

NON TECHNICAL SUMMARY

Introduction

- 1.1 This document, known as a Non-Technical Summary (NTS), describes in straightforward language, the likely significant environmental effects of Ecotricity’s outline planning application for ‘Eco Park – Revised Scheme’, on land adjacent to Junction 13 of the M5. This is a resubmitted application following the refusal of S.16/0034/OUT by Stroud District Council. All elements of the outline application are the same, except that one of the grass practice pitches is replaced with an all-weather pitch.
- 1.2 It should be noted that the suit of documents submitted as part of this amended planning application, including the Environmental Statement and associated documents, replaces all previous submissions for this Site in their entirety.
- 1.3 This outline application seeks permission to establish the principle of development at this site. If successful, further applications will follow in due course (known as Reserved Matters Applications) to confirm the detailed design of the proposals. Detailed permission is only being sought for the access to the development via the A419 as part of this application.

About the Revised Scheme

- 1.4 As illustrated on **RS Figure 1.1 Concept Plan** appended to the back of this document, the proposal for the Revised Scheme is for a sports complex that will provide replacement sports facilities for Forest Green Rovers Football Club (FGRFC). The complex will include a centrepiece stadium (designed by world-renowned architects Zaha Hadid) and additional training pitches to serve FGRFC (the ‘Revised Scheme’).
- 1.5 Detailed planning permission is being sought for the following access arrangements:
- Signalised site access off the A419 (as for the 2016 application) with full dualling of the A419 from the M5 Junction 13 to Chipmans Platt.
 - A signal controlled pedestrian and cycle crossing of the A419, with a combined footway/cycleway on the south side of the A419 which will link to National Cycle Route 45 (NCN45) at Grove Lane.
- 1.6 **RS Figure 1.2** shows the Site’s local context in the surrounding area and **RS Figure 1.3** shows the Site’s wider context. The key components of the Revised Scheme are listed in **Table 1**. Final areas will be determined at Reserved Matters based on the parameters set out in the ES.

Table 1: Key Components of the Revised Scheme

Use	Use Class	Indicative Amount Based on Concept Plan (RS Figure 1.1)	Indicative
Sports Complex		13.5ha	

Use	Use Class	Indicative Amount Based on Indicative Concept Plan (RS Figure 1.1)
Stadium including ancillary facilities designed for a capacity of 5,000	D2	To be determined at Reserved Matters. Form and design of stadium is set out in the Design and Access Statement.
One full-sized grass pitch, one full-sized all-weather pitch and a goal practice area	D2	To be determined at Reserved Matters.
Car parking and associated infrastructure	N/A	To be determined at Reserved Matters. Parking will be provided for approximately 1,700 vehicles, coaches and bicycles (lit to previous arrangements, LED luminaries complete with street optics and including sensors).
Access Works		2.5ha
Including: signalised site access off the A419; full dualling of the A419 from M5 J13 to Chipmans Platt; a signal controlled pedestrian and cycle crossing of the A419 with a combined footway/ cycleway on the south side of the A419 (which will link to National Cycle Route 45 at Grove Lane).	N/A	2.5ha

About Ecotricity

- 1.7 Ecotricity was founded in 1995 as the world’s first green energy company and now supplies over 200,000 customers across the UK from a growing fleet of wind and sun parks. More recently Ecotricity has introduced green gas to Britain and built and run Britain’s first national network of electric vehicle charge points, the Electric Highway.

About Forest Green Rovers

- 1.8 FGRFC was founded in 1889. The club is currently the joint-highest ranked football side from Gloucestershire in the football pyramid. Attendances at FGR games have grown 73% over the last four seasons. The urgency of the Revised Scheme has been increased as a result of FGRs promotion into the Football League (League 2), for the first time in its history at the end of the 2016/ 17 Season, and consequently a further increase in attendances.
- 1.9 FGR are currently based at The New Lawn in Nailsworth, Gloucestershire. The New Lawn was built in 2006 and has a capacity for a crowd of just under 5,000. The ability of FGR to operate sustainably is hindered by the location of The New Lawn, which is not readily accessible. Nailsworth has no railway station (Stroud is the nearest) and is some nine miles from the Stroud junction of the M5 motorway. There is also a chronic lack of parking and facilities for fans.
- 1.10 On the day of a match there can be a significant increase in traffic within the residential areas in the vicinity of the existing New Lawn ground. Automatic traffic counts undertaken on Nympsfield

Road in September and October 2015 found that in some cases, the increase in traffic was over 150%.

- 1.11 Since FGRFC's promotion, average spectator attendances have increased from an average of 1,753 fans last season, to an average of 2,234 per game during the current season to date (an increase of approximately 27% when compared to the 2016/2017 season). With attendances expected to continue to increase, this has precipitated this altered strategy to the planning application, with a focus on obtaining the permission for a new home for FGRFC.
- 1.12 As such, it is clear that as the club progresses, and attendances increase, the number of vehicles in association with FGR, particularly in relation to the limited transport options in proximity of The New Lawn, are also anticipated to increase. Therefore, the relocation of FGR to a more accessible site would be of significant benefit.
- 1.13 Car parking at The New Lawn is limited – there are just 228 spaces onsite and the Club regularly uses overflow car parking at Nailsworth Primary School and operates a Park and Ride from local company Renishaw's for bigger games. In any event, fans invariably park in adjacent residential areas, causing significant congestion. This has led to parking restrictions being implemented on match days. A more accessible location, with more on-site car parking and better public transport links, will enable the club to grow its support to sustainable levels for the league it plays in now, and for those above.
- 1.14 The existing FGR stadium (The New Lawn, Nailsworth) was subject to recent planning application (S.17/0850/OUT), for the demolition of the stadium and re-development to provide the erection of up to 95 dwellings, up to 0.11 hectares of community uses (which may recreation/restaurants/cafes/office space), landscaping, open space, associated access, parking and infrastructure. Whilst this application has been withdrawn, a resubmission is due imminently, and this will be dependent (and conditioned) upon the replacement sporting facilities being provided as part of the Revised Scheme.

