

## Appendix 1 – Meeting Minutes

### Finavon Hill Wind Turbine Scoping Meeting Minutes 18/12/13

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<b>Project</b>	Finavon Hill Wind Turbine	<b>Purpose of Meeting</b>	Scoping Discussion
<b>Our Reference</b>	C0256-163	<b>Issued By</b>	Graham Donnachie
<b>Meeting Date</b>	18 <sup>th</sup> December 2013 11:00	<b>Location</b>	County Buildings, Forfar
<b>Present at Meeting</b>	Graham Donnachie ( <b>GD</b> ) – Green Cat Renewables Alasdair Warnock ( <b>AW</b> ) – Green Cat Renewables Derek Ross ( <b>DR</b> ) – Kilmac Energy Jeff Saunderson ( <b>JS</b> ) – Finavon Estate Neil Duthie ( <b>ND</b> ) – Angus Council Ed Taylor ( <b>ET</b> ) – Angus Council Stuart Roberts ( <b>SR</b> ) – Angus Council		

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#### Introduction

1. Following the submission by Kilmac Energy and Green Cat Renewables of a scoping report for a revised wind turbine development at Finavon Hill, a meeting was arranged to discuss in detail the key elements of the proposal. The meeting was requested by Green Cat Renewables and Kilmac Energy to discuss the negative feedback received at the scoping stage and the introduction of the latest instalment of the Angus Landscape Capacity Assessment.

#### Discussion

2. The meeting was opened by GD. The reason for the meeting was discussed and it was expressed that there was some disappointment at the negativity of the scoping opinion, particularly as this did not seem to weigh up the full considerations of the proposal, rather only the surfacing of the latest Angus Council Landscape Capacity Study. GD ran through the previous scoping suggestions (3 x 74m turbines and 1x77m turbine) and highlighted the willingness of GCR and Kilmac to work with Angus Council. GD explained that the eventual application will aim to demonstrate the compatibility of the proposal with the particular characteristics of the site.
3. AW discussed the thinking behind the revised design of the site. This consisted of lowering the turbine heights, reducing number of turbines and moving the turbine off the ridge line. The reduction of impacts on residential properties and on Turin Hill fort

were demonstrated, as was how the change in design directly addresses the Reporter's refusal reasons of the original application.

4. DR spoke about the development from a commercial perspective and discussed the background as to why a turbine development is being pursued on the site. He also outlined the work done to get to the development to this stage and the frustrations of trying to work with the constantly changing policy. These frustrations stem from having submitted an application at a time when current guidance indicate that the application of three 99.5m turbines could be accommodated, to then having the Angus Council Implementation guidance suggesting the capacity would be for turbines less than 80m to tip. Now, having gone through a rigorous re-designing process of the scheme, further guidance being introduced suggests the capacity is being reduced even further, to turbines less than 50m in height.
5. DR highlighted that the latest proposal will meet the SNH National Guidance (relating to the 1/3<sup>rd</sup> scaling rule) and the Council's own 'Implementation Guide for Renewable Energy Proposals'. It was said that the background of the development and scale of the proposed turbine on the hill need to be considered when making the decision, rather than adopting the blanket approach of the latest guidance. DR also highlighted the report that accompanied the approval of the implementation guidance itself is clear that this document itself provides guidance as opposed to creating a policy and within the planning system, guidance is given less weight than policy. This should be an important aspect when forming a decision or recommendation on any application.
6. The economics of the latest proposal were also detailed including a discussion of why the capacity of the scheme cannot be reduced any further. The socioeconomics of the development were highlighted by DR as a key planning consideration, and DR emphasised what the development means to the landowner, the future of Finavon Estate and the local economy. DR also emphasised Kilmac Energy's willingness to work with Angus Council to find an appropriate development for all parties involved.
7. JS spoke of what the development means to him as the landowner. He detailed the work that he has been involved in restoring the Finavon Estate to its current status and his plans for future development. He also highlighted how the estate supports the local area including the Finavon Hotel and a number of properties on the Estate.
8. ET acknowledged the position of DR and JS, and agreed that the proposal has been significantly reduced from the original submission, resulting in a significant reduction of the impacts that were previously identified. ET recognised that the recent publication of the Landscape Capacity Assessment was unfortunate with the timings for this application and appreciated that the guidance as changed significantly. ET explained that as a planning department they have a duty to consider the latest guidance and material

when determining an application, but also have to weigh it against areas where a scheme complies with the policy and the potential benefits of any proposal.

9. SR acknowledged that the significant changes of the revised scheme were a significant improvement on the original application. He explained that, from memory, there were four main reasons for the refusal, by the reporter, of the previous application:

- Impact on the scale of the landscape;
- Impact on the nearest residents;
- Impact on the ridgeline of Finavon Hill; and
- Impact on Turin Hill Fort.

Regarding the latest proposal, it was the opinion of SR that the impact on the nearest residents and Turin Hill fort had been significantly reduced.

10. SR commented that whilst the issues surrounding landscape scale had been reduced from the original application, scale issues still remain. SR spoke of a much improved view from the east side of the ridgeline but retained some concern on views from the western side from where the turbine would still appear on the skyline. This would also affect views experienced along the A90 when passing the site.

11. ET also agreed that the proposed application has improved greatly, however the new guidance and the impact on the ridgeline could potentially make it difficult for them consider an application acceptable. ET also accepted that any concerns would need to be balanced against all other aspects of the development, particularly the socioeconomic benefits that the development may bring to the region. Together these would need to be assessed and the planning department would need to take a view as to their recommendation in light of all relevant material, and not solely how the project complies with the Landscape Capacity Guidance.

12. AW and GD acknowledge the four mains reasons for refusal of the previous application and were pleased to hear that the impact on the Turin Hill fort and the impact on the nearest residents appear to have been addressed. Regarding the other two points AW detailed that:

- Scale of the Landscape: the revised proposal dramatically reduces the impact on the scale of the landscape from the original proposal. The proposal also fully accords with the recommended SNH guidance that the turbine should appear typically less than 1/3<sup>rd</sup> of the scale of the hill.
- Impact on the ridgeline: the ridgeline at Finavon Hill is over 14km in length, and this proposal has a horizontal extent of 54m. Therefore the proposed turbine would occupy less that 1% of the Finavon ridgeline and will not have a significant

impact on the horizontal extent. From a few viewpoints, the turbine appears marginally taller than some of the other features on the ridge, such as trees and pylons. However, this is not expected to be significant, unless you are standing at the foot of the hill near the turbine where it is inevitable and unavoidable with any wind turbine development.

13. At this stage, time was taken to carefully assess the landscape figures produced for the revised scheme and compare them to the original application. There was again broad agreement on the improvements of the proposal; however, SR maintained some concerns on the impact the turbine would have on the Finavon Hill ridgeline.
14. Prompted by questions, SR indicated that the Capacity Study, in some instances, described a significant impact upon a ridgeline as appearing taller than other skyline elements, usually trees. SR also accepted that in some views, pylons may be relevant. Green Cat Renewables and Kilmac Energy contend that the latest project designs address this matter as the turbine only appears as insignificantly taller than a cluster of trees on the Finavon Hill ridgeline from a few selected viewpoints.
15. It was highlighted that the impact on areas such as Tannadice will be key as part of the landscape assessment, as will the views experienced along the A90. It was agreed by ST that the viewpoints selected for the original submission remain appropriate for a re-submission of a reduced capacity, although ET raised the possibility of a additional viewpoint from the west side of the ridgeline, looking along the ridgeline, from the other side of the A90.
16. DR posed the question that had updated landscape capacity guidance not emerged, would the latest proposal comply with the local planning policy? Whilst ET acknowledged that the latest update in guidance will make consenting such a development more challenging, SR indicated that the 2012 implementation guidance indicated that the Low Moorland Hill LCT indicated that there was scope for turbines circa 80m in height where they did not disrupt the principle ridgelines or adversely affect the setting of important landscape features and monuments such as Balmashanner Monument; and Finavon and Turin hillforts.

#### **Agreed Actions**

17. It was agreed that AW would liaise with SR regarding the cumulative assessment to select which projects would require careful cumulative assessment.
18. A minute of the meeting was agreed to be produced and circulated around attendees.
19. It was agreed that we would meet again in early 2014 to further discuss the proposal prior to the eventual submission.

## Conclusion

20. The Council Officers in attendance were pleased to see the significance of the reductions made to the proposed development. Whilst the changes made address many of the concerns associated with the previous application, there are some outstanding concerns relating to impact on the scale of the landscape and on the ridgeline. The application will be assessed against the latest capacity guidance which suggests the landscape character can only accommodate turbines under 50m, but this will be considered alongside the benefits of the proposal and the other merits of the application.
  
21. From the point of view of the landowner, the developer and the agent, had the latest capacity guidance not been released, the proposed application would comply with all the relevant guidance and policy, from national, regional and local aspects. With the history of the development and the constant effort to try to comply with the ever-changing guidance, it is felt that increased weight and emphasis should be placed on the benefits of the proposal, particularly the socioeconomic aspects, when determining the application. The aim of the eventual application will be to demonstrate how the turbine fits with the scale of the landscape and the Finavon ridgeline, particularly when considering the Angus Council implementation guidance (which has not been superseded) and the SNH 1/3<sup>rd</sup> scaling suggestions.

During the follow up meeting, the aim will be to demonstrate the aforementioned credentials of the application, demonstrate why the turbine is in scale with the landscape and address any other concerns the Council may have prior to submitting the application

## Finavon Hill Wind Turbine Follow-Up Scoping Meeting Minutes 20/02/14

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<b>Project</b>	Finavon Hill Wind Turbine	<b>Purpose of Meeting</b>	Scoping Discussion
<b>Our Reference</b>	C0256-163	<b>Issued By</b>	Graham Donnachie
<b>Meeting Date</b>	20 <sup>th</sup> February 2014 11:00	<b>Location</b>	County Buildings, Forfar
<b>Present at Meeting</b>	Graham Donnachie ( <b>GD</b> ) – Green Cat Renewables Alasdair Warnock ( <b>AW</b> ) – Green Cat Renewables Derek Ross ( <b>DR</b> ) – Kilmac Energy Jeff Sanderson ( <b>JS</b> ) – Finavon Estate Neil Duthie ( <b>ND</b> ) – Angus Council Ed Taylor ( <b>ET</b> ) – Angus Council Stuart Roberts ( <b>SR</b> ) – Angus Council		

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### Introduction

1. Following on from the scoping meeting held on the 18<sup>th</sup> of December 2013 regarding the proposed single wind turbine development at Finavon Hill, an action was made to hold a follow-up meeting to further discuss the remaining issues prior to the submission of the application.
2. Prior to the meeting, GD issued a proposed outline agenda and number of proposed discussion points. The proposed agenda and discussion points can be found attached to this minute.

### Discussion

3. GD opened the meeting by summarising the previous meeting where it was unanimously agreed by the attendees that the reductions made to the proposed development were significant. Whilst the changes were welcomed, the Officers in attendance had some outstanding concerns, through interpreting the Strategic Landscape Capacity Assessment for Angus (Nov 13), relating to the impact the proposal will have on the scale of the landscape and on the ridgeline of Finavon Hill.
4. GD spoke of the work done between the previous meeting and this meeting which included a review of design and commercial viability in order to be able to alleviate all of the Officers concerns. This review concluded that any lowering of turbine height or elevation would have too great an impact on the potential output of the proposed turbine and would not make for a viable or efficient development. It was emphasised that the site has been reduced as far as possible in order to effectively and efficiently produce clean, renewable electricity and provide support for the Finavon Estate. In

summary, the turbine has been relocated 35m down from summit of the ridge, with a total hub height loss of 59m and tip height loss of 67.5m. This is now a local project specific to the running of the estate.

5. SR then spoke of suggested changes to the previous meeting minute which was run through. It was also agreed that SR would email these changes to GD so the document can be finalised.
6. Having run through the proposed changes to the previous meeting minute, the meeting moved back to the discussions of the imminent revised application as DR reiterated the difficulty and frustration of working with consistently changing guidance. Whilst nothing can be done about the evolving guidance, DR requested that the history and legacy of the site be fully considered when making the planning decision. It was suggested that it would only be fair and reasonable to take into account the changes in guidance that the development has been subject to at the various stages and not only use the latest version of the Ironside Farrar/SNH Landscape Capacity Study (LCS). Previous guidance's such as Angus Councils own implementation guidance, which suggests the site can accommodate turbines of up to 80m in height, should also taken into account when making the decision.
7. DR outlined the desire of Mr. Sanderson to deliver a successful development to the area and asked the Officers if there was anything that could be done to demonstrate why the development should be approved. It was highlighted that it is important that the planning decision should be an entirely balanced view that fully considers all aspects of the development, including the socioeconomic benefits. It is considered that the determining factor in the decision making process should be to assess the supposed impacts of the development and measure if they outweigh the potential benefits.
8. ET acknowledged what had been said and ensured the meeting that any decision made by the Council would fully consider all aspects of the proposal. However, it was highlighted that Angus Council are eager on protecting important ridgelines and it is currently felt that, from what has been produced and discussed to date, the council would have to be convinced that the significantly reduced scheme overcome the impacts on the ridgeline.
9. This prompted some discussion on the purpose of the ridgeline and how it is appreciated. AW explained that the function of the ridge was to provide backdrop and enclosure to the small valley to the south, and the larger Strathmore valley to the north. AW stated that the addition of the single turbine does not diminish the scale of the ridge or the ability of the ridge to provide the enclosure and backdrop to the valleys. This will be detailed in the eventual planning application. SR brought the meetings attention the comments of the reporter on the importance of the ridgeline.

10. It was suggested by the Officers that the planning application should pay particular focus to the narrative included within the latest LCS and not just the large summary table. DR asked the Officers to explain why the guidance has varied significantly within a short number of years as the landscape has not changed with no concentration of built turbines to change the landscape. The position of the land owner and developer confirmed that the goal posts are constantly changing. The Officers acknowledged how the changing guidance may appear; however, SR indicated that the latest LCS is more thorough and detailed as it splits landscape character areas in to sub-areas.
11. Following on from this discussion, JS spoke of the confusion in living close to Council borders as the Finavon Hill estate is in close proximity to Aberdeenshire. JS explained that the frustration comes from driving passed developments such as Tullo and its various extensions, which is located in Aberdeenshire, on a daily basis and not being permitted for significantly smaller developments in Angus, despite the developments being in relatively close proximity and within a very exposed landscape.
12. The meeting turned back to measures in which Green Cat Renewables or Kilmac Energy could perhaps take to emphasise the benefits of the scheme and how, in their opinion, these greatly outweigh the perceived visual impacts. ET reiterated the point that the report should focus on the wording in the narrative of the latest LCS and not simply the recommendation for turbines of 50m in height or below. The suggestion was also made that the comparison montages should be included in the application to demonstrate the evolution of the development and the various design refinements that have been considered.
13. The discussion then led to the possibility of taking an additional photomontage from the west side of the ridgeline. DR highlighted that the current list of viewpoints was suitable for the original application which was for three 99.5m turbines; therefore they should be more than adequate for a single 67m turbine at a much lower elevation. Having said that however, DR reiterated that Kilmac Energy is prepared to do anything in order to aid the decision making process and it was agreed that the additional photomontage would be taken. It was agreed that the viewpoint would likely be best taken from the Forfar/Kirriemuir A90 flyover. This is to be investigated.
14. It was also suggested that the Environmental Report could be issued to a number of the Officers present prior to the submission. This would allow them the chance to review the document and provide comment before the eventual submission.
15. The meeting was then concluded.



### **Agreed Actions**

16. GD to issue to attendees a minute of this meeting along with the latest development ZTV.
17. An additional viewpoint will be taken, preferably from the Forfar/Kirriemuir A90 flyover as discussed. Should this prove not to be possible, a viewpoint from a similar location should be investigated to show the view from the west, looking along the ridgeline with the turbine viewed against the skyline.
18. Prior to the submission of the application, it was agreed that the Environmental Report and Landscape Figures would be sent to the attendees for review. The purpose of this would be to open the application to comments and advice on areas to strengthen prior to the eventual planning submission.

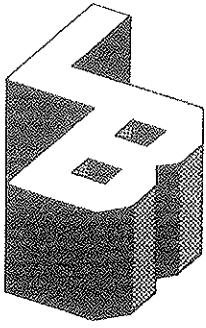
### **Conclusion**

19. Following the meeting in December, the design of the scheme was revisited to alleviate the concerns raised by the Council. The conclusion of the findings was that the scheme has reduced in scale and elevation to its absolute minimum in order to remain a viable and economical development.
20. The meeting discussed the reasoning for not further refining the design and the benefits that the scheme will bring to the local area. The meeting also discussed the outstanding concerns of the council relating to the impact on the ridgeline and the scale of the hill. From the point of view of the agent, developer and land owner, the ridgeline is ~14km long and the development will occupy 67m of this at a worst case scenario and the scale of the proposed turbine is largely in keeping with the SNH 1/3<sup>rd</sup> ruling, therefore the concerns of the Council have been addressed. However, the Officers present at the meeting maintained that it was important policy of the Council to protect the important ridgelines. It was acknowledged that other vertical structures, in particular electricity pylons, already add a man-made feature to the ridgeline.
21. The construction-partner, Kilmac Energy, was keen to ensure that the planning decision would be entirely balanced and consider all relevant material considerations and benefits of the proposed scheme. The consideration of a planning application should consider if the benefits of the development outweigh the likely impacts or not. The Officers agreed that all relevant materials will be considered and presented when and where appropriate during the decision making process.



**Appendix 2 – Supporting Statements from Local Business**



**LAIRD BROTHERS (FORFAR) LTD.**

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21.7.14

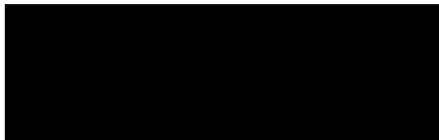
Angus Council  
Angus House  
Orchardbank Business Park  
Forfar  
DD8 1AX

Dear Sir,

We believe that the proposed Single Turbine on Finavon Hill Estate will provide a boost to the local economy by supporting businesses in Angus.

We are therefore writing to express our hope that, when reviewing the application from Finavon Hill Estate that Angus Council will consider the benefits that this project would bring to the local area and grant planning permission for the Finavon Hill Estate single turbine.

Yours Sincerely



Jamie Laird

Production Manager



# J. & A. LAIRD LTD.

Lunanhead, Forfar, Angus DD8 3NQ  
Telephone: 01307 466577 Fax: 01307 468642

READYMIX CONCRETE

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21.7.14

Angus Council  
Angus House  
Orchardbank Business Park  
Forfar  
DD8 1AX

Dear Sir,

We believe that the proposed Single Turbine on Finavon Hill Estate will provide a boost to the local economy by supporting businesses in Angus.

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Yours Sincerely



John Laird

Sales Manager



John Nixon Ltd  
Longtown Steet  
Dundee  
DD4 8LF

Angus House  
Angus Council  
Orchardbank Business Park  
Forfar  
DD8 1AX  
Monday, 28 July 2014

Dear Sir,

John Nixon Ltd wish to express support for the Finavon Estate Wind Farm and believe that the local area would stand to benefit greatly from the project.

We also feel that the supply chain opportunities would boost local businesses in the immediate area and also create benefits in the wider region.

Consequently we are writing to reiterate the support in this area for the project.



# W.F.BARKER LTD

## JOINERS & BUILDING CONTRACTORS

Seanbhothan  
Chapel Street  
Forfar DD82AB  
Tel (01307) 461225  
Mobile 07880793123  
Registered in Scotland: 260115  
V.A.T Registration No. 356 1237 63

To whom it may concern

I have known Finavon Hill Estate since its inception in 1993 and its owner Jeff Sanderson since the late seventies when he joined Reekie to develop the manufacturing facility.

I set up my own Joinery business in 1981 and built many facilities for Reekie as Mr Sanderson developed the business over the years. This work enabled me to employ my first journeyman and subsequently several others including apprentices as we secured hundreds of thousands of pounds worth of business over these years. Over the last 20 years at Finavon Estate we have built or rebuilt 3 houses and other projects totalling over six hundred thousand pounds. We are currently on the short list to build the proposed new lodge with a contract value between three and four hundred thousand pounds which I believe is on hold subject to the windmill project being approved.

Jeff Sanderson has been a supporter of small start-up businesses in Angus and Tayside for many years some of which have gone on to be very successful medium size companies like my mine. Therefore for the very obvious business reasons I give this application my full support.

Far less an obvious reason is Jeff will be 68 this year and the assured income from the windmill project will allow him to employ and train up a successor to guarantee Finavon Hill Estate continues developing as a going concern for the future.

Yours faithfully



William F Barker



William Clark (Barry) Ltd.  
Cotside Quarry  
Barry  
Angus  
DD7 7RR

Date: 15/08/14

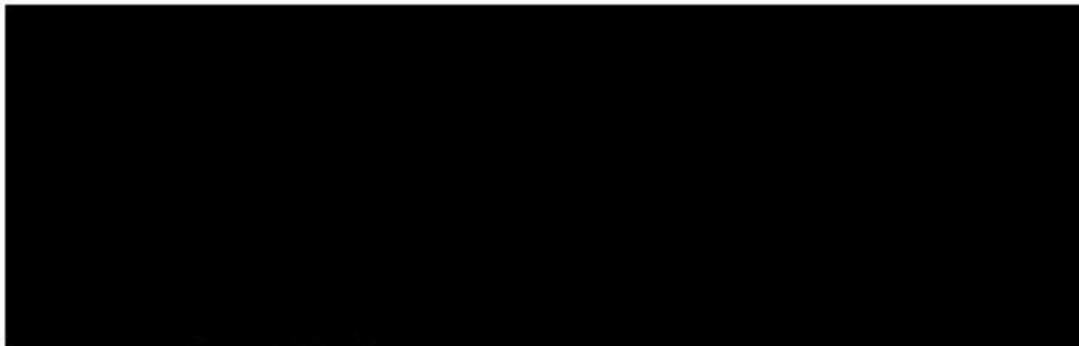
Angus Council  
Angus House  
Orchardbank Business Park  
Forfar  
DD8 1AX

Dear Sir,

We believe that the proposed Single Turbine on Finavon Hill Estate will provide a boost to the local economy by supporting *businesses in Angus*.

We are therefore writing to express our hope that, when reviewing the application from Finavon Hill Estate that Angus Council will consider the benefits that this project would bring to the local area and grant planning permission for the Finavon Hill Estate single turbine.

Yours Sincerely



Archie Clark  
Managing Director

Date: 19/08/2014

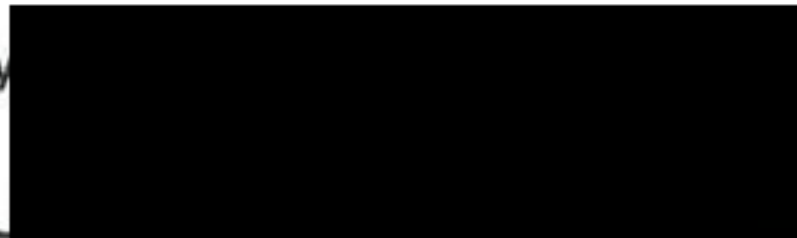
Angus Council  
Angus House  
Orchardbank Business Park  
Forfar  
DD8 1AX

Dear Sir,

We believe that the proposed Single Turbine on Finavon Hill Estate will provide a boost to the local economy by supporting businesses in Angus.

We are therefore writing to express our hope that, when reviewing the application from Finavon Hill Estate that Angus Council will consider the benefits that this project would bring to the local area and grant planning permission for the Finavon Hill Estate single turbine.

Yours Sincerely



FOR ON BEHALF OF

BLAIR CONTRACTORS

LAUSIDE LIMITED

97 FINTOWRIE STREET

DUNDEE DD4 9NS.

I & E Crichton  
Bogindollo Farm  
Finavon  
Forfar  
Angus  
DD8 3PL  
Tel: 01307 850202  
Mobile: 07801 418918

20/03/2014

Wind Turbine at Finavon Hill Estate

To whom it may concern,

I feel that the proposed siting of a turbine at Finavon Hill would be of benefit to my business at Bogindollo Farm.

Over the past seven years a relationship with Finavon Hill has been forged which delivers benefits to both sides. This has allowed the estate to grow further in terms of their sporting enterprise whilst granting me access to a considerable area of land.

I believe, through discussing the matter with Finavon Hill Estate, that this turbine will help increase the chances of our relationship surviving. The generation of a new income stream will allow further expansion of the estate and succession planning to be carried out without jeopardising my business.

This is extremely important to me. Since starting with the estate I have had more confidence to invest in both more modern machinery and farm infrastructure. This has been the result of increased scale and business output.

I have also been able to take on one full time employee and one harvest staff member. This was not justifiable before I became involved with Finavon Hill Estate.

If a wind turbine at Finavon Hill Estate will help maintain my business involvement and structure I hope you will give it serious consideration.

Yours truly,

Euan Crichton





FINAVON HOTEL, BY FORFAR, ANGUS DD8 3QD Tel: 01307 850234 Fax: 01307 850435  
www.finavonhotel.co.uk Email: mail@finavonhotel.co.uk

11 March 2014

Dear Sir/Madam

Re: J Sanderson Wind Turbine Application at Finavon Hill

I would like to add my support to the Wind Farm Application by Mr J Sanderson for Wind Turbines at Finavon Hill.

Being the owner of this small business since 1995, I fully appreciate and understand how difficult it is to maintain profitability and sustainability in this economic climate. Small businesses, especially in rural areas, bring much needed income into the area and create employment for local people.

My business is a typical example of this. Throughout the shooting season (1<sup>st</sup> November – 31<sup>st</sup> January) we serve approximately 250-275 lunches to shooting clients from Finavon Hill. In addition to this, we also serve breakfast to people travelling to the shoots and provide overnight accommodation for shooting guests. This income is extremely important and beneficial to us in what is traditionally a quiet trading period.

I think it is vitally important that all businesses, whether large or small, find ways to maintain profitability and more importantly long term sustainability otherwise, in my opinion, they will not survive.

This, presumably, is what Mr Sanderson is trying to achieve.

Yours Faithfully

A large black rectangular redaction box covers the signature of David Howatson.

David Howatson  
Owner

Milton of Finavon House  
By FORFAR  
Angus  
DD8 3PY

3<sup>rd</sup> March 2014

**TO WHOM IT MAY CONCERN**

**Finavon Hill Wind Turbine Proposal**

I am writing to support the application by Finavon Hill Estate for a wind turbine to be located on Finavon Hill. The basis of my support is the socio-economic and environmental effects of a new sustainable revenue stream at Finavon.

As owner and manager of the Finavon Castle Water (FCW) salmon and sea trout recreational fishery business, I value the close cooperation in income generation and environmental and wildlife management, between Finavon Hill Estate and FCW over the last 15 years. The result is that the two businesses have established Finavon as a destination and hub for quality country sports. The reputation of this tourist hub continues to grow.

In terms of employment, the two businesses provide full-time and seasonal work for up to 50 local people, as well as income into the local community. Together they attract over 300 tourists to the area annually, many of whom are high income earners.

