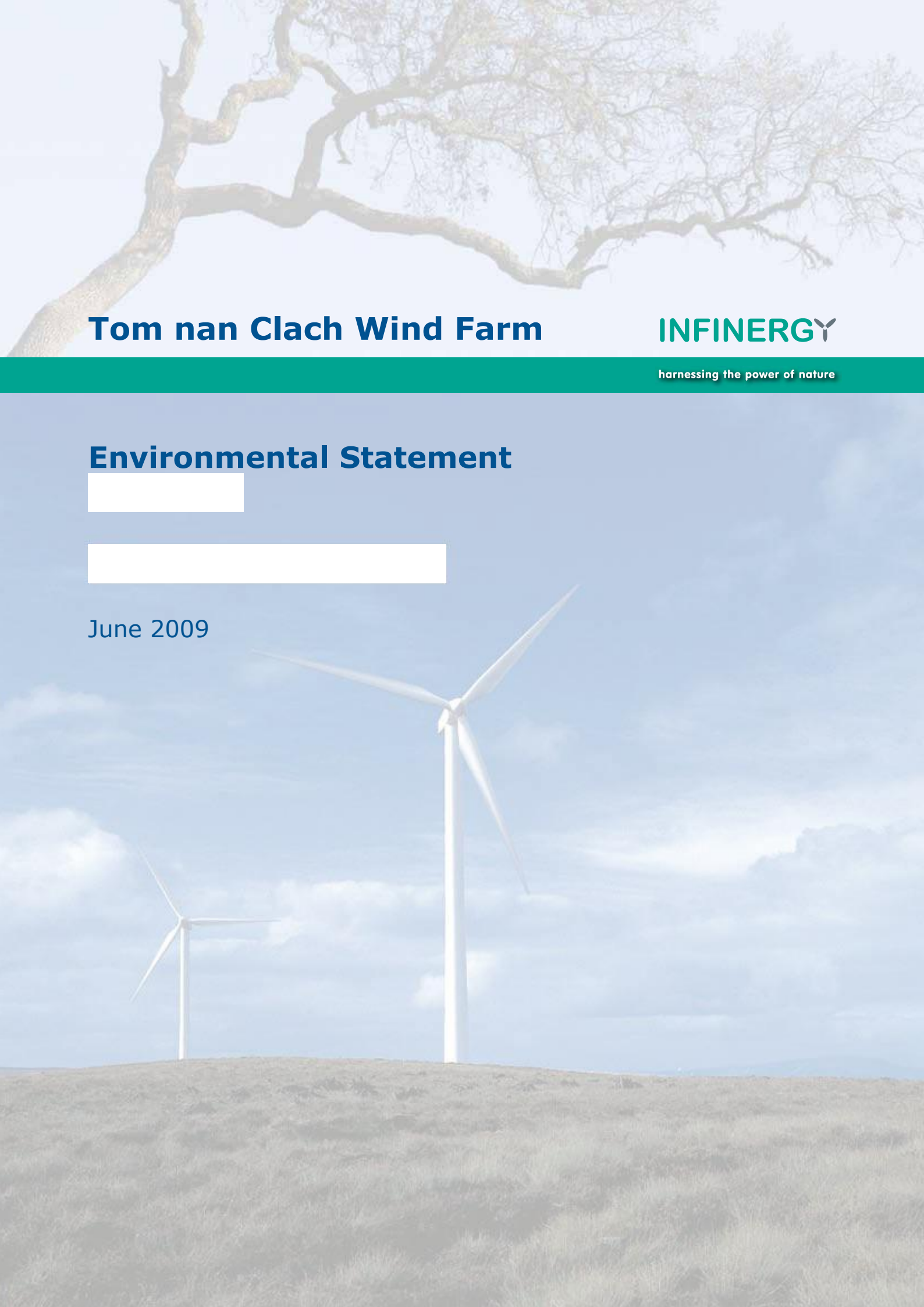
Tom nan Clach Wind Farm

INFINERGY

harnessing the power of nature

Environmental Statement

June 2009



Introduction

1.1. Infinergy Ltd propose to develop a 17 turbine wind farm at the hill of Tom nan Clach in Nairnshire, Scotland and have prepared this Environmental Statement (ES) to support a planning application to The Highland Council for determination under the Town and Country Planning (Scotland) Act 1997.

1.2. The Applicant, Nanclach Ltd, is a legal entity set up for the sole purpose of developing a wind farm at Tom nan Clach on the Cawdor Estate, Nairnshire, Scotland. Nanclach Ltd is owned by Infinergy Ltd and the Rt Hon. Earl Cawdor. Infinergy effectively acts as the developer and is referred to in this document as the developer.

1.3. The planning application site is located within the Cawdor Estate and the Lethen Estate (for part of the access track) and is shown in Figure 1.1. It lies approximately 8km to the east of the nearest settlement, Tomatin, which lies west of the A9 (Inverness to Perth road). Tomatin is approximately 20km to the south east of Inverness. The site is centered on grid reference NH860350.

1.4. The application site is located within parts of the Nairn and Inverness South multi-member wards of The Highland Council area. Adjacent wards are Culloden & Ardersier and Badenoch & Strathspey.

1.5. The proposal is to construct and operate a wind farm comprising 17 turbines, each with a capacity of up to 2.3MW, providing a maximum total capacity of 39.1MW.

1.6. The wind farm would therefore contribute towards fulfilling a number of national and international objectives, including those identified by the Kyoto Protocol (UNFCC 1997), and in the Scottish Climate Change Bill (Scottish Government 2008), which sets a target of cutting CO_2 emissions by 80 per cent by 2050, and The Renewable Obligations (Scotland) Order 2007.

1.7. It would also allow Nairnshire to contribute to the current Scottish Government's commitments to meeting a minimum target of 50% electricity generation from renewable sources by 2020, thereby reducing consideration of the need for nuclear power generation in Scotland (The Scottish Government's submission to the UK Government consultation on nuclear power), as well as supporting the Climate Change objectives of a low carbon economy and sustainable economic growth.

1.8. It is estimated that enough electricity will be generated by the wind farm to supply the equivalent of approximately 21,800 households based on a 30% capacity factor and annual average consumption of 4,700kWh. This could potentially displace the equivalent of approximately 36,000 tonnes of CO_2 emissions per year from conventional fossil fuel electricity generation.

1.9. The wind farm is proposed to be operational for 25 years, after which time it could be removed or the lifetime extended subject to further environmental studies and a new planning application.

1.10. The Tom nan Clach wind farm is the culmination of a 3 year work programme by the Applicant and its consultants, during which time the site's suitability and environmental characteristics and constraints have been identified, and then referenced to design the submitted wind farm. All of the previous design options are discussed in Chapter 4: Alternatives and Scheme Evolution.

1.11. The wind farm is proposed to be connected to the electricity grid via a new substation building on the site. If over ground, an application for the grid connection between the site substation and the electricity grid will be made separately under Section 37 of Electricity Act 1989.

The Developer acting on behalf of the Applicant

1.12. Infinergy Ltd is a renewable energy company developing wind farms throughout the United Kingdom. The company possesses in-house all the expertise and experience needed to design, develop and build onshore wind farms. Its current focus is the UK where it considers wind resource to be one of the most promising forms of sustainable energy.

1.13. Over the last four years Infinergy has carried out over 50 (pre-)feasibility studies, including studies of the economic viability, planning and environmental constraints and technical elements of potential sites. Furthermore, Infinergy staff are working on planning applications and environmental impact assessments for numerous projects, are involved in negotiations with landowners to secure new projects and are looking at the feasibility of various sites in Scotland, England and Wales. To date, the company has a project portfolio of over 500MW.

1.14. Infinergy believes wind energy to be an important answer to the threats of global warming and climate change and is therefore committed to making a significant contribution to meeting renewable energy targets in the United Kingdom. In developing wind farms, the company is keen on liaising with local communities and to design wind farms that are sympathetic to local landscapes.

1.15. Infinergy is a full subsidiary of KDE Energy of the Netherlands, a renewable energy business developing onshore wind projects across Europe. KDE Energy is the renewables division of Koop Holding, a large Dutch construction, engineering and contracting enterprise, involved in major international development projects.

1.16. Infinergy is a sponsoring member of BWEA. The company is based in Wimborne, Dorset. For more information, please visit www.infinergy.co.uk or www.tomnanclachwindfarm.co.uk.

The Application

1.17. The wind farm is proposed to consist of 17 turbines.

1.18. The turbines would comprise three bladed horizontal axis machines, giving an overall maximum height to blade tip of 110m and a maximum hub height of 75m. The proposed location of the turbines and the site boundary are shown on Figure 1.1.

1.19. The Tom nan Clach development would include the following elements:

- 11.7km of access track off the B9007 to the site;
- 17 temporary crane hard-standings;
- temporary passing bays and turning heads;
- one permanent free-standing, guy-wired anemometer mast;
- one on-site substation and control building;
- 7.2km of buried cables connecting the wind turbines to the on-site substation;
- one temporary construction compound for the construction of the access track off the B9007;
- one temporary construction compound with batching facilities in the centre of the site;
- two on-site borrow workings to be used for the majority of the rock source needed for construction activities.

1.20. A detailed description of the development is provided in Chapter 5: Scheme Description.

The EIA Process

1.21. The generation capacity of the proposed wind farm is less than 50MW and therefore the planning application will be determined by the local planning authority, The Highland Council under the Town and Country Planning (Scotland) Act 1997.

1.22. The application will be considered by the Council against relevant national, regional and local planning policies and guidance. A full review of the relevant policy is contained within Chapter 2: Policy Context.

1.23. The preparation of this ES has been, and the application process will be, governed by The Environmental Impact Assessment (Scotland) Regulations 1999.

1.24. Savills Planning has completed an Environmental Impact Assessment (EIA) of the proposal. The EIA is reported in this Environmental Statement (ES).

1.25. Environmental Impact Assessment (EIA) is a process which aims to improve the environmental design of a development scheme and provide decision makers with sufficient information about the environmental impacts of a proposal.

1.26. The ES which has been prepared as a result of the EIA process, accompanies the planning application and provides environmental information about the scheme, including a description of the development, its predicted environmental impacts and the measures intended to ameliorate any adverse effects.

