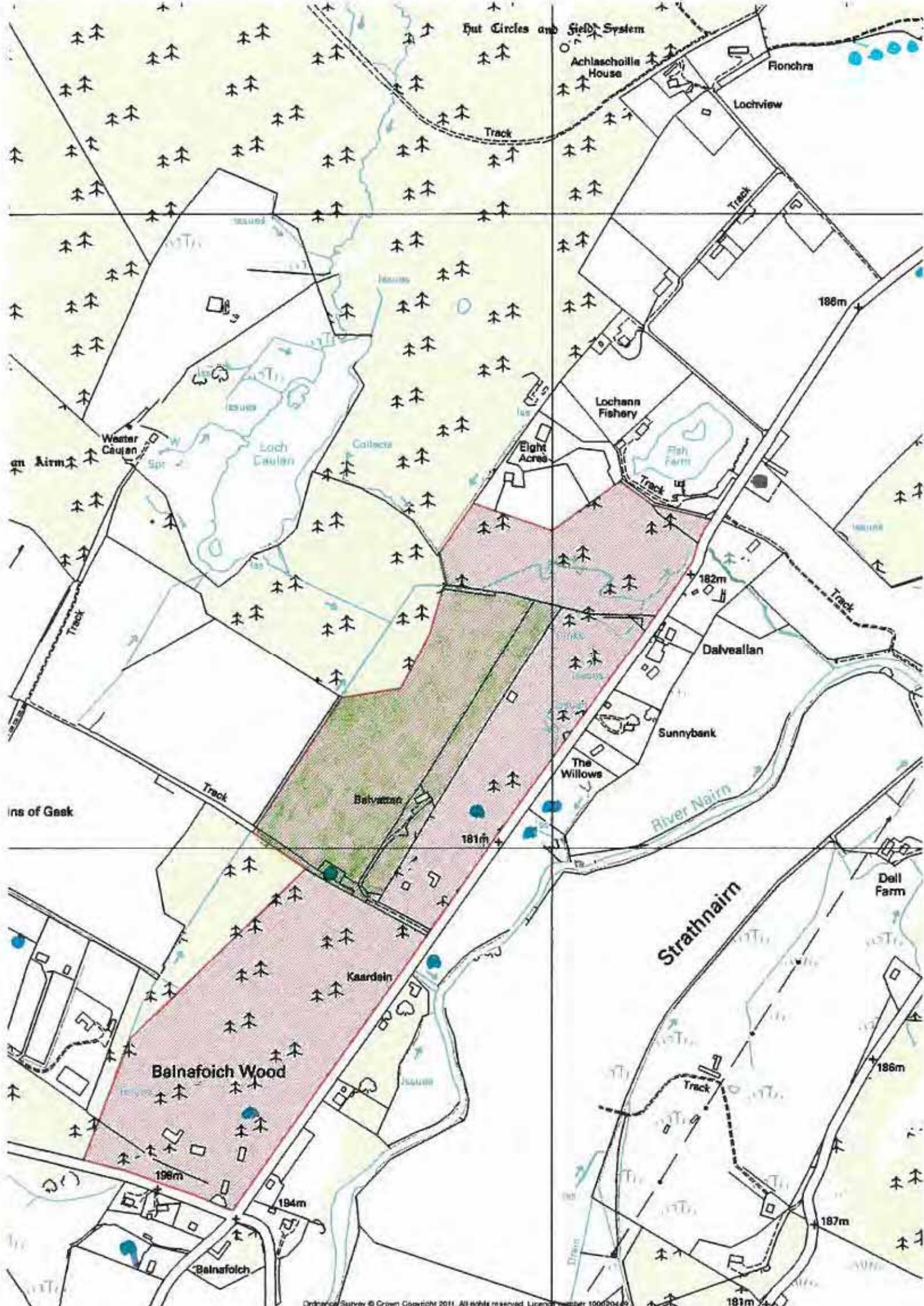


houses granted but not yet built. This is relative to identify the Balnafoich area or an extension to Inverarnie.



Yours sincerely



CAROLINE AND DONALD SMITH
CARDON HOME IMPROVEMENTS



MAP KEY

-  PROPOSED AREA FOR INCLUSION IN NEW LOCAL PLAN
-  HOUSES GRANTED BUT NOT YET BUILT OR COMPLETE

Site Forms

YOUR DETAILS	
Your Name (and organisation if applicable)	CAROLINE SMITH CARDON HOME IMPROVEMENTS
Your Address / Contact Details	CARDON, BALNARNAICH FARE, INVERNESS IV2 6XG
Landowner's Name (if known / applicable)	PHILIP MACKENZIE N/A
Agent (if applicable)	N/A
Agent's Address / Contact Details (if applicable)	N/A

DETAILS OF SITE SUGGESTED	
Site Address	BALNARNAICH WOODS
Site/Local Name (if different from above)	
Site Size (hectares)	38 acres
Grid Reference (if known)	see map
Proposed Use (e.g. housing, affordable housing, employment, retail, waste, gypsy traveller, utility, community, retained public open space)	housing - in phases affordable housing employment retail units
Proposed Non Housing Floorspace / Number of Housing Units (if known/applicable)	12 in first phase " " 2nd " " " 3rd "
Map	(please attach a map of the site ideally on an Ordnance Survey base) UNC

If you wish to suggest a site that should <u>not</u> be built on, fill in this form	
REASONS WHY YOUR SITE SHOULD BE SAFEGUARDED FROM BUILDING	
How do the public enjoy the space - e.g. used for dog walking, children's play?	
What makes the site more special than other areas in the village/town?	
Does the site have attractive or rare features such as mature trees, historical significance or protected wildlife?	

Landowners, developers and/or agents wishing to suggest a site should fill in the following form and as much as possible of the strategic environmental assessment form (at the end of this document) which assesses the environmental effects of possible development sites.

If you wish to suggest a site that should be built on, fill in this form	
REASONS FOR YOUR DEVELOPMENT SITE SUGGESTION	
How can the site be serviced? (give details of proposed access, foul drainage, surface water and water supply arrangements)	Please see enclosed Drainage report - G.F. Cruden's.
FORM CONTINUES BELOW	

REASONS FOR YOUR DEVELOPMENT SITE SUGGESTION

<p>What are the site's constraints and how can they be resolved or reduced? (e.g. does the site flood, are there protected species present, will good farmland be lost, will the local landscape be affected, will valued trees be felled, are any other heritage features likely to be affected?)</p>	<p>NO CONSTRAINTS See attached Ecological Impact Assessment Report (Sustainable Design Statement)</p>
<p>What benefits will result to the wider community from the site's development? (e.g. will there be more or better jobs, will the land be put to a more productive use, will the development increase infrastructure capacity for others, will more affordable houses result, is there an unmet demand for the development?)</p>	<p>Developer lives beside developer 3 family members will get employment. Also 6 local jobs kept. There is an unmet demand for both private and affordable housing in the area. Several local people are on the housing list in employees of Cardon.</p>
<p>What impact will there be on travel patterns from the site's development? (e.g. will more or less people engage in active and healthy travel (walk/cycle) or go by public transport as a result of the site's development rather than travel by private car?)</p>	<p>There is a bus stop next to site which school buses + other links use.</p>
<p>Is the site well connected? (e.g. will the average travel time to community and commercial facilities reduce or increase as a result of the site's development, is the proposed use compatible with existing / proposed surrounding uses?)</p>	<p>Yes - well connected. Travel time will not be affected.</p>
<p>Is the site energy efficient? (e.g. will the site allow for energy efficient siting, layout, building design and local renewable energy source connection?)</p>	<p>Yes, we propose to use the new ^{government provided} speed in schemes available this July with solar + biomass products.</p>
<p>What other negative impacts will the development have and how will they be resolved or offset? (e.g. will the site's development increase any form of pollution or decrease public safety?)</p>	<p>No negative impacts.</p>

STRATEGIC ENVIRONMENTAL ASSESSMENT FORM

Landowners, developers and/or agents wishing to suggest a site should fill in as much as possible of the following form. Strategic environmental assessment of local development plan sites is now a statutory requirement and considers the possible environmental effects of development proposals. We will check your answers and fill in any gaps.