An important social aspect of driven game bird shooting is the opportunities it provides for beaters, pickers-up and administrative staff during the winter months. A typical day on Finavon Hill, of which there are twenty or more during the winter, is the employment and social interaction it provides for up to 50 local people of all ages, some of whom have no other regular social contact. Finavon Hill shoot also provides these people with an important contribution to their household incomes.

The construction of a single wind turbine at Finavon Hill will make a vital financial contribution to the income of Finavon Hill Estate. That income will underpin the estate business and ensure that, even in times of economic hardship or adverse natural conditions, there are sufficient resources to ensure that the business remains viable. From the viewpoint of a neighbour, I applaud the outstanding improvements to habitats and wildlife achieved by Finavon Hill Estate.

On that basis, and taking into account the other benefits to the locality provided by the Estate, I fully support the application for permission to erect a single wind turbine at Finavon.

Yours sincerely



**A.P.H.Andrews**  
**Finavon Castle Water**  
[www.finavoncastlefishing.co.uk](http://www.finavoncastlefishing.co.uk)  
**Mobile: 07748 634 658**

Date:18/8/14

Angus Council  
Angus House  
Orchardbank Business Park  
Forfar  
DD8 1AX

Dear Sir,

Finavon Hill Estate Single Turbine proposal

We are writing to inform you that we fully support Finavon Hill Estate's application for a single wind turbine at Finavon Estate, Angus and believe that the project could provide a boost to the local economy by supporting businesses in Angus.

We wish to express our hope that the Angus Council will consider the benefits that this project would bring to the local economy when reviewing any decision.

A single turbine at Finavon Hill Estate would offer much-needed opportunities for local businesses to be part of the growing renewable energy industry.

"I support Finavon Estate's application for a wind farm at Finavon Estate, Angus. The project will bring a substantial boost to the local economy and will bring benefits for local community and businesses."

"I feel it is a good location for a single turbine to make use of wind which is a free resource. The Finavon Hill project will bring a much needed boost to local economy."

"I have examined the plans and strongly support the planning application which would maximise the use of local organisations like ours to develop a local supply chain."

We the undersigned support Finavon Wind farm project and hope that Angus Council approves the application.

Yours faithfully

Douglas Smith  
GAP Group Limited.

Angus Council  
Angus House  
Orchardbank Business Park  
Forfar  
DD8 1AX  
Monday, 28 July 2014

Dear Sir,

D Geddes (Contractors) Ltd wish to express support for the Finavon Estate Wind Farm and believe that the local area would stand to benefit greatly from the project.

We also feel that the supply chain opportunities would boost local businesses in the immediate area and also create benefits in the wider region.

Consequently we are writing to reiterate the support in this area for the project.

Yours sincerely

Scott Gormley



**DUNDEE BRANCH**  
Mid Craigie Road,  
Dundee.  
DD4 7RH  
TEL 01382 448600  
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Date: 18th August 2014

Angus Council  
Angus House  
Orchardbank Business Park  
Forfar  
DD8 1AX

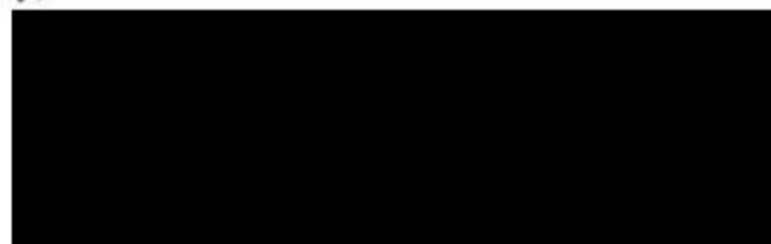
Dear Sir,

I David Grandison of Keyline Builders Merchants wish to express support for the Finavon Estate Wind Farm and believe that the local area would stand to benefit greatly from the project.

We also feel that the supply chain opportunities would boost local businesses in the immediate area and also create benefits in the wider region.

Consequently we are writing to reiterate the support in this area for the project.

Yours sincerely,



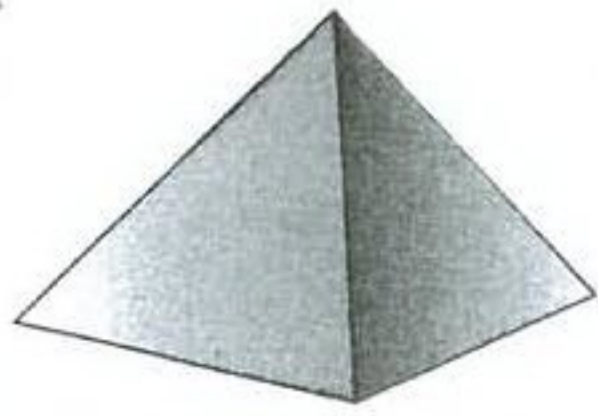
Regional Sales Manager - Scotland North  
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19 TH APRIL 2014

TO WHOM IT MAY CONCERN.

-----

WE HAVE TRAVELLED UP FROM THE LONDON AREA FOR MANY YEARS TO STAY IN ANGUS AND SHOOT AT FINAVON HILL ESTATE. SEVERAL OF US COME UP WITH FAMILY AFTER THE SHOOTING SEASON USUALLY IN THE LATE SPRING TO STAY IN ANGUS AND TOUR THE AREA AS IT IS SUCH A NICE WELCOMING PLACE TO BE AND ALWAYS CALL IN TO SEE JEFF, CHICK AND BRIAN.

JEFF KEEPS US UP TO DATE WITH WHAT IS GOING ON AT FINAVON AS THERE ARE ALWAYS NEW INVESTMENTS AND DEVELOPMENTS OCCURING. IN PARTICULAR THE WINDMILL APPLICATION WHICH WE FULLY SUPPORT AS IT SHOULD GENERATE A GUARANTEED INCOME BASE TO GIVE STABILITY TO FUNDING FOR THE CONTINUING DEVELOPMENT OF THE BUSINESS AND ITS STAFF REQUIREMENTS.

WE HAVE WITNESSED THE INCREDIBLE EXPANSION OF FINAVON HILL ESTATE AND ITS FACILITIES OVER THE YEARS FROM WHAT WAS A ROUGH SHOOT INTO A NOW NATIONALLY RECOGNISED QUALITY DRIVEN DAY SHOOTING ESTATE. IT'S A CREDIT TO ANGUS AND A LOVELY PLACE TO VISIT.

YOURS SINCERELY

SAM COLEBY

FOR THE LONDON SYNDICATE

# L. J. COPLAND

Commercial Vehicle & Plant Sales

TO WHOM IT MAY CONCERN

Unit 8, Station Place  
Forfar, DD8 3TB  
Tel/Fax: 01307 467959  
Mobile: 07850 755532



VAT Reg. No. 724 2164 60

Office: 3 Findlay's Land  
Forfar  
DD8 3EU

Date: 21 May 2014

I have known Jeff Sanderson for around 25 years. In 1999 I started up my current business and shortly afterwards became a supplier to Finavon Hill Estate vehicles, service and repair work.

Records from 1999 – 2007 no longer kept.


Value of business from 2008 – end of 2013

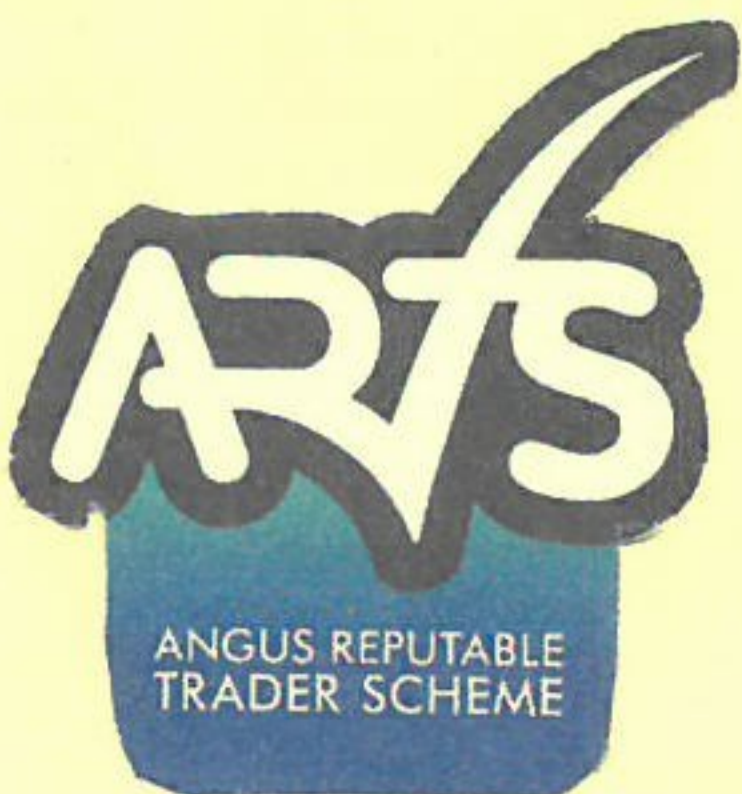
£72250.00

Value of current business from January – May 2014

£13019.42

My business with Finavon Hill Estate has steadily increased over the years as Finavon has developed. I support the windmill application as hopefully it will guarantee the long term future success of Finavon Hill Estate.

  
Leslie J Copland



**Appendix 3 – Ecological Report by GLM Ecology**



**Ecological Assessments**  
**Finavon**  
**Brechin**  
**Angus**



## **1 ECOLOGY**

### **1.1 Introduction**

### **1.2 Regulations and Guidance**

### **1.3 Impact Assessment Methodology**

### **1.4 Ecological Features Evaluation Criteria**

### **1.5 Characterization of Effects/Magnitude of Effects**

### **1.6 Significance Criteria**

### **1.7 Site Background and Context**

### **1.8 Designated Sites**

### **1.9 Scope of Ecological Assessments**

## **2 SITE DESCRIPTION**

## **3 ORNITHOLOGY**

### **3.1 Survey Scope & Methodology**

#### **3.1.1 Breeding Bird Surveys**

#### **3.1.2 Schedule 1 Raptor Search**

#### **3.1.3 Winter Walk Over's**

#### **3.1.4 Vantage Point Surveys**

### **3.2 Survey Results**

#### **3.2.1 Breeding Birds**

#### **3.2.2 Protected Species**

#### **3.2.3 Schedule 1 Raptors**

#### **3.2.4 Wintering Birds**

#### **3.2.5 VP Surveys**

## **4 BATS**

### **4.1 Bat Legislation**

### **4.2 Aims & Objectives**

### **4.3 Data Review**

### **4.4 Survey Methodology**

### **4.5 Habitat Survey**

### **4.6 Bat Detector Survey**

### **4.7 Results**

#### **4.7.1 Data Review Results**

#### **4.7.2 Habitat Survey Results**

#### **4.7.3 Bat Detector Survey Results**

## **5 BADGERS**

### **5.1 Badger Legislation**

### **5.2 Aims & Objectives**

### **5.3 Data Review**

### **5.4 Survey Methodology**

### **5.5 Results**

#### **5.5.1 Data Review**

#### **5.5.2 Field Survey**

## **6 OTTERS**

- 6.1 Otter Legislation**
- 6.2 Aims & objectives**
- 6.3 Data Review**
- 6.4 Survey Methodology**
- 6.5 Results**
  - 6.5.1 Data Review**
  - 6.5.2 Field Survey**

## **7 PHASE 1 HABITAT**

- 7.1 Legislation**
- 7.2 Aims & objectives**
- 7.3 Data Review**
- 7.4 Survey Methodology**
- 7.5 Results**
  - 7.5.1 Data Review**
  - 7.5.2 Field Survey**

## **8 ASSESSMENT OF IMPACTS**

- 8.1 Impacts on Breeding Birds**
  - 8.1.1 Mitigation**
- 8.2 Impacts on Schedule 1 Raptors**
  - 8.2.1 Mitigation**
- 8.3 Impacts on Wintering Birds**
  - 8.3.1 Mitigation**
- 8.4 Impacts on Bats**
  - 8.4.1 Mitigation**
- 8.5 Impacts on Badgers**
  - 8.5.1 Mitigation**
- 8.6 Impacts on Otters**
  - 8.6.1 Mitigation**
- 8.7 Impacts on Habitats**
  - 8.7.1 Mitigation**

## **9 SUMMARY OF EFFECTS**

## **10 CONCLUSION**

## **11 REFERENCES**

## **12 APPENDIX**

## 1 ECOLOGY

### 1.1 Introduction

This section considers the potential effects of the proposed wind turbines on the nature conservation interests on and around the site, sets out the findings of the various surveys carried out and provides an assessment of impact on key sensitive species.

These assessments were carried out by Garry Mortimer PhD, GLM Ecology, an experienced field ecologist with several years experience of ecological assessments at wind farm sites.

### 1.2 Regulations and Guidance

This ecological impact assessment (EcIA) pays explicit regard to the requirements of:

- Council Directive 79/409/EEC on the conservation of wild birds (the “Birds Directive”);
- Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (the “Habitats Directive”);
- The Conservation (Natural Habitats, &c.) Amendment (Scotland) Regulations 2007 (the “Habitats Regulations”, which translates the Birds Directive and Habitats Directive into UK law);
- The Wildlife and Countryside Act 1981, as amended;
- Nature Conservation (Scotland ) Act 2004;
- ‘National Planning Policy Guideline (NPPG) 14: Natural Heritage’, The Scottish Office, 1999; and
- The UK Biodiversity Action Plan (BAP).

The EcIA was carried out using the following documents:

- Guidelines on Environmental Impacts of Wind Farms and Small Scale Hydro Electric Schemes, Scottish Natural Heritage, 2001;
- Survey methods for use in assessing the impacts of onshore wind farms on bird communities, Scottish Natural Heritage, November 2005;
- Wind farms and birds: Calculating a theoretical collision risk assuming no avoiding action, Scottish Natural Heritage, 2000;
- Developing field and analytical methods to assess avian collision risk at wind farms, Band et al, 2007;
- Technical Information Note 59 Bats and single large wind turbines: joint agencies interim guidance Natural England 18 September 2009 ; and
- Technical Information Note 51 Bats and onshore wind turbines Interim guidance Natural England 11 February 2009.

The EcIA has been carried out according to current guidance published by the Institute of Ecology and Environmental Management (2006), which is recognized as best practice.

### 1.3 Impact Assessment Methodology

The EcIA has been carried out according to current guidance published by the Institute of Ecology and Environmental Management (2006), which is recognized as best practice. These guidelines set out a process of identifying the value of each ecological receptor and then characterizing the effects that are predicted, before discussing the effects on the integrity or conservation status of the receptor, proposed mitigation and residual effects.

### 1.4 Ecological Features Evaluation Criteria

A value or sensitivity has been assigned to each ecological receptor based on the following factors:

- Importance at a geographical scale, from local to international level;
- Designation status, *e.g.*, SPA, SSSI, non-statutory designated sites, etc.;
- Biodiversity value, *e.g.*, national BAP habitat/species, local BAP species, etc.; and
- Social, community and economic value.

The rationale for the valuation of sensitivity has been included for each receptor for which a significant effect is predicted. Table 1 provides examples which are designed to give guidance as to how levels of sensitivity are typically derived. The value of sensitivity of an ecological receptor refers to land within the development area and a recognised 500m zone of effect.

**Table 1. Guideline definitions for the sensitivity of ecological receptors**

Sensitivity of Receptor	Examples (Guidance to evaluation)
International	<p>An internationally designated site or candidate site (SPA, pSPA, SAC, pSAC, Ramsar site, Biogenetic Reserve) or an area which the country agency has determined meets the published selection criteria for such designation, irrespective of whether or not it has yet been notified.</p> <p>A viable area of a habitat type listed in Annex I of the Habitats Directive, EU 1992 or smaller areas of such habitat which are essential to maintain the viability of a larger whole.</p> <p>Any regularly occurring population of an internationally important species, which is threatened or rare in the UK, <i>i.e.</i> it is a UK Red Data Book species or listed as occurring in 15 or fewer 10km squares in the UK (categories 1 and 2 in the UK Biodiversity Action Plan (BAP)) or of uncertain conservation status or of global conservation concern in the UK BAP.</p> <p>A regularly occurring, nationally significant population/number of any internationally important species.</p>



<b>Sensitivity of Receptor</b>	<b>Examples (Guidance to evaluation)</b>
National	<p>A nationally designated site (SSSI, ASSI, NNR, Marine Nature Reserve) or a discrete area, which the country conservation agency has determined meets the published selection criteria for national designation (e.g. SSSI selection guidelines) irrespective of whether or not it has yet been notified.</p> <p>A viable area of a priority habitat identified in the UK BAP, or of smaller areas of such habitat, which are essential to maintain the viability of a larger whole.</p> <p>Any regularly occurring population of a nationally important species, which is threatened or rare in the region or county (see local BAP).</p> <p>A regularly occurring, regionally or county significant population/number of any nationally important species.</p> <p>A feature identified as of critical importance in the UK BAP.</p>
Regional	<p>Viable areas of key habitat identified in the Regional BAP or smaller areas of such habitat which are essential to maintain the viability of a larger whole.</p> <p>Viable areas of key habitat identified as being of Regional value in the appropriate Natural Area profile.</p> <p>Any regularly occurring, locally significant population of a species listed as being nationally scarce which occurs in 16-100 10km squares in the UK or in a Regional BAP or relevant Natural Area on account of its regional rarity or localisation.</p> <p>A regularly occurring, locally significant number of a regionally important species.</p> <p>Sites, which exceed the County-level designations but fall short of SSSI selection guidelines, where these occur.</p>
County	<p>Semi-natural ancient woodland greater than 0.25 ha.</p> <p>County/Metropolitan sites and other sites which the designating authority has determined meet the published ecological selection criteria for designation, including Local Nature Reserves selected on County / metropolitan ecological criteria (County/Metropolitan sites will often have been identified in local plans).</p> <p>A viable area of habitat identified in County BAP.</p> <p>Any regularly occurring, locally significant population of a species which is listed in a County/Metropolitan “red data book” or BAP on account of its regional rarity or localisation.</p> <p>A regularly occurring, locally significant number of a County important species.</p>
District	<p>Semi-natural ancient woodland smaller than 0.25 ha.</p> <p>Areas of habitat identified in a sub-County (District/Borough) BAP or in the relevant Natural Area profile.</p> <p>District sites that the designating authority has determined meet the published ecological selection criteria for designation, including Local Nature Reserves selected on District/ Borough ecological criteria (District sites, where they exist, will often have been identified in local plans).</p> <p>Sites/features that are scarce within the District/Borough or which appreciably enrich the District/Borough habitat resource.</p> <p>A diverse and/ or ecologically valuable hedgerow network.</p> <p>A population of a species that is listed in a District/Borough BAP because of its rarity in the locality or in the relevant Natural Area profile because of its regional rarity or localisation.</p> <p>A regularly occurring, locally significant number of a District / Borough important species during a critical phase of its life cycle.</p>

<b>Sensitivity of Receptor</b>	<b>Examples (Guidance to evaluation)</b>
Parish (Local)	Areas of habitat considered to appreciably enrich the habitat resource within the context of the Parish or neighbourhood, e.g. species-rich hedgerows. A regularly occurring but low number of locally common protected species within or adjacent to the Development area. Local Nature Reserves selected on Parish ecological criteria.
Very Local	Areas of habitat that have a limited ecological value. Plant assemblages tend to be species poor, but may be utilised by a small number of faunal species. Those habitats that have an effect of enriching and complimenting the local natural environment to a small degree.
Low	Areas of habitats considered to be of very limited ecological value. They are not representative of natural habitats and are very species poor. Those habitats that do not enrich the local natural environment.
NB: Where species of habitats occur in more than one category, the highest value is applicable.	

### 1.5 Characterisation of Effects/Magnitude of Effect

The effects on individual receptors are described in relation to a range of factors. These include the magnitude, extent (either in area or population terms), duration, timing and frequency of the effect on the structure and function of the ecosystem. Effects in combination may have a cumulative effect that is greater than when the same effects occur in isolation. Combination effects include the separate effects of the scheme upon a feature (e.g., effects as a result of the construction and operation stage), or the combined effects of a number of schemes that affect the same receptor. Consideration is given to the longevity of effects, based on the life span of the Development and reversibility of the effect.

The criteria used to determine the character (magnitude, scale, duration, reversibility) of the ecological effects are given in Table 2.

**Table 2. Definition of terms relating to the Character of ecological effects**

<b>Character/Magnitude</b>	<b>Definition</b>
Very high	Total loss or very major alteration to key elements or features of the baseline conditions such that post development character, composition or attributes will be fundamentally changed and may be lost from the site altogether. For example the loss of a great crested newt breeding pond or loss/destruction of a maternity roost of a rare species of bat, loss/destruction of hibernation roost for bats, destruction of a Annex 1 priority habitat or a statutory designated site. Generally irreversible and permanent. Guide: >80% of population or habitat lost
High	Major alteration to key elements or features of the baseline (pre-development) conditions such that post development character, composition or attributes will be fundamentally changed. For example the loss of a bat maternity roost, damage to a great crested newt breeding pond, pollution of a stream containing white clawed crayfish, damage to annex 1 priority habitat. Generally reversible after period of time. Guide: 20-80% of population or habitat lost
Medium	Loss or alteration to one or more key elements or features of the baseline conditions such that post development character, composition or attributes of baseline will be partially changed. For example loss of optimal foraging habitat for great crested newts, death or injury to a low number of a locally rare species, loss of species rich

Character/ Magnitude	Definition
	ancient hedgerow, severance of a bat flight path, temporary abandonment of a bat roost. Generally reversible with mitigation on a short timescale Guide: 5-20% of population or habitat lost
Low	Minor shift away from baseline conditions. Change arising from the loss or alteration will be discernible but underlying character, composition or attributes of baseline condition will be similar to pre-development circumstances or patterns. For example loss of sub optimal foraging habitat for Great crested newt, loss of species poor hedgerow, death or injury of a very small number of common species of bat. Generally reversible without mitigation in short timescale. Guide: 1-5% of population or habitat lost.
Negligible	Very slight change from baseline condition. Change barely distinguishable, approximating to the “no change” situation. Guide: <1% of population or habitat lost.

### 1.6 Significance Criteria

An ecologically significant effect is defined as an effect (adverse or positive) on the integrity of the site or ecosystem(s) and/or the conservation status of habitats or species within the identified zone of effect for the Development. The definitions of integrity and conservation used for this assessment are those detailed in the Institute of Ecology and Environmental Management (IEEM) Guidelines for Ecological Impact Assessment, namely:

- Integrity is the coherence of ecological structure and function, across a site’s whole area, that enables it to sustain a habitat, complex of habitats and/or the levels of populations of species; and
- Conservation status for habitats is determined by the sum of the influences acting on the habitat and its typical species that may affect its long-term distribution, structure and functions as well as the long-term survival of its typical species within a given geographical area.

The combined assessment of the effect characterisation and the sensitivity of ecological receptors have been used to determine whether or not an effect is significant with respect to the EIA Regulations. These two criteria have been cross-tabulated to assess the overall significance of the effect in Table 4. Effects with significance of moderate or major are considered to be significant in terms of the EIA Regulations.

**Table 3. Matrix used to assess the significance of potential effects upon ecological receptors.**

Magnitude of effect	Sensitivity of receptor	High (International and National)	Medium (Regional and District)	Low (Parish/ (Local))	Negligible (Very Local/Low)
High		Major	Major	Moderate	Negligible
Medium		Major	Moderate	Moderate	Negligible
Low		Moderate	Moderate	Minor	Negligible
Negligible		Negligible	Negligible	Negligible	Negligible

### 1.7 Site Background and Context

An initial desk based search, walkover survey and scoping report was carried out in September 2010. Designated sites and associated protected species and habitats at a local and regional level have been identified through that process. A description of the local area in relation to designated sites with ecological interests and the findings of an initial desk based review of the area are presented in the context of the following sections. The following resources were used:

- RSPB sensitivity maps;
- NBN Gateway;
- Scottish Natural Heritage (SNH) Sitelink;
- The Scottish Biodiversity List ([www.biodiversityscotland.gov.uk](http://www.biodiversityscotland.gov.uk)).
- Tayside Raptor Group

### 1.8 International Designated Sites

The following sites were identified within 20km from the site:

- Montrose Basin SPA - designated for non breeding assemblage of pink footed geese, greylag geese and various waterfowl species;
- Loch of Kinnordy SPA - designated for non breeding assemblage of pink footed geese and greylag geese;
- Firth of Tay and Eden SPA – designated for non breeding assemblage of greylag geese and other waterfowl;
- Loch of Lintrathen SPA - designated for non breeding assemblage of pink footed geese and greylag geese.

Within 5km of the site, the sites identified were;

- Turin Hill SSSI – Palaeotology;
- Rescobie & Balcavies Lochs SSSI - Fen, marsh and swamp;
- Restenneth Moss SSSI – Basin Fen.

### 1.9 Scope of Ecological Assessments

The scope of the present EcIA was derived from the initial site background and context study above, the local knowledge and experience of the ecologist and consultation with SNH. This scope of work was agreed as reasonable with Mark Moore SNH on 14/01/2011.

The EcIA considers the following issues:

- Breeding Birds;
- VP Surveys;
- Winter Walkover Surveys;
- Badger;
- Otter;
- Bats;
- Phase 1.

The scope of ecological assessments was in accordance with the guidance given by SNH (SNH 2006) unless otherwise agreed with SNH.