Structure of the Environmental Statement

1.27. This main report is a part of the ES that has been prepared to present the findings of an EIA. The full ES comprises:

- Volume 1: Non Technical Summary;
- Volume 2: Written Statement;
- Volume 3: Appendices;
- Volume 4: Landscape and Visual Figures;

1.28. The Non Technical Summary is a summary of the proposed development, its potential environmental effects and proposed mitigation measures. A Planning Statement is also be submitted with the application.

1.29. Volume 2: Written Statement, has the following chapters:

- Chapter 1: Introduction outlines the development proposal and the structure of the ES;
- Chapter 2: Policy Context sets out the policy context relevant to the scheme and examines how the scheme accords with this context;
- Chapter 3: The Site and Surroundings gives a description of the site and its surroundings;
- Chapter 4: Alternatives and Scheme Evolution explains how development options have been selected and how the scheme has evolved;
- Chapter 5: Scheme Description provides a description of the proposed development, construction methods and construction management;
- Chapter 6: Scoping and Consultation describes the consultation and scoping activities that took place prior to the submission of the planning application;

- **Chapters 7–18 provide an assessment of the various environmental impacts;**
- **Chapter 19 provides a conclusion that sets out the mitigation included within the scheme and a summary of the residual impacts.**

1.30. Chapters 7-18 each provide an assessment of an environmental impact and are based broadly on the following format:

- **Introduction: including where appropriate definition of the study area;**
- **Assessment Methodology: including matrices that enable impact significance to be established;**
- **Baseline Conditions;**
- **Potential Effects;**
- **Assessment of Impacts;**
- **Mitigation and Enhancement;**
- **Residual Impacts;**
- **Summary and Conclusions.**

1.31. Each predicated effect (both adverse and beneficial) has, where possible, been ascribed one of the following levels of significance:

- **Negligible;**
- **Low;**
- **Medium;**
- **High.**

1.32. The framework adopted to consistently establish impact significance is explained in the methodology section of each environmental chapter.

1.33. The terms 'impact' and 'effect' are often used interchangeably, leading to confusion. Therefore for the assessments they have been defined as follows:

- **IMPACT: any changes to the environment attributable to the proposed development that have the potential to have an environmental impact (i.e. they are the cause of the effect).**
- **EFFECT: the results of the changes on specific environmental receptors.**

List of Consultants

1.34. It is the developer's policy where practical to employ local consultants with wind farm expertise. The various aspects of the ES have been addressed by a team of consultants as listed in Table 1.1:

- EIA Project Directors – Karl Cradick and David Jobbins, Savills Planning
- EIA Project Managers – Charlotte Wilcox and David Palmer, Savills Planning
- Infinergy Project Manager – Mark van Rij

Table 1.1: Consultants undertaking the EIA and production of the ES

Chapter	Assessment Topic	Contributor
2	Policy Context	Savills Planning
3	The Site and Surroundings	Savills Planning
4	Alternatives and Scheme Evolution	Savills Planning, horner + maclennan, Dalgleish Associates, Infinergy
5	Scheme Description	Savills Planning, Ken Wilson Associates, Infinergy
6	Scoping and Consultation	Savills Planning
7	Landscape and Visual	horner + maclennan, Envision 3D
8	Ecology	Mackenzie Bradshaw Environmental Consulting
9	Ornithology	Mackenzie Bradshaw Environmental Consulting
10	Traffic and Access	Royal Haskoning
11	Hydrology and Ground Conditions	EnviroCentre
12	Archaeology and Cultural Heritage	Highland Archaeology Services
13	Noise	Hayes McKenzie
14	Aviation	Pager Power
15	Telecommunications	Pager Power
16	Air Quality and Climate	EnviroCentre
17	Socio-Economics	Impact Assessment Unit, Oxford Brookes University, Savills Planning
18	Shadow Flicker	Savills Planning
19	Conclusions	Savills Planning

Archaeology and Cultural Heritage

Introduction

12.1. This Chapter assesses the potential impacts of the proposed Tom nan Clach Wind Farm development on archaeology and cultural heritage. It considers both physical, direct impacts and the indirect visual effect on the setting of cultural heritage features in the wider area.

12.2. The cultural heritage features assessed for this development include Scheduled Monuments, Listed Buildings, Historic Gardens and Designed Landscapes, and other historic and archaeological sites and features of regional or local interest.

12.3. The areas covered by the assessment are shown in Figures 12.1 and 12.2.

Assessment Methodology

12.4. The assessment is informed by consultation with Historic Scotland and the Highland Council, and reflects the current survey practice and broad methodologies of the Royal Commission on the Ancient and Historical Monuments of Scotland (RCAHMS); Historic Scotland; and the Institute of Field Archaeologists (IFA). The assessment is based upon:

- Identification of relevant development characteristics, including relevant design and management measures;
- Appraisal of the existing cultural heritage resource according to its evidence, aesthetic, symbolic, associative, ecological and economic values, and taking into account international, national and local authority principles, policies and guidelines;
- Prediction and characterisation of impacts;
- Evaluation of effects, including cumulative effects;
- Consideration of mitigation measures, where appropriate; and
- Evaluation of residual effects.

12.5. The Archaeology and Cultural Heritage assessment included a baseline desk-based assessment and walk-over field survey, followed by an assessment of the direct and indirect visual impacts of the proposal, as required by the Highland Council's brief for wind-farm related archaeological assessments.

Desk based assessment

12.6. An initial desk based assessment was carried out in May 2007. Following the adoption of the proposed eastern access track, additional desk based research was undertaken in early 2009.

12.7. **The study area for the desk-based assessment was based on a core of 5km radius from the centre of the site, in which all archaeological and historical sites would be considered; and a wider 15 km radius from the site looking only at sites and buildings of national importance, defined as Scheduled Ancient Monuments, buildings Listed Grade A, and archaeological sites recorded as 'Schedulable' in the Highland Council Sites and Monuments Record.**

12.8. **The following sources were consulted:**

- **Highland Historic Environment Record (HER); including database records, reports and maps;**
- **1947-1955 RAF aerial photographs held at the offices of The Highland Council in Inverness[1];**
- **The Highland Council Archives, Farraline Park, Inverness (old maps);**
- **National Monuments Record for Scotland (www.rcahms.gov.uk);**
- **National Library of Scotland map collection (http://www.nls.uk);**
- **Society of Antiquaries of Scotland Collections (http://www.socantscot.org/);**
- **The Statistical Accounts of Scotland (http://edina.ac.uk/stat-acc-scot/).**

12.9. **Account has been taken of the results of an archaeological assessment undertaken by Headland Archaeology for the proposed wind farm at Glenkirk and included in the Environmental Statement for that project dated September 2005.**

12.10. **The desk-based assessment has compiled the following data for the study area:**

- **The location, nature and extent of visible archaeological and historical sites and areas;**
- **The location and description of any historic buildings and structures;**
- **An evaluation of the sensitivity and value of cultural heritage sites;**
- **An assessment of the location and extent of areas of high archaeological potential.**

Walk Over Survey

12.11. Field surveys were carried out to verify the findings of the desk based assessment and to identify any additional unrecorded features that might suffer direct and indirect impacts through construction, maintenance and decommissioning of the wind farm. All features of archaeological or historical interest, identified during the desk-based assessment, were visited, recorded, photographed and evaluated.

12.12. The walk-over surveys covered:

- **the initial study area extending to approximately 12.3 sq. km, including the turbine sites now proposed and an area to the south;**
- **the route of the access track running east to the B9007, together with a corridor to allow for possible changes to the access track line.**
- **the proposed borrow pits and substation / control and maintenance compound.**

12.13. Sites were recorded in the field using Differential GPS. Accuracy for the 2007 survey was typically 5-10m; the 2009 access road survey used Magellan Promark 3 DGPS units with satellite based real-time correction. This equipment typically provides horizontal accuracy of 1m or less, although satellite and atmospheric conditions can affect this.

12.14. The initial study area was walked during May, June and July 2007 and checked for possible unrecorded sites.

12.15. The proposed route of the access track leading from the B9007 was walked in January-February 2009.

12.16. The assessment, including the desk-based and field surveys, have developed the necessary knowledge and understanding of the wind farm site and its wider context; considered fully its cultural significance and all phases of its development; and ensured that where possible, features and artefacts are preserved in situ with only the minimum degree of intervention considered appropriate. Where this cannot be achieved archaeology will be properly recorded.

12.17. All archaeological survey and recording has been carried out throughout in accordance with the professional standards published by the Institute of Field Archaeologists (IFA), together with relevant Highland Council archaeological desk assessment and walk-over survey guidelines.

12.18. A report on any mitigation work will be produced and deposited with any archive material in the National Monuments Record for Scotland, with copies lodged with the Highland Council in Inverness and the public library service for local access.

Assessment of Direct Impacts

12.19. Direct Impacts are actual physical effects on archaeological features of all types caused by the construction of the wind farm, cabling and access track, and excavations for borrow pits. A determination was made using professional judgement for recorded and visible sites and areas, where based on similar examples and professional experience there is potential for buried archaeological remains. Where possible, when direct impacts were identified on known or suspected archaeological features, mitigation is proposed.

Assessment of Visual Setting

12.20. A desk-based exercise was carried out in April 2007 making use of a printed map showing a computer-generated Zone of Theoretical Visibility) with the theoretical visibility relating to the tip height of the proposed turbines. This was checked in detail against all relevant archaeological records available in order to identify archaeological monuments and sites from which any part of the turbines might be visible.

12.21. The modern landscape setting of a site may be physically affected by nearby developments. It is also essential to take into account its perceived research value, educational, aesthetic, associative, symbolic or ecological value, the sensitivity of the broader landscape and cumulative impacts.

12.22. There is no generally accepted methodology for the assessment of impacts on the setting of cultural heritage sites. Impacts were assessed in this case by considering the type and significance of sites, features, and buildings, the sensitivity of the site, and the magnitude of the expected impact. A numerical scoring system was not used but using these criteria, as explained in more detail below, a professional judgement was formed. Predicted impacts of high or medium significance equate to potentially significant impacts in terms of the EIA (Scotland) Regulations 1999.

