred remedial work. Dozens of independent, FRC-registered mobile vans may service up to ten yards a day.
- **Equine Dental Technicians (EDTs):** independent horse dentists providing portable dental care, with examples including Wessex Equine Dental Services Ltd which provides a highly active, portable micro-operation.
- **Veterinary physiotherapists and sports osteopaths:** micro-contractors supporting the performance, recovery, and conditioning of sport horses, requiring statutory registration with bodies like the Animal Health Professions Register (AHPR).
- **Self-drive fleet allocators and freelance transport:** while larger bloodstock operations use heavy multi-horse HGVs, individual competitive yard movements are largely supported by localised, licensed 3.5t van networks.

3.4.10 Supply chain analysis for the postcode areas identified suggests between 50-70 businesses may be present which have a strong connection with the equine sector, in addition to between 25-35 mobile micro-contractors. Employment across the supply chain has been estimated using headcount assumptions depending on scale of business (i.e. mobile micro-entities are defined as small scale, specialised contractors (such as groundworks or fencing suppliers) as medium scale and anchor employers (such as a veterinary hospital) as large scale). Temporary workers associated with Badminton Horse Trials have been excluded from this assessment. Based on these assumptions, an estimated additional **550-750 jobs** are supported by this wider supply chain.

- 3.4.11 By applying a standardised formula to the headcount data, using UK Office for National Statistics (ONS) regional information for the South West, and taking into account the range of both lower and higher margin businesses, the annual GVA contribution from supply chain businesses within this wider area is estimated to range between **£25mn to £35mn per annum**.

4 Potential Impacts on Business Viability

4.1 Assessment Framework

- 4.1.1 Potential ways in which the viability of equestrian businesses may be impacted have been identified through a review of Scheme documentation and representations submitted to the Examination to date. Business viability relates to the ability of an equestrian facility to continue operating on a financially sustainable basis. A business remains viable where income generated through its activities is sufficient to meet operating costs. Whilst profit margins vary considerably between different types of equestrian business, viability is generally determined by the point at which ongoing costs begin to exceed income over a sustained period.
- 4.1.2 The assessment assumes that, in the absence of the Scheme, the underlying cost base and operating model of businesses would broadly remain unchanged. Any effect on viability would therefore arise primarily from fluctuations in income, for example through a reduction in client numbers, reduced demand for services, or impacts on breeding and sales activity. The assessment focuses on the likely direction and magnitude of potential effects rather than attempting to predict the financial resilience of individual operators.
- 4.1.3 Different types of equestrian business (e.g. livery yard or stud farm) may have different sensitivities to areas of potential impact. Examples of this include:
- For many horse owners, particularly those using livery facilities, business location is a key factor influencing choice. Livery yards are often selected because of their proximity to the owner's home or workplace, enabling regular visits and daily management of horses. There may, therefore, be practical limitations on the extent to which livery business clients would be able to relocate to alternative facilities further away from home or workplace.
 - Livery yards and riding schools may be more dependent on the presence of bridleways and appropriate hacking routes in the immediate vicinity of their business, as part of their wider operation and 'offer' to potential clients and customers.
 - Stud farms and thoroughbred facilities may be particularly sensitive to disruption because of the financial characteristics of breeding operations. Evidence suggests that breeding and yearling production involves substantial ongoing costs and relatively uncertain income streams. Reduction in breeding activity or sales values could therefore disproportionately affect the financial performance of these types of business, which therefore may be more vulnerable to changes in commercial circumstances.
 - In contrast, other equestrian businesses, including livery yards and veterinary practices, provide services that are generally required throughout

the year regardless of fluctuations in competition activity or breeding cycles. Whilst these businesses may experience some reduction in demand, the ongoing requirement for horse care, accommodation and veterinary services suggests that they are likely to be comparatively more resilient.

4.1.4 Potential impact pathways and specific sensitivities are summarised in Table 2.

Table 2 Potential Impact Pathways for Business Viability

Source	Potential Pathway	Receptor – Sensitivity
Construction impacts		
Construction noise and vibration	Construction activities including use of heavy machinery and pile driving cause temporary acoustic disturbances that may cause stress to horses, startle or spook them, leading to injury as a result	Loss of clients/customers if environmental change disrupts perception of safe or peaceful settings. Business owners may be concerned about additional costs (e.g. acoustic fencing, need for indoor facilities or alternative turnout land). Enterprises with higher-value horses or foals may consider themselves more sensitive to impacts associated with noise.
Construction traffic	Increased HGV movements on rural lanes can create congestion (potentially affecting access to facilities including for vets or emergency services) and safety risks for horse riders.	Loss of clients/customers if environmental change disrupts perception of safe or peaceful settings. Safe hacking routes are particularly important for riding schools and livery businesses.
Impacts on bridleways/PRoW	Temporary closure of bridleways/PRoW may limit opportunities for hacking; concern that diversion routes may not be appropriate. Concern about routes passing in close proximity to construction activities (noise).	Safe hacking routes are particularly important for riding schools and livery businesses.

Source	Potential Pathway	Receptor – Sensitivity
Changes in air quality	Dust generation as a result of earthworks during construction may potentially affect sensitive equine health	Loss of clients/customers if environmental change disrupts perception of safe settings. Potential for stud farms/bloodstock operations to be more sensitive to environmental setting.
Changes in visual setting	Changes in the visual landscape as a result of construction activities.	Loss of clients/customers if environmental change disrupts perception of safe or peaceful settings. Potential for thoroughbred enterprises to be more sensitive to changes in environmental setting/aesthetic appeal.
Operation impacts		
Operational noise	Operational noise associated with associated with tracking of solar arrays (see paragraph 14.4.17 of ES Chapter 14: Noise and Vibration [REP5-024]) , or from inverters and substations associated with the Scheme may create acoustic disturbances that may startle horses.	Loss of clients/customers if environmental change disrupts perception of safe or peaceful settings. Enterprises with higher-value horses or foals may consider themselves more sensitive to impacts associated with noise.
Changes in visual setting	Changes in the visual landscape as a result of the built out solar farm (perception of an 'industrialised' landscape).	Loss of clients/customers if environmental change disrupts perception of safe or peaceful settings. Potential for thoroughbred enterprises to be more sensitive to changes in environmental setting/aesthetic appeal.

Source	Potential Pathway	Receptor – Sensitivity
Major incidents e.g. thermal runaway	Potential for impacts as associated with noise, air quality.	Loss of clients/customers if environmental change disrupts perception of safe settings.

- 4.1.5 The following sections review each of the potential impact pathways from an equine health perspective for construction and operation, identifying mitigation that has been proposed as part of the Scheme. Potential impacts on business viability as a result of the Scheme are identified for both construction and operation phases.

Consideration of Significance of Potential Impacts

- 4.1.6 The assessment methodology adopted in **ES Volume 1, Chapter 16: Socio-Economics, Tourism and Recreation [EN010168/APP/6.1 (Rev 2)]** has been taken into account when considering the potential impacts to equine businesses, principally the description of impact magnitude at Table 16-6 therein.
- 4.1.7 As such, this report refers to the qualitative description of significance of impact to individual equine businesses as set out below in **Table 3**.

Table 3 Significance Criteria

<u>Significance</u>	<u>Definition</u>	<u>Example of Application</u>
<u>Neutral</u>	<u>No change to business conditions.</u>	<u>No discernible change in client / customer numbers, occupancy, horse throughput, turnover, employment numbers or operating arrangements. Construction or operational activity may be perceptible, but it does not require the business to alter its routines or incur additional costs.</u>
<u>Negligible</u>	<u>Very little change from baseline business conditions. The change will be barely distinguishable and approximating to a non-change situation, or within variance expected of the business due to seasonality.</u>	<u>The business makes very limited adjustments, e.g. occasional liaison with the contractor, minor rescheduling of a non-essential activity or brief additional monitoring of horses. There is no identifiable loss of clients / customers, employment or material income and any fluctuation in occupancy, horse numbers or</u>

<u>Significance</u>	<u>Definition</u>	<u>Example of Application</u>
		<u>turnover is indistinguishable from normal seasonal or annual variation.</u>
<u>Minor</u>	<u>A minor shift away from baseline business condition. A change arising from the loss or alteration of income, turnover, clientele or employment will be discernible/detectable, but not material. The effect will likely be temporary and reversible.</u>	<u>Examples of a limited, but likely temporary effect may include that a small number of clients delay bringing horses to the facility; some lessons, farriery visits, horse movements or sales-preparation activities are rescheduled; or staff undertake additional supervision during particular construction activities. The business may incur modest additional costs or a temporary reduction in income as would be expected when any sustained noise-generating activity or other development is taking place on neighbouring land, but its core activities, staffing and commercial position remain substantially unchanged. Normal operating conditions are expected to resume once the relevant activity has passed.</u>
<u>Threshold for effect to be considered 'significant'</u>		
<u>Moderate</u>	<u>Loss or alteration to one or more key elements or features of the business, such that post-development characteristics to income, turnover, clientele or employment of the baseline will be materially changed, or changed permanently and/or irreversibly.</u>	<u>The business loses a meaningful part of its clientele or horse occupancy; materially reduces breeding, boarding, training or sales-preparation activity; loses a key income stream; or permanently changes how part of the premises is used. The business may continue operating, but at a materially reduced scale, with a different service offer or with a lasting change to income, turnover, clientele or employment.</u>
<u>Major</u>	<u>The total loss or major change or alteration to key</u>	<u>Examples may include a sustained loss of clients or</u>

<u>Significance</u>	<u>Definition</u>	<u>Example of Application</u>
	<u>elements or features of the business, such that the post-development characteristics of the business' income, turnover, clientele or employment will be fundamentally changed and the business is unable to continue operating.</u>	<u>horse numbers, inability to undertake essential breeding or training activities, or major and continuing increases in costs which cause the business to cease trading, relocate its principal operation, or change to a fundamentally different and substantially reduced business model.</u>

4.1.8 Due to the limited quantitative information received from responders to the questionnaire used to evidence this assessment, professional judgement has been required to apply the likely level of impact the Scheme may have on these businesses. This has been based on the likely impacts from the Scheme, as identified in **Table 2** above, which has set out the likely pathways for impacts from the Scheme to affect equine businesses. The sensitivity of individual businesses has not been assessed directly, however, consideration has been given to the *type* of business, and the representations made by those business owners about the nature of their operations. Together, these considerations form the basis for the assessment.

4.2 Construction Impacts

4.2.1 Potential construction impact pathways relate to changes in noise, air quality, setting and impact on the bridleway/PRoW Network in the vicinity of the Scheme. Important to the consideration of potential impact pathways and resultant effects on business viability are factors relating to the physiological responses of horses to environmental change.

Physiological Responses of Horses – An Overview

4.2.2 Horses are flight or fight animals, and they are a prey species. This means that their primary survival instinct is to flee from a perceived threat that elicits a fear response. When escape from a perceived threat is not possible, they retain the ability to fight. Horses will typically respond aversively to loud, sudden, unexpected noises, or sudden movements that were unexpected, particularly when in their flight zone.

4.2.3 When a perceived threat occurs, the horse reacts with an immediate evasive reaction. This is aided by the release of hormones from the adrenal glands. This stimulates the sympathetic nervous system, which prepare the animal to have greater physical and mental ability to flee and includes changes such as raised heart rate, raised blood pressure, reduction in blood flow to the gut and increase

in blood flow to skeletal muscles and to the brain. Blood glucose levels also rise.

- 4.2.4 The secondary physiological response to fear is the release of corticosteroids from the adrenal glands. Corticosteroids reach peak concentration some minutes after a stressful event as this is a slower process. Following the flight or fight response, corticosteroids are required to resolve back to homeostasis via feedback mechanisms. During this period, the horse consolidates its memory of the threat through interpretation of factors including, but not limited to, the appearance, sound, smell, location of the threat; as this may allow the animal to be more alert and enhance survival from a next encounter with the threat.
- 4.2.5 Although an animal should respond to a novel stimulus that it perceives as a threat, it also has the ability to adapt and not respond to non-threatening stimuli. Learning is the adaptive change in an individual's behaviour as a result of experience (habituation). Therefore, if a novel stimulus has no consequences, there is no reinforcement of the fear response and the equine learns not to be afraid of the stimulus. Repeated stimulus will capture less of the animal's attention, and eventually it will ignore the stimulus¹⁴.