No. Issue	Detailed Explanation	Answer	Any Proposed Mitigation Measures (how will you reduce or offset the effects of your development?)
1 a) Will the site safeguard any existing open space within the area? b) Will the site enable high quality open space to be provided within the area?	Will the site have any impact on useable public open space (such as parks, playing fields etc) or any opportunities to create additional public open space?	The site will benefit the woods as at the moment it is unsafe in the woods due to fallen trees + branches + water gathering no walkers can benefit at present. New tree plantation will allow new residents to view wildlife	
2 Will the site encourage and enable provision for active travel (walking, cycling and public transport use)?	Is any part of the site within 400m straight line distance of any community/commercial building? or will development provide a community/commercial building within walking distance of existing residential areas? - Are there opportunities to create new walking/cycling routes or improve existing routes?	Yes, the bus stop is less than 100 yards, the shop Fair Haul is within easy walking distance we wish also to build units for local hairdresser, pharmacy etc.	
3 Does the site provide an opportunity for you to provide a financial contribution towards encouraging more sustainable travel patterns?	For example, can a subsidy to a local bus route be provided?	Not required see above.	
4 Will the site involve "off site" road improvements that will contribute to road safety?	Is the site likely to improve the local road network such as junctions or crossings?	Yes.	
5 Is there scope for road	Will development incorporate on-site traffic	No	

	safety measures as part of the development of the site?	calming measures (e.g. speed bumps) or street lighting? Will it incorporate the principles of Designing Streets available via: http://www.scotland.gov.uk/Publications/2010/03/22120652/0	N/A.	
6	Is the site near any existing "bad neighbour" uses?	Will the site be negatively affected by any neighbouring use? (bad neighbour uses include those that affect residential property by way of fumes, vibration, noise, artificial lighting etc). Is the site affected by any of the Physical Constraints identified in the Council's Physical Constraints Supplementary Guidance?	NO, NONE.	
7	Are there any contaminated land issues affecting the site?	Are you aware if the site has been previously used for industrial or any other uses likely to cause contamination?	NO ISSUES.	
8	a) Is the site on derelict, vacant or other land that has previously been used? b) Is the site on greenfield land?	a) Has the site been identified in Scottish Government's Vacant and Derelict Land Survey (which can be found here: http://scotland.gov.uk/Publications/2010/01/26135819/0) or has the land got an existing use? b) Will the site be located on presently undeveloped land e.g. presently or capably used for agriculture, forestry or amenity purposes?	a) At present - forestry - due for milling soon. we wish to replant around the housing group. b) yes forestry.	
9	Is the site within the current settlement boundary?	Is the site within any identified settlement boundary in the Local Plan? Is it allocated for any uses?		Sortal, other landowners, planners + councillors have related this recommendation to the development on the roadside today.
10	Will the site affect the distinctiveness and special qualities of the present landscape character or affect any landscape designation?	Does the site conform with the Landscape Capacity Assessment (if available)? Will the site result in the removal of valued landscape features or negatively affect any key views? Is it located within or would otherwise affect a National Scenic Area or Special Landscape Area, having regard to their special qualities?		NO. Sympathetic housing in secluded woodland would be a vast improvement. See 4 houses at corner of Craigs Road to see definite improvements.

11	Will the site affect any areas with qualities of wildness? (that is land in its original natural state?)	Are you aware if the site is inside or likely to affect an area of Wild Land? (These areas are identified on Map 3 of SNH's Policy Statement, Wildness in Scotland's Countryside) and areas of Remote Coast identified by the Council, or an area of wildness identified in the draft Wild Land Supplementary Guidance?	No. - See enclosed report
12	Will the site affect a conservation area?	Is the site inside or likely to affect the character of a confirmed Conservation Area?	No, see enclosed report.
13	Will the site impact on any listed building and/or its setting?	Is there a listed building or a part of the setting "area" of a listed building within the site?	No, none.
14	Will the site affect a site identified in the Inventory of Gardens and Designed Landscapes?	Is any part of the site inside the outer boundary of an Inventory "entry" or will the site affect the setting of an "entry"?	No
15	Will the site affect any locally important archaeological sites identified in the Historic Environment Record?	Does the site contain any features identified in the HER? If yes, will the site affect the feature?	No, see enclosed report.
16	Will the site impact on any Scheduled (Ancient) Monument and/or its setting?	Is there any SAM within the site boundary or will a SAM be affected?	No, see H.C. report.
17	a) Will the site affect any natural heritage designation or area identified for its importance to nature conservation? b) Will the site affect any other important habitat for the natural heritage?	a) Is any part of the site inside or likely to affect the designation (SAC, SPA, SSSI, MNR, Ramsar) or Local Nature Conservation Site? b) Is any part of the site within or likely to affect non-statutory features identified as being of nature conservation importance e.g.	No, see H.C. report.

		Ancient, Semi-Natural or Long-Established Woodland Inventory sites, priority BAP habitats, habitats included on the Scottish Biodiversity List, non-designated habitats listed in Annex 1 of EC Habitats Directive?	NO As above	
18	a) Will the site affect any protected species? b) Will the site affect any other important species for the natural heritage?	a) Will the site affect any European Protected Species, Badgers and species (birds, animals and plants) protected under the Wildlife and Countryside Act 1981 as amended. If such a species may be present on or near the site, a survey should be carried out to inform this assessment (for which a licence from SNH may be required) b) Will the site affect species listed in the UK and Local BAPs, the Scottish Biodiversity List and relevant annexes of the EC Habitats Directive?	No - see Ecological Report.	
19	Is the site proposed to provide any form of renewable energy?	For example, will the site provide or be capable of providing a district heating system, solar panels of a wind turbine?	NO	
20	Is any part of the site at risk from fluvial or coastal flooding as shown on SEPA's flood map or from local knowledge?	Are you aware of any part of the site being within the 1 in 200 year flood risk contour as identified by SEPA? (which can be found here: http://www.sepa.org.uk/flooding/flood_risk_maps/view_the_map.aspx)	These issues are currently being investigated in relation to the government's new system No, see Sapa report enclosed.	
21	Will development of the site result in the need for changes in land form and level? If yes, how will soil and drainage issues be addressed?	Will there be any change in rate, quantity, quality of run-off plus groundwater impact on or off site? If so, will these affect priority habitats, especially blanket bog?	Please see drainage report from A.F. Girders enclosed.	
22	Is there a watercourse, loch or sea within or adjacent to the site? If yes, how will the water	Will there be any culverting, diversion or channelling of existing watercourses?	As above.	