Site Description

- 1.15 As this is an amendment to the previously submitted and larger Eco Park application, the Redline Boundary remains unchanged. It includes the area south of the A419 and east of the M5 (formerly the Sports Complex), the area north of the A419 and east of the M5 (formerly the Green Technology Hub) and the area south of the A419 and west of the M5 (formerly the Nature Conservation Area). However, only the area north of the A419 and east of the M5 is being proposed for development ('Development Footprint') as part of this Revised Scheme.
- 1.16 The Site consists of relatively species poor agricultural land throughout with fields currently used for cattle grazing and cutting of hay. The Site is bisected by the A419, running in a north-west, south-east direction. The Site is fairly flat with a slight fall south across the Site from 20m to 15m Above Ordnance Datum.

Design Evolution

1.17 As a result of embedded mitigation via design iterations, a number of potentially significant environmental effects have been reduced in severity. Consequently, the number of specific mitigation measures proposed to reduce potential significant effects is also reduced.

1.18 Key design iteration changes can be summarised in **Table 2**.

Table 2: Design Iterations

Iteration	Changes
1	<ul style="list-style-type: none"> • Environmental Constraints: were taken into account in order to build embedded mitigation into the Revised Scheme. • William Morris College: was identified as key receptor at the outset and ways to reduce the effect upon them were considered. • Access: a new access point was built in due to both proximity of the M5 and existing congestion issues along the A419.
2	<ul style="list-style-type: none"> • Access: the Concept Design was adjusted to accommodate the introduction of a signalised junction as opposed to a roundabout, along with a separate access off Grove Lane for buses to utilise on matchdays via the Stonehouse development. • Pedestrian Access: various options were considered, including the location of footways. The signalised junction was considered the most appropriate means of accessing the Site from the A419. • Footpath / Cycle Link: was built in to be delivered on the A419 between the new junction and Chipmans Platt roundabout improving the Site's sustainability credentials and reducing the potential traffic effect.
4	<ul style="list-style-type: none"> • Topographic Data: was overlaid to further inform the detailed positioning of the new and maintained green infrastructure. This included incorporating the tree survey ensuring certain hedgerows and trees identified for retention were incorporated. • Access: the most notable change was the relocation of the junction slightly further east along the A419 to reduce the effect on surrounding trees.
6	<ul style="list-style-type: none"> • Concept Design: the design was altered so the pitches to be delivered by the Revised Scheme would be located solely for the use of FGR. This avoids the need for flood lighting, and potential for effects on surrounding receptors such as residential properties and the identified bat corridors. • Landscape Bund: a bund was introduced to reduce potential effects in relation to noise, lighting and visual intrusion on neighbouring properties but also ecological receptors. In particular this will allow for a bat commuting corridor to provide commuting and foraging opportunities for bats while preventing light spill. • Parking: approximately 1,700 car parking spaces are provided in order to comply with Gloucestershire County Council Highways requirements. Capacity for 100 cycle spaces will also be provided.

1.19 The key design iterations discussed in **Table 2**, and illustrated in **RS Figure 1.1** includes the embedded mitigation within the design required to reduce potential significant effects. However, the Revised Scheme Concept Plan may still be subject to change within the parameters that have been applied for.

Planning Policy Context

- 1.20 The key policies relating to the principle of development within the adopted Development Plan are Core Policy 15 and Delivery Policy EI11. There are no policies relating to sports provision within the Eastington Neighbourhood Plan, although Policy EP9 in relation to green corridors and public rights of way has been taken into account. Core Policy CP15 generally seeks to restrict all new developments outside identified settlement boundaries. Despite this minor conflict (being outside a settlement boundary), there is a need for FGR to improve its facilities to enable it to continue to develop. There are no alternative sites available within the District where this can be achieved.
- 1.21 Overall, the proposals will provide facilities for FGR which will allow the club to continue to develop, an urgent matter as a result of its promotion into League 2. The existing stadium is constrained, and the proposals reflect FGR's aspirations for long-term, sustainable growth to provide a hub, combining the new stadium with a range of training facilities for the First Team. The site is in an accessible and sustainable location for both players and fans of FGR and the proposal is essential for FGR's continued development. This is a material consideration which should be given significant weight in the determination of the application.
- 1.22 It is considered that the proposal is consistent with the Development Plan when read as a whole. Furthermore, the proposal is fully consistent with the NPPF and Sport England's guidance, and as such is acceptable in planning policy terms.