## 2 SITE DESCRIPTION

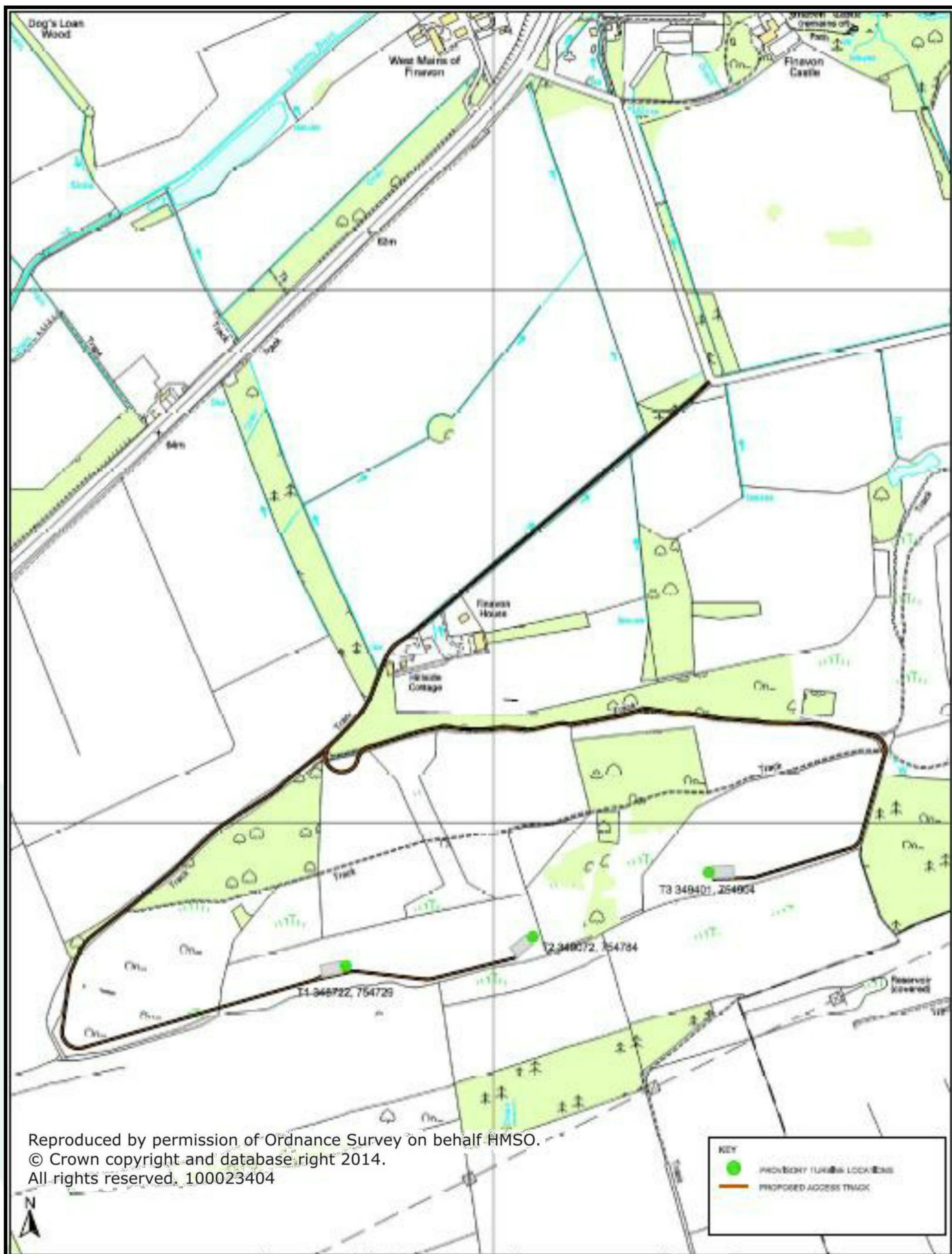
The site at Finavon (Figures 1, 2) is a ridge that runs from SW-NE (Figures 3, 4). The top of the ridge where the three turbine locations are proposed is improved grazing between a small mature deciduous wood (Figure 5, 6).

There is a mosaic of habitats present with the site having been developed intensely by the landowner for shooting and conservation intents. Large areas of young trees, scrub and mature trees are present (Figures 7, 8). On the periphery of the site on the north and south arable fields are present (Figure 9). There is a network of rough tracks across the site. There are two relatively recently formed fishing lakes on site and the odd burn (Figure 10).

There are several houses and cottages with the usual mixture of outbuildings and barns on or near site.



**Figure 1. Ariel map Finavon**



**Figure 2. Site Location**

**Access track =** 

**Turbine locations =** 



**Figure 3. Finavon ridge from south.**



**Figure 4. Finavon ridge from south.**



**Figure 5. Proposed turbine locations**



**Figure 6. Proposed turbine locations**





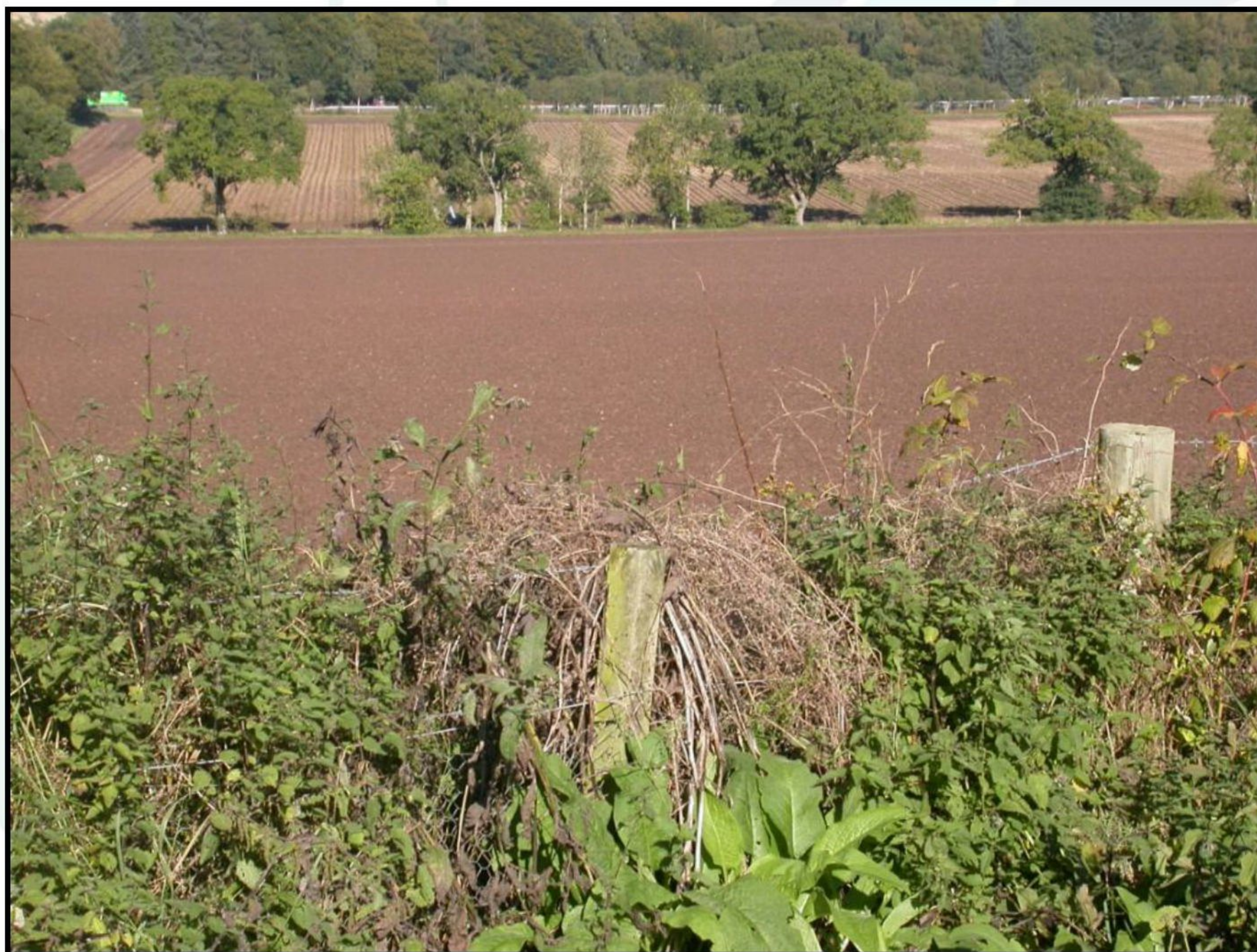
**Figure 7. Overgrown bracken and young trees**



**Figure 8. Mosaic of habitat**



**Figure 9. Mature trees and field edges.**



**Figure 10. Arable fields to north of site.**



**Figure 10. Manmade fishing lake.**

### **3 ORNITHOLOGY**

Generally, ornithological surveys on and around the site are required to assess potential impacts of birds throughout the year, which could arise due to:

- Potential loss, fragmentation and degradation of bird habitats arising from the construction of turbine bases, crane pads, access tracks, a sub-station and temporary construction compounds and power lines.
- Potential displacement of hunting or migrating birds through avoidance of turbines, work staff and machinery.
- Disturbance to birds due to noise from operating turbines.
- Potential disturbance to nesting birds (for example, displacement of birds from breeding habitats) resulting from the construction activities; and
- Potential for birds to collide with turbine blades and power lines.

It should be noted that the issues identified above are more likely to be significant for larger wind turbine developments; never-the-less, these were considered for this application.

#### **3.1 Survey Scope & Methodology**

To assess the movements of birds year round and presence of breeding birds on site and in the surrounding area, a variety of survey methods were carried out, including Vantage Point (VP) surveys, Common Bird Census, Winter Walk-Over's and Schedule 1 Raptor Search.

### 3.1.1 Breeding Bird Survey

The area surveyed was the area half a kilometer round the proposed turbine sites (SNH 2006) on ground owned by the developer. Other ground was surveyed by listening along the boundary. The survey work was based on the standard BTO Common Bird Census (CBC) technique where the Survey Area is walked and the route varied each survey. The number of survey visits were the same as a BBS survey (three visits) rather than the number required for a full CBC survey (ten visits). There were three day visits in approximately late April, mid May and early June.

This is a standard technique for breeding bird surveys as used for many years as per BTO's Breeding Bird Survey Instructions<sup>1</sup> for their Common Birds Census<sup>2</sup> This involves making a series of visits throughout the breeding season, during which all birds seen or heard in the area are recorded on large-scale maps using standard codes denoting their species and behaviour.

The area was searched by walking transects along woodland edges, roads and paths. During each visit, the location of each bird was mapped. By aggregating these individual records, breeding territories were revealed (Bibby et al. 2000)<sup>3</sup> for each species, the number of breeding territories were then recorded. Birds of conservation concern (Eaton et al. 2009)<sup>4</sup> were identified. The designations used were: Breeds, Non Breeder, Possible Breeder.

### 3.1.2 Schedule 1 Raptor Search

Tayside Raptor Group was consulted with regards to any Schedule 1 birds of prey nesting within a 2km radius of Finavon. Four surveys (Hardey et.al. 2006)<sup>5</sup> using a combination of drive around, vantage point watch and walkover were used to survey the area 2km outside the site for Schedule 1 raptors between April-July 2011.

### 3.1.3 Winter Walk Over's

To survey the wintering bird populations a series of three winter walk over's were carried out between October 2010 and March 2011 following the standard guidance from SNH. A pre plotted route was taken that covered the entire site and starting points were varied for each visit. The survey area was within 500m of the proposed turbines. Transect lines were walked with all birds seen recorded. Care was taken not to record the same birds on consecutive transects. Birds of conservation concern (Eaton et al. 2009) were identified. In addition the appropriate areas of site were walked over on the day of VP surveys to determine if geese were either present or had been present during the night. This was approximately fortnightly between September – May.

### 3.1.4 Vantage Point Surveys

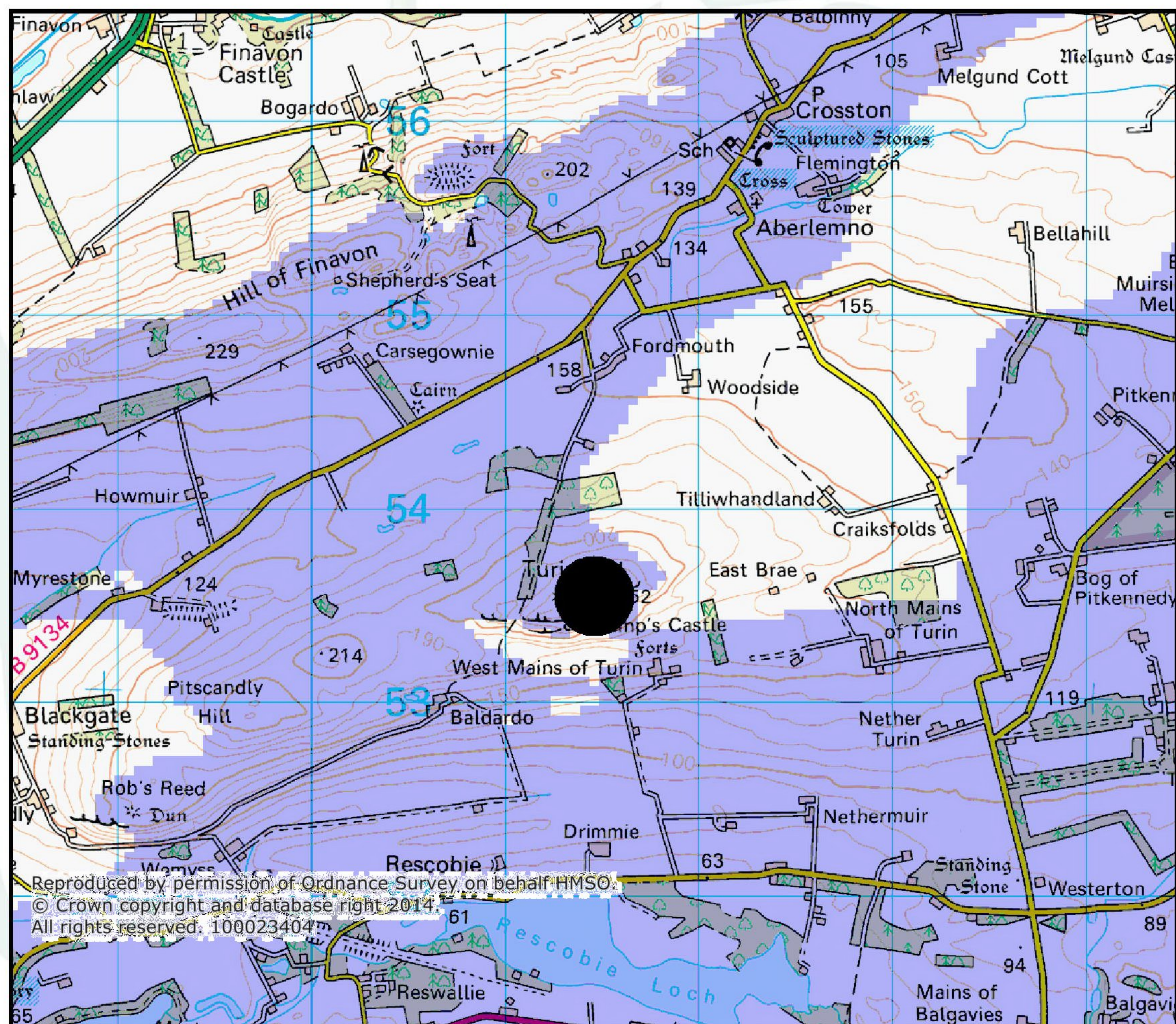
Data from VP surveys are utilised as part of the assessment of potential impacts including: species presence, density, distribution and behaviour.

It was agreed with SNH that that Vantage Point Watches (SNH 2006) were to be 36 hours in each of the three periods for autumn, winter and spring. It was agreed after consultation with M. Topsfield SNH that Summer VPs were not to be carried out.

Goose use of this area for foraging, despite its proximity to Montrose Basin SPA, is known to be low. The location, direction of flight, estimated height above the ground and size of each flock were recorded (SNH 2005).

Primary target species were identified as geese. Secondary target species, including all Special Protection Areas (SPA) qualifying species, were other wildfowl, waders and Schedule 1 raptors. During the VPs flight data for both primary and secondary target species were recorded.

A single Vantage Point was used as this gave clear views of the whole site, allowing all flights to be recorded in detail to 500m outwith the site (Figure 11). VPs were undertaken in all weather conditions.



**Figure 11. Viewshed**

## 3.2 Survey Results

### 3.2.1 Breeding Birds

Thirty five species of birds were recorded as breeding and four as possibly breeding within the survey area (Table 4). All of the recorded birds are recorded locally as common residents or summer visitors whose populations are not threatened and are in favourable conservation status in Scotland. None are specially protected. The only raptors recorded were buzzard and sparrowhawk which are resident on site. No

waders were recorded. The number of breeding species is high due to the variety of habitat on site away from the proposed turbine areas. The site is managed as a pheasant shoot and providing ground cover and wooded areas is actively undertaken. Nationally, five species, house sparrow, starling, song thrush, yellowhammer and linnet are on the red list of birds of conservation concern with another twelve on the amber list (Eaton et al. 2009).

**Table 4. Bird species list for Finavon: April – June 2011.**

**B = Breeds, PB = Possible Breeder, NB = Non Breeder**

Species	Latin Name	21/04/11	18/05/11	12/06/11	Status
		NE1, 8C. HAZE 06.15-11.20	W2, 10C. 6/8 05.45-11.10	W1, 9C. 5/8 05.10-10.55	
Grey Heron	<i>Ardea cinerea</i>		1 on	2 on	NB
Mallard	<i>Anas platyrhyncho.</i>	4 on	Young seen		B
Buzzard	<i>Buteo buteo</i>	6 seen	3 seen	2 adults + juveniles	B
Sparrowhawk	<i>Accipiter nisus</i>		Male displaying	Calling	B
Herring Gull	<i>Larus argentatus</i>	2 birds seen	30+ over	11 over	NB
Lesser Black-Backed Gull	<i>Larus fuscus</i>		7 over	4 on	NB
Wood Pigeon	<i>Columba palumbus</i>	Small numbers	Small numbers	Small numbers	B
Collared Dove	<i>Streptopelia decaocta</i>	Small numbers	Small numbers	Small numbers	B
Moorhen	<i>Gallinula chloropus</i>	Pair on	Juveniles	1 seen	B
Great Spotted Woodpecker	<i>Dendrocopos major</i>	2 seen	1 calling		B
Common Swift	<i>Apus apus</i>			Small numbers.	PB
House Martin	<i>Delichon urbicum</i>		Small numbers	Small numbers	B
Sand Martin	<i>Riparia riparia</i>	10+ seen	10+ seen		NB
Swallow	<i>Hirundo rustica</i>	6 seen	4 seen	4 seen	B

Species	Latin Name	21/04/11	18/05/11	12/06/11	Status
		<b>NE1, 8C. HAZE 06.15-11.20</b>	<b>W2, 10C. 6/8 05.45-11.10</b>	<b>W1, 9C. 5/8 05.10-10.55</b>	
Meadow Pipit	<i>Anthus pratensis</i>	1 singing	2 seen		PB
Skylark	<i>Alauda arvensis</i>	3 singing	2 singing	1 singing	B
Pied Wagtail	<i>Motacilla alba yarrelli</i>	4 seen	Juveniles	6 seen	B
Dunnock	<i>Prunella modularis</i>	Small numbers	Small numbers	Small numbers	B
Wren	<i>Troglodytes troglodytes</i>	8+ singing	6 singing	Present	B
Robin	<i>Erithacus rubecula</i>	5 singing	5 seen		B
Blackbird	<i>Turdus merula</i>	1 singing		Pair on	B
Mistle Thrush	<i>Turdus viscivorus</i>	1 singing		7 seen	B
Song Thrush	<i>Turdus philomelos</i>	2 singing	Juveniles		B
Northern Wheatear	<i>Oenanthe oenanthe</i>	2 male			NB
Willow Warbler	<i>Phylloscopus trochilus</i>	Common	Common	Common	B
Chiffchaff	<i>Phylloscopus collybita</i>	2 singing	1 singing		PB
Common Whitethroat	<i>Sylvia communis</i>		3 singing	4 seen	B
Blackcap	<i>Sylvia atricapilla</i>	1 singing	10+singing	Present	B
Garden Warbler	<i>Sylvia borin</i>		1 singing		PB
Goldcrest	<i>Regulus regulus</i>	2 singing		Heard	B
Great Tit	<i>Parus major</i>	Common	Common	5 seen	B
Blue Tit	<i>Parus caeruleus</i>	Common	Common	Common	B
Coal Tit	<i>Parus ater</i>	2 pairs seen	Heard		B

Species	Latin Name	21/04/11	18/05/11	12/06/11	Status
		NE1, 8C. HAZE 06.15-11.20	W2, 10C. 6/8 05.45-11.10	W1, 9C. 5/8 05.10-10.55	
Long Tailed Tit	<i>Aegithalos caudatus</i>		Flock 15+ seen		B
Starling	<i>Sturnus vulgaris</i>	8 seen	2 seen	80+ feeding on	B
Carrion Crow	<i>Corvus corone</i>	Odd birds	1 seen	Pair	B
Rook	<i>Corvus frugilegus</i>	Common	Common	Common	NB
Jackdaw	<i>Corvus monedula</i>	Common	Common	Common	B
Jay	<i>Garrulus glandarius</i>		2 heard	1 heard	B
Linnet	<i>Carduelis cannabina</i>		2 seen	Family party	B
Chaffinch	<i>Fringilla coelebs</i>	Common	Common	Common	B
Greenfinch	<i>Carduelis chloris</i>	3 seen	2 singing		B
Bullfinch	<i>Pyrrhula pyrrhula</i>	Heard		1 seen	B
Yellowhammer	<i>Emberiza citrinella</i>	2 seen	1 singing	1 seen	B
Reed Bunting	<i>Emberiza schoeniclus</i>	3 singing	1 singing	2 seen	B
House Sparrow	<i>Passer domesticus</i>	Common habitation	Common habitation	Common habitation	B

### 3.2.2 Protected Species

#### Schedule 1 Species

No species were recorded which are fully protected under Schedule 1 of the Wildlife and Countryside Act, 1981.

#### Red List Species

Five red list species were recorded breeding on site, none are considered at risk from the development.



**Song Thrush *Turdus philomelos***

Minimum two pairs in wooded areas.

**House Sparrow *Passer domesticus***

House sparrows were recorded around habitation.

**Starling *Sturnis vulgaris***

One-two pairs were recorded on buildings.

**Linnet *Carduelis cannabina***

Small numbers breed in scrubby areas and near gorse.

**Yellowhammer *Emberiza citronella*.**

Small numbers on site near field edges and hedges.

**3.2.3 Schedule 1 Raptor Search**

Tayside Raptor Group had no records of Schedule 1 raptors breeding within approximately 2km of the site. A combination of manual searching, VP methodology and driving around the site and scanning the area was undertaken monthly in April, May, June and July. The habitat is not suitable for the majority of Schedule 1 raptors with the exception of tree nesting species as no rock faces or extensive areas of moorland are present. No target species were recorded.

**3.2.4 Wintering Birds**

In general there was a good selection of birds recorded in the study area (Table 5). Common passerines were recorded mainly around the planted areas, near habitation and along woodland edge. No overwintering raptors of concern were noted. No overwintering geese were recorded feeding on site. No goose droppings or feathers etc were recorded during these walkovers or on any other survey work and according to estate personal geese never forage on site. The only waders recorded were four snipe and nine woodcock. The open ground near proposed turbine locations was very poorly used by birds.

**Table 5. Species list for Finavon: Winter Walk Over's**

Species	Latin	06/10/10	29/12/11	09/03/11	Status
		SW 2. 10.C 3/8 08.15- 12.00	E1 3.C 0/8 09.00- 12.25	W 2. 4.C 3/8 08.22- 11.45	
Buzzard	<i>Buteo buteo</i>	4 seen	3 seen	4 seen	Resident
Kestrel	<i>Falco tinnunculus</i>		1 seen		Visitor
Sparrowhawk	<i>Accipter</i>	1 seen		2 seen	Resident/visitor

Species	Latin	06/10/10	29/12/11	09/03/11	Status
	<i>nisus</i>				
Teal	<i>Anas crecca</i>		9 on pond		Visitor
Woodcock	<i>Scolopax rusticola</i>	2 flushed woods	7 flushed woods		Visitor
Snipe	<i>Gallinago gallinago</i>	2 flushed		2 flushed bog	Visitor
Herring Gull	<i>Larus argentatus</i>	11 over			Visitor
Common Gull	<i>Larus canus</i>	8 feeding fields			Visitor
Pheasant	<i>Phasianus colchicus</i>	Abundant	Abundant	Abundant	Resident
Collared Dove	<i>Streptopelia decaocta</i>	4 seen		4 seen	Resident
Skylark	<i>Alauda arvensis</i>	2 on		3 over	Resident/visitor
Pied Wagtail	<i>Motacilla alba yarrelli</i>	Minimum 5 seen	4 seen	4 seen	Resident
Dunnock	<i>Prunella modularis</i>	Small numbers	Small numbers	Small numbers	Resident
Wren	<i>Troglodytes troglodytes</i>	Small numbers	Small numbers	Small numbers	Resident
Robin	<i>Erithacus rubecula</i>	10+ seen	6 seen	5 singing	Resident/visitor
Blackbird	<i>Turdus merula</i>	Common	3 seen	Common	Resident/visitor
Fieldfare	<i>Turdus pilaris</i>	10+ seen	30+ on		Visitor
Redwing	<i>Turdus iliacus</i>	80+ present	30+ present		Visitor
Great Tit	<i>Parus major</i>	Present	Present	Present	Resident
Blue Tit	<i>Parus caeruleus</i>	Present	Present	Present	Resident
Coal Tit	<i>Parus ater</i>	Small numbers	Small numbers	Small numbers	Resident
Starling	<i>Sturnus vulgaris</i>	Small numbers		2 seen	Resident/visitor
Jackdaw	<i>Corvus monedula</i>	Common	Common	Common	Resident

Species	Latin	06/10/10	29/12/11	09/03/11	Status
Rook	<i>Corvus frugilegus</i>	Common	Common	Common	Resident
Carrion Crow	<i>Corvus corone</i>	3 pairs	Present	Present	Resident
Jay	<i>Garrulus glandarius</i>	4 seen		3 seen	Resident
Bullfinch	<i>Pyrrhula pyrrhula</i>	4 seen		5 seen	Resident
Chaffinch	<i>Fringilla coelebs</i>	Common	Common	Common	Resident
Linnet	<i>Carduelis cannabina</i>	30+ on			Resident/visitor
Goldfinch	<i>Carduelis carduelis</i>			4 seen	Visitor
Siskin	<i>Carduelis spinos</i>	Abundant		50+ seen	Visitor
House sparrow	<i>Passer domesticus</i>	Present habitation	Present habitation	Present habitation	Resident

### 3.2.5 VP Surveys

It is known that geese regularly move from Montrose Basin SPA to foraging areas over a wide band of countryside. Due to its proximity to Montrose Basin (~5km) it was expected that flights of geese would pass over site. Most flights recorded were in the early and late winter periods. No geese were recorded foraging on site during any VP or any other survey work.

Between the 12/09/2010 to 14/05/2011, a total of 108 hours of VP observation was carried out over the autumn, winter and spring periods (36 hrs per period), to survey bird flights over and around Finavon proposed wind cluster site.

VPs typically covered a period of three hours, starting an hour before dawn or an hour after dusk, with a daytime VP to assess flights of geese and other target species through the day and encompassed all weather conditions.

Two Schedule 1 raptors, peregrine falcon and hen harrier were recorded. Peregrine falcon was noted four times over site, mainly to the south east towards Forfar. One female hen harrier was seen hunting on the low ground below the proposed turbine locations. Two to four buzzards were recorded on most visits. The occasional kestrel was recorded hunting and passage sparrowhawks were noted intermittently drifting over high. In autumn and in early spring small passages of lapwings and golden plover were recorded.

A total of 18 flights of pink footed geese and three of greylag goose were recorded from the VP during the surveys (Table 6) with a total of ~ 4150 geese counted. A total of three flights involving ~ 600 geese constituted a possible collision risk. Given the numbers of pink footed geese that roost at Montrose Basin (up to 60,000 plus recorded) no collision risk analysis was deemed necessary.

It was very evident that there were numerous flights of geese moving offsite up to several kilometres distant, particularly to the south which was not recorded. These appeared to be mainly pink footed geese heading to and from Montrose Basin.