The Flight Zone

- 4.2.6 The flight zone is the distance around the animal, that when penetrated, causes the horse to move away. The greater the threat, the faster the horse is likely to respond to it. The more anxious the horse is, the greater the size of the zone around it which it will not tolerate being penetrated. The more novel a threat stimulus is to a horse, the more likely it is to respond to it within its flight zone. A horse's flight zone is roughly a circle with a radius of approximately 5-30 metres, dependant on the risk and temperament of the horse. At a distance of greater than this, any threat perceived is unlikely to elicit little more than visual observation as a response¹⁵. Horses that undergo training will have a decrease in their flight zone due to habituation or less fear to an object as it becomes less novel¹⁶.

Construction Noise and Vibration Impacts

- 4.2.7 For horses, the interaural distance, measured as the distance that sound must travel around the head from the opening of one auditory canal to the other, is

¹⁴ Christensen, J.W (2005) . Fear responses in horses. *Licentiate thesis*. ISBN: 91-576-6887-6

¹⁵ Equine Canada, National Farm Animal Care Council (2013). *Code of Practice for the care and handling of Equines* [Appendix G: Understanding Flight Zone, Point of Balance and Field of Vision]. ISBN: 978-1-927392-40-9

¹⁶ Birke, L. Hockenhull, J. Creighton, E. Pinno, L. Mee, J. Mills, D. (2011). Horses' response to variation in human approach. *Applied animal behaviour*. **134** (1-2): 56-63

approximately 20 cm, compared with approximately 30 cm in humans.

Therefore, horses have relatively greater sensitivity in the high frequency range and poorer sensitivity at lower frequencies.

- 4.2.8 Horses generally hear higher frequencies and quieter sounds than humans, so if a human can hear a faint hum, a horse almost certainly can. Horses are however less sensitive to lower frequency sounds than humans. A horses' lowest threshold of hearing at a frequency of 2,000 Hz is 7 dB. Above 8,000 Hz, horses are more sensitive to sound than humans¹⁷. The range of frequencies that a horse is able to hear is generally 55-33,500 Hz, compared to the range for humans of 20-20,000 Hz.
- 4.2.9 Unlike those of humans, the ears of many mammals, including horses, have a high degree of mobility that allow the pinnae to be directed toward sound sources. Whereas humans have only three vestigial muscles to control the pinnae, horses have ten such muscles. The fine control of the pinnae suggests that hearing is an active sense.
- 4.2.10 Horses tend to habituate to constant low frequency noises, whereas they would be more likely to startle over sudden, irregular loud noises. Horses habituate quickly to new noises and research shows it takes between one and seven repeats of a noise for habituation to occur. From the point of habituation to a noise source, horses essentially 'become used to' the sound and no longer react to it, if it has not caused an aversive experience for them during the initial habituation process¹⁸.
- 4.2.11 With most noises and movements, horses within stud farms, liverys or private facilities near to a construction site will habituate to onsite works taking place and perceive them not as threats after the first few occasions where nothing aversive happens to them. Dependent on the distance from the perceived threat, the reaction will be minimal and unlikely to be anything more than observing from a distance. At over 30 metres, onsite movements of people or construction machinery is not likely to elicit a response at all.
- 4.2.12 Horses will react or startle to irregular or more sudden loud noises. They would react to construction if it was directly close to them (either within the 'flight zone' or where there is no intervening barriers) and when large moving objects like cranes or vehicles that are not normally present appear into their vision suddenly. Horses have excellent vision and a wide field of view. They can detect large objects at a distance of 1 km away. But detecting an object is not the same as startling at an object. A horse is more likely to react if an object in the distance is moving erratically, suddenly appearing or associated with previous

¹⁷ Heffner, H.E., and Heffner, R.S. (1983). The hearing ability of horses. *Equine Practice*. Vol. 5 No. 3

¹⁸ Janicka, W. Prochniak, T. Mierzicka, M. Wnuk-Pawlak, E. Wilk, I. (2024). Persistency of horse habituation to distracting sounds. *Journal of Veterinary behaviour*. **74**: 11-18

bad experience. However, at distances over 30 metres, the reaction is likely to be mild with the head up and ears pricked to monitor as to whether they perceived this as a threat or not. It is unlikely to result in full spooking behaviour.

- 4.2.13 Young foals are more reactive as they are naïve to noises and novel stimuli. However, they also respond to their mothers being present and them being calm. Any animal will habituate to noise.
- 4.2.14 Horses respond more to sudden noises than they do to new or novel noises. However, as already stated in the section above, the horses will habituate to noise, particularly when it is not associated with any other perceived visual or proximal threat. When outside in paddocks, they are likely to stay at the side of the field opposite to where construction occurs initially, which increases the distance between the animal and the perceived threat.
- 4.2.15 Young horses learn very quickly as they are neuroplastic. They learn to novel situations much faster than an older animal. Studies have shown that they may react for less time than their older counterparts¹⁹. As such it is not considered that foals at stud farms would be affected by any disproportionately greater extent to onsite activities taking place than full-matured horses.
- 4.2.16 In addition to impacts on horses themselves, noise has the potential to impact on particular groups of workers, particularly farriers for whom environmental control is critical. The Farriers Handbook²⁰ states that working environments require quiet, calm areas away from traffic, machinery, dogs and children; that there should be 'no sudden noises or movements behind the horse'; and that this is especially important for young or nervous horses.
- 4.2.17 As stated earlier, the reaction of the horse would depend on the distance from where the farriers are working during construction times. If the farriers are working within the stud farm buildings and these are more than 30 metres away from Scheme construction activities, the horses are unlikely to do anything other than be more alert.

Proposed Mitigation

- 4.2.18 Embedded mitigation measures have already been incorporated into the design of the Scheme, including avoiding works immediately adjacent to sensitive equestrian facilities such as breeding facilities and foaling areas.
- 4.2.19 In response to comments made during the Examination, a bespoke mitigation framework has been developed, specific to equestrian facilities and activities.

¹⁹ Powell, B.B., Horvath, K.C., Gilliam, T.L., Sibille, K.T., Keil, A., Miller-Cushon, E.K., Wickens, C.L., Brooks, S.A. (2023). Behavioral and Physiological Reactions to a Sudden Novel Object in the Weanling Horse: Quantitative Phenotypes for Future GWAS. *Genes*, 14, 593.

²⁰ Farriers Registration Council (2017). Farrier and Apprentice Code of Professional Conduct.

Central to effective mitigation is community liaison and the importance of early and effective engagement with individual equestrian operators. As part of the setup of the Community Liaison Group, an independent equestrian expert will be appointed to undertake regular engagement and act as a key point of contact with equestrian receptors throughout the construction period. This will involve providing early notification on the scheduling of construction activities with potential for generating high levels of noise (i.e., piling or abnormal load movements) in the vicinity of either PRow frequently used by horse riders or facilities that keep horses. This will allow riders to adapt choices of hacking route if applicable, and allow equine businesses to plan their own operations, including the timing of visits by farriers, for example. These details will also be provided in the Stakeholder Communications Plan and there will be regular meetings during the construction period. Should noise complaints be received from equestrian users or Non-Motorised Users (NMUs), the environment manager will investigate the issue and may impose further construction constraints or additional noise monitoring as required. Where required, similar measures will be put in place during replacement activities and decommissioning.

4.2.20 Other mitigation measures include:

- When works are taking place within close proximity to equestrian receptors (including fields containing horses and stud farms), the screening of noise sources within the construction area via the erection of temporary screens would be employed where practicable. Screening would be designed to minimise landscape and visual effects and positioned to avoid entering a horse's principal field of vision, thereby reducing the risk of it being perceived as a threat. Noise screening is largely anticipated to be visually separated by existing screening such as hedgerows;
- Where daily activities of horses cannot be achieved through relocation, consideration will be given to their movement between fields at specific times of day. Construction activities will be rescheduled where practicable to minimise interaction with, and proximity to, noise-generating works.
- Construction workers in the vicinity of equestrian facilities conducting noise generating work will be briefed on stopping work protocols in the event horses appear in distress or in danger. Details of the relevant landowners and vets in case of emergency would be provided in the Emergency Response Plan.

4.2.21 Table 8 of the **Outline Construction Environmental Management Plan [REP4-049]** and secured by Requirement 13 in Schedule 2 to the **Draft Development Consent Order [REP4-004]** requires a construction noise monitoring scheme to be developed and agreed with the relevant planning authority following appointment of a contractor and prior to commencement of construction works.

Air Quality (Dust)

- 4.2.22 During times of construction, there may be more dust due to traffic movements or onsite soil movements or exposure. The assessment in **ES Volume 1, Chapter 15: Air Quality [REP2-008]** and supporting **ES Volume 3, Appendix 15-1 Construction Dust Methodology and Assessment [APP-238]** show no significant adverse effects to air quality as a result of dust from the Scheme, subject to the implementation of mitigation measures.

Proposed mitigation

- 4.2.23 Robust dust suppression measures are set out in Table 9 of the **Outline Construction Environmental Management Plan [REP4-049]** and secured by Requirement 13 in Schedule 2 to the **Draft Development Consent Order [REP4-004]**. As a result of these mitigation measures, there is no significant effect anticipated to equine health.
- 4.2.24 Table 9 of the **Outline CEMP [REP4-049]** further sets out dust monitoring requirements, for example, undertaking daily on-site and off-site inspections, where receptors (including roads) are nearby, to monitor dust, record inspection results, and make the log available to the local authorities when asked.

HGV Movements

- 4.2.25 As a prey species, horses are flight or fight animals and are vigilant and alert to things that they see as hazards or threats to their safety. Interactions between horses and riders depend largely on the training of the horse in question. Some horses are relatively safe on the roads and react little to traffic, due to repeated exposure and habituation over time as this has not previously presented a painful, harmful or unpleasant experience for the animal. Other horses that are naïve to traffic, or young horses, would be more likely to react adversely. This behaviour would usually be demonstrated as bolting, rearing, napping (running backwards). This would obviously present as additional risks to the safety of a rider.
- 4.2.26 Horses are usually more fearful of larger vehicles as they perceive these as a larger threat and something greater in size than themselves. The speed of the vehicle should also be taken into consideration. A fast-moving HGV that suddenly takes a horse by surprise on a narrow lane, is more likely to elicit a negative response in the animal, than a slow-moving vehicle that the horse has time to consider, respond or react to. Furthermore, the amount and type of noise emitted of such vehicles should be taken into consideration. HGVs, due to engine noise, road noise, and percussive noise from trailers, loads and suspension, would be more likely to elicit a response than quieter vehicles. Horses are reactive and therefore any sudden noises or movements will elicit a response.

- 4.2.27 The space that an equine has to move out of the way of the vehicle should also be considered. Smaller, more restricted spaces are likely to elicit a greater negative response due to panic or fear.
- 4.2.28 A horses' cognitive understanding of the situation is naturally not comparable to that of a human road user, and so they are likely to see an HGV appearing as a threat, rather than having a situational understanding of what the HGV is, where it may be going, and that it is being operated by a person who can be visually communicated with.

Proposed mitigation

- 4.2.29 To minimise potential impacts to horses as a result of interactions with HGVs on construction routes, measures will be put in place to ensure driver behaviour and physical space provisions are suitable to ensure horse and rider safety is protected. Literature has shown that the most important factors when horses and traffic share the same roads safely are the speed of the traffic and the distance that it passes away from the horse (which again is due to the flight zone of the horse)²¹.
- 4.2.30 The Highway Code, Rule 215²² and British Horse Society (BHS) guidance²³ detail that vehicles should pass horses at a maximum of 10 mph, allowing at least 2 m of space between vehicles and the horse and rider. Any signals by a horse rider to other road users, such as a signal to slow down, or stop, should be heeded to reduce risk to all users.
- 4.2.31 The **Outline Construction Traffic Management Plan [REP4-057]**, secured by Requirement 15 in Schedule 2 to the **Draft Development Consent Order [REP4-004]** details relevant mitigation including:
- Consideration will be given to traffic routing, timing and access points to the construction sites to minimise noise impacts at existing receptors following appointment of a contractor, and as construction working methods are developed. Construction routes are confirmed in Figures 4.1 and 4.2 of the **Outline CTMP [REP4-057]** and will be issued by the Contractor alongside confirmation of detailed design. Management of HGVs within the site and being let onto the highway network will be managed through the final CTMP(s) developed pursuant to the **Outline CTMP [REP4-057]**
 - Drivers will receive training and be made aware of the presence of PRoW and Bridleways along the routes and the procedure to be followed in the event of meeting NMUs. Training will also include information on the

²¹ Pollard, D. & Furtado, T. (2021). Public Roads as Places of Interspecies Conflict: A Study of Horse-Human Interactions on UK Roads and Impacts on Equine Exercise. *Animals*, 11, 1072.