The Environmental Statement

- 1.23 The Environmental Statement and this Non-Technical Summary represent the output of the Environmental Impact Assessment process, which has been undertaken in accordance with the Town and Country Planning (Environmental Impact Assessment) Regulations 2011. Since the submission of the original scheme in January 2016, the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 came into force on 16th May 2017. However, 2011 EIA Regulations will continue to govern the determination of existing planning applications where an Environmental Statement has been submitted before 16th May 2017, or alternatively, where a request for a scoping opinion had been made before that date, both of which are relevant in this instance, and therefore this Environmental Statement continues to be submitted and determined under the 2011 Regulations.
- 1.24 It should be noted that the 2017 Regulations now contain additional matters which were not required to be assessed in the 2011 Regulations. As these matters are clearly important, whilst this ES will be determined in line with the 2011 Regulations, the additional matters which would have been required under the 2017 Regulations have also been assessed.
- 1.25 An Environmental Statement should, in accordance with the Regulations:

“... identify, describe and assess in an appropriate manner...the direct and indirect effects of a project on the following factors:

- *Human beings, fauna and flora;*
- *Soil, water, air, climate and the landscape;*
- *Material assets and the cultural heritage;*

The interaction between the factors mentioned in the first, second and third indents.”

1.26 This Non-Technical Summary explains the predicted environmental effects of that assessment in non-technical language. Predicted effects can be either ‘significant’ or ‘not significant’ in accordance with the EIA Regulations. Effects can also be beneficial or detrimental (adverse), as well as short term (for example, for a short duration of the construction period) or long term (for example, more than 10 years). Any identified significant adverse environmental effects of the Revised Scheme should be, in order of priority, avoided, minimised, remediated or compensated. These measures are collectively known as ‘mitigation’. Any significant adverse residual effects, which remain after mitigation, must also be stated.

1.27 The Environmental Statement:

- Describes the location of the Site and the surrounding area;
- Describes the development proposals;
- Identifies the environmental issues arising;
- Assesses the potentially significant environmental effects;
- Describes measures to avoid or minimise any detrimental effects;
- Explains residual effects.

1.28 The scope of the work assessed in the Environmental Statement has been determined through ongoing discussions between the project’s specialist technical consultants and Stroud District Council, together with other statutory and non-statutory consultees and organisations such as Natural England. There has also been extensive public consultation. The resulting Environmental Statement includes topics on:

- Air Quality and Dust;
- Archaeology and Cultural Heritage;
- Ecology and Nature Conservations;
- Flood Risk, Hydrology and Drainage;
- Landscape and Visual;
- Lighting;
- Noise and Vibration;
- Socio-Economics;
- Transport and Access;
- Climate Change;
- Major Accidents and Disasters.

1.29 The Environmental Statement is provided in four parts:

- **Non-Technical Summary** – this document.
- **RS Volume 1: Main Text** – contains a detailed description of the proposal, evaluates the existing environmental conditions, and identifies and addresses the predicted significant environmental effects that could occur as a result of the Revised Scheme. As part of this process it also provides detailed analysis of the design process and how the design has been modified during the course of its evolution to take account of identified environmental effects.

- **Volume 2: RS Figures** – contains all the illustrative material referred to in the Main Text (Volume 1).
- **Volume 3: RS Appendices** – contains details of assessment methodologies, technical data and other background information.

Environmental Effects

- 1.30 The following provides a summary of each of the effects described in **Volume 1** of the Environmental Statement.

Archaeology and Cultural Heritage

- 1.31 **Chapter 7** undertakes an assessment of the below-ground archaeological resource, the visible archaeological resource, historic buildings and the historic landscape. This is referred to collectively as the ‘cultural heritage resource’. The chapter has been informed by a staged programme of archaeological/ heritage research and investigations, including desk-based assessment; assessment of the setting of heritage assets; geophysical survey; and archaeological trial trenching.
- 1.32 **Construction effects:** The Revised Scheme will not harm the setting of the designated Industrial Heritage Conservation Area. The only archaeological remains of significance within the Redline Boundary comprise those of the Roman ‘Whitminster’ villa which is reported to be in poor condition. The Revised Scheme does not affect these remains.
- 1.33 **Operational effects:** With regard to non-physical effects upon the setting of Listed buildings, no adverse effects of the development will occur. A very small degree of harm would be occasioned to the heritage setting of the Grade II listed Westend Farmhouse and Mulgrove, both on Grove Lane, although these effects have not been found to be significant. No other designated heritage assets will be harmed.
- 1.34 No development will take place within the Stroud Industrial Heritage Conservation Area (IHCA), or in its immediate vicinity.
- 1.35 A consultation response for the Revised Scheme has been provided by the archaeological officer at Gloucestershire County Council. In summary, the officer has confirmed that “*there would be no objection in principle to development affecting those remains, with the proviso that a programme of archaeological investigation and recording is undertaken, secured as a condition of any planning permission granted for this scheme.*” No objection to the Revised Scheme has also been received by Historic England.
- 1.36 Therefore, **no significant effects** are anticipated by the Revised Scheme.

Ecology and Nature Conservation

- 1.37 **Chapter 8** assesses the likely significant effects on the flora, fauna and habitats potentially affected by the construction and on-going use and management of the Revised Scheme.