**Table 6. Geese and target species flights recorded**

Date	Species	Number	Height	On site	Offsite	Collision Risk
29/09/10	PG	140	125+m	YES		NO
29/09/10	PG	220+	200m	YES		NO
29/09/10	PG	80	100m	YES		NO
29/09/10	PG	17	120m	YES		NO
29/09/10	PG	190	150m	YES		NO
02/10/10	PG	60+	1400m	YES		NO
02/10/10	PG	220+	100m	YES		NO
02/10/10	PG	60	120m	YES		NO
02/10/10	PG	500+	140m	YES		NO
02/10/10	PG	70	120m	YES		NO
11/10/10	PG	110	150m+	YES		NO
11/10/10	PG	1250	130m+	YES		NO
11/10/10	PG	70+	150m	YES		NO
11/10/10	HH	1	3m	YES		NO
11/10/10	L.	70	40	YES		YES
11/10/10	L.	120	70	YES		NO
15/11/10	GJ	43	70m	YES		NO
15/11/10	PE	1	130m	YES		NO
15/11/10	PE	1	150m	YES		NO
15/11/10	GP	90+	140	YES		NO
22/12/10	PG	56	70m	YES		YES
22/12/10	PG	169	70	YES		YES
22/12/10	PE	1	100m	YES		NO
06/02/11	GJ	170+	80	YES		NO
12/03/11	PG	114	60m	YES		NO
12/03/11	PG	300+	130m+	YES		NO
12/03/11	PE	1	60m	YES		NO

12/03/11	GP	20+	5m	YES		NO
12/03/11	L.	17	40m	YES		YES
28/03/11	L.	60+	70m	YES		NO
28/03/11	L.	9	70m	YES		YES
28/03/11	PG	380	80m	YES		YES
05/04/11	L.	5	70m	YES		NO
05/04/11	GJ	23	90m	YES		NO
05/04/11	L.	16	80m	YES		NO
05/04/11	L.	2	70m	YES		YES

## 4 BATS

### 4.1 Bat Legislation

Bats of all species in Britain and their roosts are protected under the Conservation (Natural Habitats, &c) Amendment (Scotland) Regulations 2007. Following recent changes to legislation in Scotland under this law it is illegal intentionally or recklessly to kill or injure a bat, to disturb a roosting bat or to damage, destroy or obstruct access to any bat roost. This applies to both summer and winter roosts, which may be in different structures. Any action which is likely to disturb or damage a bat roost requires a license from the Scottish Executive.

### 4.2 Aims & Objectives

To determine what bat species are present on the site and whether the habitat is utilized for roosting, foraging or commuting by bats.

### 4.3 Data Review

A data search was carried out using NBN Gateway to determine if any bat species had been recorded in the 10km square of which Finavon is enclosed.

### 4.4 Survey Methodology

Three bat detector surveys and a habitat survey were carried out at the site between May September 2011 in accordance with guidance from the Bat Conservation Trust<sup>6</sup> and Natural England<sup>7</sup>. The objectives of the bat survey were to identify the activity within the proposed development site boundary. Foraging areas were identified to provide sufficient evidence so that the potential impacts of the proposed development on any local bat populations could be assessed and if appropriate, mitigation suggested.

### 4.5 Habitat Survey

A daytime field survey was carried out on 18/05/2011. The site was surveyed for potential flight lines/commuting routes, roosts and foraging areas and the habitat assessed for its overall suitability for bats.

The outside of buildings were inspected using 10 x 40 binoculars. The buildings were checked for any potential bat access points, droppings on walls or windows, urine stains, grease marks or other indications that a roost was present.

Some potential tree roost sites were checked using 10 x 40 binoculars where possible. Particular emphasis was paid to mature tree lines to see if potential roost cavities were available. This was not a detailed survey but was intended to determine the suitability of the buildings and trees for bat roosts.

Any potential foraging areas were examined and tree lines and linear features were assessed for their suitability as flight lines or commuting pathways

#### 4.6 Bat Detector Surveys

Three visits were made between May-September 2011. The dusk surveys were carried out from approximately 30mins before sunset to 2.0hrs after sunset. The dawn survey was from approximately two hours before sunrise to 30mins after sunrise (Table 7) The site was divided into a circular transect (yellow line Figure 11) which were surveyed constantly by two individual surveyors starting at opposite ends of the transect on each visit.

**Table 7. Survey times and weather conditions.**

Survey	Survey Area	Date	Sun Set	Sun Rise	Time	Weather
Habitat Survey	Site	18/05/11			09.00-13.35	W3. 7/8. 13C
Night Surveys						
1	Dusk	18/05/11	21.30		21.00-23.40	SW2. 3/8.10C
2	Dusk	26/07/11	21.40		21.15-23.55	E2.4/8.15C
3	Dusk	21/09/11	19.20		18.45-21.25	W2. 3/8. 11C.
	Dawn	22/09/11		07.00	05.00-07.35	W3. 6/8. 10C.

The transect was focused on the proposed turbine locations with strategic stopping points. These points encompassed all habitats found on site and included the proposed turbine location, tree lines, wooded areas, tracks and open ground. Bats were surveyed at all times and at stopping points using Bat Box ultrasound bat detectors in conjunction with a mini-disc inline recorder between 20-120 MHz. Any potential bat calls on the mini discs were analysed using the Bat Sound software package and identified to species level. All transects were walked twice with 5 minute listening stops with the detector continuously on.

#### 4.7 Results

##### 4.7.1 Data Review

NBS Gateway revealed that the following bat species recorded in the 10km grid square based on Finavon.

- Soprano pipistrelle *Pipistrellus pygmaeus*;
- Common pipistrelle *Pipistrellus pipistrellus*;
- Daubenton's bat *Myotis daubentonii*;
- Natterer's bat *Myotis nattereri*;
- Brown long-eared bat *Plecotus auritus*.

## 4.7.2 Habitat Survey Results

### Buildings

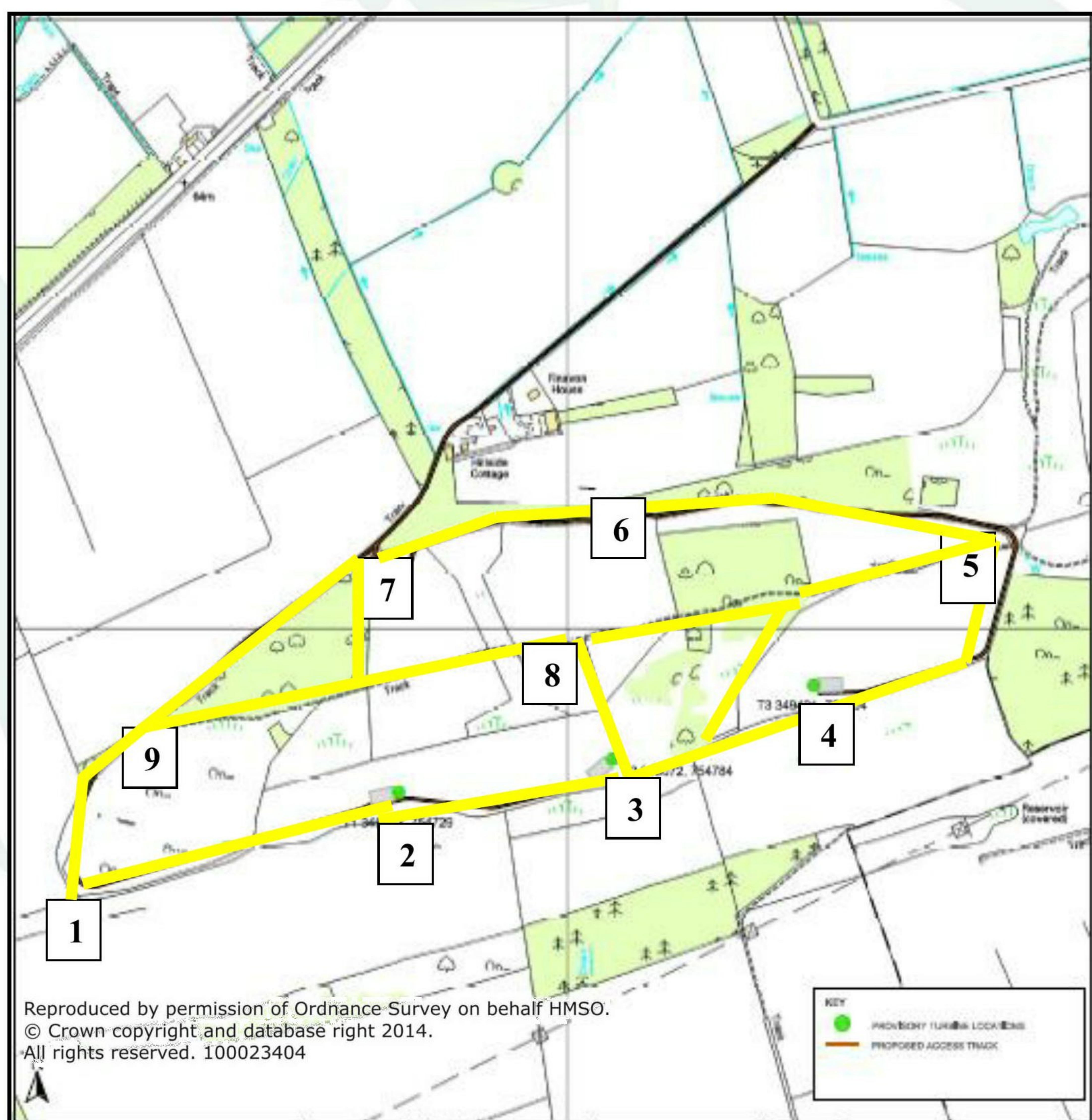
There are two houses and associated buildings on the periphery of the site that have the potential to provide bat roosts. No signs of bats were recorded however interior access was not possible to check out roof and attic space.

### Trees

There is a multitude of mature trees on site where potential roosts could be located.

### Foraging Areas

There would appear to be excellent foraging areas over most of the lower part of the site. The exceptions would be on the open improved grazing fields on the top of the ridge where the turbines are proposed. The majority of the site and offsite to the north is a mixture of woodland, scrub, tree lines and water and this would be considered excellent foraging habitat.

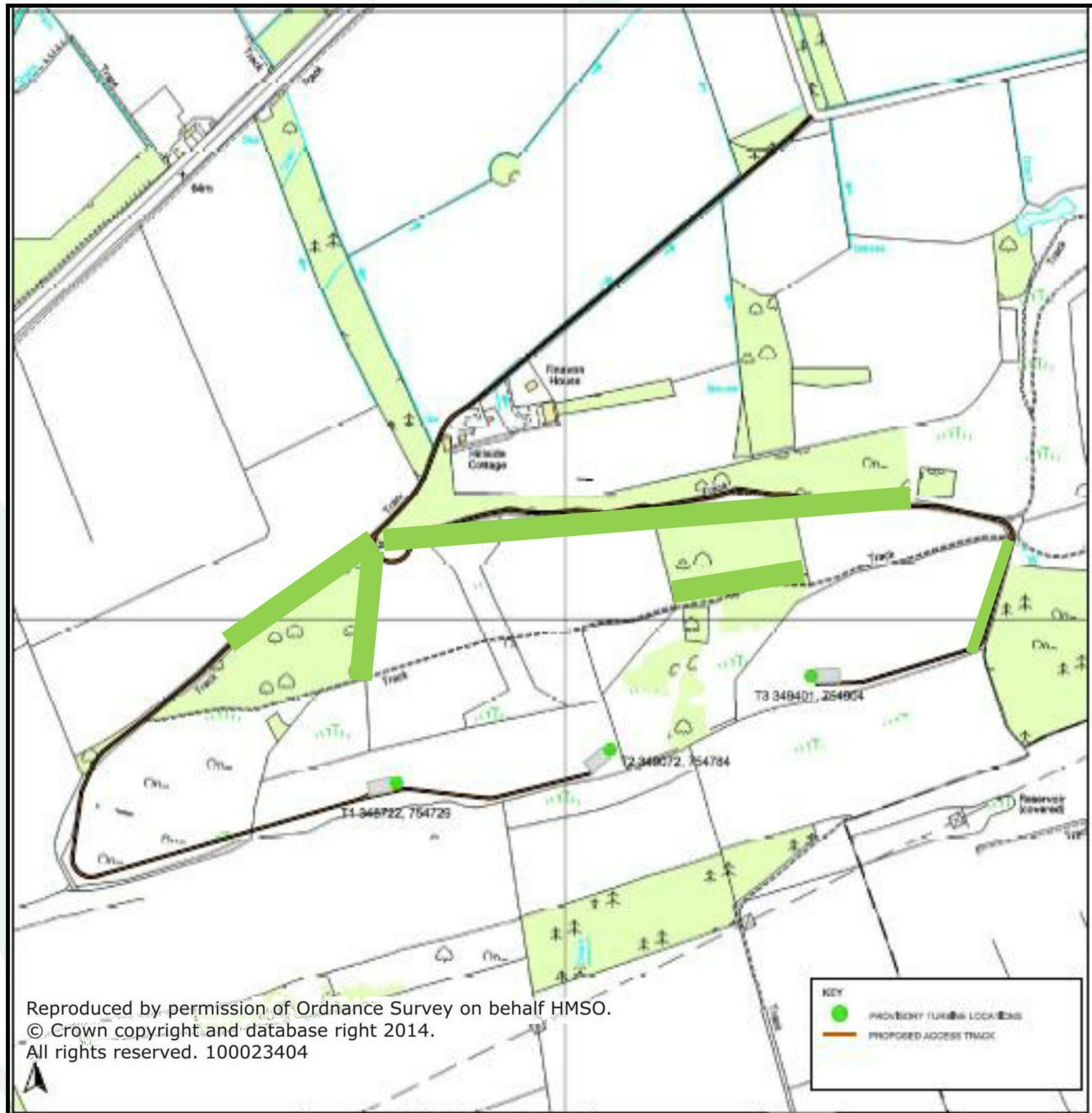


- **Figure 12. Bat survey area.**

- **Transect =**  **Stopping points =** 3

### 4.7.3 Bat Detector Survey Results

On each visit approximately fifteen-twenty bats of two species were recorded, soprano and common pipistrelle. The big majority were soprano pipistrelles with only the occasional common pipistrelle recorded. These were recorded foraging and commuting at stopping points 5, 6 & 7 (see Figures 12, 13). It was evident that bats were entering the site from the low ground from roosts unknown. No bats were recorded entering or leaving any roosts in the vicinity of the transect. No bats were recorded over open grazing fields or near proposed turbine locations.



**Figure 13. Bat survey results**

- Bat foraging areas



## 5 BADGERS

### 5.1 Badger (*Meles meles*) Legislation

Both badgers and their setts are protected by law. The Protection of Badgers Act 1992 (Scottish Version) brings together all of the previous legislation specific to badgers (except their inclusion on Schedule 6 of the 1981 Wildlife and Countryside Act as amended Nature Conservation (Scotland) Act 2004). As a result it is an offence to:

- Willfully kill, injure, take, possess or cruelly ill-treat a badger, or to attempt to do so;
- To intentionally or recklessly interfere with a sett;
- To disturb a badger when it is occupying a sett;
- Damage or destroy a sett;
- To obstruct access to, or any entrance of a badger sett.

A badger sett is defined in the legislation as '*any structure or place, which displays signs indicating current use by a badger*'. 'Current use' does not simply mean 'current occupation' and for licensing purposes it is defined as '*any sett within an occupied badger territory regardless of when it may have last been used*'. A sett therefore, in an occupied territory, is classified as in current use even if it is only used seasonally or occasionally by badgers, and is afforded the same protection in law.

### 5.2 Aims & Objectives

The aims of this assessment were;

- To assess whether badgers were present on site;
- If badgers are present to assess local population status and usage of the site;
- To recommend further survey work if required.

### 5.3 Data Review

A data search was carried out using NBN Gateway to determine if badgers had been recorded in the 10km square of which Finavon is enclosed.

### 5.4 Survey Methodology

The surveys consisted of walkovers of the site and ground within 50m of its boundary during daylight hours to visually inspect and assess the site for its potential to support badgers.

Badgers surveys were carried out according to recommended guidelines<sup>8, 9, 10 and 11</sup>. In particular attention was paid to the inspection of hedgerows, woodland, ditches and banks as these features are particularly likely to support badger setts. Evidence of badger activity searched for included:

- Setts: badger setts typically have characteristic shapes and dimensions;
- Paw prints and badger hair caught on hedges and fences;
- Foraging signs: foraging badgers leave distinctive marks when foraging;
- Characteristic worn pathways; and
- Latrines: badgers defecate in pits, often clustering several pits into a latrine.

## 5.5 Results

### 5.5.1 Data Review

NBN Gateway recorded badger within the 10km gridsquare of the site.

### 5.5.2 Field Survey

No signs of badger were recorded on site during the walkover.

## 6 OTTERS

### 6.1 Otter (*Lutra lutra*) Legislation

Otters and their resting places receive protection under The Conservation (Natural Habitats &c.) Amendment (Scotland) Regulations 2004 (the Habitats Regulations) which make it an offence to:

- Intentionally kill, injure or take an otter;
- Possess any live or dead specimen or anything derived from an otter;
- Intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by an otter; and
- Intentionally or recklessly disturb an otter while it is occupying a structure or place which it uses for that purpose.

### 6.2 Aims & Objectives

The aims of this assessment were;

- To assess whether otters were present on site;
- If present to assess local population status and usage of the site
- To recommend further survey work if required.

### 6.3 Data Review

A data search was carried out using NBN Gateway to determine if otters had been recorded in the 10km grid square of which Finavon is enclosed.

### 6.4 Survey Methodology

The otter survey in July consisted of a walkover of the site and the watercourses to visually inspect and assess the site for its potential to support otters. The surveys were carried out according to recommended guidelines<sup>12, 13, 14, 15, and 16</sup>. Evidence of otter activity searched for included:

- Holts: otter holts are often found in various situations. These include cavities in a river bank, hollow trees, between roots, rocky clefts, rabbit burrows or tunnels in peat. The entrance may be underwater with an air vent into the chamber, which is lined with dry vegetation;
- Couches: otters often have resting spots or couches where they lay up. An otter may have many holts or resting sites within its home range;
- Paw prints in muddy or silted areas along the burn edges;
- Spraints or otter faeces. Often found on boulders, under bridges, elevated positions, fallen trees or on piles of grass; and
- Characteristic worn pathways/slides or haul out areas.

## 6.5 Results

### 6.5.1 Data Review

NBN Gateway recorded otter within the 10km grid square of the site.

### 6.5.2 Field Survey

No signs of otter were recorded on site during the walkover.

## 7 PHASE 1 HABITAT SURVEY

### 7.1 Legislation

Legislation exists to protect habitats and floral species from destruction, degradation and loss as a result of development activities and include:

- The Conservation (Natural Habitats, & C.) Regulations 1994;
- Wildlife & Countryside Act 1981 (as amended); and
- The Nature Conservation (Scotland) Act 2004.

### 7.2 Aims & Objectives

The Phase 1 Habitat Survey aimed to:

- Identify and record broad habitats within the vicinity of the development area;
- Provide a description of habitat distributions and highlight any areas of ecological constraints in relation to the proposed development; and
- Contribute towards informing planning processes.

Whilst not a full botanical survey, the Phase I method enables a suitably experienced ecologist to obtain sufficient understanding of the ecology of a site so that it is possible either:

- To confirm the conservation significance of the site and assess the potential for impacts on habitats /species likely to represent a material consideration in planning terms; or
- To ascertain that further surveys of some aspect(s) of the site's ecology will be required before such confirmation can be made.

### 7.3 Data Review

An initial pre-visit desk study was conducted for the location of the proposed scheme at Finavon to establish ecological baseline context. These included consultation with Ordnance Survey (OS) maps and web-based satellite aerial imagery to familiarize with the site and to identify potential habitat features of nature conservation importance.

A search to check for existing habitat surveys and important flora records of the site was undertaken. Sources included the SNH's SiteLink GIS and MAGIC databases and the National Biodiversity Network database, UKBAP<sup>17</sup> and NESBREC local biological recording centre.

### 7.4 Survey Methodology

Phase I habitat survey is a standardised method of recording habitat types and characteristic vegetation, as set out in the Handbook for Phase I Habitat Survey – a technique for Environmental Audit (JNCC, 2010).

The Phase I habitat survey undertaken on 15/09/2011 covered the whole of the site with a focus on the three proposed turbines at circa NJ 45722 54729, NJ 49072 54784 and NJ 49401 54904. Survey encompassed a 500m buffer envelope around these areas and also including 250m buffer envelope around the access track proposed entry at Finavon.

Target notes were made to describe characteristic habitats, features of ecological interest, or any other features which are considered to require ecologically sensitive design or mitigation.

A colour coded GIS-based map in hard copy format was produced with associated colour key (Appendix 1). This dataset provides information on the spatial distribution of wildlife habitats in the area in September 2011.

## 7.5 Results

### 7.5.1 Data Review

Review of OS maps and aerial imagery indicates the site at Finavon is located within a rural farmland locality approximately 4km to the north-east of Forfar, Angus. The contour information reveals an inclining topography with slopes rising to the north-east by Finavon House. Dominant habitats present over the site comprise a mix of livestock grazed improved grassland, arable field systems and mosaics of mixed age woodland plantations, scrub and other tall ruderal cover managed for pheasants. An existing network of established rough tracks encompasses the Hill of Finavon.

Data searches established no designated sites on the Finavon Site. Data searches for vascular plants, fungi, lichens, mosses and liverworts listed as BAP/LBAP species also revealed no records for the site.

### 7.5.2 Field Survey

The habitats present within the 500 meter survey area are presented in Table 8, with target notes in Appendix 2 of this section.

**Table 8 Phase 1 Habitat types within the Site**

Phase 1 Habitat Type	Area Ha	% of total area
J1.1 Cultivated/disturbed land - arable	92.16	43.80
B4 Improved grassland	54.04	25.60
A1.1.2 Broadleaved woodland - plantation	23.47	11.15
A2.2 Scrub - scattered	19.95	9.50
J5 Other habitat	10.15	4.82
A1.2.2 Coniferous woodland - plantation	9.65	4.59
C1.2 Bracken - Scattered	0.52	0.25
A3.1 Broadleaved Parkland/scattered trees	0.37	0.17

D5 Dry Heath/acid grassland	0.16	0.07
J3.6 Buildings	0.1	0.05
<b>Total</b>	<b>7</b>	<b>210.5</b>
		<b>100.00</b>

#### Boundaries

J2.4 Fence	Frequently Occurring
J2.6 Dry Ditch	Occasionally Occurring

#### Improved Grassland / Arable

The dominant habitats present at Finavon are a combination of arable and improved grassland, representing a combined area of 146 ha / 69.40 % of the site total. These habitats are commonly distributed around both the proposed turbine areas and access track route and reflect the extensive agricultural use of the site.

The improved grassland fields are utilised by livestock and are dominated by agriculturally improved grasses perennial rye-grass *Lolium perrene*, with abundant cover of white clover *Trifolium repens* and creeping buttercup *Rannunculus repens*. Mosaics of sheep's fescue *Festuca ovina*, bent grasses *Agrostis canina* and *Agrostis capillaries (tenius)*, stands of mat grass *Nardus Stricta* with sheep's sorrel *Rumex acetosella* and thistle *Cirsium spp* are also found across the site.

#### Plantation Broadleaved Woodland

Representing 11.5% of the site, broadleaved woodland of mixed ages and structures are widespread throughout the site. Species include silver birch *Betula pendula*, sessile oak *Quercus petraea*, beech *Fraxinus excelsior*, ash *Fraxinus excelsior*, goat willow *Salix cinerea*, alder *Alnus glut*, sycamore *Acer pseudoplatanus*, rowan *Sorbus aucuparia*, hazel *Corylus avellana*, wild cherry *Prunus avium*, hawthorn *Crataegus monogyna* and gorse *Ulex europaeus*.

#### Scattered Scrub

Scattered and widely distributed, gorse *Ulex europaeus* is found over the site, representing 9.50%. Gorse is abundant within fields to the immediate south of the 3 proposed turbines. Elsewhere, gorse is scattered over fields, especially towards the south of site amongst improved grassland, grazed by cattle.

#### Other Habitats

These consist of farm yards, roads, tracks over the site and other hard standing surfaces found at Finavon House and Hillside Cottage, representing 4.82% of the site.

#### Plantation Coniferous Woodland

Two mature coniferous plantation occur on site, with one situated to the south of the turbine 1 and 2 area, the other located to the east by turbine 3. Both are dominated by larch *Larix deciduas* and Scot's pine *Pinus sylvestris*. This habitat represents 4.59% of the site area.

### Scattered Bracken

Bracken *Pteridium aquilinum* occurs within open areas of young plantations and more widely over the far east of site, representing 0.25 % of the site.

### Broadleaved Scattered Trees

Found centrally within site, an area of mature scattered sessile oak *Quercus petraea*, beech *Fraxinus excelsior* and ash *Fraxinus excelsior*, representing 0.17% of the area.

### Dry Heath/Acid Grassland

A small area by an existing track, comprising a mixture of dry heath, heather *Calluna vulgaris* and acid grassland, to the far east of the 500m turbine survey envelope representing 0.07 % of the site. Some stands of mat grass *Nardus Stricta*, sheep's sorrel *Rumex acetosella* and thistle *Cirsium spp.* also occur abundantly. Tufted hair grass *Deschampsia caespitosa*, wavy hair grass *Deschampsia flexuosa* together with beds of rush *Juncus spp.* are also frequent.

### Buildings

These include buildings at Finavon House and Hillside Cottages and these structures represent 0.05 % of the site area.

### Boundaries

These comprise extensively of wire fence and post constructions found over the entire site, and are mostly livestock proofed. In addition, field boundaries are occasionally partitioned by dry irrigation ditches with some occasional trees also present.

### Target Note 1

See Appendix 3.

## 8 ASSESSMENT OF IMPACTS

### 8.1 Impacts on Breeding Birds

There was a good breeding species list of predominantly common woodland birds. There is a mosaic of differing habitats on site and the list reflects this. Most species were recorded near habitation, woodland or near water. Predictably there was very little breeding on the open fields near proposed turbine locations. No lowland waders i.e. lapwing, curlew or oystercatcher were recorded. It is expected that access would be predominantly along existing tracks with only minor enhancement required. Any new tracks would be over improved grazing and no trees are to be felled. No red listed species would probably breed on the improved grassland near the turbine locations.

Considering the observations noted above, no significant impact on high sensitivity species can be expected. The magnitude of impact is considered to be negligible and overall the significance of impact to be no more than negligible.

#### 8.1.1 Mitigation

No mitigation is deemed to be required.

## 8.2 Impacts on Schedule 1 Raptors

None were recorded breeding or were observed in the general area during surveys. It is not considered that any breed within a 2km buffer zone of the site.

### 8.2.1 Mitigation

No mitigation is deemed to be required.

## 8.3 Impacts on Wintering Birds

No geese were recorded foraging on site at any time. No signs of geese were recorded on site during any surveys and it is apparent that the site is not utilised for foraging. No Schedule 1 raptors use the habitat to forage on over the winter periods. The loss of a small area of improved grassland would not have an adverse affect on any wintering birds given the species present.

Data from the VP surveys show that the proposed turbine locations constitute no collision risk to either geese or any other target species. The geese strongly tend to fly to the south of the site in the general direction of Montrose Basin. When they fly in this area along the glen they are often below the height of the ridge and below the base of the proposed turbines. Very few flights were recorded flying actually over the ridge. Construction of the three turbines on the high ridge would be deemed to have a negligible significance of impact on any species.