²² Department for Transport (2025). The Highway Code. [The Highway Code - Guidance - GOV.UK](#)

²³ [Advice for motorists | The British Horse Society](#)

behaviour of horses, their sensitivity to noise and sudden movements and how to minimise startling. This is likely to include:

- Details of stopping distances to let equestrian users pass
 - Distance to be kept from equestrians if ahead of the driver
 - Following the instructions of riders
 - Procedure to be followed in the event a loose-horse is encountered on the highway.
- Installation of temporary signage notifying equestrian users of construction traffic on affected routes.

4.2.32 As part of the Stakeholder Communications Plan being developed for the Scheme, engagement will be undertaken (via the independent equestrian expert appointed) with equestrian receptors in the vicinity of the Scheme to establish key riding routes and periods.

Impacts on Bridleways and PRow

4.2.33 Re-routing or temporary closure of bridleways and byways may be required during peak construction times to minimise risk of impacts to equestrian users. These public rights of way are likely to be in transient use and therefore this reduces the extent to which this risk to horses in the area will arise.

4.2.34 Bridleways potentially affected by the Scheme during construction are summarised in **ES Volume 1, Chapter 16: Socio-Economics, Tourism and Recreation [APP-068]**. A total of 18 bridleways fall within the local study area for the assessment, with five crossed by the cable route corridor.

Proposed mitigation

4.2.35 The Applicant has provided mitigation measures to public rights of way users including, but not limited to, warning signage, provision of banksmen at locations HGVs may need to cross or use sections of PRow and closing or diverting PRow where construction activities would directly interact with PRow use. As recommended, the Applicant is also able to provide signage for alternative routes for equestrian users of bridleways and byways, so that risks to equines and their riders and handlers can be minimised without also stopping pedestrians and cyclists from using these routes.

4.2.36 The Applicant has ensured this is included within the **Outline Public Rights of Way and Permissive Paths Management Plan [REP1-104]**, secured by Requirement 16 in Schedule 2 to the **Draft Development Consent Order [REP4-004]**.

Construction: Impacts on Business Viability

- 4.2.37 Construction activities would be temporary in nature and affect different locations at different times. As a result, individual equestrian facilities and businesses are unlikely to experience construction-related effects continuously throughout the construction programme. For an equestrian business to become economically unviable during the construction phase, there would need to be a sustained reduction in demand from both existing and prospective clients. This could potentially arise where construction-related activities influence customer perceptions, reduce the attractiveness of facilities or otherwise discourage participation in equestrian activities over a prolonged period.
- 4.2.38 The preceding sections have described the potential for short-term disturbance for horses, riders, staff and customers, principally through noise, sudden visual stimuli, HGV movements, and temporary effects on bridleway/PRoW access. However, the evidence presented also indicates that, in most circumstances, effects are likely to be limited, localised and manageable, through a suite of mitigation measures and importantly, effective communication with individual businesses and facilities in closest proximity to construction activities.
- 4.2.39 As noted earlier, different types of equestrian business may be impacted differently and to different extents by construction activity. For livery yards, for example, the main commercial risks are most likely to arise from temporary horse reactivity or stress; reduced rider confidence as a result; inconvenience associated with access changes, traffic, or disruption to riding routes; and reputational concerns if clients perceive the environment to be unsafe or unsuitable. The evidence has, however, suggested that horses generally habituate to recurring, non-threatening construction activity, especially where works are beyond the horse's immediate flight zone and where sudden or irregular disturbance is controlled. Significant effects on the ongoing viability of livery businesses in the vicinity of the Scheme are therefore considered to be unlikely, although some yards may experience minor disruption to normal operations.
- 4.2.40 Riding schools may be more sensitive to certain construction impacts because their client base may include novice riders, although horses used in schools do tend to be more experienced and therefore more habituated to traffic movement. The greatest viability risk would be where construction traffic and roadside riding overlap, or where regular riding routes are temporarily constrained. Even so, with the implementation of proposed mitigation measures – particularly in relation to HGV driver training, speed restrictions, route management, signage, liaison via the equestrian expert with individual establishments around peak riding times, and alternative route provision – the likely effect is considered to be more one of temporary operational inconvenience for individual facilities rather than a material threat to business continuity.

- 4.2.41 Finally, thoroughbred breeding and stud operations are potentially the most sensitive receptors because they involve sensitive horses including broodmares and foals, specialist handling routines, time-critical veterinary and farrier visits, and high-value animals where disturbance may be of greater commercial concern. The evidence provided earlier in this section suggests that foals and youngstock are not necessarily affected to a disproportionately greater extent, and that horses can adapt quickly where disturbance is not associated with a harmful or aversive experience. Proposed mitigation measures, including avoidance of works immediately adjacent to breeding and foaling areas where practicable, together with construction programming, screening, advance notification and communications/engagement via an equestrian expert, substantially reduces the likelihood of impacts reaching a level that would undermine business viability. Whilst businesses such as these may experience some level of impact during construction, this is most likely to be related to an increased management/oversight burden in the short term (for example engaging with the Scheme equestrian expert to ensure activities are understood, or putting temporary precautionary adjustments in place on site during known periods of activity), rather than a sustained loss of function or viability.
- 4.2.42 With the implementation of the range of mitigation measures proposed, the potential impacts of the Scheme are unlikely to result in significant adverse effects on business viability for those businesses in closest proximity to the Scheme. The most credible likely effects are likely to be some short-term disruption on the day-to-day operation of individual businesses, which can be managed through open communication and actions such as scheduling of equestrian activity (for example planning horse movements so that they do not coincide with known construction events) and increased staff vigilance.
- 4.2.43 The commercial value of equestrian facilities rests on a range of factors including the type of services and facilities offered, the perceived quality and safety of care (particularly important in the case of high value thoroughbreds) and the reputation of the facility owner. Whilst it has been noted that there may be temporary constraints on riding routes and access, possible short-term inconvenience for clients and equestrian users, or heightened sensitivity at specific locations or times that may impact on planned activities such as farrier visits, these effects are capable of being managed through liaison and site-specific controls. With mitigation, construction activities are unlikely to compromise the type of services or facilities offered, quality or safety of care, or facility reputation and as such, business viability is not considered to be affected.

4.3 Operation Impacts

- 4.3.1 During the operational phase of the Scheme, potential impact pathways are centred around the solar PV arrays themselves (movement and tracking),

operational noise generated by inverters and substations and visual impacts associated with the Scheme.

- 4.3.2 It is noted that replacement activities during the operational phase may result in similar effects to those described for construction (for example noise, HGV movements); as such, mitigation described for the construction period will be applicable to replacement activities during the operational phase.

Movement or Presence of Solar PV Arrays

- 4.3.3 As stated previously, horses are likely to be startled by novel stimuli particularly that which is large, sudden, and within their 'flight zone'. Whilst single-axis tracking panels up to 4.5 metres in height are proposed for the Scheme, their size is not expected to elicit a significant response from horses in adjacent paddocks due to the presence of embedded buffers to the Site perimeters and the proposals for intervening vegetation screening. Whilst this may take time to mature, it will provide an additional layer of separation between onsite infrastructure and neighbouring equine receptors, reducing the extent to which these may be perceived as threats within a horse's 'flight zone'.
- 4.3.4 Furthermore, single-axis tracking panels move slowly and incrementally to follow the path of the sun throughout the day, before returning to a horizontal position at sunset for the night. This movement, and associated changes in reflections from the array surfaces are not therefore likely to move suddenly, nor have any additional associated stimulus that would elicit a threat response in a horse. As such, it is anticipated that horses would habituate to this movement, even in adjacent fields, relatively quickly.

Proposed mitigation

- 4.3.5 Landscape buffers and the implementation of screening are secured through the **Design Principles and Parameters [REP4-043]** and **Outline Landscape and Ecological Management Plan [REP3-100]** by Requirements 5 and 7 respectively in Schedule 2 to the **Draft Development Consent Order [REP4-004]**.
- 4.3.6 For equestrian users of highways and PRow, onsite solar PV arrays are offset from users by the embedded **Design Principles and Parameters [REP4-043]** which are secured by Requirement 5 in Schedule 2 to the **Draft Development Consent Order [REP4-004]**. Solar PV infrastructure is therefore no less than 15 m from the highway or centreline of a PRow. At this distance, it would be likely that a horse would observe a novel object or change to its environment. However, the effect to the horse would be minimal unless it was a fast-moving, erratic sudden object at this distance. Given that single-axis tracking panels move slowly and incrementally, and with only low-levels of noise from motors, this is an adequate distance to ensure horses are not adversely affected and that riders or handlers leading horses are not at risk from horses being startled.

- 4.3.7 Some permissive bridlepaths included as part of the Scheme are proposed to be located closer than 15 m to onsite infrastructure, albeit always separated by a deer stock (post and mesh wire) fence and minimum 4 m buffer between fences to the end of solar PV array tables. As such, individual riders and handlers would be expected to understand if the horses they are riding or leading are suitably habituated to the presence of infrastructure at this distance before using these routes. Information boards for riders would be made available at the start of these routes to allow riders to decide before committing to using them. This is secured through the **Outline Public Rights of Way and Permissive Paths Management Plan [REP1-104]**, secured by Requirement 16 in Schedule 2 to the **Draft Development Consent Order [REP4-004]**.

Noise Generated by Inverters, BESS and Substations

- 4.3.8 Inverters, BESS, and substation infrastructure tend to produce a relatively consistent hum of low frequency while they are in operation. For inverters within the solar PV arrays, this would only be during daylight hours when electricity is being generated, while BESS infrastructure would emit sound whenever they are being charged, discharged, or during cooling cycles. Whilst these sounds can be up to 70-80 dB immediately next to the equipment, this sound level would reduce quickly in intensity with distance. For horses in nearby paddocks or stables, that sound would be much reduced, as set out in the results of noise modelling at residential receptors in **ES Volume 1, Chapter 14: Noise and Vibration [REP1-021]**. Where noise levels are estimated to be at or similar to existing background noise levels, this means it is likely to be largely masked by other noises such as birds, wind, or existing traffic noise. A horse may be able to notice the sound in quieter conditions (especially if downwind) but it is unlikely to be more than a faint background sound and therefore would have no effect on the horses within the local area.
- 4.3.9 On PRoW and highways adjacent to the Scheme, horses may be exposed to more apparent noise from inverters and substations. Whilst these may be novel auditory stimuli for horses, these sounds are generally of a consistent frequency, will increase and decrease predictably in respect of distance to noise sources, and can be sited to minimise sound levels on PRoW. As such, this is less likely to startle a horse than a sudden noise or sudden change in noise level. Furthermore, repeated exposure is likely to lead to horses habituating to these noises, as there is not likely to be any other associated perceived threat to horses (in contrast to the noise, visual, and proximity threat of passing vehicles on a road for example).

Horse Health

- 4.3.10 There is no evidence that solar PV infrastructure and BESS negatively impact the health of horses when operating. There is no literature available that details

either type of infrastructure negatively affects the respiratory or fertility of horses during normal operating conditions.

- 4.3.11 Horses do not rely on magnetoreception (like some birds or insects) or magnetic fields for navigation. Their nervous system is not unusually sensitive to low frequency electromagnetic fields. Research has shown no consistent behavioural changes with low frequency electromagnetic fields and no evidence of stress responses. A study in 2002 in Italy showed no statistically significant differences to horses due to the effect of electromagnetic fields²⁴. Therefore, it is not considered that electromagnetic fields would cause any issue to horses within the locality of the Scheme, whether that be within paddocks and stables, or out on hacking routes.

Major Incidents

- 4.3.12 Horses are anticipated to respond to a major incident, such as a BESS thermal runaway event, where they are close enough to be affected by air quality effects and to respond to visual and auditory stimuli.
- 4.3.13 Horses are more sensitive to air pollutants than humans as they are high volume, high flow breathers, inhaling more than four times more air than a human per minute. As a result of this increased breathing flow, they also breathe in greater quantities of airborne gaseous and particulate pollutants. This may include, for example: dust from bedding, hay, or dry ground; pollen, smoke, and ammonia²⁵. This is accentuated during periods of exercise, during which a horse at hard work can breathe approximately 1,200 to 1,800 litres of air per minute.
- 4.3.14 Horses are obligate nasal breathers and are more prone to airway inflammation. Any irritation in the nasal passages can affect breathing immediately. Resultantly, dust or smoke in the air can cause respiratory distress quicker than it would in humans. Further, any inflammation of nasal passages would have a bigger effect on breathing in horses than it would in humans.
- 4.3.15 In the event of a fire or thermal runaway event at the BESS site, distance from a fire matters: because smoke concentration reduces as it disperses. Most air quality standards²⁶ and guidance²⁷ focus on smoke pollutant concentration, dispersion and exposure duration rather than distance from the fire itself. The

²⁴ Tarantola, M. Bergero, D. D'Angelo, A. Pantano, A. Barbin, F. (2002). Effects of low frequency magnetic fields on the blood parameters of the horse. *O&DV Obiettivi e Documenti Veterinari (Italy)*. **23** (11): 43-48.