12.23. Site type: The setting of a site is a deliberate choice, and may have been made with reference to specific elements of the landscape such as topography and land use. A negative impact on the setting of a site may be experienced should a new feature interrupt or disturb the position or view-shed from a site of cultural heritage significance. In determining visual impacts the site type is therefore the most important consideration. For example, some Neolithic or Bronze Age burial cairns or standing stones are believed to have been deliberately and carefully sited within the wider landscape. Such sites may have been aligned on specific compass directions, or located to be visible from a wide area. The presence of a wind turbine within view of such a site might therefore have a negative impact. On the other hand, a less extensive landscape context may be appropriate for, for example, field boundaries, post-medieval farmsteads, or industrial sites. 'Setting' is therefore understood to imply the intentional placing of the site and refers to elements of the landscape that would have influenced the choice of location in the past. Such elements may include topography, land use, group setting, visual prominence, scale and inter-visibility.

12.24. Cultural Significance: For the purposes of this assessment, the following criteria were used:

Table 12.1: Cultural Significance

National	**Sites of National Importance, including Scheduled Ancient Monuments; buildings Listed Grade A; and archaeological sites recorded as 'Schedulable' in the Highland Council Sites and Monuments Record (NSR).**
Regional	**Archaeological sites or buildings of regional importance, including Category B Listed Buildings, and archaeological sites recorded as of Regional importance in the Highland Council Sites and Monuments Record (NSR)**
Lesser	**Archaeological sites or buildings of local importance, including Category C (S) Listed Buildings.**
Minimal	**A badly preserved or extremely common type of archaeological site/building of limited value at local, regional or national levels.**

12.25. Sensitivity: Two factors are considered relevant to an assessment of how sensitive a site is to potential impacts on its setting — its presence in the landscape and the extent to which it is promoted as a landscape feature.

- **Presence in the landscape: This refers to the extent to which the site exists as an identifiable feature that can be appreciated and understood by the average visitor. A site is considered to have a prominent presence if it constitutes a local landmark, of which a majority of people living in the vicinity would be aware. A site that has a noticeable presence may be little-known but should be easily perceptible to the lay observer. A site's presence is negligible if it can only be identified on the ground by persons with an above-average knowledge of archaeology, or if it is known only from aerial photography or historical records.**

- **Promotion: This refers to awareness of the site beyond the archaeological community and is a measure of the extent to which it is presented to the public as a site worth visiting. A site where public access is facilitated is one where facilities, such as information boards or way markers, have been installed to enhance and encourage appreciation of the site. A site where public access is promoted would not be developed in this way, but would be referred to in non-specialist publications aimed at visitors to the area (eg local trail guides or OS 1:50,000 map sheet). Sites that are not promoted are discussed, if at all, only in specialist archaeological literature.**

12.26. These factors have been taken together to arrive at an overall assessment of sensitivity as follows:

Table 12.2: Sensitivity

Promotion	Presence in the Landscape		
	Prominent	Noticeable	Negligible
Facilitated	High sensitivity	High sensitivity	High sensitivity
Promoted	Medium sensitivity	Medium sensitivity	Low sensitivity
Not promoted	Medium sensitivity	Low sensitivity	Negligible sensitivity

12.27. Magnitude of Impact: Any development within the immediate topographic setting of a site or its wider landscape setting (if any has been identified as relevant) potentially constitutes an impact on the setting of the site. The magnitude of the impact is an expression of the extent to which the development alters the character of the setting, and incorporates the following factors:

- **Scale: the size and visual attributes of the development in relation to the site determines whether the site, or the development, will be the dominant visual feature within the post-development setting of the site. Where the development would be the more noticeable feature it is said to be dominant; where both the development and the site would have a noticeable presence the scale is said to be equal; and where the development is less visually prominent than the site it is said to be unobtrusive.**

- **Complementarity: the extent to which the development is in keeping with the land use history of the site and its setting, on the one hand, or introduces a new and incompatible element into the landscape, on the other, determines whether the character of the development significantly compromises the setting of the site. The complementarity of the site is assessed as antithetical where it contradicts significant attributes of the site; as unrelated where the development represents a land-use of more neutral character but irrelevant to the history of the site; or as sympathetic where the development either continues a tradition of land use of which the site is representative, or does not involve any appreciable alteration to the character of the pre-development setting.**

- **Permanence: the permanence of the development is the extent to which the alteration to the setting of the site is irreversible. The alteration to the setting of the site may be irreversible, where it will not be possible to approximate the pre-development conditions after the lifetime of the development; as permanent, where no provision is made for the reinstatement of pre-development conditions following the lifetime of the development, and it would not be possible to recreate the pre-development conditions without significant investment; or as temporary, where visible impact on the landscape is limited to short-lived results of the construction process, or where the development has a limited lifespan following which pre-**

development conditions could be easily approximated.

12.28. These factors have been taken together to arrive at an overall assessment of impact magnitude as follows:

Table 12.3: Magnitude of Impact

Major	Total loss or major alteration of the site, building or feature.
Moderate	Loss of one or more key elements of the site.
Minor	Slight alteration of the site.
Negligible	Very slight or negligible alteration of the site.
None	No change

12.29. The definitions of feature sensitivity and impact magnitude have been combined (see Table 12.4) in order to define the visual impact of the proposed wind farm on each cultural heritage feature identified. Table 12.5 lists all sites identified with their assessed visual impact.

Table 12.4: Criteria for Assessment of Visual Impact

Magnitude of Impact	Feature Sensitivity			
	Negligible	Low	Medium	High
Major	Low	Medium	High	High
Moderate	Very Low	Low	Medium	High
Negligible	Nil	Very Low	Low	Medium
None	Nil	Nil	Very Low	Low

12.30. The overall effect was evaluated, taking into account the nature of the receptors, and magnitude of impacts. Impacts were predicted and quantified by comparing the project layouts provided by the developer with the mapped baseline survey.

12.31. The results have been used to inform a mitigation strategy based on international and national principles and policies and current archaeological best practice.

Baseline Conditions

Archaeological and Landscape Background

12.32. The turbine sites themselves are on high, remote, heather covered grouse moors with rock outcrops and very wet marshy areas. Modern grouse butts are in evidence but otherwise there is little evidence of past occupation, apart from a small group of summer shielings. Eroding peat haggs were seen to contain extensive preserved tree roots showing that the land had been forested in the past, but it was not possible to establish when the trees disappeared. On the basis of parallels elsewhere it seems likely that tree cover reduced considerably in the later Bronze and Iron Ages, perhaps associated with an increase in grazing animals and a decline in climate. There may have been some recovery in the later medieval period. For the last hundred years the ground has been maintained as open grouse moor with periodic heather burning. Increasing deer numbers have also hindered re-growth.

12.33. The access track line passes over high, heather-covered grouse moors. There is little evidence of past human activity over most of the route, although buried evidence could survive beneath the peat. There is however two deserted settlements, Rhibanchor and Upper Rhilean, and their nearby fields and peat-cuttings, which would be affected directly by excavations for the track.

12.34. Although deserted settlements are relatively common in the Highlands, very little contemporary documentation for them is available. Interest in this type of site has grown in the last 10-15 years, but they remain under-researched archaeologically. Most were deserted during the late 18th to early 20th centuries, in some cases through deliberate clearance of the inhabitants, in others by voluntary emigration, and are collectively significant within Highland history and landscape development.

12.35. Their nature, and that of the culture and environment that produced them, mean that survival of evidence is generally very poor and fragmentary, but indications from similar sites suggest that many were occupied over many centuries. These particular settlements also lie at a considerable altitude, in a marginal area for farming, which makes them unusual.

12.36. In both cases, the proposed new track will impact on the periphery of these settlements but mitigation is proposed with the aim of minimising impacts as far as possible and making a full record of any features that will be unavoidably affected.

Legislation, Guidelines and Planning Policy

Legislation

12.37. **'Nationally important' archaeological sites are legally protected as Scheduled Monuments under the Ancient Monuments and Archaeological Areas Act 1979. Buildings of architectural or historic importance are Listed under the Town and Country Planning (Scotland) Act 1997. These are divided into three classes: Grade A (National Importance) Grade B (Regional Importance) and Grade C (Local Importance). Where features are both scheduled and listed, scheduling takes precedence.**

Guidelines

12.38. **The Codes of Conduct and Approved Practice and Standards of the Institute of Field Archaeologists (WA 1999) are applicable to this assessment.**

12.39. **There are no recognised standards for the assessment of setting on sites of historic importance, but reference has been made to Historic Scotland's paper of January 2007, Environmental Impact Assessment (scoping): scoping of wind farm proposals - assessment of impact on the setting of the historic environment resource: some general considerations**

Policy Context

12.40. **The key relevant international charter is the Australia ICOMOS Charter for the Conservation of Places of Cultural Significance 1999 (the Burra Charter)[3]. This has become a generally accepted international standard. It emphasises the need for a cautious approach to development of historic places, based on an assessment of their cultural significance. This is defined as 'aesthetic, historic, scientific, social or spiritual value for past, present or future generations. Cultural significance is embodied in the place itself, its fabric, setting, use, associations, meanings, records, related places and related objects. Places may have a range of values for different individuals or groups.' (Article 1.2)**

12.41. **Planning Advice Note 42 provides more specific advice in relation to development control and its role in safeguarding archaeological resources. It sets out provisions for monitoring development as it progresses, and defines where it may be appropriate to preserve remains in situ or excavate or record them. Both notes make clear that archaeology is a material consideration in the planning process, and that preservation in situ is to be preferred wherever possible. Where this cannot be reasonably achieved, recording of evidence to professional standards may be an acceptable alternative.**

12.42. **The Scottish Government's policies are set out in The Stirling Charter (2000) and Passed to the Future: Historic Scotland's Policy for the Sustainable Management of the Historic Environment (2002). These are supplemented by the Scottish Historic Environment Policy (SHEP) series subsequently produced by Historic Scotland (available at www.historic-scotland.gov.uk) and informed by the frameworks previously mentioned.**