### 8.3.1 Mitigation

No mitigation is deemed to be required.

## 8.4 Impacts on Bats

The majority of the site, apart from open fields, would be considered good bat foraging habitat. The bats were entering the site from the low ground to the north from roosts unknown. They foraged predominantly along the woodland edge and young trees next to areas of the proposed access track. Only the occasional bat was recorded away from wooded areas and none were recorded on the high ground or around proposed turbine locations. No roosts were found, however there is a multitude of suitable mature trees and the occasional building present.

It is expected that only minor enhancement and upgrading to the existing access track will be required. No trees or vegetation is expected to be removed. It is also expected that where new access track is required that this will be constructed over improved grazing land and that no felling of trees or removal of vegetation will occur. Where turbines are to be constructed is in open grazing fields and yet again no trees will need to be removed.

Considering the observations noted above, no significant impact on high sensitivity species can be expected. The magnitude of impact is considered to be negligible and overall the significance of impact to be no more than negligible.

### 8.4.1 Mitigation

No mitigation is deemed to be required if no trees or buildings are to be removed during construction. If, however, this is not the case then further bat survey work will be required at the appropriate time to ascertain whether roosts are present.

## **8.5 Impacts on Badgers**

Given that no signs of badger were recorded no significant impact on this species can be expected. The magnitude of impact is considered to be negligible and overall the significance of impact to be no more than negligible.

### **8.5.1 Mitigation**

No mitigation is deemed to be required

## **8.6 Impacts on Otters**

Given that no signs of otter were found recorded no significant impact on these species can be expected. The magnitude of impact is considered to be negligible and overall the significance of impact to be no more than negligible.

### **8.6.1 Mitigation**

No mitigation is deemed to be required

## **8.7 Impact on Habitats**

A total of eleven habitats are present within the site area, of which improved arable fields cover a large proportion of the site. No nationally or internationally protected habitats were identified in this assessment.

The combination of agriculture grazing habitats which dominate the site limits botanical interest. There is some potential value of arable fields for farmland bird species to utilise for nesting and feeding habitat. Broadleaved and conifer plantations offer some opportunities for mammals to utilise for cover, shelter and feeding, with good access to open fields. These habitats may offer value to other small mammals, birds, reptiles and invertebrates

All habitat loss both temporary and permanent would be associated with the arable and improved grassland. This habitat has little wildlife value and occurs abundantly over the site, regionally and nationally. The impacts on the habitats are expected to be small. There are limited records of protected species either on the Site or within the local area.

There is habitat on the Site which would support protected species including the woodland for badgers and red squirrels and farm buildings for bat species. The majority of these features are situated mainly over the north and east site and so it is anticipated direct or indirect impacts are low.

There are no running water courses on site and there are therefore no significant impacts on the aquatic environment anticipated from the location of the proposed development infrastructure. There is the potential of a slight increase in run-off in to ditch systems through the ground disturbance of the construction phase but this is expected to be short lived, minor and further reduced through mitigation.



### 8.7.1 Mitigation

The following mitigation measures are proposed:

- Good construction site management should be implemented to minimise generation of litter, dust, noise and vibration. This should be controlled and monitored through the Contractor's Environmental Management Plan. Through adhering to best practices during construction and operation phases, fragmentation, disturbance and pollution to habitats present can be minimised;
- During construction management of excavated soil will focus on preventing silt runoff into the water environment during rainfall periods through careful design and maintenance of drainage/silt traps.

## 9 SUMMARY OF IMPACTS

Following the criteria set out in Tables 1, 2&3 the following table is an assessment of the impacts on flora and fauna at Finavon due to the proposed construction of three wind turbines.

Residual Effects	Value of receptor	Magnitude of change	Duration	Nature	Significance
Loss of foraging or roosting habitat to bats	Parish (Local)	Low	Short term	Negative	Not significant
Bat mortality due to turbine collisions	Parish (Local)	Low	Short term	Negative	Not significant
Bird mortality due to turbine collisions	Parish (Local)	Low	Short term	Negative	Not significant
Loss of habitat to breeding birds	Parish (Local)	Low	Short term	Negative	Not significant
Loss of habitat/vegetation	Parish (Local)	Low	Short term	Negative	Not significant
Badger and otter mortality due to construction or collision risk	Parish (Local)	Low	Short term	Negative	Not significant

## 10 CONCLUSION

It is proposed to construct a three wind turbines and associated infrastructure on an area of improved grazing land situated in Angus. A range of ecological assessments have been undertaken to investigate the ornithological and other ecological interest of the site and it is concluded that potential for this to be adversely affected by the current proposal is extremely unlikely.





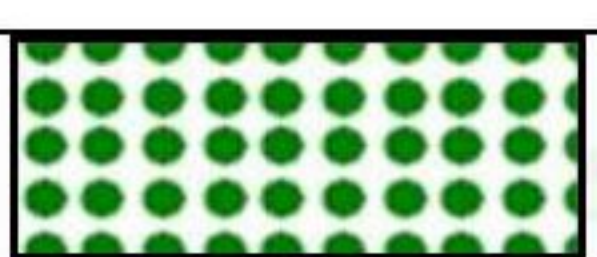
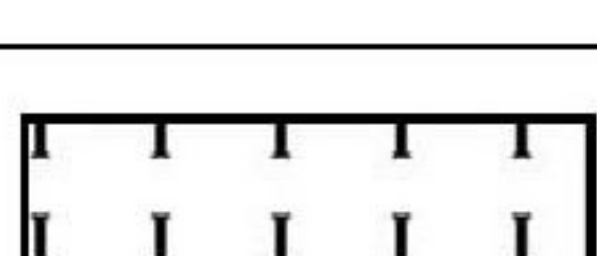
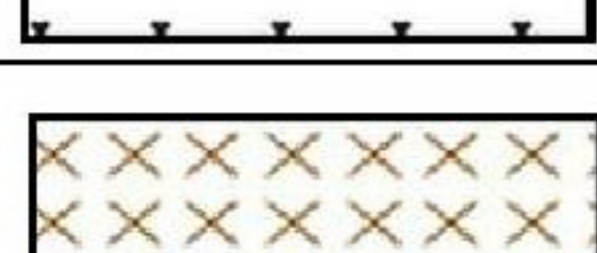
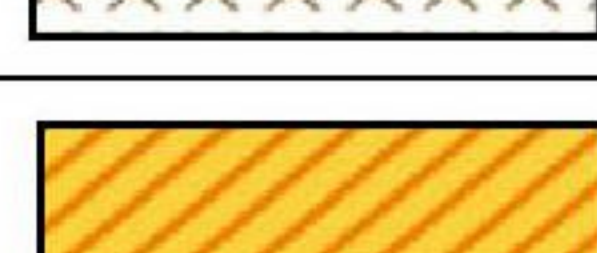
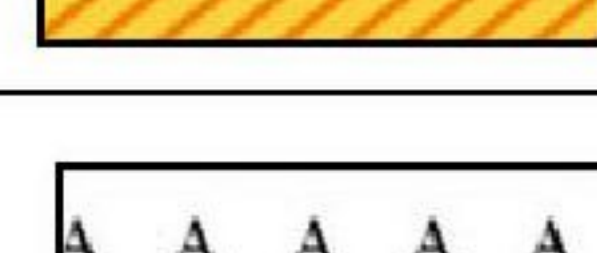





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## 12 APPENDIX

Appendix 1 Phase 1 digitized map attached as pdf.

Appendix 2. Key to Phase 1 map.

	A1.1.2 Broadleaved woodland - plantation
	A1.2.2 Coniferous woodland - plantation
	A1.3.2 Mixed woodland - plantation
	A2.2 Scrub - scattered
	A3.1 Broadleaved Parkland/scattered trees
	B4 Improved grassland
	C1.2 Bracken - scattered
	D5 Dry heath/acid grassland
	J1.1 Cultivated/disturbed land - arable
	J3.6 Buildings
	J5 Other habitat
	J2.4 Fence
	J2.6 Dry ditch
	Target note

### Appendix 3. Target notes

Target Note	Grid Reference	Notes
1 -3	NO 48722 54729 (Turbine 1) & NO 49072 54784 (Turbine 2)  & NO 34901 54904 (Turbine 3)	<p>The vicinity of the proposed turbines, hard standing foundation and access tracks. These are improved grassland fields and currently heavily used for livestock grazing. It is a commonly occurring habitat type, typical of farmland.</p> <p>These improved fields offers some potential habitat value for ground nesting Biodiversity Action Plan bird species such as skylark <i>Alauda arvensis</i> and other common farmland birds.</p> <p>There is some mammal potential for badgers <i>Meles meles</i> and bat species to utilise for foraging and commuting.</p> <p>The access track route is anticipated to follow an existing track network and vegetation removal of commonly occurring gorse <i>Ulex europaeus</i> may be required in the two fields.</p>

Appendix 4 – Viewpoint Analysis

<p>Figure 7.9</p>	<p><b>Viewpoint 1: Balmashanner</b></p>	
<p>Description</p>	<p>The viewpoint is located at a scenic viewpoint at the Balmashanner War Memorial in the settlement of Forfar at <b>E345729 N749323</b>. The view faces north east towards the development looking over much of the settlement itself situated ~6.1km from the nearest turbine. This slightly elevated position gives a good view across the Strathmore valley with the foothills of the Cairngorms forming the backdrop to the view to the north, views east are more open and expansive along the length of the valley. Within the valley the topography is relatively flat and tends to have a landcover of arable farming which is bordered by a mixture of coniferous and deciduous shelterbelt which is prominent in the view. There is further woodland visible surrounding the edges of Forfar and larger coniferous plantations in the distance on the lower slopes of the hills. The foreground consisted of maintained grassland which slopes steeply down into the town of Forfar where a number of man made features are visible, including buildings and roads with the settlement comprising much of the overall view. The view is not constrained or enclosed and the landscape has a large scale about it offering expansive views. The view is valued by the residents of Forfar.</p>	
<p>Sensitivity</p>	<p>The viewpoint is located within the settlement of Forfar and is representative of views experienced by its residents and any visitors to the war memorial and is therefore considered to be of <b>High</b> sensitivity.</p>	
<p>Magnitude of Change</p>	<p>The turbine will appear rising from behind the ridge created by Hill of Finavon behind Forfar. Here it will comprise a minor extent of both the horizontal view and the vertical view and be visible against the sky. From this location the turbine would not dominate over the settlement of Forfar and be in scale with the surrounding landscape particularly the ridge formed by Hill of Finavon. Here it will appear within the 1:3 ratio when compared to the vertical extent of the hill as well as only occupying less than 5% of the ridgeline at Finavon. With the dominant feature in the view being Forfar itself the turbine would not offer a significant degree of contrast and be quite suited to the scene. The development would be a great reduction in visibility compared to the three turbines with reducing visibility by ~85% of the previous development.</p> <p>The overall magnitude of change for the development is considered to be <b>low</b>, leading to a moderate level of effect which would not be significant.</p>	
<p>Cumulative Impact</p>	<p><u>Operational</u></p> <p>Drumderg is visible in the distance to the west, situated lower in the landscape at ~28km distance. There will be no simultaneous views of Drumderg and Finavon, with Drumderg being to the left of the viewer and Finavon to the right. To the west Ark Hill will be seen rising from behind the topography, visible against the sky. It will not be possible to view the project simultaneously with Finavon and would occupy only a small extent of the view. The cumulative magnitude of change will be <b>low</b>.</p> <p><u>Operational, Consented</u></p> <p>The most prominent features would be Crainathro Farm and Govals, however these are to the rear and also screened by woodland. Welton of Creuchies will also be visible to the north west near Drumderg. All of these projects will not appear in the same angle of view, However East Memus, White Top, Gallow Hill and Broom Farm would all be seen to the left of Finavon, visible against the landscape behind Forfar. These are small scale schemes and neither these nor Finavon are prominent. The cumulative magnitude of change will remain <b>low</b>.</p> <p><u>Operational, Consented, In Planning</u></p> <p>The Nathro project would be a dominant feature on the opposite side of the valley and would appear simultaneously with Finavon. It is likely that this development may change the character of the area and as such the impact of Finavon potentially lessened. There will also be long range views across to Bamff Hill and Tullymurdoch, although Finavon is not simultaneously visible with these. The cumulative magnitude of change will remain <b>low</b>.</p>	
<p>Type of Effect</p>	<p>On completion of the development the visual effect from this viewpoint would be permanent (reversible) and direct. The development would lead to a low magnitude of change and despite the careful design of the project man made vertical structures in this area would always lead to a negative effect.</p>	
<p>Assessment of Visual Effects</p>	<p>Sensitivity:</p>	<p><i>High</i></p>
	<p>Magnitude:</p>	<p><i>Low</i></p>
	<p>Type of Effect:</p>	<p><i>Permanent (reversible), Direct and Negative</i></p>
	<p>Level of Effect:</p>	<p><i>Moderate</i></p>

<b>Figure 7.10</b>	<b>Viewpoint 2: Forfar</b>	
Description	<p>The viewpoint is located in a park just north of the B9134 on the eastern edges of the settlement of Forfar at <b>E346837 N751629</b>. The view faces north east towards the development and is situated 3.6km distance from the nearest turbine. The immediate foreground consists of maintained grassland that forms part of the park, this is bounded by a trimmed mature hedgerow which forms the boundary to the park. Behind this across the middle ground the landscape is decidedly agricultural in nature with gently rolling arable fields, farmsteads and small groupings of coniferous woodland. A backdrop to this is provided by Hill of Finavon which forms a ridge along the centre of the view and has a landcover of more rough grassland and areas of woodland. There are a number of manmade elements which include the settlement of Lunanhead which sits in the centre of the view in a slight dip in the topography and can be seen within the landscape. In addition to this an electricity pylon creates a prominent feature on the right hand edge of the view rising above Hill of Finavon and there are a number of other pylons in the distance running across the view, visible against the landscape. Either side of the view there are two areas of woodland which provide some sense of enclosure and Hill of Finavon limits any long range views from this location. The landscape is of a medium scale and the view would be valued by the residents of Forfar.</p>	
Sensitivity	<p>The viewpoint is located within the settlement of Forfar and is representative of views experienced by its residents and is therefore considered to be of <b>High</b> sensitivity.</p>	
Magnitude of Change	<p>The development will now affect a minor extent of both the horizon and vertical view being visible against the sky. The location of the turbine behind the ridge reduces its vertical extent and offers some screening to the tower, with the remaining elements visible appearing in scale with the immediate topography, ~50% less than the previous three turbines scheme. The electricity pylons in the view, particularly the one to the right of the view provide some capacity as the turbines would not breach its overall height, limiting their impact. There is little degree of contrast as the view already contains a number of manmade features.</p> <p>The overall magnitude of change for the development is considered to be <b>low</b>, leading to a moderate level of effect which would be significant.</p>	
Cumulative Impact	<p><u>Operational</u></p> <p>Theoretically Ark Hill will be visible, however it will be screened by a combination of buildings and woodland. The cumulative magnitude of change for consented projects would remain <b>none</b>.</p> <p><u>Operational, Consented</u></p> <p>Blade tips of the Carsgownie turbine may be visible to the right of Finavon, both will be heavily screened, although visible in the same angle of view. To the rear there is theoretical visibility of Govals, however this will be screened by intervening buildings and woodland. The cumulative magnitude of change is considered to be <b>low</b>.</p> <p><u>Operational, Consented, In Planning</u></p> <p>The turbine at Forfar Gold Course will be seen to the right of the view, although not visible simultaneously with Finavon, there may also be minimal views of Cotton of Pitkenedy. The cumulative magnitude of change for consented projects would remain <b>low</b>.</p>	
Type of Effect	<p>On completion of the development the visual effect from this viewpoint would be permanent (reversible) and direct. The development would lead to a low magnitude of change and despite the careful design of the project man made vertical structures in this area would always lead to a negative effect.</p>	
Assessment of Visual Effects	Sensitivity:	<i>High</i>
	Magnitude:	<i>Low</i>
	Type of Effect:	<i>Permanent (reversible), Direct and Negative</i>
	Level of Effect:	<i>Moderate</i>

<b>Figure 7.11</b>	<b>Viewpoint 3: Howmuir / B9134</b>	
Description	<p>The viewpoint is located on the B9134 at the junction where the road meets the access to Howmuir Farm at <b>E349461 N753778</b>. The view faces north towards the development and is situated 1.1km distance from the nearest turbine. The foreground rolls down towards a small dip containing a burn before continuing up the other side towards the hill, this landscape is arable farmland and fairly uniform. At the edge of the farmland the topography begins to get much steeper and a distinct line in the landscape can be seen between the gentler farmland and the steep hill. Hill of Finavon cuts across the entire width of the view creating a ridge like landscape which has a landcover of rough grassland with a moorland character to it. A plantation of mature and semi mature coniferous woodland can be seen prominently in the centre of the view which forms the transition between farmland and moorland. Other woodland in the area includes the mixed woodland associated with the access track towards Howmuir to the right of the foreground and a small cluster on the summit of Hill of Finavon, seen on the horizon. Running across the centre of the view both a line of electricity pylons and wooden telegraph poles can be seen creating clutter in the view, although forming a distinct linear pattern. Two buildings are visible set in the woodland, both are older traditional cottages and farm houses. The scale of the landscape is medium and views are restricted by the immediate topography at Hill of Finavon creating a sense of enclosure. The view would be valued by the residents of Howmuir.</p>	
Sensitivity	<p>The viewpoint is located on the B9134 at the access to Howmuir farm and is representative of views experienced by road users, and is therefore considered to be of Medium sensitivity.</p>	
Magnitude of Change	<p>The turbine would be visible rising from behind the horizon where it would occupy a minor extent of both the horizontal and vertical view. Only part of the blade of the turbine would be visible and this would appear within the 1:3 ratio when compared to the vertical extent of the topography, in addition to which the development would now occupy considerably less of the horizontal extent of the ridgeline. By being significantly screened by the topography and the shorter overall height of the turbine, the development would not be an overbearing presence and is visible in conjunction with electricity pylons.</p> <p>The overall magnitude of change for the development is considered to be <b>low</b>, leading to a moderate/minor level of effect which would not be significant.</p>	
Cumulative Impact	<p><u>Operational</u></p> <p>Theoretically Drumderg is visible to the west, however in practice it is screened by vegetation and sits at ~31mk distance from the viewer. Scotston Hill will be visible, however not simultaneously and would generally be indistinct within the view. Looking back towards Forfar, Ark Hill will be visible on the horizon. This project will not appear in the same angle of view as Finavon and will generally be indistinct from this location. The cumulative magnitude of change is <b>negligible</b>.</p> <p><u>Operational, Consented</u></p> <p>To the right of the viewer there are views of Carsgownie which sits in the foreground, but would not be simultaneously visible with Finavon as well as glimpses of Balnacake. To the left there are longer range views of Govals and Frawny, again these are not visible simultaneously with Finavon. The cumulative magnitude of change will become <b>low</b>.</p> <p><u>Operational, Consented, In Planning</u></p> <p>In the distance to the left of the view there will be long range views towards Bamff and Tullymurdoch, whilst there is simultaneous visibility it will be minimal. With Finavon fairly screened and the other two distant, the visual gap between them also extensive. The cumulative magnitude of change will remain <b>low</b>.</p>	
Type of Effect	<p>On completion of the development the visual effect from this viewpoint would be permanent (reversible) and direct. The development would lead to a low magnitude of change and despite the careful design of the project man made vertical structures in this area would always lead to a negative effect.</p>	
Assessment of Visual Effects	Sensitivity:	<i>Medium</i>
	Magnitude:	<i>Low</i>
	Type of Effect:	<i>Permanent (reversible), Direct and Negative</i>
	Level of Effect:	<i>Moderate/Minor</i>

<b>Figure 7.12</b>	<b>Viewpoint 4: Borgado</b>	
Description	<p>The viewpoint is located on the western edge of the settlement of Borgado on a minor road which passes through the settlement at <b>E350075 N755963</b>. The view faces west towards the development and is situated 1.3km distance from the nearest turbine. Across the foreground rough grass and scrub is visible gently sloping up the northern side of Hill of Finavon and the minor road towards the A90 can be seen on the right hand edge. A mature shelterbelt cuts up the landscape acting as the dividing line between the rough grassland and more managed farmland behind and again woodland sits on the slopes of Hill of Finavon to the left of the view, overall the view is characterised by the mature mixed woodland which creates both a backdrop to the view and frames the view to the left and right. Other than the minor road there is little in the way of manmade features within the view and the scale of the landscape would be considered small. Due to the topography sloping from the summit of Hill of Finavon to the left down towards the minor road the horizon is relatively close and the view enclosed with no long range views available. The view would be valued by the residents of Borgado.</p>	
Sensitivity	<p>The viewpoint is located in the settlement of Borgado and is representative of views experienced by its residents and is therefore considered to be of <b>High</b> sensitivity.</p>	
Magnitude of Change	<p>From this location the intervening woodland will screen the majority of the development. Theoretically the turbine would occupy a minor extent of the horizontal view and a minor to moderate extent of the vertical view however it is unlikely that any part of the turbine will be seen due to the woodland. During winter months there may be small sections of the development visible, however this would be fairly limited.</p> <p>The overall magnitude of change for the development is considered to be <b>negligible</b>, leading to a moderate/minor level of effect which would not be significant.</p>	
Cumulative Impact	<p><u>Operational</u></p> <p>In the same angle of view Drumderg sits lower in the landscape to the right of Finavon, however views are obstructed by the foreground vegetation and intervening woodland. In the opposite direction there may be distant views towards Tullo on a clear day, however this is not simultaneously visible with Finavon. Theoretically the single turbines at East Memus and White Top are visible, however they were found to be screened by vegetation from this location. In the opposite direction there would be minor views of Balhall Lodge, with neither scheme overly prominent. The cumulative magnitude of change for operational projects would be <b>negligible</b>.</p> <p><u>Operational, Consented</u></p> <p>Broom Farm and Afflochie Farm are also predicted to be visible, however these may also be screened by woodland, even if visible, they are to the rear of the viewer and of limited impact. The cumulative magnitude of change for consented projects would remain <b>negligible</b>.</p> <p><u>Operational, Consented, In Planning</u></p> <p>Nathro will be prominently visible sitting above the viewer to the north and will dominate the skyline. The two projects would not be visible simultaneously; however they would appear on either side of the valley, albeit with Finavon having a much lesser impact. Kalula House turbine will appear just out of view with Finavon against the landscape. The cumulative magnitude of change for consented projects would become <b>low</b>.</p>	
Type of Effect	<p>On completion of the development the visual effect from this viewpoint would be permanent (reversible) and direct. The development would lead to a negligible magnitude of change and despite the careful design of the project man made vertical structures in this area would always lead to a negative effect.</p>	
Assessment of Visual Effects	Sensitivity:	<i>High</i>
	Magnitude:	<i>Negligible</i>
	Type of Effect:	<i>Permanent (reversible), Direct and Negative</i>
	Level of Effect:	<i>Moderate/Minor</i>



<b>Figure 7.13</b>	<b>Viewpoint 5: West Mains of Finavon</b>	
Description	<p>The viewpoint is located at the access road into the property at West Mains of Finavon just off the A90 at <b>E348949 N N756324</b>. The view faces south towards the site and is situated 1.5km distance from the nearest turbine. The majority of the foreground consists of the tarmac covered A90 and junction with the West Mains of Finavon which runs across the view from right to left. Small areas of maintained grass border the road along with wood post fencing and a metal barrier which is situated along the central reservation of the A90. Also visible in the foreground are mature coniferous trees which sit to the right of the view framing it somewhat. On the opposite side of the road in the middle ground green fields of pastureland are divided up by numerous mature shelterbelts, this topography is fairly flat alongside the road before quickly steepening to form the rounded Hill of Finavon which runs for the length of the view. The topography forms a ridge which runs from left to right acting as a backdrop to the view as well as the focal point of the view. The landcover on this side is predominantly pastureland with mature woodland, creating a medium scaled landscape. The A90 is a notable man made feature which is prominent in the view, however behind this there are limited features on the hill itself, which also limits any long range views to the south. The view would be valued by the residents of West Mains of Finavon.</p>	
Sensitivity	The viewpoint is located on the edge of the A90, a main road between Dundee and Aberdeen and is representative of views experienced by road users and is therefore considered to be of <b>Medium</b> sensitivity.	
Magnitude of Change	<p>The turbine would sit just off the top of Hill of Finavon where the development would occupy a minor extent of the horizontal view and a moderate extent of the vertical view being visible primarily against the sky. Although the turbine sits at the summit of Hill of Finavon along a ridge which drops steeply down towards the A90 it does not dominate over the viewer and is in scale with the landscape. This would be a significant reduction from the three turbine scheme which occupied much of the ridgeline when seen from this angle. The hill itself contains little man made features, however the turbines will be viewed in the context of the A90 and as such the degree of contrast to the view will be limited.</p> <p>The overall magnitude of change for the development is considered to be <b>low</b>, leading to a moderate/minor level of effect which would not be significant.</p>	
Cumulative Impact	<p><u>Operational</u></p> <p>Theoretically to the rear of the viewer Tullo, East Memus and White Top may be visible, however it was found that the mature woodland in the area screened any views. The single turbine at Balhall Lodge is also visible, however its impact is generally indistinct. The cumulative magnitude of change for operational projects would be <b>negligible</b>.</p> <p><u>Operational, Consented</u></p> <p>To the rear of the viewer the small scale schemes at Broom Farm is also predicted to be visible but will be screened by intervening woodland. The cumulative magnitude of change for consented projects would remain <b>negligible</b>.</p> <p><u>Operational, Consented, In Planning</u></p> <p>Theoretically Nathro will be seen to the rear of the viewer, whilst woodland will screen views it is likely that there will still be some turbines visible through gaps in woodland. The cumulative magnitude of change for consented projects would become <b>low</b>.</p>	
Type of Effect	On completion of the development the visual effect from this viewpoint would be permanent (reversible) and direct. The development would lead to a low magnitude of change and despite the careful design of the project man made vertical structures in this area would always lead to a negative effect.	
Assessment of Visual Effects	Sensitivity:	<i>Medium</i>
	Magnitude:	<i>Low</i>
	Type of Effect:	<i>Permanent (reversible), Direct and Negative</i>
	Level of Effect:	<i>Moderate/Minor</i>