²⁵ Equine Canada, National Farm Animal Care Council (2013). *Code of Practice for the care and handling of Equines*. ISBN: 978-1-927392-40-9

²⁶ Institute of Air Quality Management and Environmental Protection UK (2017) Land-Use Planning and Development Control: Planning for Air Quality

²⁷ World Health Organization (2021) WHO global air quality guidelines: particulate matter (PM2.5 and PM10), ozone, nitrogen dioxide, sulfur dioxide and carbon monoxide.

concentration and movement of pollutants, and thus the resultant impacts on receptors, is also dependent on wind, temperature, humidity and topography. Studies have shown that any effects of smoke from thermal runaway are limited to within a few metres of the source. This consideration is directly addressed through the Scheme's design, with the location of the BESS being located no less than 670 m east of the nearest equestrian facilities (and residential property) at Townlease Farm stud farm, while the nearest public highway or publicly accessible location is no less than 170 m away to the south at Hill Hayes Lane. At this distance the effects of smoke would not affect the horses within the nearby stud farm, other equestrian facilities, or locations where people would be able to access with their horses.

- 4.3.16 Distance from emergency vehicles, flashing lights and noises are all correlated with distance from the event. The flight distance for a horse is within a few metres²⁸ and so, with the exception of equestrian road users meeting emergency vehicles, there is unlikely to be any effect on horses. As a result of the distances between the nearest stud farm, equestrian facilities, and publicly accessible locations, if horses were to be alerted to noises, lights, or unusual smells, the effects are likely to be minor. Disruption from these stimuli to horses are likely to be limited to them being more alert, but this would not cause major stress or health issues with the horses at the stud farm or equestrian facilities nearest the BESS site. This minor effect from disruption is also likely to be temporary, and so effects to equine health or to the safety of handlers or riders will be limited and no different to any other situation in the local area that may require an emergency service response.

Proposed Mitigation

- 4.3.17 Mitigation measures to control thermal runaway events occurring, or to dictate the emergency response to fire at the BESS are secured through the **Outline Battery Safety Management Plan [REP3-106]** by Requirement 6 in Schedule 2 to the **Draft Development Consent Order [REP4-004]**.

Operation: Impacts on Business Viability

- 4.3.18 During operation of the Scheme, the potential impact pathways for equestrian businesses are materially less pronounced than during construction. As described in the various sections above they include the presence and movement of solar PV arrays, operational noise from inverters, BESS and substations, potential implications for horse health associated with electromagnetic fields and the very low likelihood but potential consequences of major incidents.

²⁸ Equine Canada, National Farm Animal Care Council (2013). *Code of Practice for the care and handling of Equines*. ISBN: 978-1-927392-40-9

- 4.3.19 A further aspect relates to the contribution of visual aesthetics and setting to the attractiveness (and therefore commercial appeal) of equestrian facilities, a factor which has been noted in various of the representations made to date. This may particularly be the case where current or prospective clients of facilities value a rural and tranquil environment, where countryside riding experiences are marketed, where landscape quality may be directly associated with horse welfare and enjoyment, or (particularly higher-value thoroughbred operations) where there is a perception of exclusivity, quality and careful environmental management.
- 4.3.20 Visual aesthetics and setting are considered to be relevant but secondary considerations to matters such as the services offered by an individual facility, the standards of horse care and welfare provided, the safety of the environment for horses, riders and staff, and the reputation and expertise of the facility operator. While the introduction of solar infrastructure may alter the outlook from some equestrian facilities or routes, the combination of setbacks, buffers and vegetation screening means that these changes are unlikely to alter setting to such an extent that the viability of equestrian businesses would be materially harmed. For most businesses, any influence on customer perception is therefore likely to be limited and insufficient, in itself, to affect commercial viability.
- 4.3.21 As for construction, different types of equestrian facilities in the vicinity of the Scheme may experience different types of business impacts. For example, livery yards may be more vulnerable to client perceptions of change in rural character or outlook, concerns about horses reacting to visible infrastructure or low-level operational noise and possible reluctance by some clients to use hacking routes passing near Scheme infrastructure. However it is also understood that livery business clients/customers may experience practical limitations associated with the availability of alternative facilities which are further away from home or workplace. Riding schools, on the other hand, may be more sensitive than some other equestrian operations because they often accommodate novice riders and horses of mixed experience. Parental or customer expectations may relate particularly to visible safety and calm surroundings. Thoroughbred and stud operations are likely to be the most commercially sensitive to perceived changes in setting, safety, animal health and confidence among owners, breeders, vets and buyers.
- 4.3.22 As indicated in the assessment of operational impacts, solar PV arrays would be offset from equestrian receptors and screened. Panel movement has been confirmed as slow and incremental, not sudden or erratic and operational noise associated with inverters and substations is generally consistent and low-level. It is therefore considered that horses (regardless of type of equestrian facility) are likely to habituate to these conditions and effects on businesses would be limited to minor perceptual or management issues, rather than any substantive

reduction in viability. Effects are not considered to undermine the specialist functioning or market standing of thoroughbred operations or stud farms.

- 4.3.23 For riding schools and livery yards particularly, a key issue is whether operational infrastructure would create conditions that riders perceive as unsafe or unsuitable. The assessment suggests this is unlikely because of the way the infrastructure is designed to be set back from highways and PRoW and the fact that moving panels do not create sudden visual stimuli. Information provision on permissive routes can help riders make informed choices about route suitability for particular horses. Consequently, the likely effect on these types of receptor during operation would be limited to occasional route-choice constraints or issues associated with customer perception, not a material threat to continued operation.
- 4.3.24 In relation to major incidents, the assessment indicates that such events are rare and that, due to distance and emergency planning measures, effects on nearby equestrian receptors would be limited and unlikely to translate into business viability effects.
- 4.3.25 The operational phase is therefore unlikely to significantly affect the viability of individual equestrian facilities due to design (e.g. the introduction of landscape buffers and screening) and operational characteristics (e.g. the slow and incremental movement of the solar PV arrays themselves, and low noise generation from inverters, BESS and substations). This predictability of operation, combined with physical separation from receptors and the likelihood of horse habituation means that any effects that do arise are likely to be minor in nature, very localised and capable of being managed (for example through small adjustments to route use or horse management for more sensitive animals, together with an understanding of temporary alert responses by horses to novel infrastructure before habituation occurs). Effects are not likely to be of a scale that would materially undermine equestrian business continuity or commercial performance.

4.4 Impacts on Job Losses and Wider Supply Chain

- 4.4.1 The local equine economy supports not only direct on-site jobs but also a broader network of linked businesses as described in Section 3 of this report, including veterinary practices, farriers, equine dentists, physiotherapists, feed and bedding suppliers, transport providers, fencing contractors and other specialist rural services. If the Scheme were to cause substantial loss of equestrian activity, there could in principle be indirect consequences for these sectors. Job losses or reduced expenditure within the equestrian supply chain would only be likely to occur if equestrian facilities experienced a sustained reduction in income, activity levels or client demand that was of sufficient scale to require a contraction in operations.

- 4.4.2 During construction and replacement activities, some businesses may experience short-term operational inconvenience, increased management time, temporary changes to route use, or a degree of customer concern. Examples might include timing of deliveries to customers, or the location or timing of farriery or equine dental services. Whilst there is potential for a marginal impact on discretionary expenditure (for example individual equestrian businesses may defer non-essential works or adjust short-term spending), such effects would be unlikely to amount to a sustained supply chain impact or result in a reduction in staffing requirements.
- 4.4.3 During operation, there is no reason why equestrian business performance should be affected such that employment or the wider specialist rural supply chain would be impacted. As previously stated, changes in setting or customer perception are unlikely, in themselves, to undermine the commercial functioning of local equestrian enterprises.
- 4.4.4 As concluded in Sections 4.2 and 4.3 above, with various embedded and standard mitigation proposed, the Scheme would not necessarily affect the viability of equestrian facilities in the local area. There is therefore no strong evidence or reason to infer that the Scheme would result in wider supply chain impacts including closures, business failure or contraction, particularly given the strengths of the wider local equestrian market. It is also the case that the wider supply chain is not wholly reliant on the specific equestrian enterprises in the immediate vicinity of the Scheme, with additional commercial enterprises located further afield and also private paddocks and stabling in the wider area. Any effects that do occur are therefore likely to be minor and primarily associated with short-term adjustments that may be required during construction, rather than permanent loss of employment or a substantive weakening of the local equine economy.

5 Summary of Relevant Mitigation

- 5.1.1 Table 4 overleaf summarises relevant mitigation and monitoring measures referred to in the previous section, together with where they are secured in the **Draft DCO [REP4-004]**.

Table 4 Summary of Mitigation and Monitoring Measures

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Securing Mechanisms
Potential for construction noise to cause stress or injury to horses.	Previously Committed Measures • Embedded mitigation measures have been incorporated into the design of the development, including avoiding works immediately adjacent to sensitive equestrian facilities such as breeding facilities and foaling areas where practicable; Additional Committed Measures • As part of the setup of the Community Liaison Group (CLG), an independent equestrian expert will be appointed to undertake regular engagement and act as a key point of contact with equestrian receptors throughout the construction, replacement and decommissioning, where required. This will involve: ○ Providing early notification on the scheduling of construction activities with potential for generating high levels of noise (i.e., piling or abnormal load movements) in the vicinity of	A construction noise monitoring scheme will be developed and agreed with the relevant planning authority following appointment of a contractor and prior to commencement of construction works.	Terms of Reference for the Community Liaison Group Requirement 4 Design Principles and Parameters [REP4-043] Requirement 5 Outline Construction Environmental Management Plan [REP4-049] Requirement 13

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Securing Mechanisms
	PRoW frequently used by horse riders or equestrian facilities to enable the relocation of horses if required. These details will also be provided in the Stakeholder Communications Plan; ○ Holding regular meetings during the construction period; and ○ Should noise complaints be received from equestrian users or NMUs, the environment manager will investigate the issue and may impose further construction constraints or additional noise monitoring as required. ● When works are taking place within 30m of equestrian receptors (including fields containing horses and stud farms), the screening of noise sources within the construction area via the erection of temporary screens would be employed where practicable and appropriate. Screening would be		

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Securing Mechanisms
	positioned to avoid entering a horse's principal field of vision, thereby reducing the risk of it being perceived as a threat. Noise screening is largely anticipated to be visually separated by existing screening such as hedgerows; • Construction workers in vicinity to equestrian facilities conducting noise generating work to be briefed on stopping work protocols in the event horses appear in distress or in danger. Details of the relevant landowners and vets in case of emergency would be provided in the Emergency Response Plan; and • Construction activities will be rescheduled where practicable in the case of emergency or veterinary situations to minimise interaction between injured horses and noise generating works where the horse cannot be relocated for treatment.		
Potential for construction traffic to cause	Previously Committed Measures • Implementation of measures to ensure the safety of PRow users (in	The appointed contractor will undertake such monitoring as is necessary.	Outline Construction Environmental Management Plan [REP4-

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Securing Mechanisms
danger to those using equestrian routes or horses in nearby paddocks.	particular for equestrians) in line with the requirements of the Outline CTMP [REP4-057] and the Outline Public Right of Way and Permissive Paths Management Plan (PRoWPPMP) [REP1-104]; • Consideration will be given to traffic routing, timing and access points to the construction sites to minimise noise impacts at existing receptors following appointment of a contractor, and as construction working methods are developed. Construction routes are confirmed in Figures 4.1 and 4.2 of the Outline CTMP [REP4-057] and will be issued by the Contractor alongside confirmation of detailed design. Management of HGVs within the site and being let onto the highway network will be managed through the final CTMP(s) developed pursuant to the Outline CTMP [REP4-057]; • Drivers will receive training and be made aware of the presence of PRoW and key riding routes and	Further details to be confirmed in the detailed CEMP/CTMP. Any unforeseen issues that arise in relation to construction vehicle movement will be logged by the Site Manager. If necessary, the issues will be discussed with the local highway authority so that they can be resolved as appropriate.	049] Requirement 13 Outline Construction Traffic Management Plan [REP4-057] Requirement 15 Outline Public Right of Way and Permissive Paths Management Plan [REP1-104] Requirement 16