- 1.38 A desk study within 5km of the Site identified two internationally important sites for nature conservation, four nationally important sites, 18 Key Wildlife Sites, two of which are adjacent to, and partly within, the southern Site boundary. The Gloucestershire Environmental Records Centre also has records of otter, badger, hare, water vole, reptiles and amphibians within 5km of the Site centre and records of fourteen species of bats within 10km of the Site. A total of 232 species of birds have been recorded within 5km, largely due to the proximity of the Site to the Severn Estuary SPA.
- 1.39 A Phase I habitat survey was conducted to identify both habitats and the potential for the presence of protected species. Potential habitat suitable for otter, water vole, badger, bats and farmland birds was identified on the Site. Subsequent surveys were carried out to verify the presence of these protected species. An indicative National Vegetation Classification survey was carried out to provide further information on plant community structure. The main habitats present are grassland, hedgerows, and small patches of woodland and mature trees. There are two permanent streams present on the boundary of the Site and a number of internal periodically wet ditches which had dried out by late spring.
- 1.40 A variety of bat surveys were conducted (transect surveys, tree emergence surveys, and static monitoring), which identified at least ten species of bat using the Site. No day roosts were identified. With regard to bats, the detailed design of the Revised Scheme, the retention of mature trees and hedgerows combined with creation of orchards, ponds, bat commuting corridors and bat-friendly lighting throughout the Site will reduce potential negative effects to not significant.
- 1.41 Bird surveys found 52 species of birds, of which 31 were breeding. Five UK red listed species (herring gull, skylark, song thrush, house sparrow and starling) were recorded. Construction and operation effects on birds are perceived to be minimal and after mitigation not significant.
- 1.42 There was no evidence of other protected species including amphibians, reptiles or hazel dormice on Site.
- 1.43 A Green Infrastructure Strategy has been integral to the proposals and outlines the enhancements for biodiversity, mitigation for climate change, ecosystem services, landscape improvements as well as potential social and well-being benefits which will result in a net gain in biodiversity (including 1,800m of hedgerows and 500 trees).
- 1.44 Therefore, following mitigation and enhancements, **no significant effects** are therefore anticipated by the Revised Scheme.

Flood Risk, Hydrology and Drainage

- 1.45 **Chapter 9** assesses the likely significant effects of the Revised Scheme on flood risk, hydrology and drainage in line with current policy and legislation. A Flood Risk Assessment has also been completed and confirms that the Development Footprint will be within Flood Zone 1. The assessment identifies the potential effects occurring through the construction and operation of the development and outlines the mitigation measures required to offset significant environmental effects.

- 1.46 **Construction effects:** During the construction period adverse effects may arise from the potential for uncontrolled sediment runoff or spillages of chemical pollutants (oils, cements, paints etc.) entering the surface water network. However, mitigation measures to reduce such effects will be secured through the production of a Construction Environmental Management Plan (CEMP) for the development.
- 1.47 **Operational effects:** During the operation phase, adverse effects may arise from uncontrolled spills and leaks of vehicular fluids entering the surface water network or surface water flooding caused by heavy rainfall falling on the new road and areas of hardstanding.
- 1.48 Embedded mitigation incorporated through the use of Sustainable Drainage Systems within the drainage design may give rise to positive biodiversity and water quality effects during the operation of the Revised Scheme. The focus on biodiversity enhancements could deliver **significant positive effects**, whilst all other effects on hydrology have been assessed as not significant.

Landscape and Visual

- 1.49 **Chapter 10** contains an assessment of the potential significant environmental effects on the landscape and visual resource of the Revised Scheme.
- 1.50 The Revised Scheme will be designed and constructed to the highest architectural and sustainability standards. The overall design of the Revised Scheme has been informed by an integrated landscape strategy which seeks to create an attractive ‘parkland’ setting for Zaha Hadid Associates’ (ZHA) landmark stadium, one which will both enhance the landscape and visual amenity of the Site itself and preserve the character of the surrounding area. The Site layout, stadium design and choice of materials have been informed by the character of the locality as reflected in the landscape strategy which includes generous setbacks and landscape buffers adjacent to neighbouring settlements and properties. Of particular import is the use of natural materials (timber) in the stadium building, with non-reflective, recessive and muted colours and textures, resulting in a striking landmark structure. This exciting new landscape feature, whilst sensitively responding to its rural surroundings in both form and appearance, will create a landmark building at this ‘gateway’ to Stroud.
- 1.51 **Operational Landscape effects:** The Revised Scheme will have a significant adverse effect on the landscape fabric of the Site and will significantly change the character of both the Site itself and the immediate surrounding area of Stroud District up to a distance of approximately 250m from the Development Footprint where uninterrupted visibility of the proposal exists. These changes to the local landscape, although transformative and significant in the EIA context, will involve an innovative and sensitively designed landmark building, together with sports pitches and informal open space, set within a framework of existing hedgerows, mature trees/ woodland and appropriate new planting, including orchard trees. The remainder of Stroud District’s landscape will not be affected to any significant degree character wise. No significant landscape effects are predicted to arise beyond 250m, including on the character and special qualities of the Cotswolds AONB and its prominent escarpment, or Registered Parks and Gardens in the vicinity.