<b>Figure 7.14</b>	<b>Viewpoint 6: Bogindollo</b>	
Description	<p>The viewpoint is located on a minor road within the small settlement of Bogindollo at <b>E347361 N755464</b>. The view faces south east towards the development situated 1.5km distance from the nearest turbine. Along the foreground a post and wire fence cuts across the view set inside long grass and scrub creating a hedge like feature which provide a border between the minor road and the fields behind. These are arable fields which gently roll down towards a dense belt of mature deciduous woodland that surround the route of the A90. The road itself cannot be seen as it is tucked down into the landscape and surrounded by woodland. After the belt of woodland the topography rolls up fairly steeply towards Hill of Finavon, this landscape consists primarily of pastureland divided by mature shelterbelts. The summit of Hill of Finavon is quite rounded although also fairly long creating almost a ridge like feature that runs for the entirety of the view only dipping down at the end to the left hand side of the view. There are little in the way of manmade features within this view and there is notable amount of mature woodland which is primarily deciduous and the landscape is of a small to medium scale with some intricate features. The view is fairly contained mostly by the hill at Finavon and the topography which rises to the left of the view with only small glimpses to the east through the gap in the topography which the A90 runs through. The view would be valued by the residents of Bogindollo.</p>	
Sensitivity	<p>The viewpoint is located in the settlement of Bogindollo and is representative of views experienced by its residents and is therefore considered to be of <b>High</b> sensitivity.</p>	
Magnitude of Change	<p>The turbine will part the way down the gentle ridge created by Hill of Finavon occupying a minor extent of both the horizontal view and the vertical view. The development will be seen breaking the skyline and be in scale with the surrounding topography. The single turbine would only affect a relatively minor section of the long ridgeline. The development will provide some degree of contrast as there are no man made features of note in the view, although the viewer would have the knowledge that the A90 sits between them and the turbines.</p> <p>The overall magnitude of change for the development is considered to be <b>low</b>, leading to a moderate level of effect which would not be significant.</p>	
Cumulative Impact	<p><u>Operational</u></p> <p>To the left of the view Tullo is theoretically visible, however it was found that any views of this development would be screened by intervening vegetation. East Memus and White Top are also predicted to be visible but will be screened by woodland. The single turbine at Balhall is visible although not in the same angle of view as Finavon and is fairly indistinct in the view. The cumulative magnitude of change for operational projects would be <b>negligible</b>.</p> <p><u>Operational, Consented</u></p> <p>Broom Farm and Afflochie Farm are predicted to be visible to the north but not within the same angle of view as Finavon and subject to screening by intervening woodland. The cumulative magnitude of change for consented projects would remain <b>negligible</b>.</p> <p><u>Operational, Consented, In Planning</u></p> <p>In the opposite direction Nathro will dominate the skyline and be a prominent feature of views in this direction. Whilst it is not visible simultaneously with Finavon, its visual spread is such that there will be some cumulative effects with Finavon. The cumulative magnitude of change for consented projects would become <b>low</b>.</p>	
Type of Effect	<p>On completion of the development the visual effect from this viewpoint would be permanent (reversible) and direct. The development would lead to a low magnitude of change and despite the careful design of the project man made vertical structures in this area would always lead to a negative effect.</p>	
Assessment of Visual Effects	Sensitivity:	<i>High</i>
	Magnitude:	<i>Low</i>
	Type of Effect:	<i>Permanent (reversible), Direct and Negative</i>
	Level of Effect:	<i>Moderate</i>

<b>Figure 7.15</b>	<b>Viewpoint 7: Hill of Finavon Fort</b>	
Description	<p>The viewpoint is taken from the remains of the hill fort located on Hill of Finavon which sits between Forfar and Brechin at <b>E350743 N755690</b>. The view faces west towards the development and is situated 1.5km distance from the nearest turbine. Within the foreground the remains of the hill fort can be seen now covered in rough grassland appearing as a hummocky landform uniquely associated with remains. Behind this the landscape dips down into a densely wooded valley, home to a number of mature deciduous trees, before rising again to the summit of Hill of Finavon. From this location the view looks along the ridge of Hill of Finavon to the west which means there are open views both to the north and south of the hill more prominently the former where views down Strathmore valley draw the eye where a patchwork of fields, settlements and woodland are evident. There are even some longer range views towards foothills of the Cairngorms on the distance on the right hand edge of the view. On the left hand side of the view an electricity pylon can be seen sitting on the horizon visible against the sky and would be the most prominent man made feature in the view. The landscape is of a small scale and the view would be valued by any visitor to the site.</p>	
Sensitivity	<p>The viewpoint is located in at the Hill of Finavon fort and is representative of views experienced by visitors to it and is therefore considered to be of <b>Medium</b> sensitivity.</p>	
Magnitude of Change	<p>The turbine would be seen across the other side of the small dip in the landscape significantly screened by the topography along the summit of Hill of Finavon. The development will occupy a negligible extent of the horizontal view and a minor to moderate extent of the vertical view, and be visible against the sky. The turbine, despite its relatively close proximity is not a prominent feature, due to the high levels of screening and the presence of the electricity pylon in a similar landscape and of a similar scale would provide some capacity and lessen the degree of contrast in the view.</p> <p>The overall magnitude of change for the development is considered to be <b>Low</b>, leading to a moderate/minor level of effect which would not be significant.</p>	
Cumulative Impact	<p><u>Operational</u></p> <p>The Drumderg development is visible to the right of Finavon in a similar angle of view at ~32km distance. At this distance and with the development partially screen by topography it is generally indistinct within the view. To the rear of the viewer in the opposite direction, there are also distant views towards Tullo and Hill of Stracathro. North Mains of Cononsyth will be visible to the left of the view rising from behind the topography at Hill of Finavon. It will appear in the same angle of view as Finavon, however its overall impact would be negligible meaning there would be little cumulative impact from Finavon. The cumulative magnitude of change for operational projects would be <b>low</b>.</p> <p><u>Operational, Consented</u></p> <p>The smaller scale projects located in to the north would be visible from this location, but there limited impact combined with the heavy screening of Finavon would not increase the cumulative impact. To the north east there are also views of Streelestrath and Whitefield of Dun The cumulative magnitude of change for consented projects would remain <b>low</b>.</p> <p><u>Operational, Consented, In Planning</u></p> <p>To the rear of the viewer there is visibility of Balnacake and East Drums, neither this scheme nor Finavon are prominent in views. However once Nathro is added this scheme is a dominant feature on the opposite side of the valley, occupying a substantial extent of the view. The cumulative magnitude of change for consented projects would remain <b>low</b>.</p>	
Type of Effect	<p>On completion of the development the visual effect from this viewpoint would be permanent (reversible) and direct. The development would lead to a low magnitude of change and despite the careful design of the project man made vertical structures in this area would always lead to a negative effect.</p>	
Assessment of Visual Effects	Sensitivity:	<i>Medium</i>
	Magnitude:	<i>Low</i>
	Type of Effect:	<i>Permanent (reversible), Direct and Negative</i>
	Level of Effect:	<i>Moderate/Minor</i>

<b>Figure 7.16</b>	<b>Viewpoint 8: Tannadice</b>	
Description	<p>The viewpoint is located on the minor road which sits behind the settlement of Tannadice on the road to Broom Farm at <b>E347378 N758648</b>. The view faces south towards the development and is situated 4.1km distance from the nearest turbine. The foreground consists of a uniform landscape of arable farmland which is stretched over a fairly flat topography leading towards the settlement of Tannadice. Across the middle ground the built environment at Tannadice is evident with modern two storey residential properties seen running the centre of the view set within mature deciduous shelterbelts. Other woodland is also visible across the centre of the view both to the left and right. Behind this in the distance the topography rises to form the rounded linear hill at Finnaron Hill, which acts as a backdrop to the view running across the entire scene forming the horizon. The slopes gently roll up towards the ridge like summit where the landcover is predominantly pastureland divided by mature deciduous shelterbelts and from this location this character is well evident. The view is a fairly rural one with the only man made features being related to the settlement of Tannadice which sits in the centre of the view. The scale of the view is small to medium and despite an open feel, there are limited long range view, due to the topography at Hill of Finnaron. The view would be valued by the residents of Tannadice and despite not from within the settlement, where views were harder to find due to a combination of localised topography and vegetation, would still be similar to some views that would be possible from this settlement.</p>	
Sensitivity	<p>The viewpoint is located on a minor road between Tannadice and Broom and is representative of views experienced by road users, and is therefore considered to be of <b>Medium</b> sensitivity.</p>	
Magnitude of Change	<p>The development will affect a minor extent of the vertical view and a negligible to minor extent of the horizontal view and be visible against the sky. From this location the viewer has a strong understanding of the amount of the ridgeline affected by the development, as it is seen to almost its full extent with the turbine affecting a very small section of it. Although the turbine sits on this ridge above the viewer, from this distance and due to the more rolling nature of the topography it does not dominate over the settlement or viewer below and the scale of the landscape and built environment is preserved. With some man made features in the view already the degree of contrast within the view is limited.</p> <p>The overall magnitude of change for the development is considered to be <b>low</b>, leading to a moderate/minor level of effect which would not be significant.</p>	
Cumulative Impact	<p><u>Operational</u></p> <p>Ark Hill is theoretically visible sitting in the landscape behind Forfar, it would just appear in the same angle of view as Finnaron, however its impact would be little and the relationship between them and Finnaron limited. There are theoretical views of Scotston Hill, although in reality the visual impact of the turbine is limited. The cumulative magnitude of change for operational projects would be <b>negligible</b>.</p>	
Cumulative Impact	<p><u>Operational, Consented</u></p> <p>Broom Farm would be seen in the foreground, but is situated to the rear of the viewer and would not have simultaneous visibility with Finnaron. To the right of Finnaron Govals would appear on the skyline and would be visible simultaneously with Finnaron. The cumulative magnitude of change for consented projects would become <b>low</b>.</p>	
Cumulative Impact	<p><u>Operational, Consented, In Planning</u></p> <p>To the right of the view the turbine at Kalula House would be seen in the foreground, although it would not be visible simultaneously with Finnaron. The two schemes would have different impact, although neither would be a prominent feature. The cumulative magnitude of change for consented projects would remain <b>low</b>.</p>	
Type of Effect	<p>On completion of the development the visual effect from this viewpoint would be permanent (reversible) and direct. The development would lead to a low magnitude of change and despite the careful design of the project man made vertical structures in this area would always lead to a negative effect.</p>	
Assessment of Visual Effects	Sensitivity:	<i>Medium</i>
	Magnitude:	<i>Medium</i>
	Type of Effect:	<i>Permanent (reversible), Direct and Negative</i>
	Level of Effect:	<i>Moderate</i>

<b>Figure 7.17</b>	<b>Viewpoint 9: Turin Hill Fort</b>	
Description	<p>The viewpoint is located at the summit of Turin Hill at the remains of the hill fort at <b>E351448 N753572</b>. The view faces north west towards the development and is situated 2.5km distance from the nearest turbine. Across the foreground the slopes of Turin Hill itself can be seen, these consist of rough grassland which slopes down towards a mature coniferous shelterbelt that runs across much of the view. After this the main focus of the view would be along the valley created by Turin Hill and Hill of Finavon, which is a gently rolling landscape of small rectilinear fields bounded by hedgerows. A number of farmsteads are also visible within this landscape. Along the centre of the view the ridge like feature of Hill of Finavon is present, the southern slope of which is slightly steeper and less rolling than the northern with a more upland feel about it. Areas of mature woodland are present on the slopes and manmade features such as electricity pylons can be seen cutting across the view. There are long range views further north and west where the valley of Strathmore opens up particularly to the left of the view. The foothills of the Cairngorms can be seen in the distance forming the horizon. The scale of the view is medium to large and there is no sense of enclosure. The view would be valued by any visitors to Turin Hill fort.</p>	
Sensitivity	The viewpoint is located at the summit of Turin Hill and is representative of hill walkers or visitors to the fort, and is therefore considered to be of <b>high</b> sensitivity.	
Magnitude of Change	<p>The development will affect a minor extent of both the horizontal view and the vertical view, where it will be seen rising from behind along the ridge created by Hill of Finavon. The turbine will now be fully backdropped by the Cairngorms foothills and this combined with the significant topography screening limits the impact of the development. The development will be in scale with the surrounding landscape and the turbine will offer some degree of contrast despite some other man made features being present. The impact would be ~85% less than the three turbine scheme, with the impact of this turbine be around 50% less visible than any one of the previous three turbines.</p> <p>The overall magnitude of change for the development is considered to be <b>low</b>, leading to a moderate level of effect which would not be significant.</p>	
Cumulative Impact	<p><u>Operational</u></p> <p>Within the same angle of view there is indistinct visibility of both White Top and East Memus and further to the left of the view and just in the same angle, Drumderg is seen on the horizon. Views of this project are only available on a clear day and would be at over ~30km distance. To the right of Finavon Tullo is also visible on the horizon and again views are fairly indistinct with the development much further in the distance, offering little in the way of cumulative impact. North Mains of Cononsyth will be visible, viewed against the landscape in the opposite direction from Finavon. Blade tips of Ark Hill will be seen further to the west, not in the same angle of view as Finavon. Blade tips of Scotston Hill will be seen further to the west, not in the same angle of view as Finavon. The cumulative magnitude of change for operational projects would be <b>low</b>.</p> <p><u>Operational, Consented</u></p> <p>Within the same angle of view as Finavon, Gallow Hill and Broom Farm will be visible against the landscape seen in the distance, where it is likely it will blend into the landscape from this distance. In the foreground the turbine at Carsgowrie would be a prominent feature situated between Turin and Finavon Hills. From this location Finavon is relatively well screened and the tow projects would not cause significant cumulative effects. Outwith the angle of view of Finavon to the left there are longer range views of Welton of Creuchies, Govals and Frawny. The cumulative magnitude of change for consented projects would remain <b>low</b>.</p> <p><u>Operational, Consented, In Planning</u></p> <p>There are a couple of small scale schemes seen in the opposite direction, however the most prominent feature would be Nathro which would be visible to the right of Finavon seen across the Strathmore Valley. This scheme would dominate views and potentially alter the character of the area and as such may reduce Finavon's cumulative impact. The cumulative magnitude of change for consented projects would remain <b>medium</b>.</p>	
Type of Effect	On completion of the development the visual effect from this viewpoint would be permanent (reversible) and direct. The development would lead to a low magnitude of change and despite the careful design of the project man made vertical structures in this area would always lead to a negative effect.	
Assessment of Visual Effects	Sensitivity:	<i>High</i>
	Magnitude:	<i>Low</i>
	Type of Effect:	<i>Permanent (reversible), Direct and Negative</i>
	Level of Effect:	<i>Moderate</i>

<b>Figure 7.18</b>	<b>Viewpoint 10: A932 at Rescobie Loch</b>	
Description	<p>The viewpoint is located at the edge of the A932 near the property at Fonah at <b>E352155 N751103</b>. The view faces north west towards the development and is situated 4.7km distance from the nearest turbine. Improved grassland covers much of the gently undulating foreground which gradually leads down towards the banks of the Rescobie Loch, where typical waterside scrub and vegetation is apparent. Post and wire fencing bounds the field on either side. The loch cuts through the landscape visible for much of the middle ground disappearing behind the topography to the left of the view, with mature woodland on the opposite banks visible, creating a transition between the loch and the farmland behind. The landscape begins to rise up as larger arable fields can be seen further in the distance dotted by farmsteads and occasional groups of woodland. Tubin Hill is a focal feature in the view drawing the eye to its craggy summit which is characterized by a moorland landscape with rocky outcrops. Either side of this the topography drops down creating an undulating horizon. The landscape is of a medium scale and the view is fairly well enclosed by the topography at Turin Hill and Pitscandly Hill. The view would be valued by road users on the A932.</p>	
Sensitivity	<p>The viewpoint is located on the A932 road and is representative of views experienced by road users, and is therefore considered to be of <b>Medium</b> sensitivity.</p>	
Magnitude of Change	<p>Due to the reduction in scale of the development there will now be no visibility of any part of the project from this location and the immediate area.</p> <p>The overall magnitude of change for the development is considered to be <b>none</b>.</p>	
Cumulative Impact	<p><u>Operational</u> There are no operation windfarms visible from this location. The cumulative magnitude of change for operational projects would be <b>none</b>.</p> <p><u>Operational, Consented</u> There are no consented projects visible from this location. The cumulative magnitude of change for consented projects would remain <b>none</b>.</p> <p><u>Operational, Consented, In Planning</u> There are no projects in the planning system visible from this location. The cumulative magnitude of change for consented projects would remain <b>none</b>.</p>	
Type of Effect	<p>Due to the lack of visibility there would be no effects found from this location.</p>	
Assessment of Visual Effects	Sensitivity:	<i>Medium</i>
	Magnitude:	-
	Type of Effect:	<i>Permanent (reversible), Direct and Negative</i>
	Level of Effect:	-

<b>Figure 7.19</b>	<b>Viewpoint 11: Brechin</b>	
Description	<p>The viewpoint is located on North Latch Road which sits on the western edge of the settlement of Brechin at <b>E358694 N760738</b>. The view faces west towards the development and is situated at 11.0km distance from the nearest turbine. Much of the foreground consists of rough grassland and scrub which is fairly flat and occupies the landscape between Brechin and Dubton farm. The farm buildings can be seen sitting in the centre of the view set within mature deciduous woodland, other areas of woodland are also common within the view and much of the left hand side is heavily wooded, occupied by the policy woodland at East Kintrockat, Kintrockat House and Mains of Aldbar. The landscape of the foreground and middle ground is relatively open and flat offering long range views down the valley of Strathmore, however in the centre of the view, the topography does rise to form Hill of Finavon which can be seen rising from behind the woodland. The forms a rounded summit with small saddle between it and Turin Hill further left. A number of manmade elements are visible including farm infrastructure and electricity pylons, which all help to create a busy view. The view is of a medium scale and fairly open, with longer range views possible with no sense of enclosure and would be valued by the residents of Brechin.</p>	
Sensitivity	<p>The viewpoint is located in the settlement of Brechin and is representative of view experienced by the residents of the town and is considered to be of <b>High</b> sensitivity.</p>	
Magnitude of Change	<p>The turbine now sits off to the side of the hill rather than at the summit, which reduces its impact on the viewer. The tip of the turbine barely rises above the summit of the hill and the turbine would only occupy a negligible extent of the horizontal view and minor extent of the vertical view. The turbine will be visible against the sky and generally be an indistinct feature within a wide open landscape. There would be little degree of contrast to the view as there are already a number of manmade elements present.</p> <p>The overall magnitude of change for the development is considered to be <b>low</b>, leading to a moderate level of effect which would not be significant.</p>	
Cumulative Impact	<p><u>Operational</u></p> <p>There is visibility of the Hill of Stracathro turbine, however this would appear in the opposite direction of Finavon. The cumulative magnitude of change for operational projects would be <b>negligible</b>.</p>	
Cumulative Impact	<p><u>Operational, Consented</u></p> <p>Carsgownie is visible directly to the left of Finavon, seen on the opposite side of the summit, both schemes are fairly minimal but wood appear in the same angle of view and within the same landscape. Welton of Creuchies would appear in the centre of the valley to the right of Finavon and is likely to be screened by vegetation and is at considerable distance. The cumulative magnitude of change for consented projects would become <b>low</b>.</p>	
Cumulative Impact	<p><u>Operational, Consented, In Planning</u></p> <p>East Drums would appear in the foreground, but would be subject to screening from intervening woodland and Cotton of Pitkenney would be seen directly to the left of Finavon, with the latter appearing simultaneously with Finavon. The Nathro scheme would appear to the right of the view, just within the same viewing angle as Finavon, the two schemes appearing either side of the valley. The cumulative magnitude of change for consented projects would remain <b>low</b>.</p>	
Type of Effect	<p>On completion of the development the visual effect from this viewpoint would be permanent (reversible) and direct. The development would lead to a low magnitude of change and despite the careful design of the project man made vertical structures in this area would always lead to a negative effect.</p>	
Assessment of Visual Effects	Sensitivity:	<i>High</i>
Assessment of Visual Effects	Magnitude:	<i>Low</i>
Assessment of Visual Effects	Type of Effect:	<i>Permanent (reversible), Direct and Negative</i>
Assessment of Visual Effects	<b>Level of Effect:</b>	<b><i>Moderate</i></b>

<b>Figure 7.20</b>	<b>Viewpoint 12: White Caterthun Fort</b>	
Description	<p>The viewpoint is located at the summit of a small hill on which the White Caterthun Fort is situated at <b>E354693 N765982</b>. The view faces south west towards the development situated at 12.2km distance from the nearest turbine. Much of the view is taken up by the shoulder of the hill, which gently sweeps down from the viewer with a landcover of heather moorland. Individual trees are dotted across the hill making small focal points in the view, further down the slopes to the south woodland is more prominent with a larger area of coniferous plantation. Behind this moorland landscape the view opens up across the valley of Strathmore where the relatively flat patchwork of fields, woodland and scattered settlement dominate views. This valley is backdropped by Hill of Finavon and Turin Hill which sit to the other side of the flatter landscape and then in the distance the Sidlaws can also be seen. The scene is a classic valley scene with the viewer located in a more upland type landscape looking over an agricultural valley, with distant views to other upland areas. The view and landscape is of a large scale and quite open offering expansive views in all directions, there is no sense of enclosure from this viewpoint. The view would be valued by any hill walkers of visitors to the fort site.</p>	
Sensitivity	<p>The viewpoint is located at the summit of a small hill and is representative of views experienced by any hill walkers in the area and is therefore considered to be of <b>high</b> sensitivity.</p>	
Magnitude of Change	<p>The development would sit across the other side of the valley from the viewer appearing in the distance as part of a different landscape. The turbine will be associated with the upland area to the south of Strathmore visible for some part of the horizon and be visible against the landscape. The development will comprise of negligible extent of both the vertical and horizontal view and be seen in context with the bust valley below and not associated with the more undeveloped and remote character of the fort site.</p> <p>The overall magnitude of change for the development is considered to be <b>negligible</b>, leading to a moderate/minor level of effect which would not be significant.</p>	
Cumulative Impact	<p><u>Operational</u></p> <p>Tullo is visible in the distance to the north east and will not be viewed simultaneously with Finavon associated more with the coastal landscape, both schemes would be relatively in the distance and have little effect on the focus of the view. Hill of Stracathro is seen in the lower landscape to the left of the view adjacent to Brechin. Ark Hill may be visible in the distance and within a similar angle of view as Finavon, however its overall impact is very limited and will generally be indistinct. There are glimpses of East Memus and White Top to the right of the view, these are seen against the landscape. The most prominent feature in this angle of view would be Balhall Lodge, seen in the middle ground. The cumulative magnitude of change for operational projects would be <b>negligible</b>.</p> <p><u>Operational, Consented</u></p> <p>Dunswood and Afflochie farm would be fairly notable features in the foreground and further right there are more distant views of Broom Farm. Directly to the right of Finavon there are views towards Govals and Frawny, neither these, not Finavon are prominent, although all are seen in the same angle of view. The cumulative magnitude of change for consented projects would become <b>low</b>.</p> <p><u>Operational, Consented, In Planning</u></p> <p>A few small scale projects would be indistinct features seen as part of the wider Strath landscape. In close proximity there would be views of Nathro which would be visible to the right, although not seen simultaneously with Finavon. The cumulative magnitude of change for consented projects would remain <b>low</b>.</p>	
Type of Effect	<p>On completion of the development the visual effect from this viewpoint would be permanent (reversible) and direct. The development would lead to a negligible magnitude of change and despite the careful design of the project man made verticals structure in this area would always lead to a negative effect.</p>	
Assessment of Visual Effects	Sensitivity:	<i>High</i>
	Magnitude:	<i>Negligible</i>
	Type of Effect:	<i>Permanent (reversible), Direct and Negative</i>
	Level of Effect:	<b>Moderate/Minor</b>



<b>Figure 7.21</b>	<b>Viewpoint 13: Airlie Monument</b>	
Description	<p>The viewpoint is located at the Airlie Memorial Tower which sits at the summit of Tulloch Hill at <b>E337395 N761464</b>. The view faces south east towards the development and is situated 13.2km distance from the nearest turbine. The view has a definite upland feel to it with rough grassland covering much of the foreground, this is immediately bordered by a row of mature coniferous trees which cut across the view from left to right forming a visual barrier between the viewers location and Strathmore area below. In the left of the view the high ground of the Highland Foothills can be seen forming an upland character gradually sloping down into the valley of Strathmore which sits in the distance. The landcover gradually changes from heather moorland and coniferous plantation in the left to a patchwork or arable fields in the centre. Long range views are available particularly to the east and south where Hill of Finavon and Turin hill both form a backdrop to the valley. The scale of the landscape ranges from small to large and there is little sense of enclosure within the view. Although remote in nature at the viewpoint the eye is drawn down into the valley of Strathmore which is significantly more man modified with roads, agricultural patterns, electricity pylons and settlements, which creates the feeling of being in one landscape whilst viewing another. The view would be valued by hill walkers in the area, or visitor to the monument.</p>	
Sensitivity	<p>The viewpoint is located within a memorial, representing views experienced by visitors to the memorial, and is therefore considered to be of <b>High</b> sensitivity.</p>	
Magnitude of Change	<p>The development would affect a negligible extent of both the horizontal and vertical views, with the turbine visible against the landscape, reducing its visual impact. The development will not diminish the remote feeling of the viewpoint location not will it impact on the views over the Strathmore valley, as it will be seen the other side of the valley in the distance and in context with many other man made features in the distance, limiting the degree of contrast it would have on the view. The turbine will have a generally indistinct</p> <p>The overall magnitude of change for the development is considered to be <b>negligible</b>, leading to a moderate/minor level of effect which would not be significant.</p>	
Cumulative Impact	<p><u>Operational</u></p> <p>The single turbine at Scotston Hill can be seen across the opposite side of the Strathmore valley and has only minor visibility. Ark Hill will be visible to the south, seen in the Sidlaw Hill across the Strathmore valley, just to the right of Scotston Hill. Finavon will be seen in the same angle of view as these two projects with all sitting on the opposite side on the valley in the distance. To the left of the view there are long range views of East Memus, White Top and Hill of Sracathro. The cumulative magnitude of change for operational projects would be <b>negligible</b>.</p> <p><u>Operational, Consented</u></p> <p>In the foreground at the foot of the hills the single Turbine at Gallow Hill will be visible, behind this there will also be visibility of Broom Farm. Despite appearing in the foreground they are fairly limited in visual impact and combined with Finavon's limited visibility the cumulative effects are minor. Across the valley there are longer range views to the development at Govals. The cumulative magnitude of change for consented projects would be <b>low</b>.</p> <p><u>Operational, Consented, In Planning</u></p> <p>To the left of the viewer, parts of Nathro would be seen intermittently between gaps in topography. Although prominent it would not be visible simultaneously with Finavon, which would only be a minor feature in views. The cumulative magnitude of change for consented projects would remain <b>Low</b>.</p>	
Type of Effect	<p>On completion of the development the visual effect from this viewpoint would be permanent (reversible) and direct. The development would lead to a negligible magnitude of change and despite the careful design of the project man made vertical structures in this area would always lead to a negative effect.</p>	
Assessment of Visual Effects	Sensitivity:	<i>High</i>
	Magnitude:	<i>Negligible</i>
	Type of Effect:	<i>Permanent (reversible), Direct and Negative</i>
	Level of Effect:	<i>Moderate/Minor</i>