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Securing Mechanisms
	periods and the procedure to be followed in the event of meeting NMUs. Training will also include information on the behaviour of horses, their sensitivity to noise and sudden movements and how to minimise startling. This is likely to include: - Distance to be kept from equestrians if ahead of the driver (at least 2m space between vehicles and the horse as per the Highway Code Rule 215 and BHS guidance); - Maximum speed limit for passing horses (10mph as per the Highway Code Rule 215 and BHS guidance); and - Following any signals by a horse rider to other road users, such as a signal to slow down, or stop, should be heeded to reduce risk to all users. Additional Committed Measures		

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Securing Mechanisms
	• As part of the Stakeholder Communications Plan, engagement will be undertaken (via the independent equestrian expert appointed) with equestrian receptors in vicinity of the Scheme to establish key riding routes and periods. • As part of HGV driver training: ○ Details of stopping distances to let equestrian users pass will be provided; and ○ Procedure to be followed in the event a loose-horse is encountered on the highway will be provided. • Installation of temporary signage notifying equestrian users of construction traffic on affected routes.		
Potential disruption to stud farms in vicinity of the Scheme.	Additional Committed Measures • Provision of uninterrupted access to equestrian businesses throughout the construction period where practicable. In the event access should need to be temporarily	The appointed contractor will undertake such monitoring as is necessary. Further details to be confirmed in the detailed CEMP/CTMP.	Outline Construction Environmental Management Plan [REP4-049] Requirement 13 Outline Construction Traffic Management Plan

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Securing Mechanisms
	diverted, the Community Liaison Manager would provide the affected business owner with advance notice of the works (minimum of 14 days); • Provision of advance notice to equestrian facilities of road closures, diversions and traffic management measures; and • Details provided in the Emergency Response Plan regarding the nearest veterinary practices in vicinity of the Scheme, travel routes and phone numbers in the unlikely event of an incident.		[REP4-057] Requirement 15
Potential dust impacts on equine health.	Previously Committed Measures • Implementation of robust dust suppression measures as per the details set out in Table 9 of the Outline CEMP [REP4-049].	Implementation of dust monitoring requirements set out in Table 9 of the Outline CEMP [REP4-049] for example, undertake daily on-site and off-site inspection, where receptors (including roads) are nearby, to monitor dust, record inspection results, and make the log	Outline Construction Environmental Management Plan [REP4-049] Requirement 13

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Securing Mechanisms
		available to the local authorities when asked.	
Potential for Major Incidents affecting horses.	Previously Committed Measures Mitigation measures to control thermal runaway events occurring, or to dictate the emergency response to fire at the BESS are secured through the Outline Battery Safety Management Plan [REP3-106].	To be confirmed in the detailed BSMP(s).	Outline Battery Safety Management Plan [REP3-106] Requirement 6
Potential for Solar PV Panels to cause horses to startle.	Previously Committed Measures - Landscape buffers and the implementation of screening are embedded into the Scheme through the Design Principles and Parameters [REP4-043] and Outline Landscape and Ecological Management Plan [REP3-100]; - For equestrian users of highways and PRow, onsite Solar PV Arrays are offset from users by the embedded Design Principles and Parameters [REP4-043]. As a result, Solar PV infrastructure is no	To be confirmed in the detailed LEMP(s).	Design Principles and Parameters [REP4-043] Requirement 5 Outline Landscape and Ecological Management Plan [REP3-100] Requirement 7 Outline Public Right of Way and Permissive Paths Management Plan [REP1-104] Requirement 16

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements	Securing Mechanisms
	less than 15 m from the highway or centreline of a PRow; and Additional Committed Measures • Provision of information boards at the start of permissive path routes with solar infrastructure within 15m of path.		

6 Conclusion

- 6.1.1 This Technical Note responds to the ExA's questions on the likely effects of the Scheme on equine businesses, employment and business viability, and on the potential effects of a thermal runaway event at the BESS on horses. In preparing this Technical Note, the Applicant has considered:
- the information previously presented in **ES Volume 3, Appendix 16-2: Tourism and Recreation Receptor Tables [APP-241]**;
 - written and oral representations submitted during the Examination;
 - additional baseline information on the equine sector at national, regional and local level;
 - information provided directly by equestrian businesses; and
 - specialist veterinary input on horse behaviour, physiology and welfare.
- 6.1.2 The evidence reviewed confirms that the local area supports a well-established equine sector. This includes stud farms, thoroughbred breeding enterprises, livery yards, riding and training facilities, private paddocks and stables, together with a wider network of supporting services such as equine vets, farriers, transport providers, feed merchants and other specialist contractors. The local equine economy is therefore characterised by a wider business network and supply chain; many of the businesses involved operate year-round, depend on skilled labour and require reliable access, stable routines and client confidence.
- 6.1.3 The Technical Note recognises that the equine sector is already operating under pressure, including rising costs, recruitment difficulties and tight margins in some parts of the industry. That context is relevant when considering how individual businesses may respond to disruption or perceived risk. Against that background, the main question for this assessment has been whether the Scheme would be likely to cause effects of a scale or duration that would materially affect the continued operation of local equestrian businesses.
- 6.1.4 Based on the evidence available, significant adverse effects on business viability, examples of which are outlined in Table 2 of this document, are not expected.
- 6.1.5 During construction, the main issues are likely to be:
- Noise and vibration
 - Visible activity and machinery movement
 - HGV traffic on local lanes
 - Temporary effects on bridleways and other riding routes

- Concerns about additional management burden for businesses operating close to works.

- 6.1.6 Horses are sensitive animals, and it is acknowledged that sudden noise, close movement and traffic can trigger short-term behavioural responses. It is also clear that some types of equine business, particularly stud farms and thoroughbred operations, are more sensitive than others because they handle youngstock, broodmares, valuable horses and time-critical veterinary and farrier work.
- 6.1.7 The evidence reviewed does not suggest that these construction effects would generally be of a scale likely to make any equestrian businesses unworkable or commercially unviable. Construction effects would be temporary, would vary by location and phase, and can in many cases be reduced through practical controls such as timing, liaison, routing, screening and advance notice of higher-risk activities.
- 6.1.8 The position is stronger still for operation. Once the Scheme is built, the main potential effects are the presence of solar infrastructure, tracker movement, low-level operational noise and changes in local outlook. These are more limited than construction effects and are predictable rather than sudden.
- 6.1.9 The assessment does not identify evidence that the normal operation of the solar arrays, inverters, substations or BESS would be likely to cause lasting adverse effects on equine health or behaviour. In particular:
- Solar PV array tracker movement is slow and predictable
 - Operational noise is generally low-level, rather than sudden
 - Embedded stand-offs and screening reduce proximity effects
 - Horses are capable of becoming accustomed to static or slowly changing infrastructure.
- 6.1.10 For that reason, operational effects are not expected to undermine the continued operation of equestrian businesses, including local livery yards, riding schools or thoroughbred businesses.
- 6.1.11 This does not mean that all businesses will experience the Scheme in the same way. Some may need to make adjustments to routines, route use or day-to-day management, particularly during the construction period. Some may also remain concerned about the effect of change on client confidence or on the perceived quality of the local equestrian environment. Those are legitimate concerns. However, on the information currently available, they do not amount to a likely significant adverse effect on business viability.

- 6.1.12 This reasoning also applies to employment and the wider equine supply chain. Job losses or broader economic effects would depend on the Scheme causing a sustained reduction in trade or activity across local equestrian businesses. That outcome is not supported by the assessment in this report.
- 6.1.13 The local equine economy supports a wider network of service providers, including veterinary practices, farriers, equine dentists, physiotherapists, transport operators, feed and bedding suppliers, fencing contractors and other mobile specialists. If equestrian businesses were to contract materially, those sectors could, in principle, be affected. However, given the conclusions reached on business viability, indirect effects on supply chain are likely to be limited rather than significant.
- 6.1.14 In response to the Examining Authority's request for mapping, Annex A provides a map of equestrian facilities within the 20 km study area, together with information on facility type, name, address and business activity. This has been compiled from the Environmental Statement, examination representations, questionnaire responses and further desk-based review.
- 6.1.15 In response to AQ1.5, the Technical Note has also considered the effect of a thermal runaway event at the BESS on horses. The relevant pathways are smoke, air quality, unusual odours, noise and emergency response activity. Horses are sensitive to airborne irritants, so this is an issue that required specific consideration. However, the key factor here is separation distance. The BESS is located approximately 670 m from the nearest equestrian facility and around 170 m from the nearest publicly accessible location. On that basis, and taking account of the safety and emergency measures proposed for the BESS, significant effects on horses are not expected. If such an event were to occur, horses in the wider area might become alert to unusual smells, noise or vehicle activity, but lasting health effects or material consequences for equestrian businesses are not anticipated.
- 6.1.16 Drawing these points together, this Technical Note concludes that the Scheme is not likely to result in:
- Significant adverse effects on the viability of local equestrian businesses
 - Significant job losses within the equine sector or its supporting industries
 - Significant adverse effects on horses, including in the event of a thermal runaway incident at the BESS.

- 6.1.17 The assessment does, however, point to the importance of good construction management, advance communication and practical engagement with equestrian businesses, especially those closest to construction activity or those handling more sensitive classes of horse. Those measures are important in keeping effects limited and addressing site-specific issues as they arise.
- 6.1.18 Subject to the mitigation and management measures identified in this report, the Applicant's view is that the Scheme would not give rise to significant adverse effects on the local equine sector, its supporting industries, or horses as a sensitive receptor group.

Annex A Index and Map of Equine Businesses and Equestrian Facilities

Facility Type	Facility Name	Facility Address	Commentary of Business Activities	Assessed in ES [APP-241]
Within 5 km Study Area				
Livery	Alicia Hawker Eventing	Wood Farm Barn House Stanton St Quintin SN14 6DJ	Livery Eventing training	No
Private	Avil's Lane Paddocks, Stanton Park Farm Stud	Avils Lane Lower Stanton St Quintin Malmesbury SN14 6DA	Unclear if connected to JP Equestrian Paddocks only	Yes
Health Service Stud	B&W Equine Vets	Willesley Clinic & Stud Byams Farm Willesley Tetbury GL8 8QU	Onsite and mobile veterinary services Equine hospital / emergency care Neonatal & stud medicine Stud Farm	No
Events Venue Supporting Service	Badminton Horse Trials	Badminton Estate GL9 1DD	International events centre Supporting equipment rent/leasing Downstream Ancillary & Events	Yes
Supporting Service	Baldwin Construction	Boakley Farm Brokenborough SN16 0QZ	Equestrian facility construction	No
Events venue	Beaufort Hunt Team Chase	Manor Farm Sopworth SN14 6PS	Events and racing venue	No
Events venue Livery	Beaufort Polo Club	Westonbirt Tetbury GL8 8QW	Polo Club international games, chukkas and polo lessons Livery, winter grazing.	No
Stud	Byerley Stud	Courtlands Corsham Road Thingley Wiltshire SN13 9QJ	Stud farm Boarding/foaling Training rest stays Sales preparation	Yes

Facility Type	Facility Name	Facility Address	Commentary of Business Activities	Assessed in ES [APP-241]
Supporting Service	Chestnut Mill	Unit 160 8 The Bridge Chippenham SN15 1FY	Horse equipment, bedding and feed retailer	No
Private	Clapcote Stables	Clapcote Cottages Grittleton SN14 6AS	Private paddocks, stables, and manège	Yes
Events venue	Dauntsey Park Horse Trials	Brook Farm Frog Lane Great Somerford Chippenham SN15 5JA	Cross-country racing/eventing venue	No
Stud	Drewmain Stud	Avils Lane Lower Stanton St Quintin Malmesbury SN14 6DA	Stud Farm Broodmares/foaling Competition rearing Sales	Yes
Private	East Dunley Farm	Fosse Way Crossroads Grittleton Chippenham SN14 6PX	Private paddocks, stables, and manège	Yes
Supporting Service	Equestrian Blueprint	9 Butts Lane Biddestone SN14 7DZ	Rural planning and design services	No
Private	Farleaze Farm	Pig Lane Farleaze Malmesbury SN16 0LB	Private paddocks, stables, and manège	Yes
Private	First Lane Paddocks	First Lane Whitley Melksham SN12 8RL	Private paddocks and manège	Yes
Private	Fosse Lodge	Fosse Way Crossroads Grittleton Chippenham SN14 6PX	Private paddocks, stables, and manège	Yes
Livery Riding School	H B Equestrian	Catridge Farm Estate Wick Lane Lacock SN15 2LU	Livery Training, riding school Freelance riding	Yes
Private	Heath Farm	Startley Chippenham SN15 5HQ	Private paddocks, stables, and manège	No