12.43. **Scottish Planning Policy, SPP 23: Planning and the Historic Environment 2008 has superseded and consolidated National Planning Policy Guidelines NPPG 18 Planning and the Historic Environment and NPPG 5 Archaeology and Planning, and set out the national planning policy for the historic environment. It should be read in conjunction with the SHEP series, together with the Memorandum of Guidance on Listed Buildings and Conservation Areas. Central to the approach of SPP23 is the need to secure preservation whilst accommodating and remaining responsive to present day needs.**

12.44. **The Highland Council Structure Plan published in 2001 follows National Planning Guidance in adopting the precautionary principle as regards archaeology and requiring that potential impacts be assessed and mitigated where possible. It does not attach any particular cultural heritage importance to the Tom nan Clach area, but does contain the following general policies:**

- **Policy BC1: Preservation of Archaeological sites: archaeological sites affected by development proposals should be preserved or, in exceptional circumstances where preservation is impossible, the sites will be recorded at developers' expense to professional standards. Provision will be made in Local Plans for the appropriate protection, preservation and enhancement of archaeological sites;**

- **Policy BC4: Historic gardens and designated landscapes: the council will seek to preserve historic gardens and designated landscapes identified in the published inventory and in any additions to it. Local Plans will contain policies for their protection;**

- **Policy BC5: Listed Buildings and Conservation Areas: The Council will seek to preserve Highland's buildings and groups of buildings of historic or architectural interest, some of which may be at risk from neglect, by the identification in Local Plans of opportunities for their productive and appropriate use.**

Consultation Responses

12.45. The Highland Council Archaeology Unit responded to a consultation by Highland Archaeology Services on 16 March 2007, requesting:

> ***'the identification of the impacts on the setting of all sites referred to in the aims & objectives. … our preferred methodology [to address the setting issues] is to be guided by the Burra Charter in its assessment of indirect impacts. This means that in order to assess the impact of a proposed development, the Cultural Significance of a site (or place) requires to be established, and the impact of the development on the cultural significance assessed. […] We will require a qualitative written assessment of each place affected by the development proposal (a short descriptive paragraph) – simplified tabular syntheses attempting to quantify impacts will not be acceptable'.***

Potential Effects

Direct Impacts

12.46. Direct impacts include:

- **Effects of construction activity on known sites of cultural heritage interest and areas with potential for archaeological remains;**
- **Operational impacts on the setting of sites of cultural heritage interest;**
- **Impacts of decommissioning on known and unrecorded sites of cultural heritage interest.**

12.47. During operation of the wind farm direct impacts are considered to be minimal. Similarly, decommissioning is unlikely to impact further on archaeology or cultural heritage resources provided operations take place within the existing footprint. The cultural heritage assessment has therefore concentrated on the construction phase, when direct disturbance of archaeological sites could occur through excavations and use of machinery.

12.48. The assessment has considered whether any direct impacts will occur. The objective is always to minimise this wherever possible, by redesigning the scheme layout and the construction and maintenance methods.

12.49. The construction of the access track could directly impact on identified archaeological features during its construction phase. These are discussed later in this chapter.

Indirect Visual Impacts

12.50. The appreciation or understanding of archaeological sites can be affected by the presence of large modern structures nearby such as wind turbines. The effect depends on the type of site affected. In many cases, the cultural or scientific significance of a site lies in its construction or form, but in others the landscape setting is crucial. Many Neolithic burial cairns, for example, appear to have been deliberately sited on a skyline; while defensive sites such as hill forts were intended to dominate a landscape.

12.51. Visual impacts have been assessed for all sites lying within 5km of the turbines, and for all nationally important archaeological sites and buildings within 15km. In practical terms, beyond this distance, turbines, if visible, will appear as distant features on a horizon and visual impacts are considered marginal.

Cumulative Impacts

12.52. Cumulative impacts are long-term changes that may occur as a result of the combined effects of successive actions on the environment. These incremental effects may be significant even though the effects of each action, when independently assessed, are considered insignificant. Assessment of cumulative effects is increasingly seen as representing best practice in conducting environmental assessments.

Assessment of Impacts

Direct Impacts

12.53. This section provides an assessment of all the direct impacts arising from the proposed wind farm development on all of the archaeology and cultural heritage features identified and listed in Table 12.5.

12.54. No Scheduled Monuments, Grade A Listed Buildings or other sites of national importance are directly affected by construction or maintenance operations.

12.55. No Historic Gardens and designed landscapes are directly affected by construction or maintenance operations.

12.56. No other archaeological sites or buildings or landscapes of historic interest recorded on the Highland Historic Environment Record or the National Monuments record will be directly affected by the construction and maintenance of the proposed turbines, borrow pits or substation / control and maintenance compound.

12.57. One feature identified during field survey could be directly affected by the turbines: the modern walkers' summit cairn on Tom nan Clach (Ref CH77).

12.58. Two recorded sites could be affected by the construction or maintenance of the access road and are described below.

12.59. **Rhibanchor deserted settlement (Ref CH65). Wall footings relating to former buildings and field enclosures appear to lie on both sides of the Rhilean burn and adjacent to the modern vehicle track. They would be directly affected by construction works. These could also suffer damage from compaction and impacts of vehicles and plant.**

12.60. **Upper Rhilean deserted settlement (Ref CH45). Field survey identified extensive evidence over a wide area south of the farm shown by the 1st Edition Ordnance Survey map of 1870. Although the visible remains probably date to the 18th and 19th centuries, there could be earlier settlement beneath. Wall or dyke footings appear to lie across the line of the access track and close to the proposed junction serving the eastern borrow pit. They would be directly affected by construction works, and could also suffer damage from compaction and impacts of vehicles and plant.**

Impacts on Visual Setting

12.61. **This section provides an assessment of all the visual impacts arising from the proposed wind farm development on all of the archaeology and cultural heritage features identified and listed in Table 12.5.**

12.62. **The turbines will be visible from the following five Scheduled Monuments:**

12.63. **Edinchat or Druim an Turc chambered cairn (Ref CH9). This much denuded cairn measures 9.0m in diameter and is 0.4m high. This monument is much damaged and a modern, intrusive marker cairn has been built on it. It has a noticeable presence in the landscape. It is not promoted and is therefore of low sensitivity. The scale of the turbines will be unobtrusive, and the complementarity and permanence are respectively unrelated and temporary; giving an impact of negligible magnitude. It is 5.6km from the centre of the turbine group, on lower ground with forestry between which will largely hide the turbines from the site. The overall impact has therefore been assessed as low. No mitigation is proposed.**

12.64. **Soilsean and Sheanevall (Deserted Settlements and Round House) (Ref CH27). This group of features survives as heather-covered footings. It has a noticeable presence in the landscape. It is not promoted and is therefore of low sensitivity. The scale of the turbines will be unobtrusive, and the complementarity and permanence are respectively unrelated and temporary; giving an impact of negligible magnitude. It is 7.9km from the centre of the turbine group, and the overall impact has therefore been assessed as low. No mitigation is proposed.**

12.65. **Allt Laoigh Farm, Kiln barn and Limekiln (Ref CH47). This group of features survives as heather-covered footings. It has a noticeable presence in the landscape. It is not promoted and is therefore of low sensitivity. The scale of the turbines will be unobtrusive, and the complementarity and permanence are respectively unrelated and temporary; giving an impact of negligible magnitude. It is 6.9km from the centre of the turbine group, and the overall impact has therefore been assessed as low. No mitigation is proposed.**

12.66. **Lochindorb Castle (Ref CH54). This is a 13th c. stone castle standing on an island in a loch. It was slighted in 1458 and now appears as a ruin. It has a prominent presence in the landscape. It is not promoted and is therefore of low sensitivity. The scale of the turbines will be unobtrusive, and the complementarity and permanence are respectively unrelated and temporary; giving an impact of negligible magnitude. It is 11.7km from the centre of the turbine group, and the overall impact has therefore been assessed as low. No mitigation is proposed.**

12.67. **Burnside Bridge (Ref CH62). This is a single span, stone Wade-type military bridge, now isolated in a pasture field. The river has changed its course and the modern road passes by to the north. It has a prominent presence in the landscape. It is not promoted and is therefore of low sensitivity. The scale of the turbines will be unobtrusive, and the complementarity and permanence are respectively unrelated and temporary; giving an impact of negligible magnitude. It is 9.9km from the centre of the turbine group, and the overall impact has therefore been assessed as low. No mitigation is proposed.**

12.68. **There are no Historic Gardens or designed landscapes from which the turbines will be highly visible.**

12.69. **No listed buildings or other recorded sites will suffer high or moderate visual impacts.**

12.70. **No identified features of cultural significance will experience a medium or high visual impact as a result of the wind farm development.**

Cumulative Impacts

12.71. **In itself this development does not add significantly to any existing cultural heritage impacts. The proposed wind farm lies at a height above sea level well above most areas of known archaeological and cultural heritage importance. No mitigation is proposed.**

Mitigation and Enhancement

12.72. **Direct impacts from the construction of the turbines themselves are unlikely for archaeological or cultural heritage features owing to the height and nature of the land. However the deep peat in this area could contain buried items or structures. Contractors will be kept informed of this possibility and the excavations here will be visited, checked and photographed regularly by an archaeologist to ensure that any finds or features discovered are recorded.**

12.73. **Direct impacts will occur during construction of the access track as the route passes through the deserted settlements and field systems at Upper Rhilean and Rhibanchor. The following mitigation is therefore proposed.**

12.74. **The heather will be cut from these to allow visibility, then the two areas will be surveyed before construction starts and the wayleave for the track defined by fencing or markers. Within this corridor the topsoil and overburden will be stripped using a back-acting mechanical excavator under archaeological supervision.**

12.75. **Any features appearing will be recorded and excavated to professional standards. Only those areas where disturbance is inevitable will be excavated. In line with national planning guidance, preservation of sites undisturbed in situ will always be the preferred option.**

12.76. **No mitigation of visual impacts is proposed.**

Residual Impacts

12.77. ***Residual impacts*** **after mitigation are not considered significant. All direct impacts will be irreversible, so the mitigation proposed includes full recording where preservation in situ is not possible. Visual impacts are likely for the life of the wind-farm only but are not considered to be significant.**