	environment be protected from development?		As Above	
23	Will the site offer opportunities for sustainable waste management?	Will the waste produced by the site be minimised and processed close to source in a sustainable way?	Yes, see A-F Cruden report.	
24	Can the site be connected to the public water and sewerage system?	Can the site be connected at reasonable cost? If not, what alternative is proposed?	Yes - see Scottish Water comments from H.C.	
25	Will the site require alteration to the local landform?	Can the site (including access) be developed without significant re-contouring etc.? Will access tracks and parking areas have significant cut and fill?	No. b) Yes	
26	Will the site affect or be affected by coastal erosion or natural coastal processes?	This will be noted on any relevant shoreline management plan.	No	
27	Is the site sheltered from the prevailing wind and does it have a principal aspect between SW and SE?	Will development make best use of the site in terms of energy efficiency?	Yes	
28	Will the site have any impact upon local air quality?	Is the site near areas of employment or close to public transport? Such developments are less likely to result in additional traffic which may contribute to air pollution.	No	
29	Will the site have an impact on light pollution levels?	Is it likely that the Council policy likely will require street lighting at this location? Are there proposals for floodlighting on the site?	No, No, No.	
30	a) Will it the site affect the present green network of the area?	a) Will the site affect features that currently provide for the movement of species and/or people e.g. woodland, hedgerows, field margins, watercourses, coastlines, tree belts, greenspace?	No.	

	b) Will the site provide opportunities to enhance the present green network of the area?	b) Will connectivity of natural features or open space and paths used for public amenity be improved? Will existing fragmentation of habitats and open spaces be improved? Will species be enabled to move where at present there is an obstacle?	Yes.	
31	Will the site provide opportunities for people to come into contact with and appreciate nature/natural environments?	Is the site close to (within 1.5km) an opportunity to come into contact with nature/natural environments e.g. Local Nature Reserves, local greenspace, green networks? Are there proposals which will increase opportunities to come into contact with nature/natural environments?	Yes, the existing households living in the woodlands have cut wildlife in their gardens + have access to the woodland when it is improved thru development.	
32	a) Will the site affect any core paths or right of way? b) Will the site affect any other existing paths or outdoor access opportunities? c) Will the allocation provide new access opportunities within the site and linking to the path network beyond the site?	a) Is a diversion of a core path or right of way required? Will there be any impact on the usability of a core path or right of way? b) Will it affect an existing path in the Highland Path Record? Will it provide additional access opportunities or adversely affect access opportunities afforded by the Land Reform (Scotland) Act 2003? c) Will new paths be created within and beyond the site? Will any existing paths be improved e.g. to increase accessibility to a wider range of users? Will the site help to realise priorities identified in the Council's outdoor access strategy or aspirational paths identified in the core path plans?	No, none No, none N/A.	
33	Will the site have an impact on the geodiversity of the area?	Are you aware if the site lies within or adjacent to an un-notified Geological Conservation Review site or Local Geodiversity Site? (or other site with geodiversity value e.g. distinctive landforms, areas with natural processes, rock exposures for study?)	No, please refer to H.C comments, enclosed.	

34	Will soil quality and capability of the site be adversely affected?	Will the site result in a loss of soil due to development or removal of good quality soil from the site? Is the site on land identified as Prime Quality Agricultural Land?	No	
35	Is the site on peatland?	Is the site within or functionally connected to an area of peatland? Would the allocation involve the disturbance of peat? If yes, how would impacts on peatland be avoided or minimised? Would any tree felling be required?	No	
36	Will the site have any affect on the viability of a crofting unit?	Does the site represent a significant loss of good quality inbye crofting land or common grazing land?	No	

**Proposed housing development in
Balnafoich plantation, Farr,
Inverness-shire HIGHLANDS**

*EcIA
(Sustainable Design Statement)*

**NDR (Environmental Services) Ltd.
Ecological Impact Assessment report
(Sustainable Design Statement)**

prepared for

Cardon Home Improvements

[12 June 2009]

Caroline Smith
[Nominated Officer]

Public - unrestricted

Project no.: C:256[0906.24]\CHI
Report no.: EcIA:G.i.dd5\CHI
Issue no. 1
Submission Date: 21st August 2009



NDR (Environmental Services) Ltd.
24 Harland Road, Castletown
Caithness, HIGHLANDS
KW14 8UB
SCOTLAND

Report Summary Sheet

Title	Proposed housing development in Balnafoich plantation, Farr, Inverness-shire HIGHLANDS : EcIA (Sustainable Design Statement)
Client	Cardon Home Improvements
Client Reference	12 June 2009
Short Description of project	<p>A desktop study and site walk over of the proposed development site to assess the objections, using biodiversity issues, against the proposed development.</p> <p>The results are assessed against the international & national legislative framework and policy statements of the local planning authority to provide the ecological & biodiversity sections for our client's Sustainable Design Statement.</p> <p>Recommendations are proposed as to how the proposed development will enhance and preserve the biodiversity of the area.</p>

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Project No.	C:256[0906.24]\CHI
Report No.	EcIA:G.i.dd5\CHI
Report Status	1

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	Name	Signature	Date
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Reviewed by	Caroline Smith		23/08/09
Authorised by	Neil Redgate		24 viii 2009

Executive summary

In accordance with the Highland Council's *Development Plan Policy Guidance: Design for Sustainability in the Highlands (November 2006)*, the proposed housing development at Balnafoich plantation, Inverarnie is required to consider ecological and environmental issues at the design stage of the development.

This report identifies and assesses the potential biodiversity issues, raised by formal objections, that may be affected by the proposed development against the current legal and policy framework. It is not the purpose of this report to describe any detailed surveys, analysis, assessments and management programmes.

The brief summary of this report are -

- ◆ the proposed housing development is considered as a small scale development
- ◆ legislation and policy framework were summarised and the development was assessed against these
- ◆ biodiversity objections involve LBAP (Inverness & Nairn) species
- ◆ proposals for positive management are provided for the following interests -
 - "woodland" management
 - bats
 - Badger
 - Red squirrel
 - Pine marten

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1.0 Introduction

NDR (Environmental Services) Ltd was asked by Cardon Home Improvements to review the objections, raised on biodiversity grounds, to their planning application (09/00326/FULIN) for a housing development (eight houses) in Balnafoich Wood plantation, Inverarnie. It was agreed that a Sustainable Design Statement report be prepared to review these objections. The identified biodiversity issues of the proposed development site are assessed against the legislative and development policy frameworks in accordance with Highland Council's *Development Plan Policy Guidance: Design for Sustainability in the Highlands*¹.

NDR(ES) was commissioned on 14th August 2009, following advice from Highland Council's Planning Department about recent changes in Planning Policy and confirmation of the targeted planning committee meeting of 11th September 2009. Due to the short time period available, this report is based entirely on a desktop study of the readily available ecological data held by national & local data holding organisations as well as local individuals. A site walkover with Highland Council officials helped to inform this report.

All measurements follow the SI units and the orientation readings are expressed to the nearest compass point.

NDR (Environmental Services) Ltd has been involved with natural history and ecology from 1975; has been undertaking Ecological Impact Assessments since 1993 and is experienced in the investigation, assessment and reporting of a wide range of ecological and environmental issues. It has access to an ever-expanding network of similarly experienced consultants and consultancies.