Facility Type	Facility Name	Facility Address	Commentary of Business Activities	Assessed in ES [APP-241]
Private	Hillside House	Startley Chippenham SN15 5HQ	Private paddocks and manège	No
Stud	JP Equestrian	Avil's Barn Avil's Lane Lower Stanton St. Quintin Wiltshire SN14 6DA	Stud Farm	Yes
Livery	Kingsby Farm	Nash Lane Kington St. Michael Wiltshire SN14 6PU	Livery DIY up to full livery services	No
Stud	Kington Langley Stud	The Stables Ashes Lane Kington Langley Chippenham SN15 5NP	Stud farm Stallions Mares/Foaling Livery Care and Dentistry	No
Livery	Kitty King Eventing	The Old Bull Pen Lower Stanton St. Quintin Wiltshire SN14 6DA	Eventing competition yard	Yes
Health Service Livery Riding School	Lacock Equestrian Centre	Bewley Lane Lacock Wiltshire SN15 2PG	Livery Training, riding school Clinic (unclear scope)	No
Stud	Ladyswood Farm & Stud	Ladyswood Farm Sherston Malmesbury Wiltshire SN16 0LA	Stud Farm Broodmares/foaling	Yes
<u>Livery</u>	<u>Laura Tomlinson Dressage</u>	<u>Cranmore Farm</u> <u>Cranmore Lane</u> <u>Shipton Moyne</u> <u>Tetbury</u> <u>GL8 8PU</u>	<u>Dressage coaching</u> <u>Competition livery</u>	<u>No</u>
Livery	LC Dressage	Ladyswood House Sherston Malmesbury Wiltshire SN16 0LA	Dressage coaching Competition livery	Yes
Livery	Luckley Farm	Luckley Farm Luckington Chippenham SN14 6PW	Livery	No

Facility Type	Facility Name	Facility Address	Commentary of Business Activities	Assessed in ES [APP-241]
Other	Lucknam Park Equestrian Centre	Lucknam Park Colerne Wiltshire SN14 8AZ	Riding school / riding experiences for visitors 'Bring your horse' holiday stays	No
Supporting Service	Maidment's Country Supplies	Street Farm Cleverton Chippenham SN15 5BS	Equine supplies and sales	No
Livery	Mermaid Farm Livery	Mermaid Farm Main Road Christian Malford SN15 4BD	Glamping with DIY livery	No
Private	New House Farm Cottages	New House Farm Cottages Sodbury Road Badminton GL9 1HB	Private manège	Yes
Stud	New Priory Stud	Kington St Michael Chippenham SN14 6JP	Stud farm Stallions Mares/Foaling Livery Sales	No
Private	Oak Paddock Stables	Swindon Road Cleverton SN15 5BX	Private paddocks and stables	No
Supporting Service	Paddock Maintenance	7 Westwells Neston Corsham SN13 9RL	Paddock maintenance services	No
Livery	Park Farm	Park Farm Yatton Keynell Chippenham SN14 7LA	Unclear from advertising or representations made	Yes
Private	Parks Farm	Acton Turville Road Tormaton GL9 1HR	Private paddocks, stables, and manège	Yes
<u>Supporting Service</u>	<u>Plusbac</u>	<u>Hill Court</u> <u>Shipton Moyne</u> <u>Tetbury</u> <u>GL8 8QB</u>	<u>Feed supplies</u>	<u>No</u>
Private	Poplar Farm	Bath Road Shaw Melksham SN12 8EG	Private paddocks, stables, and manège	Yes

Facility Type	Facility Name	Facility Address	Commentary of Business Activities	Assessed in ES [APP-241]
Supporting Service	Poynton Farriery Clinic Imprint Equine Foot Care	Town Forge High Street Malmesbury SN16 9AT	Mobile farriery services Manufacture of medical/dental supplies	No
Livery	Priory Farm	Priory Farm Nettleton Chippenham SN14 7NY	Livery	Yes
Riding school	Reybridge Eventing	Reybridge Farm Lacock Chippenham SN15 2PF	Livery Riding/eventing school	No
Supporting Service	Rigg Construction Southern Ltd	Lancaster Park Industrial Estate Bowerhill Melksham SN12 6TT	Construction and refurbishment services	No
Private	Ryley's Farm	Grittleton Chippenham SN14 6AF	Private paddocks and manège	Yes
Livery	Sarah Stewart Equine	Aquetong Farm Cresswell Lane Lea SN16 9PE	Livery Eventing training	No
Stud	Seagry Stud	Oaktree Court Upper Seagry Chippenham Wiltshire SN15 5EX	Stud Farm Broodmares/foaling Competition rearing Sales	No
Private	Springfield Farm	Yatton Keynell Chippenham SN14 7JZ	Private paddocks, stables, and manège	Yes
Health Service Livery Riding School	Stagwood Equestrian Centre	Stagwood Farm Melksham Road Holt Trowbridge BA14 6QW	Livery Riding/eventing school Sensory/stimulation therapy centre	No
Livery	Sue Godwin Livery	Hebden Leaze Farm The Street Luckington SN14 6NR	Livery	No
Supporting Service	TH White Agriculture (Knockdown)	Sherston Works Knockdown Tetbury GL8 8QY	Regional agricultural equipment supplier	No

Facility Type	Facility Name	Facility Address	Commentary of Business Activities	Assessed in ES [APP-241]
Health Service	The George Equine Vets	The George Veterinary Hospital High Street Malmesbury SN16 9AU	Mobile equine healthcare	No
Health Service Stud	Tomlinson Equine	Elmleaze Barn Westonbirt GL8 8QE	Stud farm Stallions Reproductive healthcare Veterinary services	No
Livery	Townlease Farm Livery	Townlease Farm Norton Wiltshire SN16 0JY	Serviced livery	Yes
Private	West Dunley	2 West Dunley Cottages Alderton Road Grittleton SN14 6PY	Private paddocks, stables, and manège	Yes
Stud	West Kingston Stud	Church Farm West Kingston Chippenham SN14 7JE	Closed	No
Stud	West Park Farm	West Park Farm Mill Lane Corston Malmesbury SN16 0HH	Stud farm Thoroughbred breeding and bloodstock Broodmares/foaling Auction preparation	Yes
Private	West Sevington Farm	Yatton Keynell SN14 7LE	Private paddocks, stables, and manège	Yes
Events venue Livery Riding school	West Wilts Equestrian Centre	Melksham Road Holt BA14 6QT	Livery Riding school/training centre Event centre	No
Within 20 km Study Area				
Health Service	Cadence Equine Vets	136 Bath Road Bradford-on-Avon BA15 1SS	Mobile veterinary services	No
Supporting Service	Cirencester Saddles	The Old Kennels Cirencester Park GL7 1UR	Professional saddlery services	No
Supporting Service	Cotswold Vehicle Services	Church Farm Tetbury GL8 8RS	Automotive repair services	No

Facility Type	Facility Name	Facility Address	Commentary of Business Activities	Assessed in ES [APP-241]
Supporting Service	Equisupplies	Braydonside Studios Brinkworth Chippenham SN15 5AR	Horse bedding and feed supplies	No
Events venue Supporting service	Forest View Dressage	29 Queen Street Malmesbury SN16 9RL	Dressage event space and training facility	No
Supporting Service	Gloucestershire Horse Transport	Cirencester	Horse transport services	No
Supporting Service	Hopkins Horses	8 Pound Close Lyneham Chippenham SN15 4PJ	Horse transport services	No
Supporting Service	Jon William Stables Ltd	Netherstreet Bromham Chippenham SN15 2DW	Stable and paddock maintenance	No
Supporting Service	MBM Creative Braydonside Studios	Brinkworth Chippenham SN15 5AR	Design and marketing consultants	No
Supporting Service	Mole Valley Farmers (Devizes)	Nursteed Trading Estate Devizes SN10 3EW	National agriculture and equine supplies	No
Supporting Service	PSB Country Supplies Ltd (Wynnstay Stores)	Unit 4 Hampton Street Tetbury GL8 8PG	Feed supplies	No
Supporting Service	Stroud Farm Services	Cirencester Road Minchinhampton Hyde GL6 8PE	Feed supplies	No
Health Service	The George Veterinary Group (Tetbury)	23 Church Street Tetbury GL8 8JG	Mobile equine healthcare	No
Supporting Service	The Pure Feed Company	1st Floor Unit 4 Callow Park Brinkworth Chippenham SN15 5FD	Feed supplies	No
Supporting Service	Total Equestrian Construction	Glebe Farm Westbury Road Devizes SN10 4JW	Equestrian facilities design and build services	No

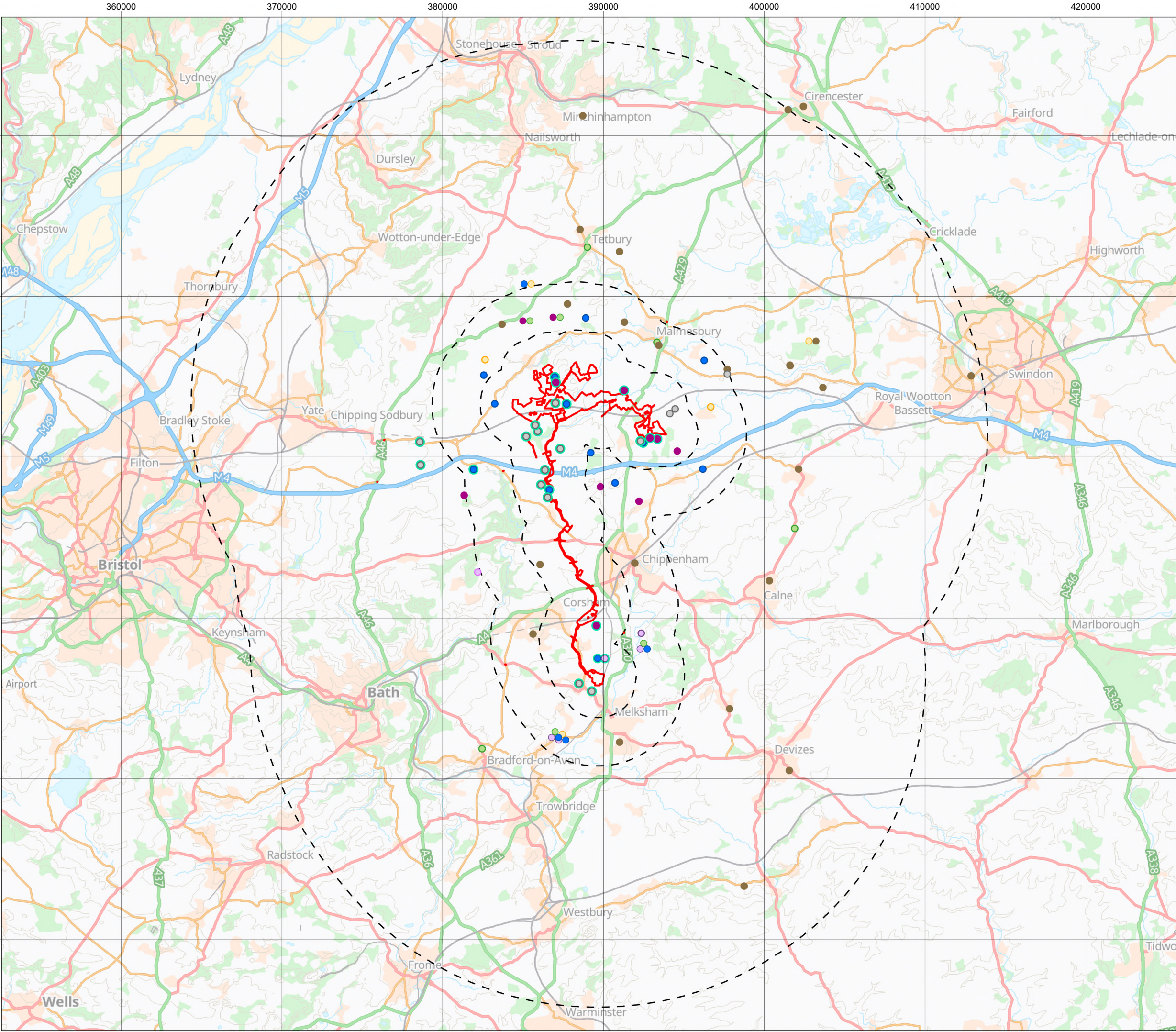
Facility Type	Facility Name	Facility Address	Commentary of Business Activities	Assessed in ES [APP-241]
Supporting Service	Totally Equestrian	Unit 3 Bridgemoor Close Westmead Industrial Estate Swindon SN5 7YT	Horse transport services	No
Supporting Service	Webcox Engineering	Harris Road Calne SN11 9PT	Construction and structure manufacturing services	No
Health Service	Wessex Equine Veterinary Practice	The Carriage House Hilmarton Calne SN11 8SD	Veterinary services	No
Beyond 20 km Study Area				
Supporting Service	CB Saddlery	The Long Barn Warminster BA12 0PY	Professional saddlery services Beyond 20km area	No
Supporting Service	Cotswold Equine Rug Washing	Fairford Gloucestershire	Equine laundry provider Beyond 20km area	No
Supporting Service	Cotswold Horsebox Hire and Transport	Alvescot Rd Carterton OX18 1PB	Horse transport services Beyond 20km area	No
Supporting Service	Hugo White Fencing and Farm Maintenance	Gloucestershire (location not known)	Fencing services	No
Health Service	Gloucestershire Equine Vets	Barn 2 Yanworth Cheltenham GL54 3QE	Veterinary services Beyond 20km area	No
Supporting Service	International Racehorse Transport	Clifton House 121 High Street Newmarket CB8 9AE	International horse transport Beyond 20km area	No