- 1.52 **Operational Visual effects:** Significant residual visual effects are predicted for users of Eastington Footpath Nos 37 and 38 crossing the Development Footprint and short stretches of public highway adjacent to the Site including the M5 motorway, the A419 and Grove Lane. The visual amenity of three dwellings adjacent to the Site, namely Mole Cottage, Ivy Cottage and Westend House is likely to experience significant adverse change in the short term due to relatively unrestricted visibility of the Revised Scheme (or part thereof) at close range. However, these initially significant visual effects will reduce as the embedded mitigation establishes and matures over time to become not significant adverse residual effects in the longer term. Other visual receptors, including residential properties/ settlements at Westend, Nupend and Chipmans Platt (including West of Stonehouse), Eastington and Claypits, and recreational resources and publicly accessible routes and land in the vicinity, will not experience significant visual effects. No significant adverse visual effects are predicted to arise on the Cotswold Way or the Thames and Severn Way, or any publicly accessible land such as commons, National Trust property, access land, country parks and village green.
- 1.53 **Significant adverse effects** are anticipated on a small area of landscape and a limited number of visual receptors located on and/ or immediately surrounding the Site within approximately 250m of the Development Footprint (and up to 500m for cumulative effects).

Socio-Economics

- 1.54 **Chapter 11** assesses the potential effect of the Revised Scheme on socio-economic conditions in Stroud District. It assesses potential effects on the construction sector, total employment and access to community facilities.
- 1.55 Stroud has a successful economy and strong labour market, with low rates of unemployment and highly skilled residents. Recent trends show that employment in the District is slowly recovering from the economic downturn. The construction sector is an important source of employment. However the sector is mostly made up of small businesses and there are very few large companies specialising in commercial construction, which may limit the potential for a large proportion of construction expenditure to be retained locally.
- 1.56 The New Lawn Stadium includes a private gym and fitness studio which are available to members, and a conference room which is available for community use. Although the gym is well-used, demand for the conference room is very low, with no regular community events using the room at present. There are alternative gym facilities and a well-used community centre located in the centre of Nailsworth. There is also a bar within the New Lawn Stadium which is only open on match days and for events held at the club. There are no pubs or restaurants in the immediate vicinity of the ground which are highly dependent on the income generated through match day supporters.
- 1.57 The Revised Scheme will provide some socio-economic benefits for Stroud District. The Revised Scheme is expected to create 120 Full Time Equivalent jobs per annum during the construction phase, and 47 permanent Full Time Equivalent jobs once completed (of which two are net additional). The increased capacity and attendances at the new stadium will result in some increase in expenditure in Stroud District but this is likely to be negligible. There may also be socio-economic benefits from the new housing which is proposed for the New Lawn site under a separate planning application (although this has not been assessed as part of this ES).

1.58 The closure of the New Lawn stadium will result in the loss of some sporting facilities to local communities, including the private gym and fitness studios. However local residents could use alternative gym facilities available in Nailsworth. Therefore, there will only be a limited loss of amenities for local residents.

1.59 **No significant effects** are therefore anticipated by the Revised Scheme.

Transport and Access

1.60 **Chapter 12** assesses the potential significant environmental effects of the Revised Scheme in terms of transport. A comprehensive Transport Assessment has been prepared to inform this assessment, and examines in detail the existing transport conditions around the Site.

1.61 **Construction effects:** During the construction phase of the Revised Scheme, the effects of construction traffic is expected to result in around a 2% increase in total traffic on the A419, and 12% - 13% increase in HGV traffic. The majority of construction traffic is expected to be routed via the A419 and M5 to the west of the site; no construction traffic will be permitted to use Grove Lane or Spring Hill. The construction period is medium-term and therefore only temporary in its effects. Mitigation measures to address the transport effects associated with the construction of the Revised Scheme will be coordinated and implemented by means of a Construction Traffic Management Plan which will be secured by a planning condition.

1.62 **Operational effects:** The Revised Scheme during its operational phase will increase travel demand in the area before and after an FGRFC match. A number of improvement measures are embedded in the proposal including:

- Signalised junction on the A419;
- Pedestrian crossing phase of the A419 within the traffic signals;
- Dualling of the A419 from the M5 to Chipmans Platt;
- The creation of a new footway to the south of the A419 carriageway, connecting to Chipmans Platt, the southern part of Stonehouse and the canal towpath;
- Bus and emergency vehicle access from Grove Lane;
- Pedestrian and cycle access from Grove Lane, including additional footway and crossing points.

1.63 Measures to encourage walking, cycling and public transport are to be implemented through a Travel Plan.

1.64 The traffic modelling indicates that journey times on the A419 corridor between the A38 and Horsetrough roundabout could increase by up to 1 minute 37 seconds during the match arrival and departure periods on a Saturday, and by up to 45 seconds during the weekday evening match arrival period. This could be perceived as a moderate negative effect by existing road users, although infrequent.

- 1.65 There could be a moderate negative effect in terms of severance, amenity, delay and fear and intimidation to users of PROW Footpaths Eastington 37 and 38, and National Cycle Route 45 before and after a match. However, this effect will be infrequent.
- 1.66 In terms of frequency, based on the 2017 – 2018 season, FGRFC home matches are expected to occur approximately thirty times per year, or two to three times per month on average. Dates and times of matches will be known in advance from the FGRFC website. Given the relative infrequency of home matches, and the fact that the timing of a non-match related journeys (vehicular, by cycle or on foot) could be adjusted if required to minimise the effect on an individual, the moderate negative effect before and after matches is considered acceptable.
- 1.67 On non-match days, pedestrians and cyclists could experience a moderate positive effect as a result of the introduction of the traffic signal controlled crossing of the A419 and improvements at Chipmans Platt roundabout. Drivers could experience a moderate positive effect as a result of the dualling of the A419 between the M5 Junction 13 and Chipmans Platt.
- 1.68 It is concluded that the additional travel demand can be safely and satisfactorily accommodated on the local transport network with the above improvement measures incorporated into the proposals.