2.0 Proposed development

The proposed housing development is for 8 houses in a 45-year old Lodgepole plantation ~100m north of the Balnafoich crossroads, see figure 2.0. The proposed development site is ~5.4 ha in size, whose centre is NH 68478 35624.

Highland Council considers this proposed development as small-scale² and the checklist for biodiversity interests is given as (p10) -

Issues addressed in the accompanying Guidance Notes are identified by the relevant section number in the right hand column.

Issues that need to be considered at both Outline and Detailed Planning Permission Stage are highlighted in bold purple text.

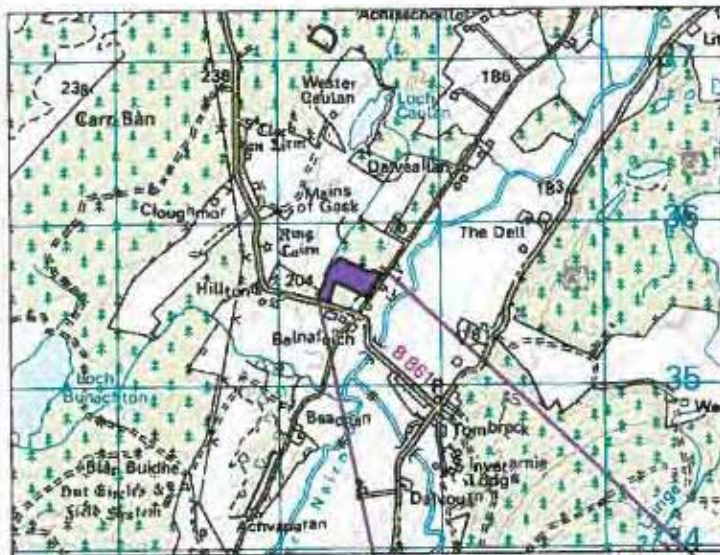
Designing within the Highland context

Describe the existing landscape character and whether the site is in or near a nature conservation area; describe existing wildlife habitats and other features that support biodiversity (e.g. trees, hedges, watercourses etc.); and describe measures that will be taken to preserve wildlife, trees and plants on the site and enhance wildlife habitats.

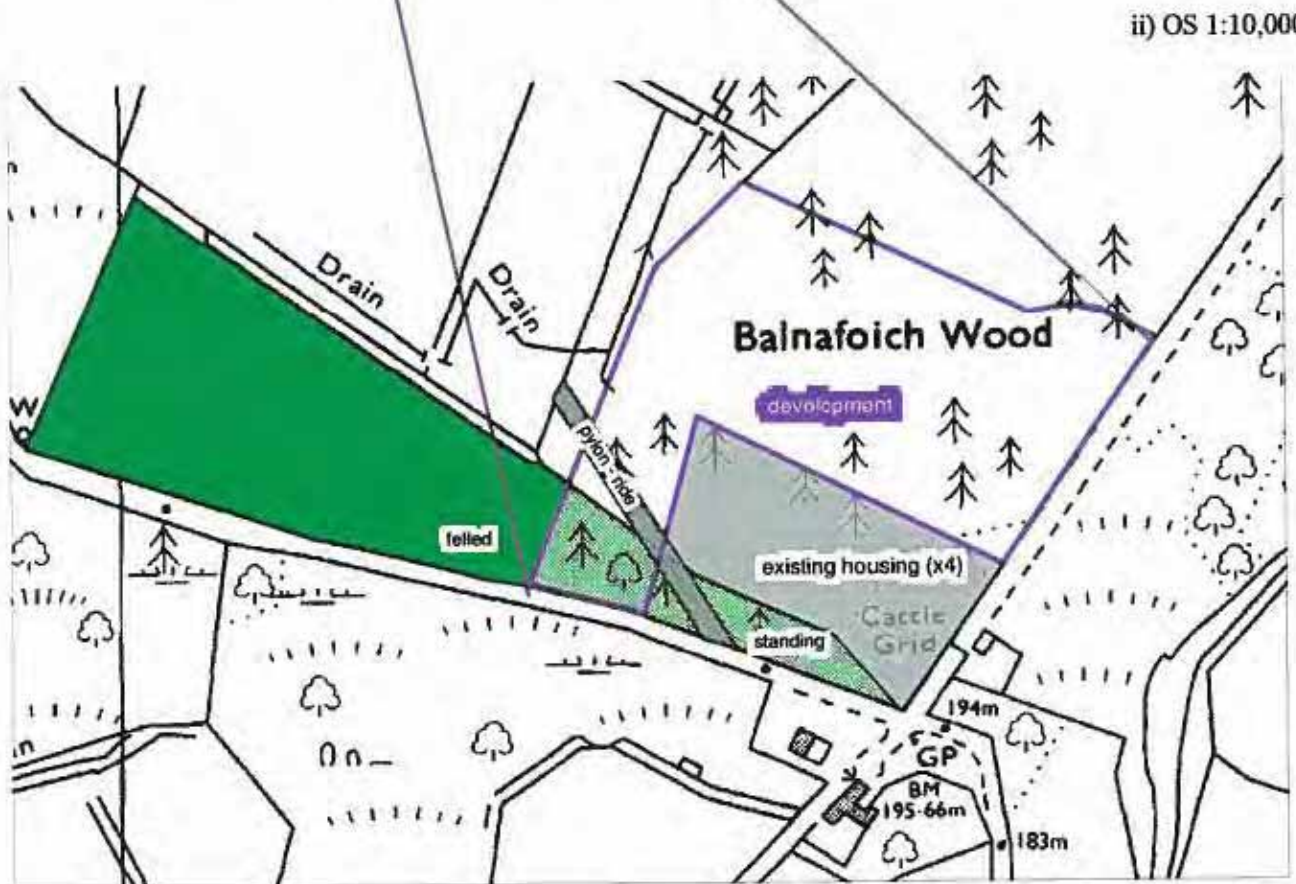
A.1, 4.2

¹ Designing for Sustainability in the Highlands. Development Plan Policy Guidance, November 2006. Highland Council, Inverness.

² Sustainable Design Statement checklist (B) Large scale development, p10. Designing for Sustainability in the Highlands. Development Plan Policy Guidance, November 2006. Highland Council, Inverness.