The list of equestrian facilities featured in the Annex has been derived from previously assessed facilities identified in **ES Volume 3, Appendix 16-2: Tourism and Recreation Receptor Tables [APP-241]**, facilities identified through representations made to the examination, and where verifiable, those included on the **Stop Lime Down Appendix Z - Combined Baseline and Project Information Plan [REP6-082]**.

For reference, the following facilities identified by Stop Lime Down have not been included:

- Bowldown Farm, Tetbury: outside 5 km Study Area;
- Gardners Farm, Hullavington: address associated with Alicia Hawker Eventing although main facilities for horses are understood to be at Wood Barn Farm, Stanton St Quintin (mapped);
- Juddmonte Estcourt Estate: outside 5 km Study Area; and
- Albourne Farm, Malmesbury; Field Barn Farm, Tetbury; Tanners, Shipton Moyne; southwest of Sherston: Business name, operations, or full address could not be verified by available online sources.

Additional private facilities identified by Stop Lime Down have not been added to those already identified by the Applicant.





Title:
Figure 1-1: Location of Equine Businesses and Private Receptors

Document:
Technical Note on Impacts to Equine Businesses

Legend:

Order Limits

2km, 5km and 20km Study Areas for Tourism and Recreation

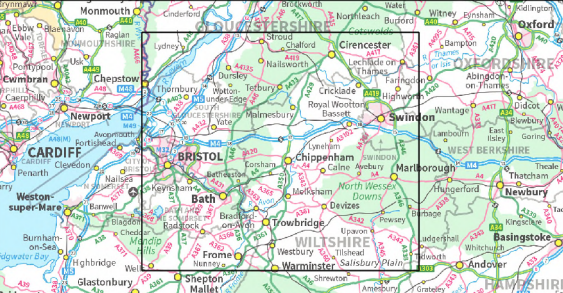
Equine Facility Assessed in ES [APP-241]

- Livery
- Stud
- Private
- Livery & Riding School

Other Equine Facility

- Events Venue
- Health Service
- Livery
- Riding School
- Stud
- Supporting Service
- Private
- Livery & Events Venue
- Livery, Riding School & Events Venue
- Livery, Riding School & Health Service
- Stud & Health Service
- Events Venue; Supporting Service
- Other

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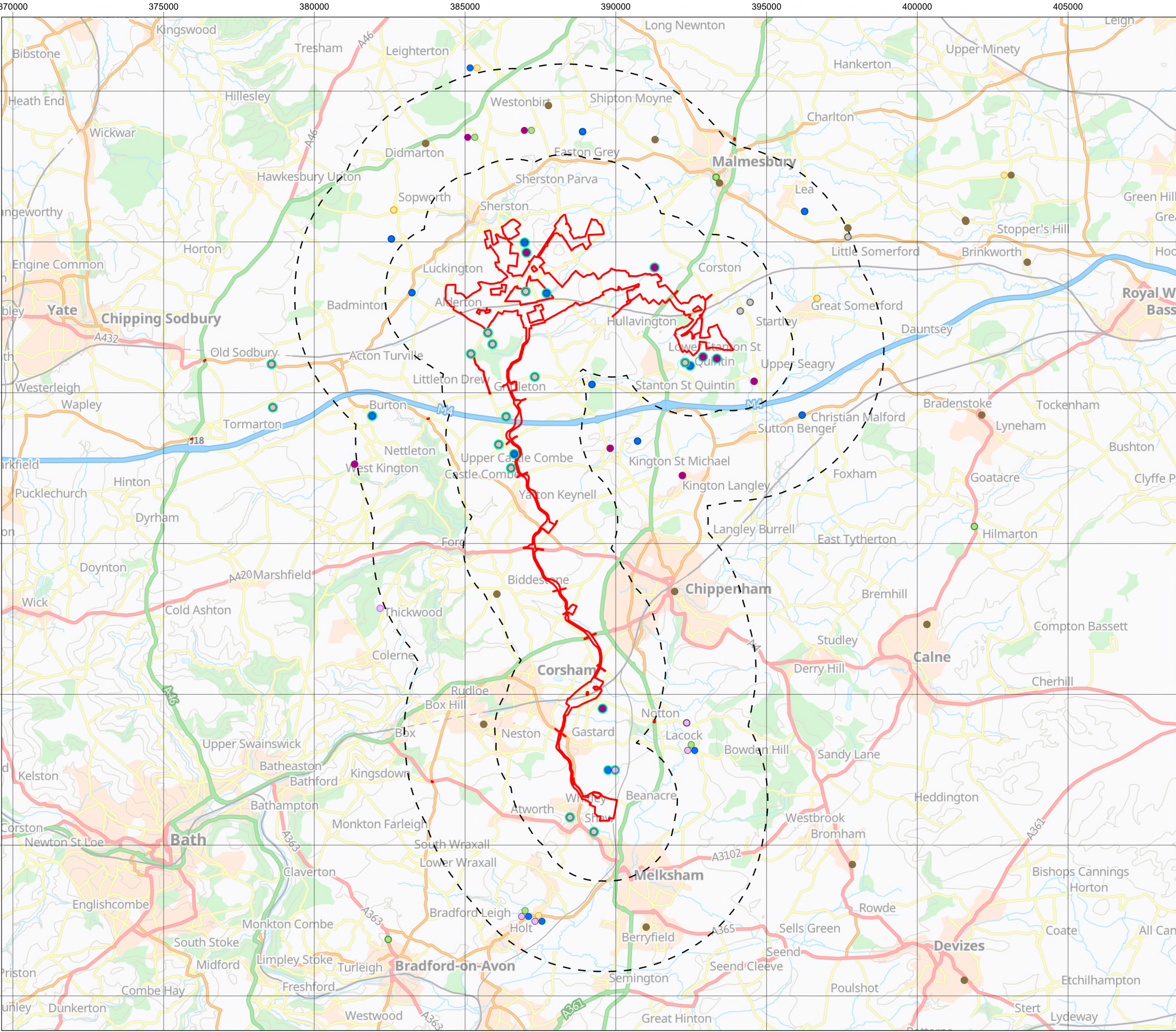


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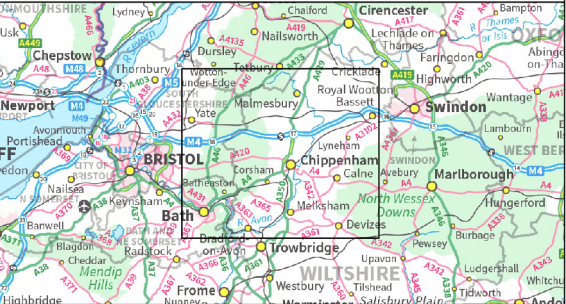
Title:
Figure 1-2: Location of Equine Businesses and Private Receptors

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Technical Note on Impacts to Equine Businesses

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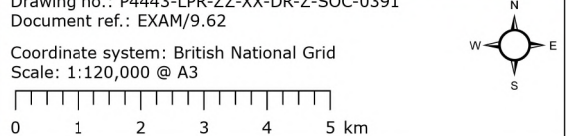
- Order Limits
- 2km and 5km Study Areas for Tourism and Recreation
- Equine Facility Assessed in ES [APP-241]**
 - Livery
 - Stud
 - Private
 - Livery & Riding School
- Other Equine Facility**
 - Events Venue
 - Health Service
 - Livery
 - Riding School
 - Stud
 - Supporting Service
 - Private
 - Livery & Events Venue
 - Livery, Riding School & Events Venue
 - Livery, Riding School & Health Service
 - Stud & Health Service
 - Events Venue; Supporting Service
 - Other

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Document ref.: EXAM/9.62

Coordinate system: British National Grid
Scale: 1:120,000 @ A3





Annex B Equine Industry Case Studies

This section presents case studies that provide context on business impacts, key learnings, and mitigation measures from projects of a similar scale and nature to the Scheme.

Case Study 1 - Sunnica Energy Farm (UK)²⁹

Sunnica Energy Farm is a consented solar farm with battery storage currently in a pre-development stage in East Cambridgeshire and West Suffolk. The project received a Development Consent Order in July 2024. As part of the application, a Horse Racing Industry Impact (HRII) Assessment was undertaken due to the perceived sensitivities of the scheme on the horse racing industry in Newmarket (as an internally renowned racing centre). The assessment highlighted several potential business effects for the equine industry including:

- Reduced availability of land used for grazing, exercise, or training routes
- Temporary construction disturbance affecting horse movement, rider safety, and business continuity
- Changes to local rural character, which may influence the attractiveness of the area for equine operations and local tourism
- Concerns about traffic, noise, dust, lighting, and visual change affecting horse behaviour and client confidence
- Cumulative effects where multiple developments are already present in the local area.

In business terms, these impacts had the potential to translate into additional operating costs, reduced client confidence, the need to change training patterns, and possible disruption to income-generating equine services.

Mitigation measures proposed include:

- Retaining or creating safe access routes for horses and equestrian vehicles
- Using construction management controls to minimise noise, dust, and visual disturbance such as mitigating construction traffic through construction traffic routing and timing through a Construction Traffic Management Plan (CTMP)

²⁹ Lichfields (2022) Sunnica Energy Farm Horse Racing Industry Impact Assessment. Available at: <https://nsip-documents.planninginspectorate.gov.uk/published-documents/EN010106-004248-8.10%20Horse%20Racing%20Industry%20Impact%20Assessment.pdf>

- Avoiding high-activity periods where equine operations are most vulnerable for example, undertaking construction works after 10am (when use of the gallops has finished)
- Installing screening where views, lighting, or movement could affect horses such as by adding additional planting to ensure there are no views from the Snailwell Gallops into the site.

Where these measures are secured through planning or construction management commitments, residual impacts on equine businesses are more likely to remain manageable.

Case Study 2 – Membury Solar Farm (taken from the HRII Lichfields report)

Membury Solar Farm is a 17 MW solar farm in West Berkshire, Southeast England which has been operational since 2015. The Solar Farm is located within 5km of Lambourn which is one of the largest recognised training centres for racehorses in the UK. When reviewing Membury Solar Farm's planning application, it is noted that:

- no objections were raised by members of the Horse Riding Industry
- there were no highways objections and that the impact would be temporary
- no specific consideration was given at planning stage of the development's impact on the Horse Riding Industry at Lambourn
- a Landscape and Visual Impact Assessment supported the application, and this found that the development would only be visible from a single byway.

Case Study 3 – Lower Thames Crossing

The Lower Thames Crossing is a 14.3-mile new road and tunnel connecting Kent and Essex in the UK with major construction and tunnelling beginning in 2028. Engagement during pre-submission and Examination stages took place with a local horse-riding school potentially impacted by LTC.