Air Quality and Dust

- 1.69 The Revised Scheme has the potential to cause air quality effects at sensitive receptors in the vicinity. These are principally concerned with dust emissions during construction works, and road vehicle exhaust emissions during operation associated with traffic generated by the Revised Scheme. As such, an Air Quality Assessment has been completed in order to quantify these potential effects (**Chapter 13**).
- 1.70 **Construction effects:** The traffic routes employed by haulage/ construction vehicles and workers will be carefully specified to avoid congestion at sensitive areas. The construction traffic will be significantly lower than the estimated traffic generation modelled for the operational phase. Operational phase air quality effects generated by traffic has been assessed as not significant, and therefore the effect that the construction phase vehicles will have on the surrounding air quality will also not be significant.
- 1.71 A qualitative construction phase dust effect assessment has been undertaken. Construction activities were predicted to give rise to significant effects prior to mitigation. After Site specific mitigation measures have been applied (which will be secured via planning conditions), the residual effect is not significant. The potential dust effect on the River Frome was assessed as not significant.
- 1.72 **Operational effects:** An air quality dispersion modelling assessment of road traffic generated through operation of the Revised Scheme has been carried out following the latest guidance on local air quality management and development control.
- 1.73 The key operational phase air pollutants of concern are considered to be nitrogen dioxide and fine particulate matter. In order to quantify potential air quality effects at receptor locations, three

scenarios were assessed, including the 2016 base year, and 2021 without and with the Revised Scheme. Both 2021 scenarios include developments expected to be in place by this date, such as West of Stonehouse.

- 1.74 No exceedance of any of the relevant air quality objectives was predicted during the operational phase. Therefore, in EIA terms, the air quality effect is **not significant**.

Lighting

- 1.75 **Chapter 14** presents the findings of an assessment of the current artificial lighting levels at the Site and the predicted effects as a result of the assumed additional lighting which will be required for the Revised Scheme. This lighting is required to ensure minimum safe lighting levels are achieved for the roads and car parks within the Development Footprint, along with floodlighting associated with the stadium. The assessment covers the effects of artificial lighting from the Revised Scheme on existing residential properties, motorists (along the M5 and A419), the existing Stroud Industrial Heritage Conservation Area and local wildlife – especially bats.
- 1.76 **Construction effects:** Careful management of construction lighting can reduce any potential effect on the surrounding area. Measures such as orientating lighting away from surrounding receptors towards the site, and turning off lighting when not needed will be implemented. As such construction phase lighting is temporary and its effects can be minimised and secured by planning conditions.
- 1.77 **Operational effects:** Broad assumptions on the likely lighting strategy and locations of luminaires have been made based on the Concept Plan submitted with the application. A lighting design strategy has been developed to ensure that it complies with industry guidance for the intended uses. This will minimise light spillage beyond the site boundaries which might otherwise have a detrimental effect on neighbouring areas and local wildlife.
- 1.78 **Embedded mitigation** includes the use of back plates to remove unwanted light spill, and lighting positioned so that all luminaires are directed into the site minimising spill beyond the site boundary.
- 1.79 As bat species sensitive to lighting effects have been shown to be present in the local area, the above embedded measures have been approved by the ecologists to maintain ‘bat corridors’ for feeding and commuting routes around the site.
- 1.80 The Revised Scheme will introduce an addition to the existing sky glow when the stadium lighting is in operation (*i.e.* during low ambient lighting levels). The increase in sky glow has been identified as a major adverse effect and therefore **significant** in EIA terms, although this will be infrequent. After the mitigation, all other effects are **not significant** EIA terms.

Noise and Vibration

- 1.81 **Chapter 15** assesses the potential significant environmental effects of traffic and other noise and vibration sources on the existing residents surrounding the Site.

- 1.82 **Construction effects:** Noise and vibration from the construction phase has been predicted and assessed. Absolute noise levels and changes to the baseline noise from construction and operation of the development have been predicted and assessed.
- 1.83 At this stage, the specific construction methodology for the development has not been identified and therefore an indicative construction schedule has been used for the assessment, based on worst-case assumptions, development phasing and with plant operating at closest approach to the nearest receptors. In addition to noise generated through construction activity within the Development Footprint, consideration has been given to construction traffic noise. **No significant environmental effects** in EIA terms are anticipated.
- 1.84 **Operational effects:** Operational noise has been calculated for five scenarios that would occur in isolation of each other; namely: crowd noise during a football match, noise from the use of the training pitches, noise from any fixed plant associated with the stadium, vehicular noise from the use of the car park and the change in road traffic noise from vehicles using the existing highway network.
- 1.85 The assessment has been based on worst case assumptions that will result in noise levels at the higher end of the range anticipated. The maximum noise level events from the stadium are most likely to occur when goals are scored during matches. However, the duration and frequency of these events is very limited – during 2017 there will have been an average of three home games per month and three goals per game.
- 1.86 The noise level impacts have been calculated and assessed at five of the nearest noise-sensitive receptors to the Revised Scheme, including William Morris College (WMC) and associated Chipmans Platt. WMC is a specialist facility offering work-related learning and independence for young people with autistic spectrum and learning difficulties. It is recognised that sudden noise events of sufficient amplitude and character has the potential to disturb some people with autism. Therefore, this assessment has included additional criteria that accounts for the potential different magnitude of noise that can affect some people with autism.
- 1.87 **No significant environmental effects** were identified and no need for mitigation at WMC.