Summary and Conclusions

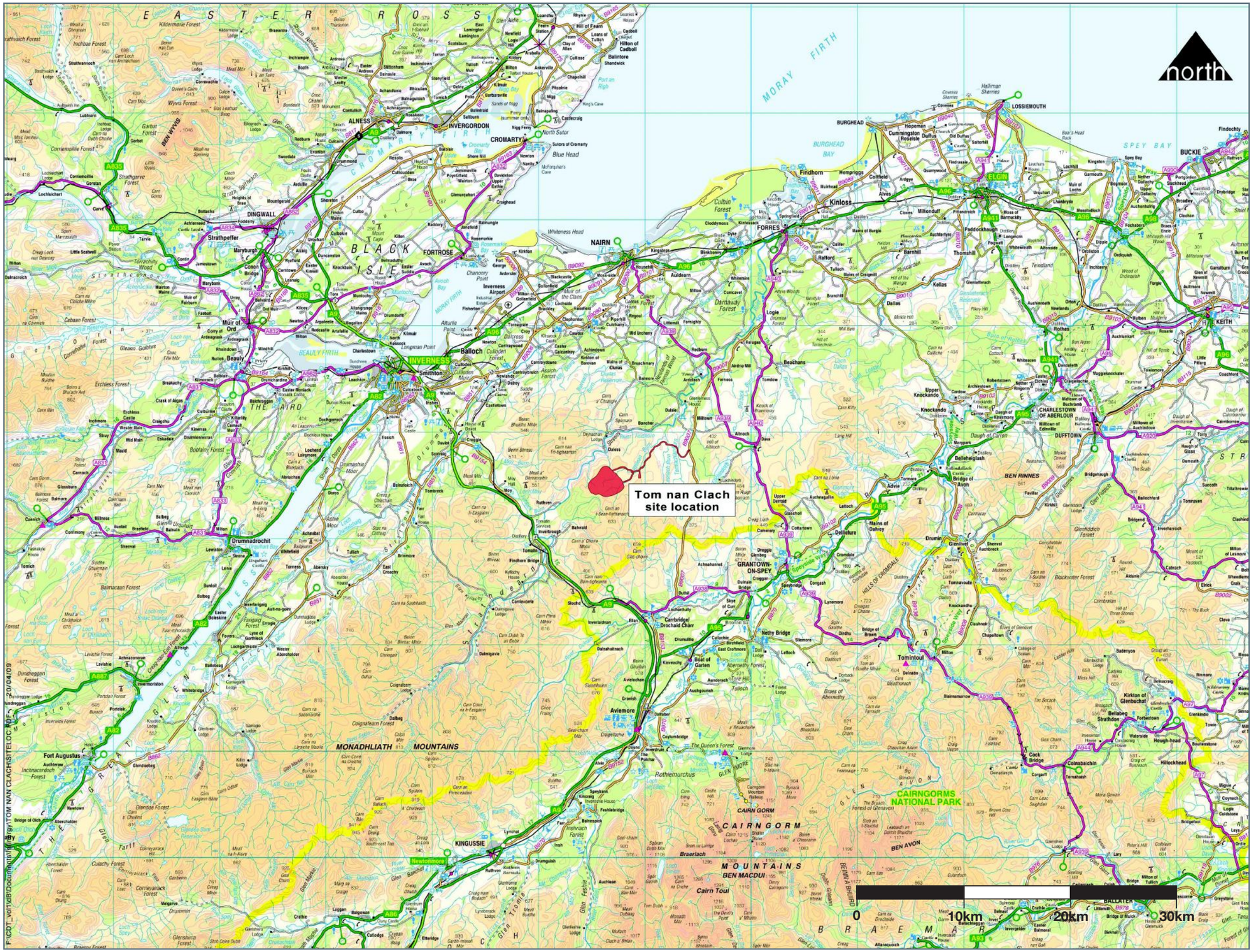
12.78. **The proposed wind turbines on Tom nan Clach will occupy an area of high, remote moorland where there are few visible archaeological features or areas of archaeological or historical interest. Construction is expected to have negligible direct impact on the archaeology or cultural heritage. Precautionary arrangements will be made for a qualified archaeologist to monitor excavations for borrow pits and the construction of contractors compounds, access and cabling routes, turbine bases and switching stations.**

12.79. **The two settlements affected by the access track will be surveyed before construction starts and the wayleave for access track construction defined. Within this corridor all archaeological features will be excavated and fully recorded before removal.**

12.80. **The wind farm will not have a significant visual impact on or from features of cultural importance. Sites within 2km are all of local or less importance and low sensitivity. Where parts of the turbines are visible from sites at a distance they will be relatively minor items on the skyline and will not detract from the appreciation or understanding of archaeological sites and monuments.**

Figure 1.1: Site location

INFINERGY



Key:

Title:
Site location

Project:
Tom nan Clach Wind Farm

Source:
NOTE: Reproduced from Ordnance Survey Map with the permission of the Controller of H.M Stationery Office. © Crown copyright licence number 150000079 Infinergy Limited NOTE: Published for the purposes of identification only and although believed to be correct its accuracy is not guaranteed.

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Date:	**Figure:**
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Scale bar:	**Revision No:**
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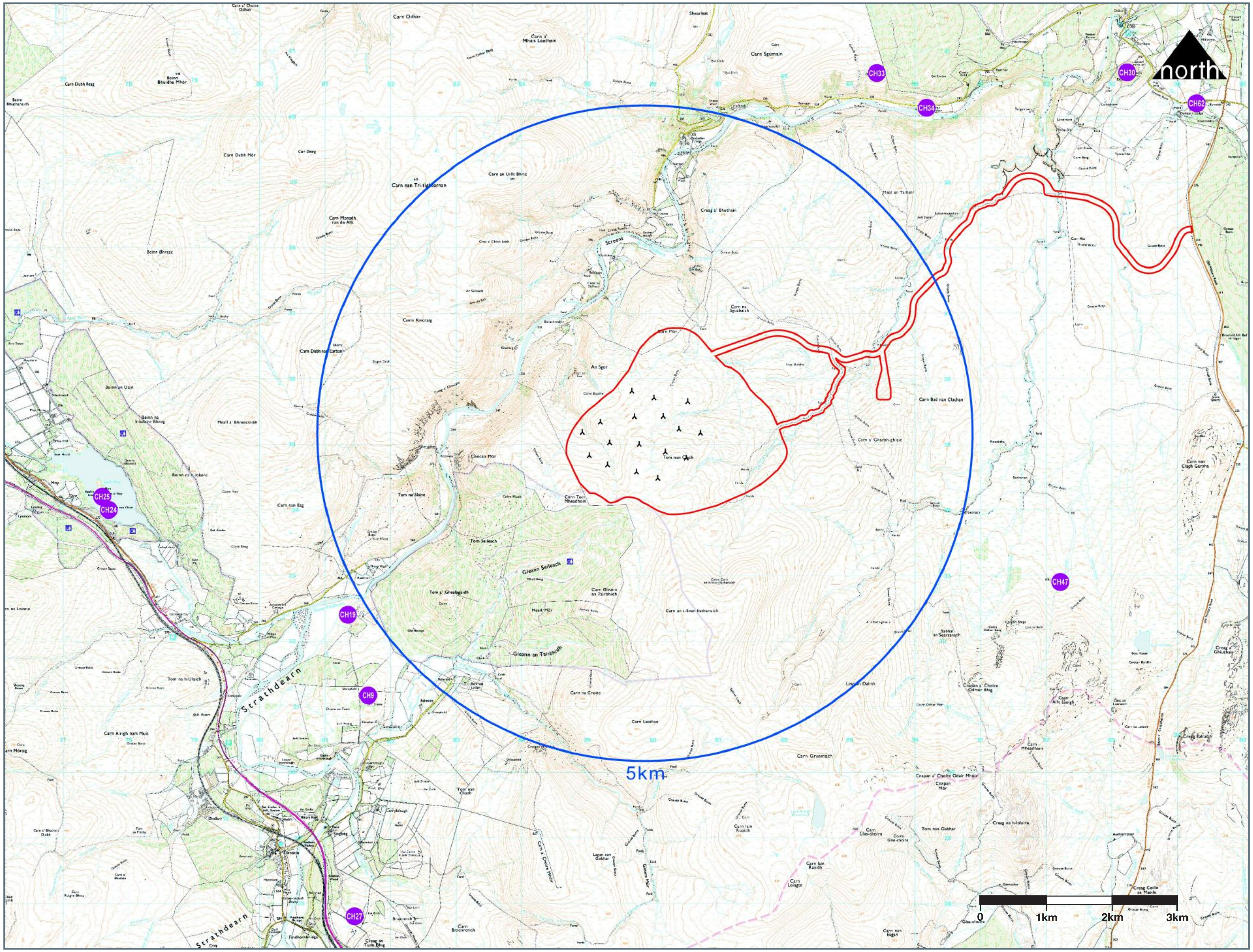
Figure 12.1: Scheduled Ancient Monuments within the vicinity of the site

INFINERGY



Key:

Development boundary

Scheduled Ancient Monuments

Title:

Scheduled Ancient Monuments within the vicinity of the site

Project:

Tom nan Clach Wind Farm

Source:

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GB	DP
Date:	**Figure:**
21.04.09	12.1
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Figure 12.2: Archaeological features within the vicinity of the site