<b>Figure 7.22</b>	<b>Viewpoint 14: Cat Law</b>	
Description	<p>The viewpoint is located at the summit of Cat Law at <b>E331872 N760987</b> and faces south east towards the site from an elevated position at 668m AOD and ~17.9km distance. The position gives a wide elevated view to the lower landscape of the Strathmore valley. The foreground consists of heather covered moorland of the round summit of Cat Law, below this the valley opens out into an undulating landscape with a multitude of landcover, including coniferous plantations, arable farmland and rough grassland. There are views down towards the settlement of Kirriemuir and Forfar and the valley below is of a distinctly different character to the summit location of the viewpoint. The view is not enclosed and offers long distance views in all directions and the landscape is of a large scale, the view will be valued by hill walkers.</p>	
Sensitivity	<p>The viewpoint is located at a hill summit and the view is representative of views experienced by hill walkers and is considered to be of <b>high</b> sensitivity.</p>	
Magnitude of Change	<p>The development will affect a negligible extent of both the horizontal and vertical view. The turbine will be visible against the landscape and at this distance from this location they will be indistinct being incorporated into the overall landscape becoming part of a busy valley, containing a number of other man made features such as settlements, infrastructure and roads. It would be unlikely that the turbines would be noticed by the casual viewer and with more prominent view north towards the Cairngorms, effects will be limited.</p> <p>The overall magnitude of change for the development is considered to be <b>Negligible</b>, leading to a moderate/minor level of effect which would not be significant.</p>	
Cumulative Impact	<p><u>Operational</u></p> <p>East Memus and White Top are seen to the left of Finavon, at the foot of the hill range where the viewpoint is located, they will be visible against the landscape. Behind Finavon, just to the right the single turbine at North Mains of Cononsyth is visible against the landscape. Further to the right also in the same angle of view, both Ark Hill and Scotston Hill will be seen against the landscape. Finavon would not alter a previously unspoilt section of the view and would be in character with the pattern of development. Drumderg is prominent in the view to the right of the viewer, and would not be seen in the same angle of view as Finavon, making simultaneous views impossible. Tullo is visible in the same angle of view as Finavon, however the limited visibility of either project means cumulative effects are limited. The cumulative magnitude of change for operational projects would be <b>negligible</b>.</p> <p><u>Operational, Consented</u></p> <p>There would also be visibility of Gallow Hill and Broom Ffarm in this same vicinity, however none are prominent features and have little cumulative impact with Finavon. Across the valley there are longer range views to Goval and Frawny and Welton of Creuchies will be seen sitting adjacent to Drumderg, further in the distance. The cumulative magnitude of change for consented projects would become <b>low</b>.</p> <p><u>Operational, Consented, In Planning</u></p> <p>The full extent of Nathro is seen to the left of the view within the foothills. Whilst it is visible simultaneously with Finavon, Finavon would be almost in distinct seen in the distance, while Nathro would be a dominant feature. A few other small scale projects can also be seen within the Strath, including Kalula House and Cotton of Pitkenney. In the opposite direction there are views of Bamff and Tullymurdoch, however these would not be seen simultaneously with Finavon. Due to the distance and limited visibility of Finavon, the cumulative magnitude of change for consented projects would remain <b>low</b>.</p>	
Type of Effect	<p>On completion of the development the visual effect from this viewpoint would be permanent (reversible) and direct. The development would lead to a negligible magnitude of change and despite the careful design of the project man made vertical structures in this area would always lead to a negative effect.</p>	
Assessment of Visual Effects	Sensitivity:	<i>High</i>
	Magnitude:	<i>Negligible</i>
	Type of Effect:	<i>Permanent (reversible), Direct and Negative</i>
	<b>Level of Effect:</b>	<b><i>Moderate/Minor</i></b>

<b>Figure 7.23</b>	<b>Viewpoint 15: Kirriemuir Hill</b>	
Description	<p>The viewpoint is located on the Hill of Kirriemuir which sits on the eastern edge of the settlement at <b>E339342 N754677</b>. The view faces east towards the development and is situated 9.4km distance from the nearest turbine. The foreground consists of an expansive landscape of gently rolling farmland which gradually rolls away from the viewer down across a patchwork of fields dotted with mature shelterbelts, clusters of trees and plantations. Often farmsteads are located around the clusters of trees and can be seen across the landscape. Although gently rolling the altitude doesn't really change until the landscape reaches the western edge of Hill of Finavon which sits as a linear rounded feature along the valley. In the distance and around the Hills of Finavon and Turin woodland becomes more common and widespread with larger areas of coniferous plantations. The landscape is generally of a larger scale and there are open views particularly to the east and north east, where the valley of Strathmore opens up towards the coast. There is little sense of enclosure and the view would be valued by the residents of Kirriemuir.</p>	
Sensitivity	<p>The viewpoint is located within Kirriemuir and is representative of residents of that settlement, and is therefore considered to be of <b>High</b> sensitivity.</p>	
Magnitude of Change	<p>The development will affect a minor extent of both the horizontal view and the vertical view, with the turbine seen breaking the skyline. Here it would sit just off the summit of Hill of Finavon appearing as a in scale with the vertical extent of the hill and only affecting a minor portion of the ridgeline overall. With farmsteads dotted across the landscape the turbines would offer only a small degree of contrast in the view reinforcing the overall agricultural nature of the area, although their location at the highest point on the horizon would draw the eye.</p> <p>The overall magnitude of change for the development is considered to be <b>low</b>, leading to a moderate level of effect which would not be significant.</p>	
Cumulative Impact	<p><u>Operational</u></p> <p>Theoretically Tullo is visible in the distance, however in reality views of the turbines are difficult, East Memus is also visible in this angle of view. Both Tullo and Finavon will appear in the same angle of view as each other and both would be associated with the Strathmore region, as oppose to the hills forming it. To the right of Finavon also visible in the distance Meathie Farm, Ark Hill and Scotston Hill are all visible, although the latter two are not seen in the same angle of view. The cumulative magnitude of change for operational projects would be <b>negligible</b>.</p> <p><u>Operational, Consented</u></p> <p>Gallow Hill and Dunswood will be visible to the left of the viewer and will not appear in the same angle of view as Finavon, which will generally have a limited impact. The cumulative magnitude of change for consented projects would become <b>low</b>.</p> <p><u>Operational, Consented, In Planning</u></p> <p>Nathro is seen just within the same angle of view as Finavon, on the opposite side of the valley, whilst Kalula House would be visible within the valley floor. In the opposite direction there are long range views towards Bamff and Tullymurdoch, however these are not visible simultaneously with Finavon. The cumulative magnitude of change for consented projects would remain <b>low</b>, due to the relatively limited impact of Finavon, despite the prominence of other schemes.</p>	
Type of Effect	<p>On completion of the development the visual effect from this viewpoint would be permanent (reversible) and direct. The development would lead to a low magnitude of change and despite the careful design of the project man made vertical structures in this area would always lead to a negative effect.</p>	
Assessment of Visual Effects	Sensitivity:	<i>High</i>
	Magnitude:	<i>Low</i>
	Type of Effect:	<i>Permanent (reversible), Direct and Negative</i>
	Level of Effect:	<b>Moderate</b>

<b>Figure 7.24</b>	<b>Viewpoint 16: Kinpurney Hill</b>	
Description	The viewpoint is located at the hill fort at the summit of Kinpurney Hill at <b>E332273 N741730</b> . The view faces north east towards the development and is situated 21.0km distance from the nearest turbine. The view gives a representation from an elevated position within the Sidlaw Hills which sit along the southern edge of the valley of Strathmore. The rough grassland of the rounded hill summit make up the foreground with the remainder of the Sidlaw Hills stretching out away from the viewer across the centre and right hand side of the view. The igneous hills landscape which can be seen comprising much of the view, consists of gently sloping rounded summits the are often covered by rough grassland, coniferous woodland and smaller areas of moorland at the summits. An electricity pylon sits between the summit of Kinpurney and the other hills in an area characterised by the coniferous woodland. To the left of the views the topography sweeps down into the valley of Strathmore and its flat patchwork of farmland can be seen snaking between the Sidlaws and the Cairngorm foothills further north, which border to view to the left. The Strathmore landscape is a classic valley scene and draws the eye down into its busier more colourful landscape, with the Sidlaws having a more uniform and upland character. The view is of a large scale and has open expansive vistas in all directions with distant view towards the Cairngorms and no sense of enclosure. The view would be valued by hill walkers.	
Sensitivity	The viewpoint is located at the summit of Kinpurney Hill and is representative of hill walkers in the area, and is therefore considered to be of <b>high</b> sensitivity	
Magnitude of Change	The development would be at a considerable distance with the turbine only occupying a negligible extent of both the horizontal and vertical view being visible against the sky. From this location the turbine would only be seen on a clear day and would be viewed as part o the valley landscape which contains different colours and textures already, with the turbine only adding to this character. The remote nature of the hill summit could remain intact and the distance views to the Cairngorms would be unaffected and the development generally indistinct.  The overall magnitude of change for the development is considered to be <b>Negligible</b> , leading to a moderate/minor level of effect which would not be significant.	
Cumulative Impact	<p><u>Operational</u></p> The most prominent development is Ark Hill which sits to the right of the view relatively close to the viewer, with Scotston Hill also seen in the foreground. Although Tullo is theoretically visible, it does sit at over ~50km distance and so view are unlikely. Drumderg is more prominent sitting in the landscape to the north, however there would be no simultaneous view of that project and Finavon. East Memus is theoretically visible, however it likely to be screened or indistinct within this view. Due to Finavon’s limited impact the cumulative magnitude of change for operational projects would be <b>negligible</b> . <p><u>Operational, Consented</u></p> Govals would be visible directly behind Ark Hill and indistinct from this project, not adding to the potential impact with Finavon. Welton of Creuchies may be visible to the north of the viewer but would not appear in the same angle of view as Finavon and would also have limited visibility. The cumulative magnitude of change for consented projects would remain <b>negligible</b> . <p><u>Operational, Consented, In Planning</u></p> Finavon would be a relatively indistinct feature from this location and whilst the prominent Nathro scheme cross the valley would appear simultaneously, Finavon’s contribution to cumulative effects would be limited. Further left and outwith the angle of view of Finavon there will be views of both Tullymurdoch and Bamff. The cumulative magnitude of change for consented projects would remain <b>negligible</b> .	
Type of Effect	On completion of the development the visual effect from this viewpoint would be permanent (reversible) and direct. The development would lead to a negligible magnitude of change and despite the careful design of the project man made vertical structures in this area would always lead to a negative effect.	
Assessment of Visual Effects	Sensitivity:	<i>High</i>
	Magnitude:	<i>Negligible</i>
	Type of Effect:	<i>Permanent (reversible), Direct and Negative</i>
	Level of Effect:	<i>Moderate/Minor</i>

<b>Figure 7.25</b>	<b>Viewpoint 17: Glamis Castle</b>	
Description	<p>The viewpoint is located in the grounds of Glamis Castle, which is within a Garden and Designed Landscape at <b>E338591 N758037</b>. The view faces north east towards the development and is situated ~12.1km from the nearest turbine. The estate is heavily wooded with mature policy deciduous woodland the forms avenues and borders around the grounds, which in turn screen most outwards view from the castle and grounds, view tend to be off the castle itself. All views would be enclosed, with only glimpses of distant views from the entrance and upper floors of the castle. The landscape is of a small and intricate scale with many positive features and would be valued by visitors to the castle and estate.</p>	
Sensitivity	<p>The viewpoint is located at Glamis Castle, within the GDL and is representative of views experienced by visitors to the castle, and is therefore considered to be of <b>High</b> sensitivity.</p>	
Magnitude of Change	<p>Wirelines have been included from both the grounds and the upper floors of the castle to give theoretical representation of how the turbine may affect the view. Views from the ground floors were found to be screened by the mature woodland offering no visibility of the development. From the upper floors there may be visibility of the turbine, however it should be noted that, this area is restricted from visitors to the castle. From here the development would occupy a negligible extent of both the horizontal and vertical views, with the turbine seen against the sky.</p> <p>The overall magnitude of change for the development is considered to be <b>Negligible</b>, leading to a moderate/minor level of effect which would not be significant.</p>	
Cumulative Impact	<p><u>Operational</u>            Although theoretically visible Drumderg will be screened by woodland from this location. The cumulative magnitude of change for operational projects would be <b>none</b>.</p> <p><u>Operational, Consented</u>            A number of the smaller scaled single turbines are theoretically visible, however would be screened by the woodland and not visible. The cumulative magnitude of change for consented projects would remain <b>none</b>.</p> <p><u>Operational, Consented, In Planning</u>            Nathro, Bamff and Tullymurdoch are also theoretically visible, however these developments will again be screened by woodland. The cumulative magnitude of change for consented projects would remain <b>none</b>.</p>	
Type of Effect	<p>On completion of the development the visual effect from this viewpoint would be permanent (reversible) and direct. The development would lead to a low magnitude of change and despite the careful design of the project man made vertical structures in this area would always lead to a negative effect.</p>	
Assessment of Visual Effects	Sensitivity:	<i>High</i>
	Magnitude:	<i>Negligible</i>
	Type of Effect:	<i>Permanent (reversible), Direct and Negative</i>
	Level of Effect:	<b><i>Moderate/Minor</i></b>

<b>Figure 7.26</b>	<b>Viewpoint 18: A90 Bridge north of Forfar</b>	
Description	<p>The viewpoint is located on a minor road to the north of Forfar as it crosses the A90. The view faces north east towards the development. The view is from an elevated location on a road bridge above the A90 and overlooks an agricultural landscape of rolling arable fields. The Hills at Carse Hill, Finavon Hill and Turin Hill provide a backdrop to the view and limits longer range views to the east. To the left of the view the scene is more open and the view looks up the Strathmore Valley where the A90 can be seen heading into the distance. Man made features including the road, electricity pylons and lighting are prominent features in the view. Carse Hill feature coniferous woodland across the summit which occupies a significant proportion of the view. The landscape is of a medium to large scale and views open although heavily man modified.</p>	
Sensitivity	<p>The viewpoint is located on a road bridge over the A90 and is representative of views experienced by road users, and is therefore considered to be of <b>Medium</b> sensitivity.</p>	
Magnitude of Change	<p>The turbine would be visible seen rising from behind the horizon and against the sky, where it would occupy a minor extent of both the horizontal and vertical views. The turbine appears within a scene which already features a number of man made features including electricity pylons and the A90 as such the degree of contrast to the baseline is minimal. The turbine also fits within the scale of the landscape which limits its impact on the ridgeline and with Carse Hill seen rising above the tip of the turbine some capacity is created. In addition to this the impact of the turbine is not greater than any of the electricity pylons seen cutting across the landscape some of which actually appear rising above the turbine. The scene is generally busy and the impact of the turbine would not be prominent nor would it diminish the character of the ridgeline and hills.</p> <p>The overall magnitude of change for the development is considered to be <b>Low</b>, leading to a moderate/minor level of effect which would not be significant.</p>	
Cumulative Impact	<p><u>Operational</u></p> <p>To the left of the view there will be some visibility of East Memus and White Top, these turbines would be situated to the north of the viewer and will not appear simultaneously with Finavon. To the rear of the viewer there would be views of Ark Hill, seen across the valley and further in the distance Drumderg. These schemes are not visible simultaneously with Finavon. In the same direction on clear days there may be simultaneous views with Tullo, however both would be minor features and of little impact. The cumulative magnitude of change for operational projects would be <b>negligible</b>.</p> <p><u>Operational, Consented</u></p> <p>Gallows Hill is seen to the north and will not appear in the same view as Finavon, however Broom Hill, Afflochie Farm and Dunswood will theoretically appear with Finavon, neither these nor Finavon nor the combination of the three would be a significant impact due to the relatively limited visibility. There would also be views of Govals to the rear of the viewer. The cumulative magnitude of change for consented projects would become <b>low</b>.</p> <p><u>Operational, Consented, In Planning</u></p> <p>Nathro, Kalula House and West Cottage will appear within the same view as Finavon, with the latter two only being small schemes which will be of limited impact. Nathro Hill would be a prominent feature and control views from this location, occupying much of the horizon and characterizing the landscape. The cumulative magnitude of change for consented projects would remain <b>low</b> as despite the impact of Nathro Hill, Finavon adds relatively little to the cumulative picture.</p>	
Type of Effect	<p>On completion of the development the visual effect from this viewpoint would be permanent (reversible) and direct. The development would lead to a low magnitude of change and despite the careful design of the project man made vertical structures in this area would always lead to a negative effect.</p>	
Assessment of Visual Effects	Sensitivity:	<i>Medium</i>
	Magnitude:	<i>Low</i>
	Type of Effect:	<i>Permanent (reversible), Direct and Negative</i>
	Level of Effect:	<i>Moderate/Minor</i>

## Appendix 5 – Archaeological Walkover

Proposed wind farm site. Finavon Hill, Angus.  
Archaeological Assessment.  
H K Murray.

### 1. Introduction

As part of the preliminary pre-planning work for the proposed wind farm site at Finavon Hill, Angus, it was necessary to consider the impact of the development on nearby cultural heritage, including archaeology, Scheduled Ancient Monuments, Listed Buildings, conservation areas, gardens & designed landscapes and World Heritage Sites, both directly and indirectly and in terms of the setting of any archaeological or cultural features.

Murray Archaeology Services Ltd was commissioned by Green Cat Renewable Ltd on behalf of Kilmac Energy to undertake an archaeological and cultural heritage desk-based and walk over assessment of the areas directly affected by the proposed development.

#### **Background to the development** (as supplied by Green Cat Renewables Ltd)

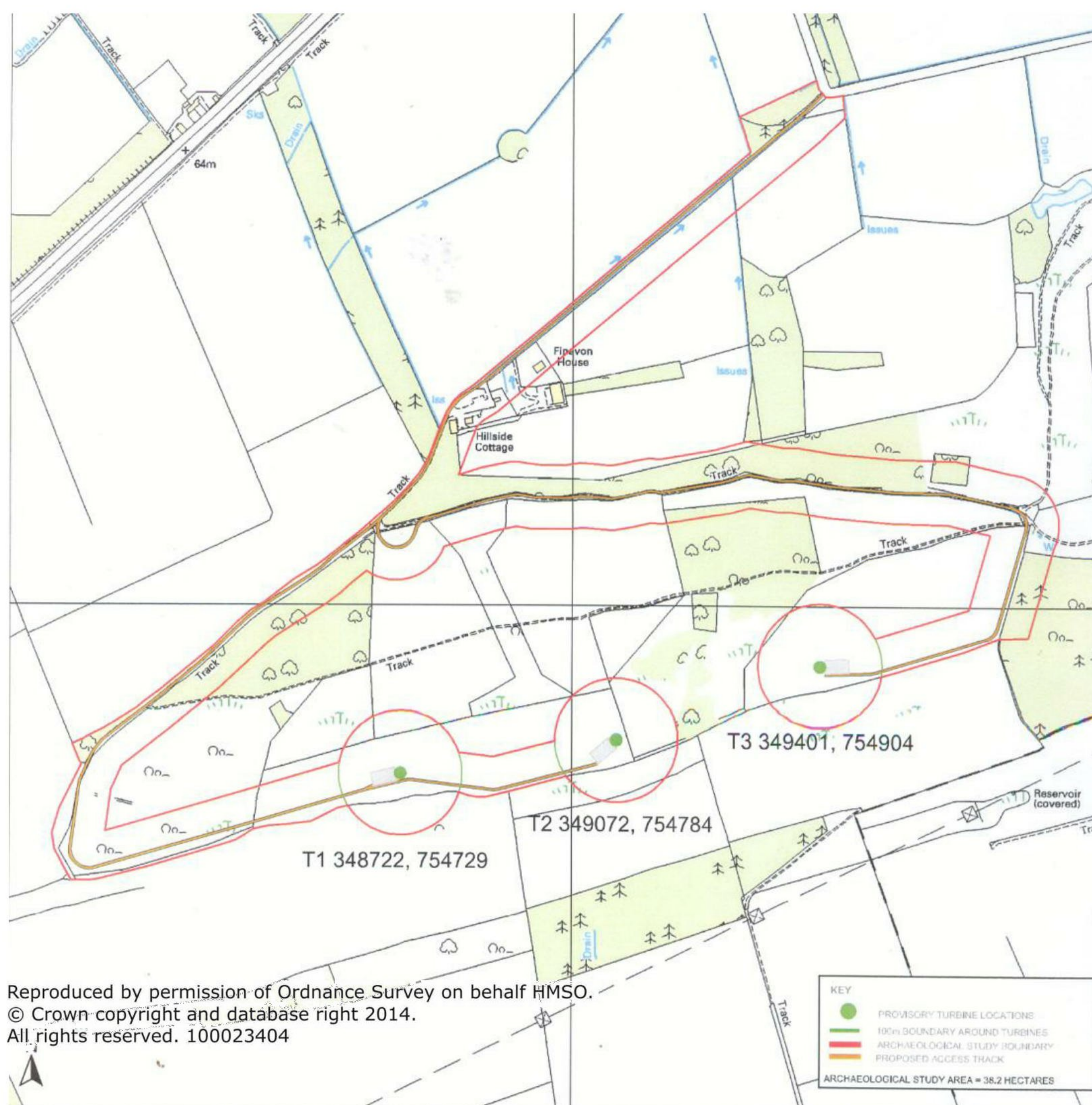
Three wind turbine sites are proposed on the west end of the southern flank of Finavon Hill. At the time of the survey the proposed locations of the sites were :

348722,754729

349072, 754784

349401, 754904

Access tracks: Access to the site would for the most part utilise existing access tracks. On the basis that some widening of tracks might be deemed necessary, Murray Archaeological Services Ltd were required to review the ground on one or both sides of the existing track as shown on the drawing of the archaeological study area to a total width of between 30 and 50m.



**Illus 1 Base plan showing sites of proposed turbines and tracks. Area of archaeological walkover survey outlined in red. (Plan by Green Cat Renewables Ltd).**

## 2. Cultural Heritage policy

The assessment is undertaken within the context of the following planning guidelines.

### National Planning Policy Guidelines

PAN 42 – ‘Archaeology and the Planning Process and Scheduled Monument Procedures’ 1994, which recognises the importance of archaeology as a non-renewable resource, both fragile and vulnerable to damage, and, therefore, care must be taken to ensure sites are not needlessly destroyed. The preservation of remains *in site* remains the preferred option, while preservation by record (i.e. excavation and publication) is regarded as the less desirable alternative.

Scottish Historic Environment Policy (SHEP, 2009 1.14.b) states that there should be ‘a presumption in favour of preservation of individual historic assets and also the pattern of the wider historic environment; no historic asset should be lost or radically changed without adequate consideration of its significance and all the means available to manage and conserve it’.



## Structure Plan

The Dundee and Angus Structure Plan 2001-2016 considers the quality of the environment and states that:

*“The historic environment of Dundee and Angus is a valuable, non renewable resource which must be protected, conserved and enhanced.”*

## Local Plan

Archaeology and cultural heritage are considered in the Angus Local Plan Review (Adopted 2009); Ancient Monuments and Archaeological Sites being considered on pages 79-81 of the Plan Review. Policy ER19 covers Sites of Local Importance.

### Policy ER19

Archaeological Sites of Local Importance: Where development proposals affect unscheduled sites of known or suspected archaeological interest, Angus Council will require the prospective developer to arrange for an archaeological evaluation to determine the importance of the site, its sensitivity to development and the most appropriate means for preserving or recording any archaeological information. The evaluation will be taken into account when determining whether planning permission should be granted with or without conditions or refused. Where development is generally acceptable and preservation of archaeological features in situ is not feasible Angus Council will require through appropriate conditions attached to planning consents or through a Section 75 Agreement, that provision is made at the developer’s expense for the excavation and recording of threatened features prior to development commencing.

#### 1. Methodology

The Scope of the assessment meets the requirements of current planning legislation (SPP, SHEP and PAN42) as discussed with the Aberdeenshire Archaeology Service.

The assessment is comprised of a desktop collation of data which includes:

A description of all known archaeological sites within the confines of the proposed development.

A description of all known archaeological sites within 1 km of the proposed development

A description of all Scheduled Ancient Monuments (SAM) and Category A Listed Buildings within 5 km and Category B Listed Buildings within 1km of the proposed development

A search for Conservation Areas, Gardens & Designed Landscapes, World Heritage Sites within 5km of the development.

All archaeological monuments, features and interventions within a 1km search area were checked using the Angus Sites and Monuments Records (SMR) database at Aberdeenshire Council Archaeology Service and the national sites and monuments record (NMRS) through the RCAHMS databases of Pastmap and Canmore

The Royal Commission on the Ancient and Historical Monuments of Scotland (RCAHMS) databases of Pastmap and Canmore and Historic Scotland's online database were used to determine all Scheduled Ancient Monuments (SAMs), Listed Buildings and Gardens and Designed Landscapes within a 5km search area around the site.

World Heritage Sites were searched through the Unesco listing of sites.

Conservation Areas were searched through Angus Council Local Plan Review.

The 1st edition 25" Ordnance Survey map of 1861 (Forfar Sheet XXXIII.9 (Oathlaw); published 1865), 2<sup>nd</sup> edition 1894 (sheet 57 Forfar, published 1897) and 3<sup>rd</sup> edition of 1905 (sheet 57 Forfar,, published 1908) and Roy's Military Map of 1747-55 (Roy Map 19/3b) were examined ([www.nls.uk](http://www.nls.uk) and [www.scran.ac.uk](http://www.scran.ac.uk)).

A walk-over survey was undertaken on the site on 15<sup>th</sup> June 2011 to assess the setting of the site in the landscape and to consider the potential for archaeological survival and to record any visible archaeology that is not within the existing record.

In relation to all the collated data the impacts on the sites are considered under two headings- physical and visual. A physical impact to a site means that the asset or possible related features will be damaged or removed in the course of the development. A visual impact to a site means that the development will be visible from the site or visible to such an extent that it will affect the setting adversely.

#### 4. Baseline

##### **The site**

The windfarm site is located to the southeast of the A90 on Finavon Hill, Angus. The marked sites of the proposed three wind turbines lie along the west end of the southern flank of Finavon Hill; all are in grassland on a ridge with the land falling away to the south. The access tracks follow the contour of the hill and are in the main on the line of existing tracks. The area of possible track widening included some woodland.

The site's former agricultural use will have disturbed approximately 300mm (plough depth) in the areas of open ground. Tree roots will have considerably disturbed the ground in the wooded or shrubby areas.

The site is located at approximate centre grid reference NO 4876 5494 (approx centre of whole site including tracks).