The assessment highlights several potential business effects for equine facilities including:

- although vehicular access to the school would be affected, a diversion route would be put in place
- noise spikes such as piling, earthworks, reversing vehicles etc.

Numerous meetings took place with the riding school operator to understand and address concerns regarding construction impacts. An equine specialist produced a preliminary risk assessment which was shared and discussed with the riding school owner and which concluded that construction impacts could be managed by working closely with the school to give advance warning of those particular types of activity

and adjusting lesson times. It was also agreed that the riding school be notified of any potentially noisy works in advance of works.

Case Study 4 - Wallaroo Solar Farm (Australia)³⁰

Wallaroo Solar Farm is a 100 MW proposed solar farm located in New South Wales, Australia. The project is in the final stage of the development process and provides a strong case study for a proposed solar farm and its impacts on nearby equine businesses. A key objection to the project was submitted by the Gooromon Park Horse Riding Centre (Gooromon Park, 2024), located less than 2km from the proposed development citing reasons including:

- Construction traffic on local roads could create safety risks for horses, riders, horseboxes, staff and clients, particularly on narrow rural roads also used by horse riders and other vulnerable users
- Concerns of increased heavy vehicle traffic and noise spooking horses, affecting horse behaviour and increasing the risk of falls and liability incidents for the business
- Noise and disturbance could undermine the quiet environment required for lessons and equine therapy, particularly for neurodivergent clients
- The centre's commercial attractiveness and client confidence could be impacted, as the business relies on a calm rural setting and safe access conditions
- Lack of clear consultation, which created uncertainty for the business and limited its ability to understand and plan for the potential effects.

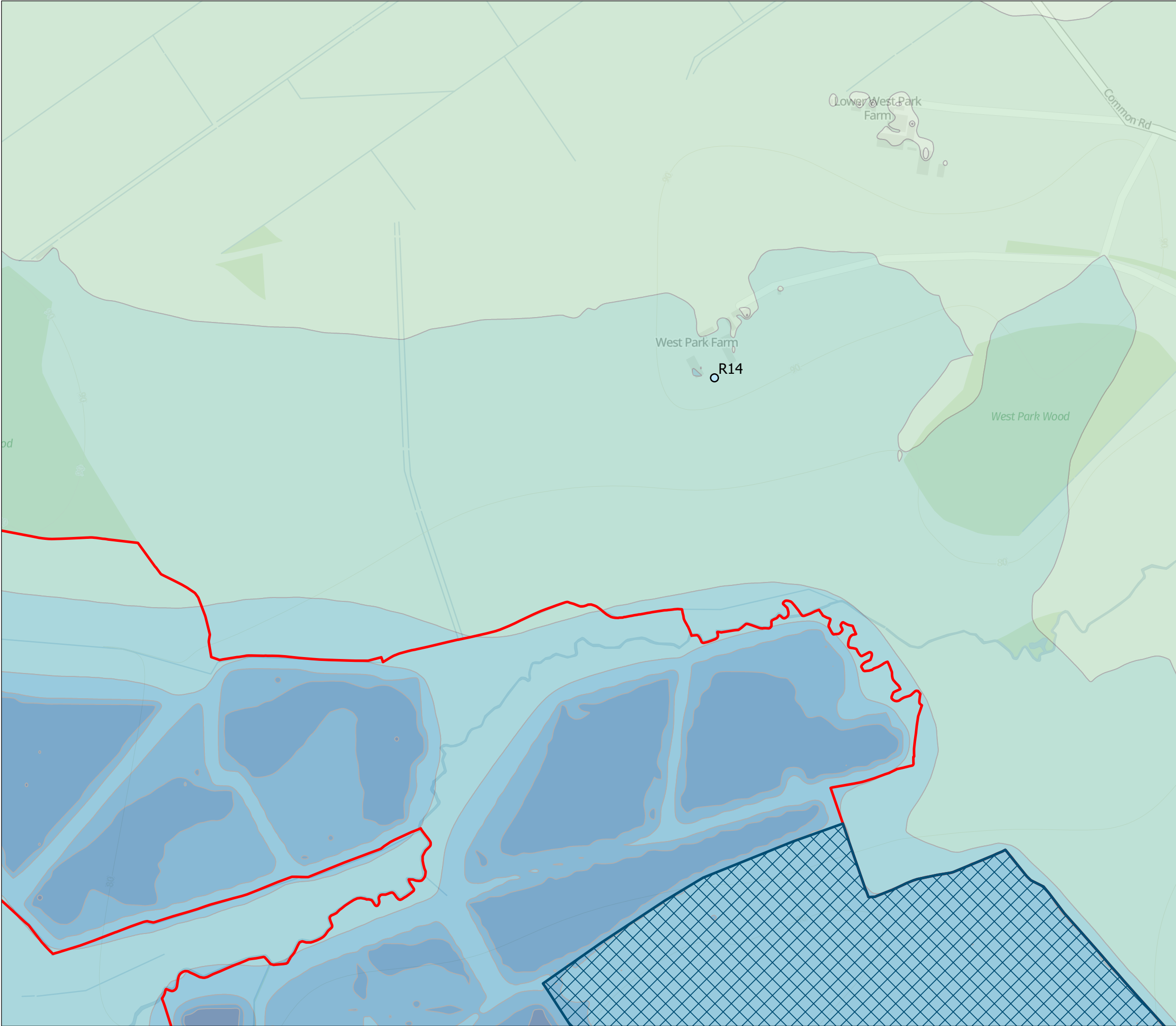
It was identified that 'equine impacts are business impacts': effects on horses, riders and access can directly affect revenue, service delivery, safety and reputation. Construction-phase effects may be the most significant, especially where equine businesses depend on quiet conditions and local road movements. Sensitive client groups also matter, with impacts not limited to horse welfare, but potentially also affecting therapeutic and educational equestrian services. Perception and confidence are important: if clients view a site as unsafe or unsuitable, this can create real commercial impacts even where technical mitigation is proposed.

A key lesson has been the importance of early and ongoing engagement with equine businesses. Clear communication and meaningful consultation can help ensure that stakeholders have an appropriate understanding of the Project, provide opportunities

³⁰ NGH Consulting (2023) Environmental Impact Statement: Wallaroo Solar Farm. Available at: <https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSD-9261283%2120230421T072230.528+GMT>

to discuss potential concerns and mitigation measures, and support constructive dialogue between the equine sector and the Project team.

Daytime Construction Noise Contours



Title: Figure A1:
Daytime Construction Noise Contours
West Park Farm Stud

Document:
Equine Business Report

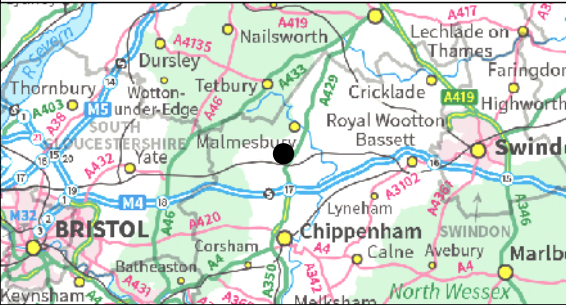
Legend:

- Order Limits
- Cable Route Corridor
- Solar PV Site Receptors

Construction Noise Contours $L_{Aeq,16h}$ dB at 1.5m (Free Field)

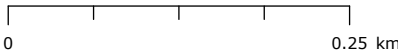
	<=35
	>35 to <=40
	>40 to <=45
	>45 to <=50
	>50 to <=55
	>55 to <=60
	>60 to <=65
	>65 to <=70
	>70 to <=75
	>75

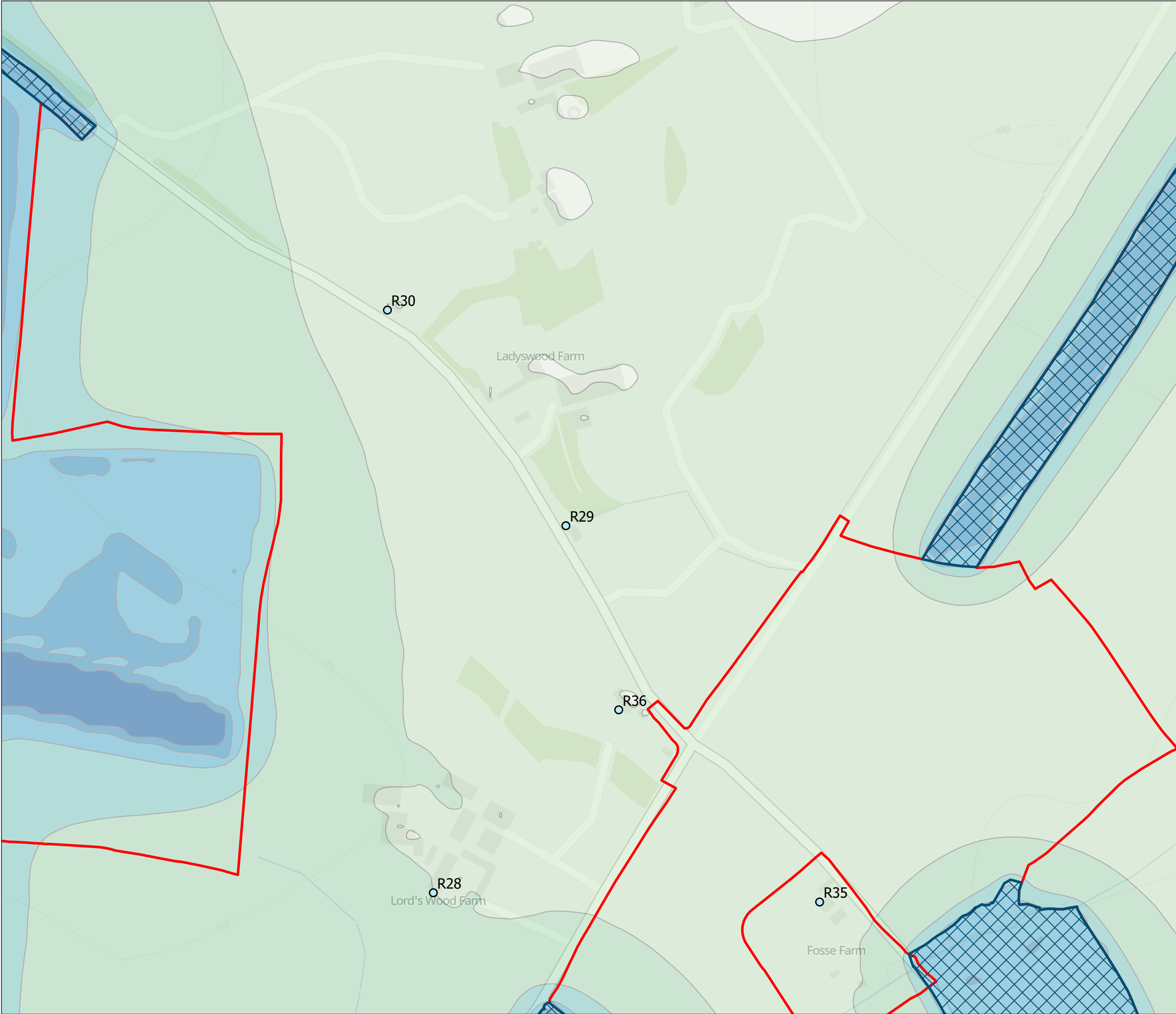
Data: IGP, 2024
Base map: © Crown copyright and database rights 2024 Ordnance Survey 0100031673. Contains OS data © Crown Copyright and database right 2026. Contains data from OS Zoomstack



APFP Regulation: 5(2)(a)
Application Doc No.: APP/6.2
Drawing no.: A-01

Coordinate system: British National Grid
Scale: 1:5,536 @ A3





Title: Figure A2:
Daytime Construction Noise Contours
Ladyswood Stud

Document:
Equine Business Report

Legend:

- Order Limits
- Cable Route Corridor
- Solar PV Site Receptors

Construction Noise Contours $L_{Aeq,16h}$ dB at 1.5m (Free Field)

- >45 to <=50
- >50 to <=55
- >55 to <=60
- >60 to <=65
- >65 to <=70
- >70 to <=75
- >75

Data: IGP, 2024
Base map: © Crown copyright and database rights 2024 Ordnance Survey 0100031673. Contains OS data © Crown Copyright and database right 2026. Contains data from OS Zoomstack

APFP Regulation: 5(2)(a)
Application Doc No.: APP/6.2
Drawing no.: A-02

Coordinate system: British National Grid
Scale: 1:3,543 @ A3