Climate Change

- 1.88 **Chapter 16** provides an assessment of the potential effects of the Revised Scheme on climate change ('climate change mitigation') and of the vulnerability of the Revised Scheme to climate change ('climate change adaptation').
- 1.89 The assessment reviews how climate change has been considered at all stages of project progression and assessment, including, for example, in the review of alternatives and the project design, how baseline environmental conditions may change with a changing climate and the resilience of mitigation measures to climate change. The studies are informed by an understanding of future climate change scenarios (for the south-west of England) and of the potential range of effects associated with these projections. These projections suggest that, in future, the Site and its surroundings will experience warmer, drier summers and warmer, wetter

winters. Whilst heavy rain days are likely to increase throughout the year, there is still considerable uncertainty with respect to likely changes in both wind speed and storm frequency/ intensity.

- 1.90 Although the level of anticipated greenhouse gas emissions has not been calculated, the applicant aspires to implement a range of outlined design and additional mitigation measures to deliver a ‘carbon neutral’ development (which achieves net zero carbon emissions) or ‘a carbon negative’ development (which removes more carbon emissions from the atmosphere than it creates). This is considered to accord with the principle of adopting a proportionate approach to assessment, particularly given the level of detailed design information available at this stage. Adopting a precautionary approach to the assessment, it is assumed that the development will be ‘carbon neutral’ rather than ‘carbon negative’. On the assumption that a robust and verified carbon accounting approach is adopted, and the Revised Scheme can be constructed and operated as a carbon neutral development, it is therefore considered that the Revised Scheme will have **no significant effects** in relation to climate change mitigation.
- 1.91 It is not anticipated that the scale of projected climate change identified will fundamentally alter baseline conditions or affect judgements included in this ES. It is also not considered that the Revised Scheme will materially affect the ability of receptors to respond to climate change. Overall, with the design and mitigation measures proposed, the Revised Scheme is considered to be resilient to projected climate change. It is therefore considered that the Revised Scheme will have **no significant effects** in relation to climate change adaptation.

Major Disasters and Accidents

- 1.92 **Chapter 17** provides an assessment of any potentially significant adverse effects on the environment deriving from the vulnerability of the Revised Scheme to risks of major accidents and/ or disasters.
- 1.93 An ‘Initial Risk Screening List’ ruled out any potential accidents and disasters that are considered to be highly unlikely to occur in the context of the project, such as earthquakes, wildfires or coastal flooding. Those major accidents and disasters that could not be screened out formed a further ‘Refined List’ and were subject to more detailed consideration. The Refined List included, for example, surface water flooding, storms, gales, extreme temperatures and pollution incidents.
- 1.94 Given a number of proposed design and operational measures, which are all considered and reported in the assessment, it is **not anticipated** that the Revised Scheme is vulnerable to any major accidents and/ or disasters which could result in **significant effects** on the environment.

Cumulative Effects

- 1.95 This assesses the Revised Scheme alongside potential effects anticipated from other proposed or recently consented developments. The scope of the other developments which needed to be considered alongside the Revised Scheme was agreed with Stroud District Council to include:

- Land West of Stonehouse, Nastend Lane, Nastend, Stonehouse: A mixed-use development comprising up to 1,350 dwellings and 9.3 hectares of employment land now under construction.
- Bonds Mill, Unit 27, Bristol Road, Stonehouse: Demolition of part of an existing warehouse including a hoist on the adjacent building, renovation of the remainder as office space and construction of a two-storey extension (application permitted).
- Westend Courtyard, Grove Lane, Westend, Stonehouse: Proposed extension to Westend courtyard to provide 10 additional offices (application permitted).
- Land At Javelin Park: Proposal for an Energy from Waste facility for the combustion of non-hazardous waste and the generation of energy (approved at appeal).
- Infilled canal to the south of the Redline Boundary: Canal realignment and regeneration scheme subject to successful Lottery bid funding from Cotswold Canals Trust (funding bid application recently submitted, and planning application understood to be due imminently).
- Land Adjacent To Eastington Trading Estate Churchend, Eastington, Gloucestershire: Erection of three industrial employment buildings with associated access, car parking and service yards (Outline application - Access, Layout and Scale included) (application permitted).
- Land Off School Lane, Whitminster, Gloucestershire: Residential development for up to 60 dwellings including infrastructure, ancillary facilities, open space and landscaping. Construction of a new vehicular access from School Lane (application refused).
- Former Standish Hospital and Former Westridge Hospital Standish, Stonehouse, Gloucestershire: Conversion and refurbishment of the former Standish Hospital complex, including Standish House (Building A), Stable Block (Building B), Ward Blocks (Buildings C & G), Standish Lodge (Building L), Building I, and demolition and works to associated out-buildings and gatehouse to form 50 dwellings; demolition of Westridge Hospital and associated building. Development of 98 new build homes within the grounds; conversion; associated surface vehicle and cycle car parking, pedestrian and vehicular access and associated ancillary development, landscaping, ancillary storage and plant and ecological bat housing; and all associated engineering works and operations (pending consideration).
- Land Adjoining Station Road Bristol Road, Stonehouse, Gloucestershire, GL10 3RB: Approval of Reserved Matters Appearance and Landscaping from appeal APP/C1625/A/13/2195656 (S.12/2538/OUT) - residential development for 49 units, new access way and associated works (application permitted)
- Land Adjoining Oldbury Lodge Pike Lock Lane Eastington Gloucestershire: Erection of new buildings for uses within use class C1 (Hotel) up to 1,908 Sqm (56 Beds), and use classes A3 / A4 Pub (Pub/Restaurant) up to 711 Sqm (Including ancillary manager's apartment) and associated access, servicing, parking, drainage and landscaping (outline application: all matters reserved except for access and scale) (pending consideration).