i) OS 1:50,000



ii) OS 1:10,000

Figure 2.0a: site location

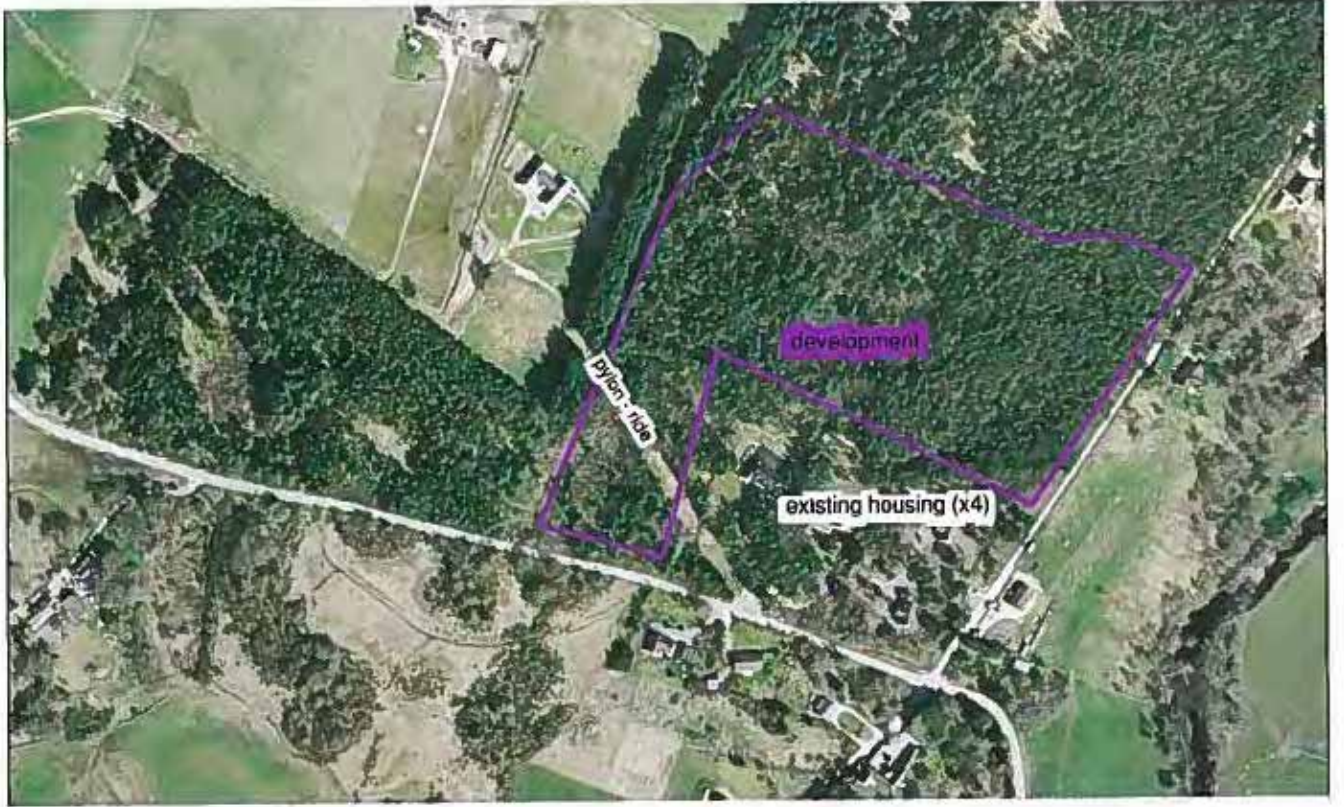


Figure 2.0b: aerial photograph, April 2005

The terrestrial and freshwater European Protected Species that are found in the Highlands are -

- European otter, *Lutra lutra*
- Scottish wildcat, *Felis silvestris*
- bats (chiroptera) – all species
- Great Crested Newt, *Triturus cristatus*

Nature Conservation (Scotland) Act, 2004

Section 1: LPAs have a statutory duty to consider the biodiversity interests of all planning applications and to promote positive biodiversity management practices and practices to enhance the local environment. Any member of staff of a public agency can be prosecuted if they give out incorrect or insufficient advice that leads to a loss of biodiversity and do not give due consideration to biodiversity interests during their normal daily activities. Making a decision based on inaccurate and uncertain data, collected at the wrong time could be classed as a reckless act and be a prosecutable offence.

Any person can be prosecuted if they give out incorrect or insufficient advice that leads to a loss of biodiversity and do not give due consideration to biodiversity interests during their normal daily activities.

Section 47: Introduces corporate responsibility – not only employed staff but also the directors of the company giving the instructions for the work (i.e. the main developer) as well as those of any subcontractors will be held responsible for any offence committed.

Schedule 6 §8(2) and §8(5): introduces the concept of reckless behaviour (either recognising the risk and choosing to ignore it or not considering that there was a risk) contributing to the list of possible offences to the list of offences in the *Conservation (Natural Habitats &c) Regulations, Wildlife & Countryside Act, 1981* (as amended).

3.2 GUIDELINES & ADVISORY NOTES

National Planning Policy Guidelines (NPPG) 14: Natural Heritage (1999)

The NPPG states that the Government's objectives for Scotland's natural heritage are to conserve, safeguard and, where possible, enhance:

- the overall populations and natural ranges of native species and the quality and range of wildlife habitats and ecosystems;
- geological and physiographical features;
- the natural beauty and amenity of the countryside and the natural heritage interest of urban areas; and
- opportunities for enjoying and learning about the natural environment.
- through legal compliance (§3.1).

Broad and regional strategic framework of natural heritage objectives are defined by Scottish Natural Heritage's Natural Heritage Futures scheme (§3.5).

Planning Advice Note (PAN) 60: Planning for Natural Heritage (2000)
(revised 2008)

Promotes the pro-active approach to incorporating biodiversity protection and enhancement at the very beginning of the development design rather than retrospective implementation as repairing environmental damage.

It also promotes the importance of earth heritage (geodiversity), as well natural heritage, being a major component in the planning process. It also highlights the importance of green spaces, access and recreation which can have important influences on local biodiversity and geodiversity.

(§4.3).

The implementation of a Great Crested Newt management plan to protect the local population and its habitat (§5.2 & 5.3) and meet statutory and regulatory requirements. The results of future field studies will better inform the proposed development's site and biodiversity management plans.

Policy G5: Integration of environmental & community interests

The Council will support measures that link the protection, enhancement, understanding and enjoyment of the natural and cultural heritage with the sustainability and vitality of local communities.

The implementation of a site and biodiversity management plan will meet with this policy's requirements (§5).

Policy G6: Conservation and promotion of the Highland heritage

The Council will seek to conserve and promote all sites and areas of Highland identified as being of a high quality in terms of nature conservation, landscape, archaeological or built environment.

The proposed development does not conflict with this policy.

The implementation of site and biodiversity management plans (§5) will contribute to this policy by maintaining and enhancing the current habitat network and corridors that link key sites of high nature conservation interest.

Policy G8: Precautionary principle

In the relatively rare situation of assessing development proposals where the potential impacts are uncertain, but where there are scientific grounds for believing that severe damage could occur either to the environment or the well-being of communities, The Council will apply the precautionary principle.

The proposals (§5) in this report follow this principle

Policy N1: Nature conservation

New developments should seek to minimise their impact on the nature conservation resource and enhance it wherever possible. The Council will seek to conserve and promote all sites according to the following hierarchy:

- sites and species of international importance - Developments which would have an adverse effect on the conservation interests for which a site has been designated will only be permitted where there is no alternative solution and there are imperative reasons of over-riding public interest, including those of a social and economic nature. Where a priority habitat or species (as defined in Article 1 of the Habitats Directive) would be affected, prior consultation with the European Commission is required unless the development is necessary for public health or safety reasons.
- sites of national importance - Developments will only be permitted where the objectives of designation and the overall integrity of the area will not be compromised or any significant adverse effects on the qualities for which the area has been designated are clearly outweighed by social and economic benefits of national importance.
- sites of local importance - Developments will be assessed for their effects on the interests of sites of local conservation importance and will be resisted where these are judged to be unreasonably detrimental.

The proposed development does not conflict with this policy.

The implementation of site and biodiversity management plans (§5) will contribute towards this policy (highlighted issues) by maintaining and enhancing the current habitat network and corridors that link key sites of local importance as well as of a high nature conservation interest.