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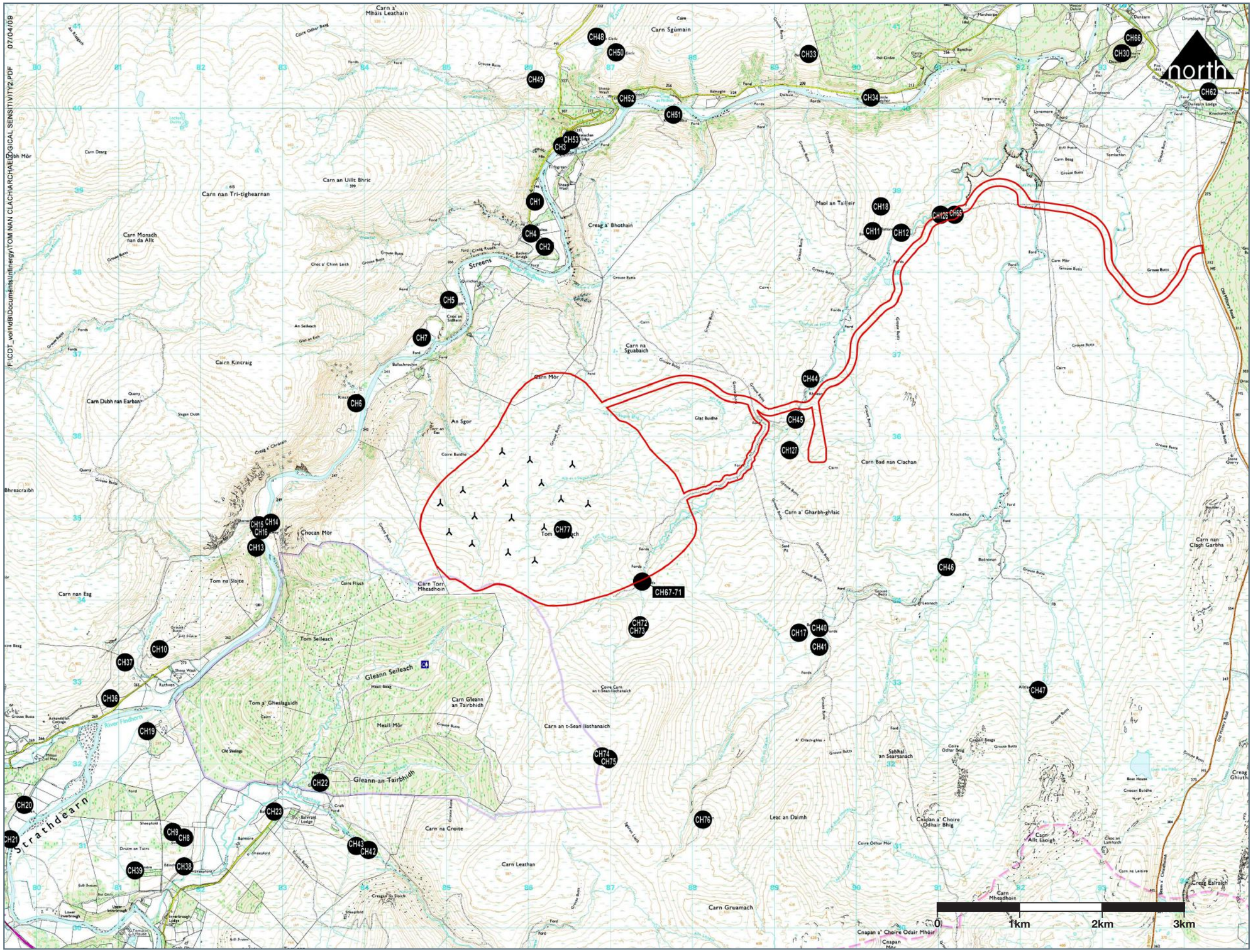

Key:

- Development boundary
- Identified archaeological features

Title:
Archaeological features within the vicinity of the site

Project:
Tom nan Clach Wind Farm

Source:
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Date: 21.04.09	**Figure:** 12.2
Scale bar: See drawing	**Revision No:**

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No.	Source	Location	Type	Grid ref	Easting	Northing	Survey ref	NMRS	HHER	SAM / HB No	Description	Length x Width (m)	Height / Depth (m)	Indicative date (years BP)	Signif-icance	Turbines Visible?	Turbines Distance	Visual Impact
CH1	DBA	Daless	Chapel (possible)	NH 8608 3886	286080	838860	R1	NH83NE 1	MHG6873; MHG40726; NH83NE0001		Sub-rectangular enclosure, oriented ESE to WNW within a denuded bank of earth and stones. It is locally thought to have been a burial ground but no tombstones or chapel found	78 x 26		Med / Post-med	Lesser	Visible	3.0km	Very Low
CH2	DBA	Daless	Burial cairn (possible)	NH 8620 3831	286200	838310	R2	NH83NE 2	MHG7264; NH83NE0002		A cairn with an incomplete kerb	7 x 7	0.5	Neolithic / Bronze Age	Lesser	Marginally visible	3.0km	Very Low
CH3	DBA	Drynachan Mill	Watermill	NH 8641 3954	286410	839540	R3	NH83NE 3	MHG7266; NH83NE0003		Watermill shown on 1st ed OS 6"map, Nairnshire			Post-med	Lesser	Visible	3.0km	Very Low
CH4	DBA	Daless	Sluice, well	NH 8603 3847	286030	838470	R4	NH83NE 4	MHG7265; MHG43204; NH83NE0004		Well shown on 1st ed OS 6"map, Nairnshire			Post-med	Lesser	Marginally visible	3.0km	Very Low
CH5	DBA	Ballaggan	Farm	NH 8503 3766	285030	837660	R5	NH83NE 5	MHG7263; MHG42125; NH83NE0005		Former farm, represented by the remains of a mortared-rubble cottage, a corn-drying kiln and several stone-built pens			Post-med	Lesser	Visible	2.0km	Very Low
CH6	DBA	Kincraig	Farm, kiln	NH 839 364	283900	836400	R6	NH83NW 1	MHG7261; NH83NW0001		Remains of a large dry-stone farm, incorporating a kiln-barn and numerous enclosures			Post-med	Lesser	Marginally visible	1.6km	Very Low
CH7	DBA	Pollbeag	Farm	NH 847 372	284700	837200	R7	NH83NW 2	MHG6876; NH83NW0002		Remains of a former farm comprising three dry-stone buildings and an enclosure			Post-med	Lesser	Visible	1.7km	Very Low
CH8	DBA	Edinchat	Field system	NH 818 311	281800	831100	R8	NH83SW 3	MHG2810; NH83SW0003		Field system including clearance heaps, and fields bounded by lynchets			Med / Post-med	Lesser	Visible	5.0km	Very Low
CH9	DBA; 2008 Survey	Druim an Tuirc	Cairn	NH 8166 3117	281660	831170	R9; A41	NH83SW 4	MHG2809; NH83SW0004	11734	Denuded burial cairn. A modern marker cairn has been built on top of it.	8.6 x 8.6	0.5	Neolithic / Bronze Age	National	Visible	5.6km	Low
CH10	DBA	Tom na Slaite	Field system	NH 815 334	281500	833400	R10	NH83SW 5	MHG2808; NH83SW0005		Field system marked by stone clearance heaps and traces of occasional lynchets			Bronze Age - Med	Lesser	Marginally visible	3.7km	Very Low

No.	Source	Location	Type	Grid ref	Easting	Northing	Survey ref	NMRS	HHER	SAM / HB No	Description	Length x Width (m)	Height / Depth (m)	Indicative date (years BP)	Signif-icance	Turbines Visible?	Turbines Distance	Visual Impact
CH11	DBA	Maol an Tailleir	Field system	NH 902 385	290200	838500	R11	NH93NW 1	NH93NW0001; MHG7184; MHG44470; MHG44472; MHG44474		Clearance heaps and occasional lynchets, with cultivation plots			Bronze Age - Med	Lesser	Marginally visible	4.8km	Very Low
CH12	DBA	Battanmacea chain	Farm, kiln barn	NH 9055 3848	290550	838480	R12	NH93NW 4	NH93NW0004; MHG7180; MHG41806; MHG7182		3 buildings of dry-stone construction, 1 with traces of turf walling, another a kiln-barn, shown on 1st edition OS map			Post-med	Lesser	Visible	4.6km	Very Low
CH13	DBA	Tom na Slaite	Round House	NH 8268 3464	282680	834640	R13	NH83SW 8	MHG14330; MHG16129; NH83SW0010		Hut circle truncated by a modern track			Bronze - Iron Age	Lesser	Not visible	2.2km	Nil
CH14	DBA	Shenachie	Farm	NH 8286 3494	282860	834940	R14	NH83SW 13	MHG26461; NH83SW0023		Farmstead comprising 1 roofed and 2 unroofed buildings and 2 enclosures depicted on the 1st edition OS 6-inch map			Post-med	Lesser	Not visible	2.2km	Nil
CH15	DBA	Shenachie	Settlement	NH 8271 3491	282710	834910	R15	---------- ---	MHG14525; MHG32185; NH83SW0026		Small settlement complex with associated outbuildings, tracks and enclosures shown on 1st edition Ordnance Survey map.			Post-med	Lesser	Not visible	2.2km	Nil
CH16	DBA	Shenachie	Ropeway	NH 8274 3485	282740	834850	R16	---------- ---	MHG32184; NH83SW0025		A 'ropeway' is depicted on the current Landmark and OS mapping. This is reported to consist of a wooden box in which persons can be carried over the river by means of a winding rope mechanism.			Post-med	Lesser	Not visible	2.2km	Nil
CH17	DBA	River Findhorn	Aircraft	NH 8930 3360	289300	833600	R17	---------- ---	MHG30846; NH83SE0003		A Sea Hawk aircraft crashed here on May 5th, 1959. No further details available of the circumstances of the crash			20th c.	Lesser	Not visible	3.2km	Nil

No.	Source	Location	Type	Grid ref	Easting	Northing	Survey ref	NMRS	HHER	SAM / HB No	Description	Length x Width (m)	Height / Depth (m)	Indicative date (years BP)	Signif-icance	Turbines Visible?	Turbines Distance	Visual Impact
CH18	DBA	River Findhorn	Aircraft	NH 9030 3880	290300	838800	R18	---------- ---	MHG30844; NH93NW0008		An Oxford aircraft crashed here on December 6th, 1951. No further details available of the circumstances of the crash			20th c.	Lesser	Not visible	5.0km	Nil
CH19	DBA	Tom A' Ghealagaidh / Ruthven	Settlement	NH812 324; NH815 324; NH812 324	281350	832400	R19;R24	NH83SW 7; 10	MHG14326; NH83SW0007; NH83SW0008; NHSW0010	11901	Deserted settlement of 12 unroofed buildings, 2 of which are long buildings, and 2 enclosures visible as upstanding ruins.			Med / Post-med	National	Not visible	4.4km	Nil
CH20	DBA	Invereen	Settlement	NH 7985 3150	279850	831500	R20	NH73SE 24	MHG25826; NH73SE0030		7 roofed buildings and 1 unroofed building on the 1st edition of the OS 6-inch map			Post-med	Regional	Visible	6.2km	Low
CH21	DBA	Invereen	Class 1 Pictish symbol stone	NH 7968 3108	279680	831080	R21	NH73SE 5	MHG2865; NH73SE0005		A Pictish symbol-stone of light red sandstone was found at Invereen, Moy, in 1932. It is incised on one face. Removed to NMS			Early Med	Regional	Not applicable	6.5km	Nil
CH22	DBA	Glenkirk	Farm	NH 8346 3177	283460	831770	R22	NH83SW 16	MHG14329; NH83SW0009		Farmstead, comprising 2 roofed buildings, 1 partially roofed L-shaped building, 1 unroofed building, 3 enclosures and a field, depicted on 1st edition of the OS 6-inch map			Post-med	Lesser	Not visible	3.3km	Nil
CH23	DBA	Balvraid	Settlement	NH829 314	282900	831420	R23	NH83SW 15	MHG26453; NH83SW0019		Settlement comprising 6 roofed buildings, 1 unroofed building and 1 enclosure shown on the 1st edition OS 6-inch map			Post-med	Regional	Not visible	4.0km	Nil