1.96 Significant cumulative effects from the committed developments are anticipated from:

Landscape and Visual:

- Significant additional, adverse cumulative landscape and visual effects attributable to the Revised Scheme are predicted to arise during construction up to Year 1 of operation within approximately 500m of the Development Footprint in the general vicinity of Grove Lane from Westend to Chipmans Platt. These short term, additional cumulative effects will result from the combined and sequential visibility of the proposal in conjunction with West of Stonehouse and Pike Lock cumulative schemes. The adverse cumulative effects will reduce over time as the proposed landscape mitigation establishes and matures.
- Significant additional, adverse residual cumulative landscape character effects are predicted to remain during operation with respect to a small area of the Escarpment Footslopes (LCT5a) on and adjacent to the Development Footprint. However, other cumulative landscape and visual effects predicted to be significant during construction will be not significant during operation in the medium to long term.

Socio-Economics:

- In relation to construction sector jobs, the sensitivity of receptor and the magnitude of effect are both considered to be medium, meaning the significance of effect is moderate beneficial, which is significant in EIA terms.

Climate Change:

- With respect to climate change mitigation, climate change is, in essence, a cumulative effect and all greenhouse gas emissions from projects are arguably significant. However, it is considered appropriate to assume that any applications that are consented include 'reasonable' measures to avoid, reduce and/or offset the generation, of greenhouse gas emissions.

1.97 In relation to effect interactions, four common receptors have been taken into account.

- **Residential properties:** Are anticipated to experience significant adverse residual visual effects for a small number of properties located within approximately 500m of the Site boundary. They will not experience any other significant residual effects, other than sky glow, which will be adverse but limited to the anticipated three home games a month.
- **Local Population:** Are anticipated to experience significant adverse or positive residual effects in relation visual effects on short sections of public rights of way and public highways in the vicinity of the site. They will not experience any other significant residual effects, other than sky glow, which will be adverse but infrequent.
- **Ecological Receptors:** Following the implementation of Sustainable Urban Drainage Systems, ecology receptors are anticipated to benefit from significant positive residual effects. Ecology receptors are not anticipated to experience any other significant residual effects, other than sky glow, which will be adverse but infrequent.
- **Designated Heritage Assets:** Are not anticipated to experience any significant residual effects, other than sky glow, which will be adverse but infrequent.

Summary and Statement of Significant

1.98 In terms of the assessments undertaken as part of the ES, significant effects are anticipated in relation to the following technical assessments:

- **Flood Risk, Hydrology and Drainage:** Significant positive effects associated with biodiversity and conservation.
- **Landscape and Visual:** Significant adverse effects are anticipated on a small area of landscape and a limited number of visual receptors located on and/ or immediately surrounding the Site within approximately 0.5km of the boundary.
- **Transport and Access:** Significant adverse effects are anticipated in terms of severance, amenity, delay and fear and intimidation to users of Footpaths 37 and 38 during weekdays and Saturday mornings. Significant adverse effects are also anticipated in terms of severance, amenity, delay and fear and intimidation to users of National Cycle Route 45 in the vicinity of Chipmans Platt roundabout, along with driver delay at key junctions operating within capacity along the A419 corridor before and after a match, albeit this effect will be infrequent. Positive effects for drivers are identified when no FGRC match is in progress. Positive effects are also anticipated to pedestrians on non-match days though the provision of the signalised crossing of the A419.
- **Lighting:** Significant adverse effects are anticipated from sky glow when the stadium lighting is in operation, albeit this effect will be infrequent.

1.99 No significant effects are anticipated in relation Archaeology and Cultural Heritage (**Chapter 7**), Ecology and Nature Conservation (**Chapter 8**), Socio-Economics (**Chapter 11**), Air Quality and Dust (**Chapter 13**), Noise and Vibration (**Chapter 15**), Climate Change (**Chapter 16**) and Major Accidents and Disasters (**Chapter 17**).

Further Information

1.100 Copies of the ES documentation are available for viewing at Stroud District Council during their normal office hours. The ES may also be viewed at Ecotricity's Offices at Unicorn House, 7 Russell St, Stroud, Gloucestershire, GL5 3AX. Copies of this Non-Technical Summary are also freely available from this address.

1.101 Hard copies of the ES may be purchased from the above Ecotricity address at a cost of up to £500 for the entire documentation (lower charges may apply for specific documents). The complete ES documentation may also be obtained on a CD free of charge (limited to one per person).

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