Policy N4: Local Biodiversity Action Plans

In respect of habitats and species, The Council will have regard to Local Biodiversity Action

Table 3.4.1: Local priority species

Vernacular	Scientific	Endemic (Scotland)	UKBAP species
Mammals			
Water shrew	<i>Neomys fodiens</i>		
Daubenton's bat	<i>Myotis daubentonii</i>		
Natterer's bat	<i>Myotis nattereri</i>		
Bandit pipistrelle	<i>Pipistrellus pipistrellus</i>		
Soprano pipistrelle	<i>Pipistrellus pygmaeus</i>		✓
Brown long-eared bat	<i>Plecotus auritus</i>		
Brown hare	<i>Lepus europaeus</i>		✓
Mountain hare	<i>Lepus timidus</i>		
Red squirrel	<i>Sciurus vulgaris leucourus</i>		✓
Water vole	<i>Arvicola terrestris</i>		✓
House mouse	<i>Mus domesticus</i>		
Scottish wildcat	<i>Felis sylvestris</i>		
Eurasian otter	<i>Lutra lutra</i>		✓
Pine marten	<i>Martes martes</i>		
Polecat	<i>Mustela putorius</i>		
Eurasian badger	<i>Meles meles</i>		
Grey seal	<i>Halichoerus grypus</i>		
Common seal	<i>Phoca vitulina</i>		
Harbour porpoise	<i>Phocoena phocoena</i>		✓
Bottlenose dolphin	<i>Tursiops truncatus</i>		✓
Common dolphin	<i>Delphinus delphis</i>		✓

species recorded <2 km of proposed development site¹

The accounts for those species stated as reasons for objections to the proposed development are summarised below

Red squirrel

Issue

North American Grey squirrels are not currently in the area. However, they have been recorded close to The Highland Council's south and eastern boundaries and are known to be moving north. Corridors of large seeded broad-leaved woodland will aid the Grey squirrel's progress north and many wildlife enthusiasts and land managers advocate altering the management of woodlands to the south of the area to discourage their spread.

Opportunity

The Highland Red Squirrel Group, with some funding from the Highland Biodiversity Project, has produced a Species Action Plan which highlights a number of actions that could help the conservation of the Highland red squirrel population.

Future actions

Undertake actions in line with the Highland Red Squirrel Species Action Plan.

During the preparation of this report, it was not possible to locate a copy of the Highland Red Squirrel Species Action Plan.

The commercial afforestation is not listed as a priority habitat, though the LBAP does recommend management to improve biodiversity through continuous cover forestry, restructuring and continuity of

¹ National Biodiversity Network Gateway, 19th August 2009

- review of the LBAP report¹ to identify priority species and habitats -
 - see tables 3.4.1
- search of National Biodiversity Network Gateway (<http://www.nbn.net>), which includes records from Highlands Biological Records Centre -
 - priority UKBAP and LBAP species
 in 10km.square NH63; identifying records that are either
 - on site, or
 - <2 km radius from site
- site walkover on 22nd June 2009 with Highland Councillors (Mrs. Margaret Davidson, Mr. Hamish Wood), Principal Planning Officer (Mr. Jim Harbison) and our clients (Mr & Mrs. Smith) to appraise the site and discuss issues raised about the development.

It has not been possible to undertake any of the necessary surveys to collect the required baseline data prior to this report. Due to the tight timetable given, consultations with organisations, local experts and local neighbours was not possible.

The proposed management plan (see §5) will resolve these omissions

The current condition of the proposed development site is a poorly managed commercial Lodgepole afforestation scheme. The majority of the site was planted in 1961 and the remainder in 1965. The plantation was adjacent to a sawmill (which closed in 1965), whose location was in the area of the recent houses located to the southwest of the plantation (proposed development site).

Historically, the plantation is on ground that was planted between 1870 and 1904, see figure 4.1.

The ground between the plantation and the Gask road (B861) is recorded as being *Long established woodland of planted origin*², believed to have been planted in 1860. This area has been re-planted since then and a large area was clear-felled after April 2005 – remnants of this recorded woodland are left along the roadside, see figure 2.0a.

Overall, there is very little known about the site from an ecological and conservation point of view. Very little data exists for the site as well as the immediate surrounding area. Many of the neighbours objecting to this proposal have cited that species of concern are present in this plantation and in their gardens that are adjacent to the development site.

The following paragraphs summarise the available data and assesses the current ecological sensitivities of the proposed development site for each of the species of concern, raised by objectors, in accordance with Highland Council's guidance note 4.2: *Minimise disturbance to habitats and species*³

4.2 BIODIVERSITY INTERESTS

Habitats

Commercial afforestation is not cited as a priority habitat by the LBAP report: however the restructuring of afforested areas is to be encouraged (§3.4).

Due to the land use of the development site, there are a number of individual old Scots Pine trees present (Highland Council's Tree Officer also recorded Sitka and Norway Spruce during his site visit) – their locations need to be mapped. The associated pinewood ground flora has been reduced due to the planting in 1960s, resulting in a very dense stand of trees with very few open areas. Any that are present, are likely to occur close to the old Scots Pine trees.

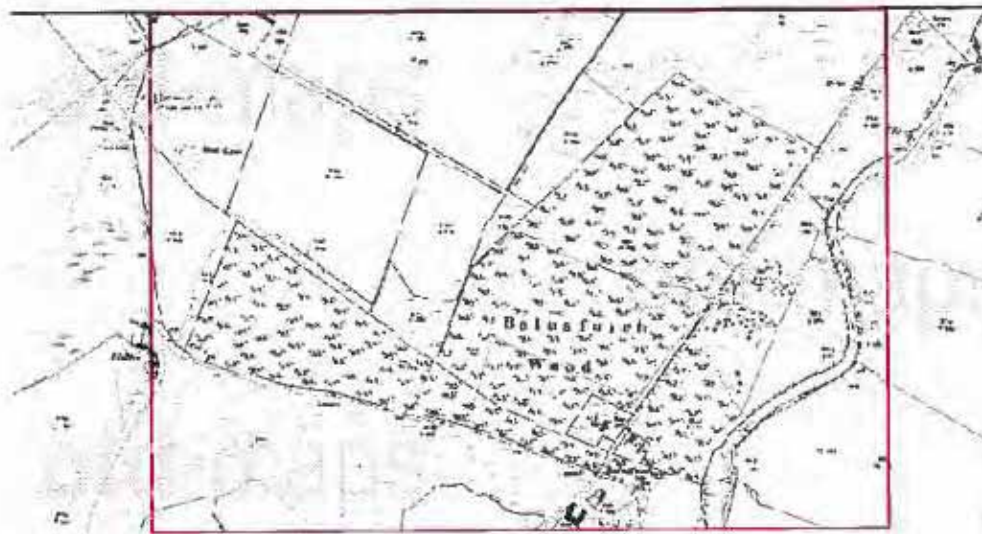
There is the potential for the new households to develop wildlife-friendly gardens and the landscape design of the development, if managed and maintained, will provide suitable wildlife corridors and maintain the desired continuous cover.