No.	Source	Location	Type	Grid ref	Easting	Northing	Survey ref	NMRS	HHER	SAM / HB No	Description	Length x Width (m)	Height / Depth (m)	Indicative date (years BP)	Signif-icance	Turbines Visible?	Turbines Distance	Visual Impact
CH24	DBA	Eilean nan Clach	Crannog	NH 777 340	277700	834000	R25	NH73SE 3	MHG2868; MHG44811; NH73SE0003	11447	This artificial island was used as a temporary prison and place of execution by the clan chiefs before the abolition of heritable jurisdictions. A gallows stood here within the memory of old people living in 1845			Iron Age-Post-med	National	Not visible	8.0km	Nil
CH25	DBA	Isle of Moy	Fortified island and laird's house	NH 776 342	277600	834200	R26	NH73SE 2	MHG2869; MHG42157; NH73SE0002	11446	According to Stuart, the island is built of stones resting on piles			Iron Age-Post-med	National	Not visible	8.0km	Nil
CH26	DBA	Drumbain Cottage	Round Houses	NH817 269; NH818 269; NH819 267	281800	826900	R27; R32	NH82NW 7	MHG2822; NH82NW0007; NH82NW0016	11673	The remains of 6 hut circles, visible as low circular banks in heather moorland on a gentle SW-facing slope to the E of the river Findhorn in Strathdearn, at 400m OD			Bronze - Iron Age	National	Not visible	8.5km	Nil
CH27	DBA	Soilsean	Settlement and Round Houses	NH 814 278 NH 815 278	281450	827800	R28	NH82NW 14; NH82NW 37	MHG2835; MHG26460; MHG43328; MHG43330; MHG43329; MHG43331; NH82NW0014; NH82NW0059	11806	Soilsean, deserted township and hut circle 745m ESE of... the remains of a late prehistoric hut circle and Sheanevall, a deserted rural township of post-medieval date			Bronze Age - Post-med	National	Visible	7.9km	Very Low
CH28	DBA	Carrbridge	Bridge	NH906 229	290600	822900	R29	NH92SW 12	MHG4627; NH92S0012	960; HB B 241	Built 1717. High single span humpback rubble bridge over River Dulnain ; tooled rubble arch springing from natural rock abutment. Neither surfacing nor parapet survive			Post-med (C18)	National	Not visible	12.3km	Nil
CH29	DBA	Sluggan Bridge	Bridge	NH 8698 2200	286980	822000	R30	NH82SE 9	MHG4465; NH82SE0009	961; HB A 240	Giant semi-circular arch of c. 23m span. Long approaches and steep roadway. No parapets. 18th century, replacing previous Wade 2-arch bridge destroyed by flood			Post-med (C18)	National	Not visible	12.5km	Nil

No.	Source	Location	Type	Grid ref	Easting	Northing	Survey ref	NMRS	HHER	SAM / HB No	Description	Length x Width (m)	Height / Depth (m)	Indicative date (years BP)	Signif-icance	Turbines Visible?	Turbines Distance	Visual Impact
CH30	DBA	Dunearn	Hillfort	NH 9324 4067	293240	840670	R31	NH94SW 1	MHG7083; NH94SW0001	2470	A vitrified hill-fort on the level S-shaped summit of a wooded hill, within 2 ruinous, turf-covered walls	245 x 45		Bronze - Iron Age	National	Visible	9km	Low
CH31	DBA	Levrattich	Cairn	NH 9447 4569	294470	845690	R33	NH94NW 3	MHG7167; NH94NW0003	11738	Turf-covered cairn. The perimeter has been accentuated by ploughing.	14.5 x 14.5	1	Neolithic - Bronze Age	National	Marginally visible	13.4km	Very Low
CH32	DBA	Woodend	Cairn	NH 7862 2679	278620	826790	R34	NH72NE 4	MHG2899; MHG43666; MHG43665; MHG51052; NH72NE0004	11739	Well-preserved circular kerbed cairn with at its centre an exposed open cist orientated E to W. Also a settlement of three oval stone walled huts (A-C), a well-preserved contemporary field system.	(cairn) 6.4 x 6.4; (cist) 1.2 x 0.6	(cairn) 0.5; (cist) 0.5	Neolithic - Bronze Age	National	Not visible	10.5km	Nil
CH33	DBA	Balnught	Round House	NH 8942 4066	289420	840660	R35	NH84SE 7	MHG6964; MHG40382; MHG14333; MHG41611; MHG41636; NH84SE0007	11798	Hut circle internally with nearby field clearance heaps spaced from 20.0m to 40.0m apart. Later cultivation strips, abandoned in the 18th / 19th century	11 x 10 (internal)		Neolithic - Bronze Age	National	Marginally visible	6.5km	Very Low
CH34	DBA	Little Banchor	Settlement	NH 9018 4013	290180	840130	R36	NH94SW 13	MHG7079; MHG44234; MHG44235; NH94SW0013	11818	Ruins of a farmstead and associated structures, including a kiln and large enclosure, next to the River Findhorn			Post-med	National	Not visible	6km	Nil
CH35	DBA	Ardclach	Bell Tower	NH953 453	295300	845300	R37	NH94NE 1	MHG7175; MHG42898; NH94NE0001	90020; HB A 551	Dated 1655. Simple square, 2-storey tower with double pitched roof. Harled, windows below eaves in east elevation; low doorway at SE; 2 gun-loops in north gable			Post-med (C17)	National (SAM 90020; Listed A 551)	Marginally visible	13.9km	Very Low
CH36	DBA	Ruthven or Carn nan Eag	Cairns	NH 809 328	280900	832800	R38	NH83SW 7	MHG2806; NH83SW0006		A few stone clearance heaps of uncertain date, amongst lazy beds			Med - Post-med	Lesser	Visible	4.6km	Very Low

No.	Source	Location	Type	Grid ref	Easting	Northing	Survey ref	NMRS	HHER	SAM / HB No	Description	Length x Width (m)	Height / Depth (m)	Indicative date (years BP)	Signif-icance	Turbines Visible?	Turbines Distance	Visual Impact
CH37	DBA	Ruthven	Farm	NH 8108 3324	281080	833240	R39	NH83SW 12	MHG26459; NH83SW0022		2 unroofed buildings depicted on the 1st edition OS 6-inch map			Post-med	Lesser	Not visible	4.3km	Very Low
CH38	DBA	Edinchat	Settlement	NH 8180 3075	281800	830750	R40	NH83SW 14	MHG26452; NH83SW0018		Settlement including 9 roofed buildings, 1 unroofed building and 3 enclosures shown on the 1st edition of the OS 6-inch map			Post-med	Lesser	Visible	5.2km	Very Low
CH39	DBA	Druim an Tuirc	Field System	NH 812 307	281200	830700	R41	NH83SW 2	MHG2811; NH83SW0002		Field system marked by stone clearance heaps			Bronze - Iron Age - Med	Lesser	Visible	5.6km	Very Low
CH40	DBA	Allt Bad Na Staing	Farm; Sheepfold	NH 8955 3366	289550	833660	R42	NH83SE 1	MHG25448; NH83SE0001		Farmstead of 3 unroofed buildings attached to a sheepfold shown on the 1st edition OS 6-inch map			Post-med	Lesser	Not visible	3.4km	Nil
CH41	DBA	Allt Bad Na Staing	Farmstead	NH 8955 3343	289550	833430	R43	NH83SE 2	NH83SE0002		Possible unroofed building depicted on the 1st edition of the 6-inch OS map			Post-med	Lesser	Not visible	3.4km	Nil
CH42	DBA	Allt Bruachaig	Enclosure; Wall	NH 8405 3095	284050	830950	R44	NH83SW 17	MHG26421; NH83SW0017		Enclosure with an attached short length of wall depicted on the 1st edition OS 6-inch map			Post-med	Lesser	Not visible	4.1km	Nil
CH43	DBA	Balvraid Lodge	Lodge	NH 839 310	283900	831000	R45	---------- ---	MHG14524; NH83SW0012		No recorded details			Post-med	Minimal	Not visible	4.1km	Nil
CH44	DBA	Rhilean	Settlement; Farm; Corn-Drying Kiln	NH 8944 3670	289440	836700	R46; N15-N24	NH83NE 7	MHG7262; MHG42056 - MHG42059; NH83NE0007		3 buildings, an enclosure and the fragmentary remains of a corn-drying kiln			Med -Post-med	Lesser	Visible	3.2km	Very Low
CH45	DBA	Upper Rhilean	Settlement	NH 8926 3620	289260	836200	R47; N25-N30	NH83NE 8	MHG6875; NH83NE0008		Dry-stone footings of a farm consisting of 2 buildings and associated enclosures			Med -Post-med	Lesser	Visible	2.8km	Very Low
CH46	DBA	Leonach Burn	Enclosure	NH 9110 3440	291100	834400	R48	NH93SW 7	MHG26571; NH93SW0007		An enclosure depicted on the 1st edition OS 6-inch map			Med -Post-med	Lesser	Not visible	4.7km	Nil
CH47	DBA	Allt Laoigh	Farm; Kiln Barn; Limekiln	NH 9222 3290	292220	832900	R49, N43	NH93SW 6	MHG7176; MHG41803; NH93SW0003, 6	11878	At least 4 dry-stone buildings, 1 of them a kiln-barn, and several enclosures			Post-med	National	Visible	6.9km	Very Low