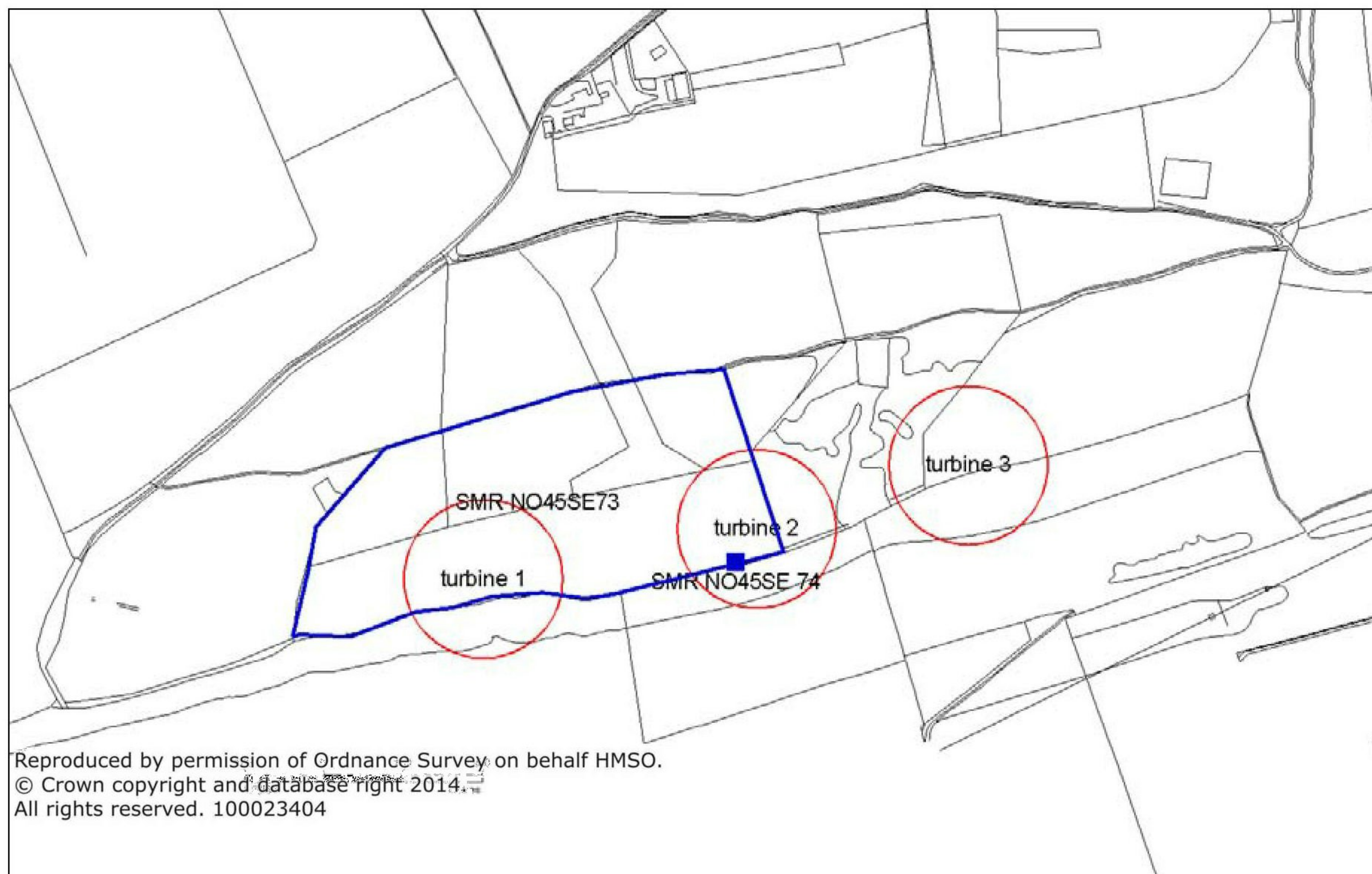
Parish: Oathlaw

#### **Known archaeological sites within the confines of the proposed development**

##### Sites and Monuments Record

The National Sites and Monuments Record (NMRS) and the Aberdeens Sites and Monuments record (SMR) were consulted. Two archaeological or

cultural heritage features have been recorded within the confines of the proposed development and one adjacent to the track.



**Illus 2 Position of the turbines in relation to SMR features (blue outline = Table 1 SMR No NO45SE73. Blue rectangle = Table 1 SMR No NO45SE74) © Crown Copyright, All rights reserved. 2011. Licence No 0100031673**

**Table 1 Known archaeological sites within the confines of the proposed development**

Site No	SMR Number	Site name	Description	Easting	Northing	Comment
RIG AND FURROW	NO45SE73	Hill of Finavon NO490549 (84)	Most of the SW end of the hill is covered with rig and furrow cultivation. JR Sherriff 1982.	(centre) 348796750	754808600	No sign of rig and furrow in the area shown on SMR. No sign on satellite images. No aerial photographs in SMR.
CUP MARKED STONE	NO45SE74	Hill of Finavon NO490548	In an area of rig and furrow there is a sandstone boulder	349012080	754840220	A red sandstone block c 1.02 x .7m max was noted at

			measuring 0.7m x 0.9m which has 17 cup-marks on its upper surface. JR Sherriff 1982.			349042, 754741. This corresponds to the alleged findspot. Upper surface of stone worn and spalled. No visible cupmarks on present upper surface.
SETTLEMENT	NO45NE65	Hillside	Remains of a farmstead. On both the 1st and 2nd edition OS maps.			Now developed with new house and sheds.

#### Map evidence

The 1<sup>st</sup> edition OS map of 1861 (pub 1865) and later OS maps show no antiquities on the site. In 1861 this end of the hill is shown as wooded with the track along north side of hill already established. Roy's Military Map of 1747- 55 (Roy Map 19/3b) shows a small settlement at Hillside with rig and furrow cultivation around it and on the lower slopes to north of the hill.

#### Walkover survey

Sites noted in the walkover were plotted using a Magellan MobileMapper CX. Basic details were logged into the database and the sites were photographed.

The site walkover did not reveal any previously unidentified visible archaeology. No artifacts were observed.

There was no evidence of the rig and furrow NO45SE73 on the ground-although according to the SMR this was in the grassland where the proposed turbines T1 and T2 are set. It is not visible on Google satellite imagery and Angus SMR have no aerial photographs of the area (MAS Ltd is grateful to Bruce Mann of the Aberdeenshire Archaeology Service for checking this).



**Illus 3 Proposed site of turbine 2 looking W to site of turbine 1. Area of unidentified SMR No NO45SE73**

A red sandstone block of approximately the recorded size and location was located at 349042,754741 and it believed to be the one recorded in the SMR as NO45SE 74 (Grid ref NO 490 548). The upper surface of the stone was worn and spalled and there was no evidence of any cup-marks. However sandstone slabs are not common in this location and as this is within the area of the proposed turbine T2 it is suggested that this should either be avoided or if it requires moving, the under side should be recorded by an archaeologist.



**Illus 4 Sandstone block, possibly SMR No NO45SE74**

### Archaeological features within the 1 km zone but outwith the proposed development.

The Angus Sites and Monuments Record (SMR) was consulted and all additional recorded features outwith the site but within a 1km radius of a central point on the overall site were checked. (Table 2). A total of 2 records are located within this range.

Table 2 Archaeological features within the 1km zone but outwith the proposed development

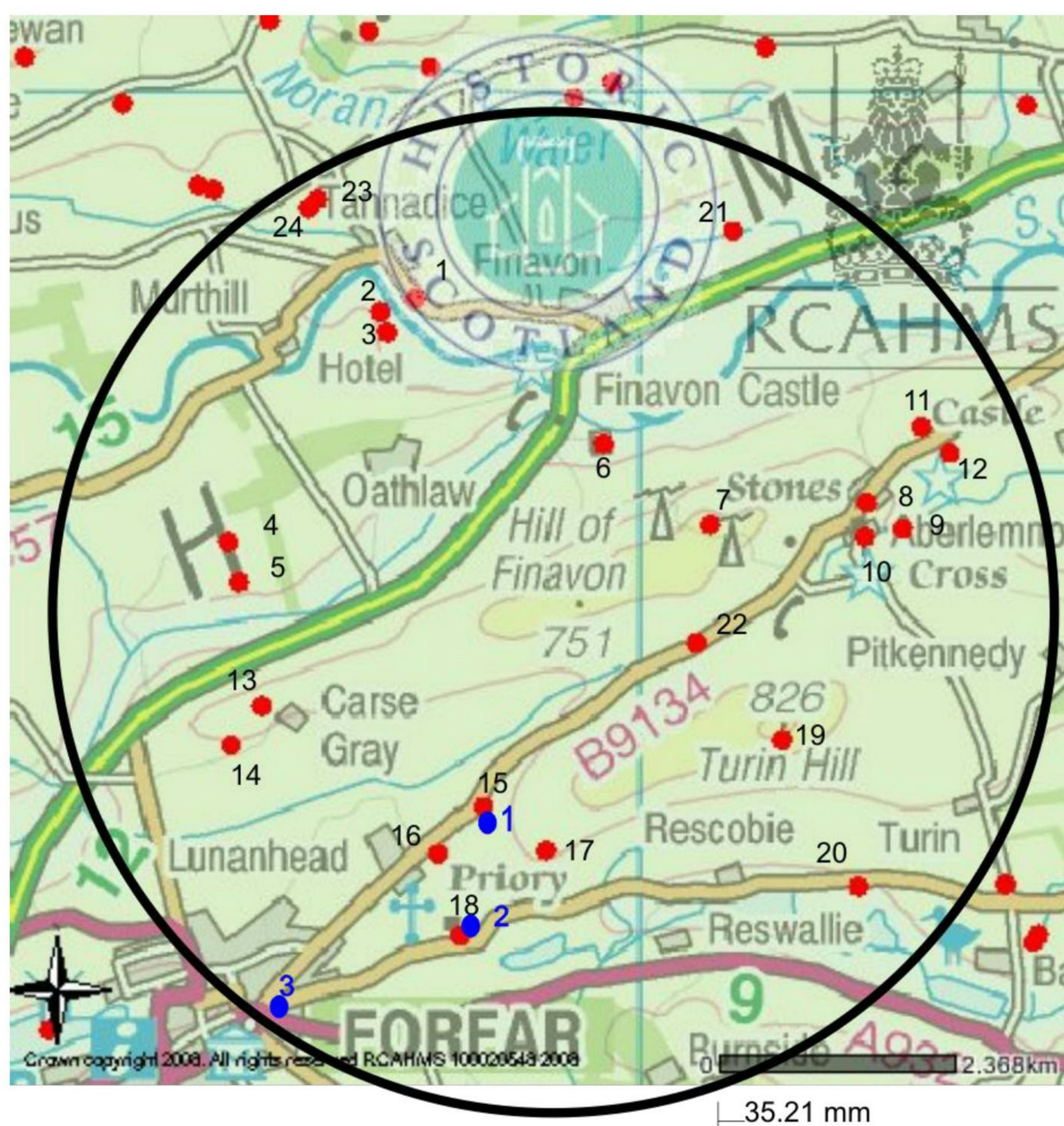
Site No	SMR Number	Site name	Description	Easting	Northing	Comment
SETTLEMENT	NO45SE0155	EAST CARSE BANK	Site of a farmstead which is shown on both the 1st and 2nd edition OS maps.	348195980	754009830	Destroyed
SETTLEMENT	<b>NO45SE0153</b>	EAST CARSE BANK	Site of a now destroyed croft which is shown on both the 1st and 2nd edition OS maps.	348750300	754167120	Destroyed

#### *Summary of Records*

Both of the records are of settlements shown on the 1<sup>st</sup> and 2<sup>nd</sup> edition OS maps but now destroyed. They are not affected by the proposed windfarm.

### Scheduled Ancient Monuments within the 5 km zone.

Twenty-one Scheduled Ancient Monuments (SAMs) are within the 5km zone centered on the site (Illus 5 and Table 3). None of the SAMs are within the boundary of the proposed development and would not therefore be directly physically impacted by the proposed windfarm.



Illus 5 Scheduled Ancient Monuments (red) and A listed buildings (blue) within 5km radius

Table 3 Scheduled Ancient Monuments within the 5km zone

No on map	Site	Category	SAM index	RCAHMS number	NGR
1	Barnyards, enclosure	Prehistoric domestic and defensive	6355	NO45 NE 27	NO477 579
2	East Mains of Whitewell, souterrains	Prehistoric domestic and defensive	6371	NO 45 NE 28	NO474 578
3	East Mains of Whitewell, barrow and pits	Prehistoric ritual and funerary	6372	NO 45 NE 25	NO 475 576
4	Battledykes, Roman camp	Roman	2308		NO455551;NO462559
5	Battledykes, cairn	Prehistoric ritual and funerary	7234	NO 45 NE 15	NO460 551
6	Finavon Castle	Secular	2464	NO 45 NE 18	NO496 564
7	Finavon Fort	Prehistoric	139	NO 55 NW	NO506 556

		domestic and defensive		32.00	
8	Aberlemno cross slab and symbol stones	Crosses and carved stones	90004	NO55NW 8	NO522 558; NO522 559
9	Flemington tower, Aberlemno	Secular	5447	NO55NW 30	NO 526 556
10	Aberlemno churchyard cross slab	Crosses and carved stones	90003	NO55NW 26	NO 522 555
11	Balbinny enclosure	Prehistoric domestic and defensive	6357	NO55NW 14	NO528 566
12	Melgund cottage cairn and enclosure	Prehistoric domestic and defensive	6471	NO55NW 54 and 46	NO 531 563; NO530 564
13	Carse Grey, stone setting	Prehistoric ritual and funerary	4461	NO 45 SE 1	NO 462 538
14	Carse Grey, settlement and souterrains	Prehistoric domestic and defensive	6311	NO45SE 107	NO 459 534
15	Blackgate Smithy stone circle	Prehistoric ritual and funerary	149	NO45SE 8	NO484 528
16	Myreside, henge, enclosure and barrows	Prehistoric ritual and funerary	5934	NO45SE 38, 48, 108	NO 479 523; NO 481 523
17	Rob's Reed fort	Prehistoric domestic and defensive	2869	NO45SE30	NO 490 523
18	Restenneth Priory	Ecclesiastical	90246	NO45SE 10.0	NO 481 515
19	Turin Hill fort	Prehistoric domestic and defensive	142	NO55SW 1.00	NO 513 535
20	Haresburn Croft burial mound	Prehistoric ritual and funerary	4584	NO55SW 46	NO 521 520
21	Noronbank timber hall	Prehistoric domestic and defensive	4103	NO55NW 40	NO 509 585
22	Carsegownie cairn	Prehistoric ritual and funerary	5947	NO55SW 2	NO 505 545
23	Baldoukie souterrains	Prehistoric domestic and defensive	6315	NO45NE 34	NO 468 589
24	Law of Baldoukie	Prehistoric	6314	NO45NE 4	NO 467 588



	barrow	ritual and funerary			
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#### *Summary of records*

The Scheduled Ancient Monuments within a 5km radius range from the remains of prehistoric ritual and domestic structures to early medieval crosses and post-medieval buildings such as the Flemington tower in Aberlemno or Finavon Castle to the NE of the proposed site. They emphasise the rich and intense settlement of the area from prehistoric times onwards.

A number of the sites (Table 3 nos 1, 2, 3, 4, 11, 14, 16, 21 and 23) are cropmark sites only visible from aerial photographs; this is significant in regards to any discussion of the visual impact of the proposed development (see 5.2 below).

#### **Listed Buildings**

**Table 4 Category A listed buildings within the 5km zone**

No on map	HB Num	Site	Category	NGR
1	17657	PITSCANDLY HOUSE	A	NO 48427 52537
2	11386	RESTENNETH PRIORY	A	NO 481 515
3	31604	LOWSON MEMORIAL PARISH CHURCH	A	NO 46492 50881

**Table 5 Category B Listed Buildings within the 1 km zone**

No on map	HB Num	Site	Category	NGR
1	4954	CARSGOWNIE FARMHOUSE	B	NO 50265 54773

The consideration of Category B and C listed buildings are within the remit of Angus Council Planning Department.

#### *Summary of records*

There are three Category A listed buildings within the limit of a 5km radius (Table 4 and illus 5). Pitscandly House is a possibly late 17<sup>th</sup> century two storey classic mansion house. Restenneth Priory is the ruins of a 12<sup>th</sup> century Augustinian Priory with later additions; it may be on the site of an earlier Celtic foundation. Lawson Parish Church is dated to 1912 -14 and contains exceptional stained glass.

Only one Category B building lies within a 1km radius (Table 5) of the development. Carsegownie farmhouse is a 17<sup>th</sup> century lairds house remodelled in the 19<sup>th</sup> century and with an extended farm steading.

No Conservation Areas, Gardens & Designed Landscapes or World Heritage Sites are within the limit of a 5km radius of the development or affected by it.

## 5. Assessment of Impacts

### *Implications – direct physical damage to sites*

Only three of the archaeological assets identified in the SMR were located within or adjacent to the proposed development site. The settlement at Hillside as shown on the 1<sup>st</sup> OS map (NO45NE65) has been largely destroyed and will not be further affected by any widening of the track. There is no verification of the rig and furrow cultivation recorded in 1982 (NO 45 SE 74) and it was not visible during the walkover survey. As a result it is not considered that there is any risk to an identifiable archaeological asset.

The recorded cup-marked stone (NO 45 SE 74) may be identified with a worn sandstone block with no observable cup-marks at 349042, 754751; this is within the possible line of the track or soil clearance for proposed turbine 2.

There will be no direct physical impacts on any SAMs or Listed Buildings as a result of this development. It does not impact on any Conservation Areas, Gardens & Designed Landscapes or World Heritage Sites.

### *Implications- visual impact to sites*

The visual impact to the sites considers both the category of features and the potential visibility of the development from such sites as might be regarded as sensitive. Sensitive archaeological sites may be regarded as upstanding monuments, especially those such as ritual or funerary monuments which may originally have been set in the landscape as visual or intervisible features.

Sites where artifacts have been found during field walking and cropmark sites, while they represent potential archaeological sites, are not visible in the landscape from ground level and are not considered to be visually threatened by the development. None of the sites within a 1km zone are considered under these criteria to be sensitive in terms of the visual impact of the development.

The visual impact of the proposed development on the SAMs and Listed Buildings needs to be assessed in relation to the data collected for the overall environmental appraisal. Cropmark sites (Table 3 nos 1, 2, 3, 4, 11, 14, 16, 21 and 23) are not upstanding in the landscape so although some such as the henge at Myreside (Table 3 No 16) or the prehistoric timber hall at Noronbank (Table 3 No 21) may have had very specific orientation to contemporary landscape features, this will not be adversely affected by the visual impact of the proposed development.

There will be some potential visual impact on the forts at Turin Hill and at the E end of Hill of Finavon (Table 3 nos 7 and 19) and on Restenneth Priory (Table 3 no 18) to the SW of the proposed development. However such impact should be set in the context of the existing line of large pylons running parallel to the S side of Finavon Hill and to the telecommunications tower on Finavon Hill near to Finavon fort.

Three Category A listed buildings lie within the 5km zone and there is a potential visual impact; however both Restenneth Priory and Pitscandy House are surrounded by mature trees and Lowson Memorial Parish Church is within a built up area so any impact should be minimal.

The development will be visible from Carsegowrie farmhouse Category B Listed Building which lies within the 1 km zone but this should be seen in the context of the existing pylons.

## 6. Mitigations

The suggested position of turbines 1 and 3 as shown on illus 1 do not appear to physically affect any visible features of archaeological interest. After consultation with the Archaeology Service for Angus, at Aberdeenshire Council, regarding the unverifiable rig and furrow around turbines 1 and 2 recorded in 1982, it has been agreed that in the light of the lack of evidence, no watching brief should be necessary on the soil strip of this feature.

Proposed turbine 2 and the track to it lie near a possible cup-marked stone. However no cup-marks were observed, possibly due to erosion of the stone face. It is suggested that in case the stone has been turned since it was recorded in 1982, or in case clear cup-marks exist on the under surface, it should either be avoided or if it has to be moved this should be done under archaeological supervision.

Should chance finds of objects or unrecorded features occur during the construction operations, the Archaeology Service for Angus, at Aberdeenshire Council, must be informed immediately so that an appropriate archaeological response can be formulated and agreed by all parties concerned.

## 7. Conclusions

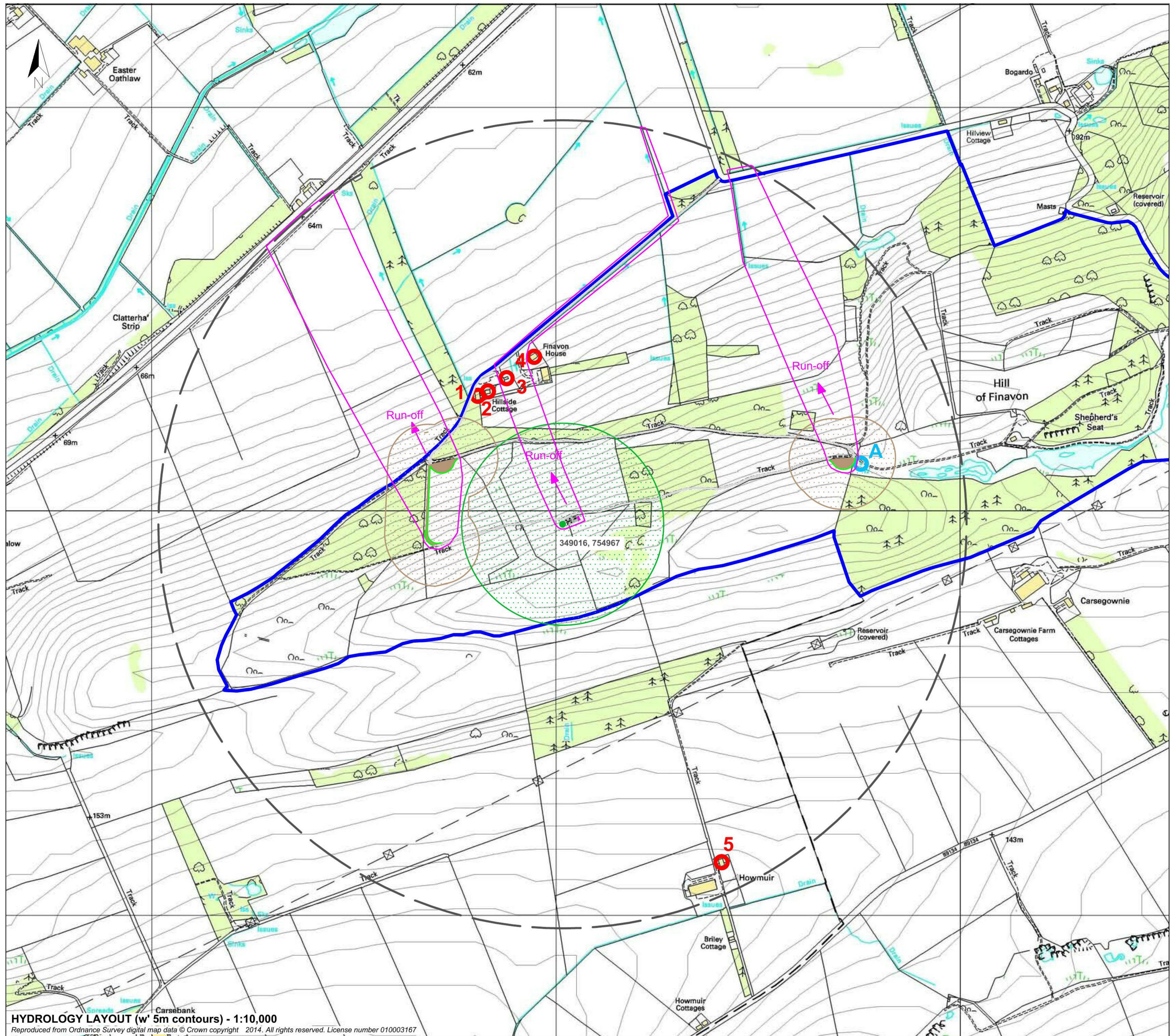
In accordance with the Angus Local Plan Review guidelines (Policy ER19) the proposed development does not have a direct physical or major visual adverse effect on any recorded cultural heritage assets or their settings.

## References

Sherriff, J R 1982 'Survey' Discovery and Excavation Scotland, 31.

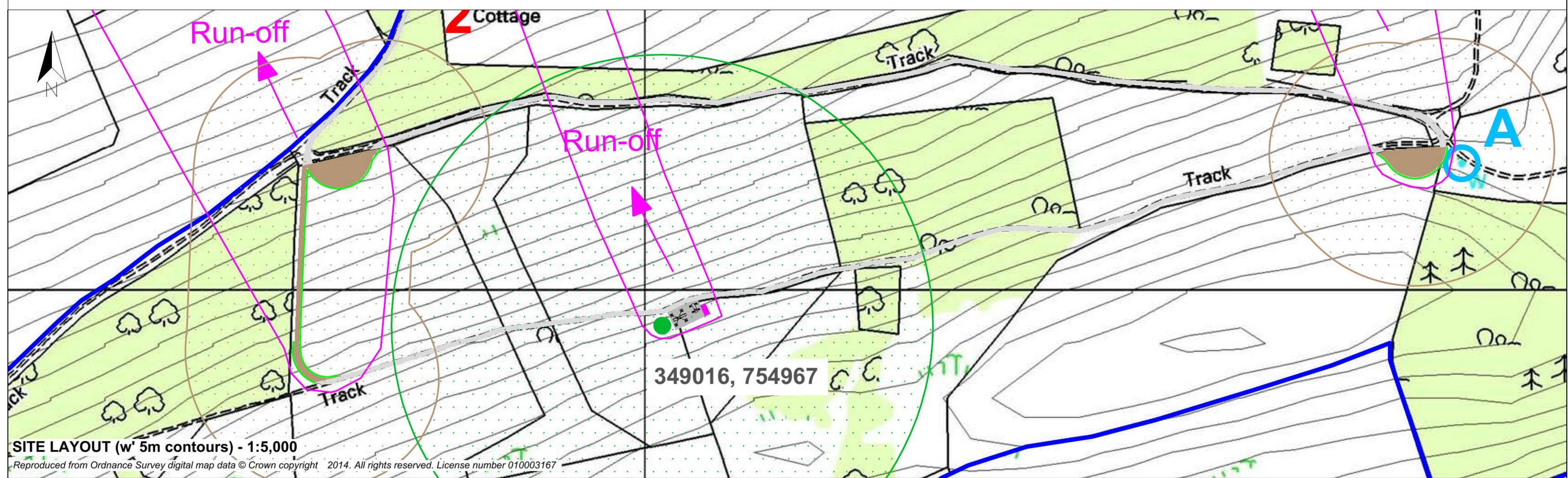


**Appendix 6 – Hydrological Context of Site**



**HYDROLOGY LAYOUT (w' 5m contours) - 1:10,000**  
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- KEY**
- SURFACE WATER DRAINAGE SYSTEM
  - SURFACE WATER RISK AREA OF CATCHMENT
  - LAND OWNERSHIP BOUNDARY
  - 1km STUDY BOUNDARY
  - PROPERTY WITHIN 1km STUDY BOUNDARY
  - WELL
  - 250m DEWATERING ZONE OF INFLUENCE
  - 100m BOUNDARY AROUND ACCESS TRACK & CABLE TRENCH
  - PROPOSED TURBINE / FOUNDATION
  - HARDSTANDING
  - NEW ACCESS TRACK
  - UPGRADED ACCESS TRACK
  - CONTROL BUILDING



**SITE LAYOUT (w' 5m contours) - 1:5,000**  
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**Project Title:**  
FINAVON HILL WIND TURBINE

**Drawing Title:**  
HYDROLOGICAL CONTEXT OF SITE

**Job No.** C0256-163    **Drawing No.** FIGURE 10.1    **Scale:** AS STATED

<b>Date drawn:</b> 10.02.14	<b>Rev.</b>	<b>Date</b>	<b>Chk'd</b>
	-	-	-
<b>Drawn by:</b> QA	-	-	-
<b>Checked by:</b> FW	-	-	-
<b>Approved by:</b> GD	-	-	-

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