Mammals

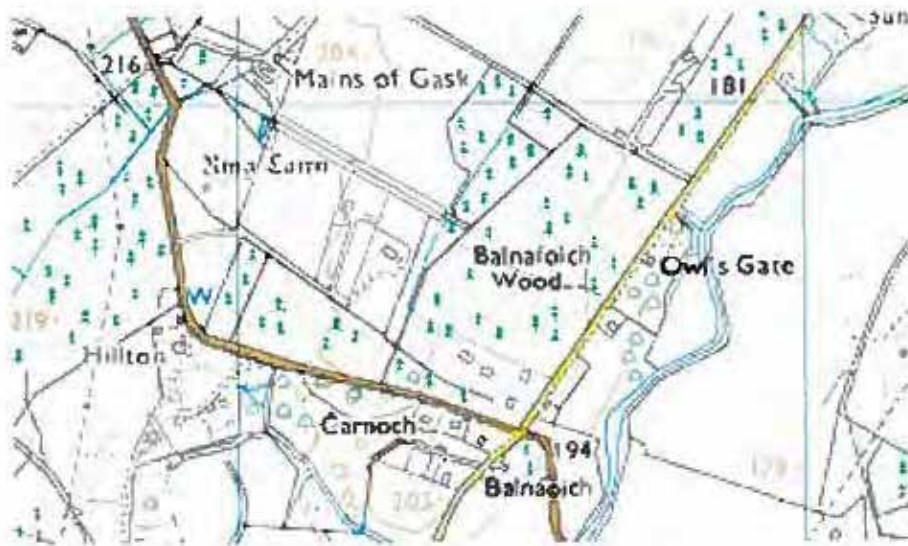
- 1 *Habitats & Species Lists, p65-71.* Ross & Cromarty (East) Biodiversity Action Plan 2004. Highland Council, Inverness.
- 2 *Ancient Woodland Inventory* (Forestry Commission)
- 3 *Conserve & enhance the biodiversity of the Highlands, p32.* Designing for Sustainability in the Highlands. Development Plan Policy Guidance, November 2006. Highland Council, Inverness.



i) 1870



ii) 1904



iii) 2004

Figure 4.1: Woodland history

Pine marten There no records of this animal in the proposed development site or within <2km of the proposed site¹.

However, a number of neighbouring objectors report observing visits to their gardens. Pine martens can travel considerable distances and are not confined to pinewoods, often observed in open ground and gardens, close to pinewoods. The loss of trees does not automatically exclude the Pine marten.

Red squirrel There no records of this animal in the proposed development site. There are a number of sightings 1-2km north of the proposed site on the B861 at Gask and Tomfat Woods, between 1991-1997 and August 2005. The remainder of the recent sightings (post 2000) are from south of the Nairn River¹

However, a number of neighbouring objectors report observing visits to their gardens.

The density of the trees, resulting in narrow straight, single trunks does not provide any suitable opportunities for dreys. There may be potential drey locations in the individual old Scots Pine trees – these trees are to be mapped and retained.

To minimise any potential impact the presence of squirrel activity on site needs to be established. The landscape design of the development, if managed and maintained, will maintain the desired continuous cover and provide suitable corridors between dreys, food sources that includes neighbouring gardens.

5.0 Proposals

5.1 GENERAL

As previously stated, there is very little known about the site from an ecological and conservation point of view as very little data exists for the site as well as the immediate surrounding area.

Alternatives to proposed development

- (a) The current land use practice for the Balnafoich plantation is for the site to be thinned and eventually clear-felled sometime in the near future, as observed in ongoing practices in the afforestations towards Daviot.

This practice will contravene the LBAP by removing continuous forestry cover, destroying the habitat for the species considered in this report. If re-planting is to occur, forestry cover would take ~20 years to become establish without any certainty that the current species and plants would return.

- (b) Another housing layout is possible with a different developer. A similar area of land in the Highlands is being considered for a housing development.

	<i>Proposed development</i>	<i>Alternative development</i>
Development area (ha)	5.37	6
no. household plots	8	100
Area of plot	0.5	0.05
House & garden area	0.25	0.05

The house plot density of the proposed development is similar to the previous development that lies immediately to the southwest (4 plots in 1.8ha).

One of the principles behind the design of the proposed development is to integrate the scheme in to

¹ National Biodiversity Network Gateway, 19th August 2009

Although not innovative, the principle of incorporating purpose-built bat features in to the design of a house is still relatively new in the Highlands. Although this option is not a legal requirement, it provides the opportunity to satisfy a range of good sustainable, environmental and ecological practices and is a proactive commitment from our client.

Pre-construction surveys will be undertaken to determine whether any of the old Scots Pines and any other tree has the potential for a bat roost location. A thorough tree survey and a detailed activity survey will be completed to determine the level of site utilisation by the local bat population. The results of these surveys will be used to refine the current design layout – access routes, woodland cover & network.

The opening up of the forest canopy will increase the number of foraging areas by provide relatively sheltered areas that will attract their prey. The presence of the forest corridor will provide linear features and corridors for bats to commute between foraging areas, areas outwith the development site and roosting locations (either existing or provided in the now houses).

5.4 BADGER

A pre-construction survey of the development site to determine the level of badger activity is required. The survey will determine the location of the active sett, mentioned in the objections, and how this and the clan territory relates to the development site.

The results of this survey will determine what action, if any, will be required to minimise any disruption to the local clan during construction and reduce potential long-term conflict with the new households.

5.5 RED SQUIRREL

A pre-construction survey of the development site to determine the level of squirrel activity is required. The survey will also determine the location of any dreys and potential sites (suitable trees).

As mentioned in the objections, the Red squirrel is not displaced by the presence of gardens within the forest environment.

The results of this survey will determine what action, if any, will be required to minimise any disruption to the local Red squirrel population during construction.

5.6 PINE MARTEN

A pre-construction survey of the development site to determine the level of Pine marten activity is required. The survey will also determine the location of any breeding dens (old dreys or boulder crevices) and potential sites.

The Pine marten is not displaced by the presence of gardens within the forest environment, as mentioned in the objections.

The results of this survey will determine what action, if any, will be required to minimise any disruption to the local Pine marten population during construction.



Balnafoich Wood

A.F. Cruden Associates

Consulting Engineers

**Sewage Treatment for a
Proposed Housing
Development at Balnafoich
Wood, Inverarnie**

MARCH 2009

CA5883

INTRODUCTION

Regulation 3.9 of the Building (Scotland) Regulations 2004 states:

Every private wastewater treatment system serving a building must be designed and constructed in such a way that the disposal of the wastewater to ground is safe and is not a threat to the health of the people in and around the building.

A F Cruden Associates was instructed by Cardon Home Improvements to design sewage treatment and dispersal systems for a proposed 8 house development at Balnafoich Wood, Inverarnie. Any system proposed had to be acceptable to the relevant authorities.

The project is at Outline Planning Application stage. At this point each of the houses are assumed to have 5 bedrooms with a population each of 7 persons.

A public sewer connection was not practicable and thus a private wastewater treatment plant and infiltration system was chosen as the preferred solution for the dispersal of foul effluent generated by the proposed dwellings.

Section 3.9.1 of the Building (Scotland) Regulations 2004 requires a preliminary ground assessment and soil percolation test to be carried out to determine the suitability of the ground.

SITE DETAILS

The proposed dwelling is to be sited on the land shown on Gary Cuthbert's drawing 4008/01A and is within mature coniferous woodland to the North of the Balnafoich crossroads.

The site slopes gently from North West to South East at an approximate gradient of 5%.

POTABLE WATER & OTHER SERVICES

There are no known potable water source within or adjacent to the site.