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CH48	DBA	Carnoch Burn	Hut-Circle; Enclosure	NH 8683 4087	286830	840870	R50	NH84SE 1	MHG7039; MHG41241; NH84SE0001		Oval stone-walled hut within an enclosure divided into two sub-rectangles	(hut) 14 x 12.5		Med -Post-med	Lesser	Visible	5.0km	Very Low
CH49	DBA	Drynachan	Farm	NH 8609 4035	286090	840350	R51	NH84SE 16	MHG6973; NH84SE0016		Fragmentary traces of a former farm comprising dry-stone footings standing in cleared ground			Med -Post-med	Lesser	Visible	4.8km	Very Low
CH50	DBA	Carn Sgumain	Hut	NH 8707 4068	287070	840680	R52	NH84SE 2	MHG6969; MHG41654; MHG41670; MHG41662; NH84SE0002		Denuded circular stone-walled hut with a clearance heap against the wall . To the E is an area of stone clearance heaps and occasional lynchets	10.5 x 10.5; wall spread to 2.5		Bronze - Iron Age - Med	Lesser	Visible	5.2km	Very Low
CH51	DBA	Knockandhu	Farm; Corn-Drying Kiln	NH 8777 3992	287770	839920	R53	NH83NE 6	MHG6874; NH83NE0006		Remains of a dry-stone farm incorporating a corn-drying kiln			Post-med	Lesser	Not visible	4.5km	Nil
CH52	DBA	Carnoch	Farmstead	NH 8720 4012	287200	840120	R54	NH84SE 24	MHG26418; NH83SE0024		Farmstead shown on the 1st edition OS 6-inch map			Post-med	Lesser	Not visible	4.6km	Nil
CH53	DBA	Drynachan Lodge	Shooting Lodge	NH 8652 3961	286520	839610	R55	NH83NE 9	MHG27972; NH83NE0009		19th c. Shooting lodge			Post-med (C19)	Lesser	Visible	3.8km	Very Low
CH54	2009 DBA	Lochindorb Castle	Castle	NH 974 363	297400	836300	N33	NH93NE 1	MHG6778; NH93NE0001	1231	13th c. stone castle standing on an island in a loch. Slighted in 1458			Med	National	Visible	11.7km	Very Low
CH55	2009 DBA	Princess Stone, cross-slab 250m SSW of Glenferness House	Cross-slab	NH 936 426	293600	842600	N34	NH94SW 10	MHG7082; NH94SW0010	1233	An upright Pictish sandstone cross-slab on a small cairn, carved in relief on four faces. Very weathered and not in original position			Early med	National	Not visible	10.8km	Nil
CH56	2009 DBA	Auchnahannet,circular enclosure and terrace	Enclosure	NH 975 270	297500	827000	N35	NH92NE 5	MHG4584; NH92NE0005	2706	The remains of two concentric circles, with a heap of boulders, possibly building stones, locally believed to be a church within the "Field of the Temple" (Auchnahannet)			Unknown, possibly prehistoric	National	Not visible	14.25km	Nil

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CH57	2009 DBA	Dun Evan,fort	Fort	NH 827 475	282700	847500	N36	NH84NW 5	MHG6906; NH84NW0005	2896	A vitrified hill-fort with outworks			Bronze - Iron Age	National	Not visible	12.7km	Nil
CH58	2009 DBA	St Barevan's Church and Churchyard, Foxmoss Wood	Church	NH 836 472	283600	847200	N37	NH84NW 6	MHG7043; MHG44926; MHG31375; MHG 7041; NH84NW0006	3116	Ruined 14th c. church and graveyard, parish church of Cawdor until 1619			Med	National	Not visible	12.3km	Nil
CH59	2009 DBA	Cantraydoune, motte 100m W of	Motte	NH 788 460	278800	846000	N38	NH74NE 7	MHG2933; NH74NE0007	3189	A sandy mound, probably a motte, about 16m high, surrounded by a partly ruined retaining wall			Med	National	Not visible	12.8km	Nil
CH60	2009 DBA	Aitnoch,cairn, hut circle and field system 1400m SSE of	Cairn, round house, field system	NH 985 383	298500	838300	N39	NH93NE 5	MHG17640;MHG43113-5; NH93NE0006	4362	Denuded circular stone-walled hut, visible as a raised platform about 8m in diameter with some wall footings visible. Also contemporary stone clearance heaps and lynchets; and a probably contemporary kerbed cairn.			Iron Age	National	Not visible	13.0km	Nil
CH61	2009 DBA	Rehiran Farm House, cairn 1530m ESE of	Cairn	NH 846 456	284600	845600	N40	NH84NW 16	MHG7238; NH84NW0016	11797	A heather-covered kerbed cairn on the edge of a field system	8.5m diameter	0.8m	Bronze Age	National	Not visible	10.5km	Nil
CH62	2009 DBA	Burnside, bridge 300m W of	Bridge	NH 943 402	294300	840200	N41	NH94SW 21	MHG34539; NH94SW0039	11832	A single span, stone Wade-type military bridge, now isolated in a pasture field. The river has changed its course and the modern road passes by to the N.			Post-med	National	Visible	9.9km	Very Low
CH63	2009 DBA	Easter Rattich, depopulated settlement 575m SSW of Ruallan	Farm	NH 822 452	282200	845200	N42	NH84NW 43	MHG6912; NH84NW0025	11876	Three dry-stone buildings and associated enclosures.			Post-med	National	Not visible	10.7km	Nil

No.	Source	Location	Type	Grid ref	Easting	Northing	Survey ref	NMRS	HHER	SAM / HB No	Description	Length x Width (m)	Height / Depth (m)	Indicative date (years BP)	Signif-icance	Turbines Visible?	Turbines Distance	Visual Impact
CH65	2009 DBA	Rhibanchor	Settlement	NH 9120 3870	291200	838700	N1-N6; N31	NH93NW 7	MHG26505; NH93NW0007		Identified from 1st edition OS mapping and described as a farmstead on the NMRS and HHER. Field survey in 2009 identified further features including buildings and enclosure wall footings			Med - Post-med	Regional	Visible	6.5km	Low
CH66	2009 DBA	Dunearn	Chapel (possible)	NH 9338 4086	293380	840860	N32	NH94SW 5	MHG7072; MHG40728; NH94SW0005		Possible site of chapel and burial ground			Med - Post-med	Regional	Visible	9.0km	Very Low
CH67	2007 Survey	Tom nan Clach	Shieling hut	NH 8741 3432	287410	834320	F1				Shieling hut beside river.	5 x 6; wall spread to 1	0.4	Med -Post-med	Lesser	Visible	1.0km	Low
CH68	2007 Survey	Tom nan Clach	Possible cairn	NH 8739 3426	287390	834260	F2				Possible cairn, on a small ridge rising 1.5m above surroundings. Deep ditch / river channel on west side. Situated within 'bowl' of eroded river bank from 3 to 4 m high.	6 x 3	1.5	Bronze - Iron Age - Med	Lesser	Visible	1.0km	Low
CH69	2007 Survey	Tom nan Clach	Shieling hut	NH 8740 3419	287400	834260	F3				Shieling hut - probable door 4m from south end.	2.5 x 7	0.3	Bronze - Iron Age - Med	Lesser	Visible	1.0km	Low
CH70	2007 Survey	Tom nan Clach	Shieling hut	NH 8737 3413	287370	834130	F4				Shieling hut, with annexe.	6 x 2.5; plus annexe 2 x 2.5; wall spreads 1 - 1.5	0.5 inside; 0.9 outside on W	Bronze - Iron Age - Med	Lesser	Visible	1.0km	Low
CH71	2007 Survey	Tom nan Clach	Shieling hut	NH 8736 3412	287360	834120	F5				Small structure (probable dairy store), cut into the bank.	4 x 4	0.3 interior; 0.6 exterior - 0.8 at S where cut into bank	Med -Post-med	Lesser	Visible	1.0km	Low
CH72	2007 Survey	Tom nan Clach	Shieling huts	NH 8736 3369	287360	833690	F6				2 shieling huts, and 2 possible indistinct structures beside the burn.	(huts): (a) 3m x 4m, and (b) 5m x 1.5m	0.4	Med -Post-med	Lesser	Visible	1.6km	Low

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CH73	2007 Survey	Tom nan Clach	Shieling hut (possible)	NH 8733 3365 (approx)	287330	833650	F7				Possible shieling, but indistinct			Med -Post-med	Lesser	Visible	1.6km	Low
CH74	2007 Survey	Tom nan Clach	Cairn	NH 8690 3209	286900	832090	F8				A substantial but overgrown cairn of uncertain date.			Bronze Age - Post-med	Lesser	Visible	2.5km	Low
CH75	2007 Survey	Tom nan Clach	Cairn	NH 8698 3206	286980	832060	F9				A modern cairn, of limited cultural significance.			C20	Lesser	Visible	2.5km	Low
CH76	2007 Survey	Tom nan Clach	Cairn	NH 8813 3132	288130	831320	F10				A modern cairn, of limited cultural significance.			C20	Lesser	Not visible	4.0km	Nil
CH77	2007 Survey	Tom nan Clach	Summit Cairn	NH 8642 3486	286420	834860	F11				The summit cairn on Tom nan Clach. It is a modern feature.			C20	Minimal	Visible	0km	Low
CH126	2009 Survey	Rhibanchor	Drystone enclosure	NH 9103 3870	291030	838700	N6				'D'-shaped drystone enclosure wall built into 'D'-Shaped mound; 1m-high drystone retaining wall along mound edge; S-facing entrance	10 x 12	0.5	Med - Post-med	Lesser	Visible	6.5km	Low
CH127	2009 Survey	Upper Rhilean	Peat cuttings	NH 8918 3582	289188	835827	N27				Remains in landscape from peat cutting	-	-	Med - Post-med	Lesser	Visible	2.7km	Low