The location of all services are known and any treatment plant combined with an infiltration system would be sited accordingly.

SITE CONSTRAINTS

There is ample land available in each of the 8 plots, i.e. of the order of 4500 to 5000 sq metres. We see no difficulty in incorporating suitable distances from buildings, roads, boundaries and watercourses for the treatment system. Any infiltration system for foul effluent must be located at least:

- 1. 50m from any spring, well or borehole used as a drinking water supply; and***
- 2. 10m horizontally from any water course (including any inland or coastal waters), permeable drain, road or railway; and***
- 3. 5m from a building or a boundary.***

The location of any Septic Tank or Treatment Plant must ensure that:

A hard access suitable for use by a desludging tanker of 14T axle load shall be provided no further than 25m from the treatment unit, and at a level no higher than 4m above the invert level. A clear route for the suction hose between the tanker and the tank should also be provided. (To Clause. 3.8.6 (M3.3))

SUBSOILS - FINDINGS

All eight sites are heavily wooded and at this point the cost and environmental damage involved in felling trees and gaining access to establish test holes at each plot has been avoided.

Based on work done by A F Cruden Associates at adjacent sites in land with the same basic subsoil it is expected that:

1. Topsoil will be found across the site varying in depth from 200mm – 300mm below the surface.
2. Silty sands and gravels i.e. glacial till will underly the topsoil throughout the site.
3. A water table is likely to be 2000mm or more below the surface.

Percolation tests in the subsoil at these other sites were not successful and treatment units (not septic tanks) and raised mound soakaways were used. It is considered that the same approach can be used at these 8 plots.

SIZING REQUIREMENTS

A treatment system for a house with up to and including 3 bedrooms shall be designed for a minimum of 5 persons. The size of a treatment system for a house with more than 3 bedrooms shall be designed by adding 1 person for each additional bedroom to the minimum single house value of 5 persons.

(Sized in accordance with British Water “Code of Practice – Flows and Loads 2 - Sizing Criteria, Treatment Capacity for Small Wastewater Treatment Systems (Package Plants)

5 Bedroom Development = 7 Person occupancy

MOUND DESIGN

The proposed Mound System has been designed, and should be constructed, in accordance with BR 478 "Mound Filter Systems for the treatment of domestic wastewater". It is intended as noted to use a sewage treatment unit at each plot.

Step 1: Select the site

Preferably, the mound location should be selected before locating the house, well, driveway, pond or any other features on the site. Consider all possible locations on the building plot and the practicalities of constructing the mound. Then select the best layout.

Step 2: Select suitable fill material

Currently, fill material for the mound must comply with the requirements as set out in BS 6297:1983. Assume that the fill has a V_f of 40 s/mm.

Step 3: Size the distribution layer

Using the formulae in section 15 of BS 6297:1983 and based on a treatment unit the minimum total area is:

$$P \times V_p \times 0.20 = 7 \times 30 \times 0.20 = 42 \text{ m}^2$$

(P – is the number of persons = 7)
(V_p – percolation value in secs/mm)

Step 4: Calculate dimensions of the distribution layer

In this development there will be three pipes in the distribution layer.

The spacing between the pipes is 2 m, (0.5m clearance each end) hence the width of the area is 5 m (B).

The length of the infiltration pipework = $42/5 =$ say 8.4 m.

Therefore each pipe will be 8.4 m (A).

The total area of the distribution layer is:

$$8.4 \times 5 = 42 \text{ m}^2$$

Step 5: Calculate the mound dimensions

Filter depth **250 mm**

Mound height Filter material depth (D) = **700 mm**

Gravel depth (F) = depth of gravel in the distribution layer

The depth of granular fill material below the 100 mm infiltration pipe should be 150mm. 50mm of cover should be used from top of pipe to top of layer. Hence the depth of the layer is **300 mm**

Cap depth at edge of distribution layer (G) = **300 mm**

Cap depth at centre of distribution layer (H) = **300 mm**

$$\begin{aligned}
 \text{Mound perimeter Upslope taper (J)} &= (\text{mound height at upslope edge of distribution layer}) \times (3:1 \text{ slope}) \\
 &= (0.25 + D + F + G) \times 3 \\
 &= (0.25 + 0.7 + 0.3 + 0.3) \times 3 \\
 &= 4.65\text{m}
 \end{aligned}$$

$$\begin{aligned}
 \text{Sideslope taper (K)} &= (\text{mound height at downslope edge of distribution layer}) \times (3:1 \text{ slope}) \\
 &= (0.25 + D + F + H) \times 3 \\
 &= (0.25 + 0.7 + 0.3 + 0.3) \times 3 \\
 &= 4.65\text{m}
 \end{aligned}$$

Check to see if the downslope taper is adequate; it should not exceed a 3:1 slope.

$$\begin{aligned}
 \text{Downslope taper (C)} &= 3 \times [(0.25 + D + F + G) + (\text{natural slope effect})] \\
 &= 3 \times [(0.25 + 0.7 + 0.3 + 0.3) + 2.6] \\
 &= 4.65 + 2.6 \\
 &= 7.25 \text{ m}
 \end{aligned}$$

$$\begin{aligned}
 \text{Mound length (L)} &= \\
 &= 8.5 + (4.65 + 7.25) \\
 &= 20.4 \text{ m}
 \end{aligned}$$

$$\begin{aligned}
 \text{Mound width (W)} &= \\
 &= 4.65 + 5.0 + 4.65 \\
 &= 14.3 \text{ m}
 \end{aligned}$$

Mound basal dimensions are: length (L) = 20.4 m, width (W) = 14.3 m
Hence basal area = **292 m²**

Step 6: Check that the design is appropriate for the soil conditions

Surface porosity tests have not been carried out to establish the Vp for the native soil (upper 300mm of naturally occurring soil) These are conducted to work out the minimum basal area for the proposed site. The slowest percolation test result in a site on similar land nearby gave a result of 100 sec/mm.

$$A = P \times V_p \times 0.20 = 7 \times 100 \times 0.20 = \mathbf{140 \text{ m}^2}$$

As the designed mound has a larger basal area, (**292 m² > 140 m²**) the infiltration rate into the soil is well within the capacity for the site. Slower percolation rates in the topsoil can be accommodated.

A F Cruden Associates confirm that at the proposed sites, it will be feasible to deal with effluent dispersal by means of a raised mound filtration systems in conjunction with a treatment plant. A Klargest BioDisc system or similar would be capable of treating the hydraulic and organic loadings and convey the effluent with possible pumped assistance to the raised mound filter system.

At a later date percolation tests should be carried out to confirm these findings but given the margin that exists and the plot areas it should be readily feasible to adjust the "tentative" mound sizes given.

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BS EN 1610 : 1998 Construction and Testing of Drains and Sewers

BS 6297 : 1983 Code of Practice for Design and Installation of Small Sewage Treatment Works and Cesspools

BS 8301 : 1985 Code of Practice for Building Drainage



location plan. scale 1:10000

TOTAL SITE AREA: 70712sq
 19.5ha
 7.5ha
 of Priority



site plan. scale 1:1000

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Client: Mr & Mrs Smith.
 Proposed Housing Development at
 Drivessellan, Strath Nairn, Inverness.
 Site & location plans.

Project No.	0506
Revision	01
Scale	1:1000
Date	February 2006

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