

Chapelton of Elsick

Biodiversity Action Plan

Produced for the Elsick Development Company By Applied Ecology Ltd

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1 Executive Summary and the Vision

- 1.1 The vision for Chapelton of Elsick is a place that is diverse, attractive, vibrant and accessible, with a high quality environment that is safe and welcoming. It will be a high quality community with a high proportion of open space which will accommodate formal recreational facilities and informal places for rest and relaxation, as well as natural, untamed areas that support biodiversity.
- 1.2 There will be a diverse range of different types of green space within easy reach of all residents that will provide a high level of amenity and support the physical and mental well-being of the town's occupants, as well as providing opportunities for biodiversity enhancement and sustainable management.
- 1.3 This document provides a Biodiversity Action Plan, describing how valuable existing ecological features will be protected or enhanced and new features introduced, to help support this vision.



2 Introduction

Overview of the development

- 2.1 The Chapelton of Elsick Masterplan proposes the development of 4,045 houses, along with all associated uses, such as shops, offices, parks and schools, on a site to the south of the City of Aberdeen. The overall development, for which Planning Permission in Principle has been achieved, will comprise:
 - 4,045 homes;
 - 30.5 hectares of employment uses;
 - a secondary school and up to four primary schools;
 - community facilities, including a medical centre;
 - green infrastructure for open space, recreation and habitat creation;
 - infrastructure for energy, water supply, and foul and surface water drainage;
 - transport infrastructure, including internal roads and connections to the A90.
- 2.2 The masterplan evolved from a charrette process, involving the local community and key stakeholders, and incorporates the following key principles:
 - efficient and sustainable transport links at both regional and local levels, with thoroughfares designed for multiple use, parking visually subservient to the streetscape and priority given to public transport;
 - integrated provision of the facilities and services required to meet residents' daily needs, including employment, education, shopping and community services;
 - the neighbourhood to be used as the main "building block", with each arranged around a mixed-use centre and providing a range of housing types and tenures, so as to encourage social stability and diversity;
 - a design that achieves a range of character, from urban within the centres to more rural on the periphery, with architectural styles reflecting local traditions and environmental influences.
- 2.3 The masterplan comprises three neighbourhoods and one district. The neighbourhoods are Chapelton to the north of the Elsick Burn, and Cairnhill and Wester Cairnhill to the south. The district comprises an area of employment use at Newtonhill. As well as being a residential neighbourhood in its own right, Chapelton would function as the town centre, providing a range of "higher-order" retail, service and community facilities, including employment space, a hotel and a supermarket.
- 2.4 Full Planning Permission has also been granted for the first phase of the development. Phase 1A comprises part of the neighbourhood of Cairnhill, which forms the south-eastern section of the development. Its main elements include 802 homes, a neighbourhood centre (comprising a convenience supermarket, other local shops, a surgery, community centre and place of worship), a primary school, and associated open space and play areas.



- 2.5 Parks and landscaping are an important part of the Elsick masterplan. The network of streets and parks will follow the features of the site's landscape, incorporating the contours of the land and existing trees and woodlands.
- 2.6 Construction of the Overall Masterplan will result in permanent loss of the majority of agricultural fields within the site and their replacement with new residential development and associated urban infrastructure. The existing agricultural and rural character of the site will be replaced by urban and suburban development. However, the strategic landscape and wildlife corridors described above will be retained, protected and strengthened with new plantings. Extensive areas of new green space will also be created to provide recreational and biodiversity opportunity within the new community. These comprise new parkland, including a rural country park on the eastern outskirts of the development, and urban parks and associated formal landscapes within urban neighbourhoods.
- 2.7 A broad-brush summary of the vision of the Overall Masterplan, in the context of the priorities identified in this Biodiversity Action Plan, are summarised in Figure 2.1, and Table 2.1 below. More detail can be found in the Chapelton of Elsick Landscape Statement¹.

¹ Elsick Development Company (2012) Planning Application APP/2011/3100 App/2011/1303: Further Information Report - Landscape Statement.



Masterplan Feature	Approximate ha in Development Phase					Off-site	Total
	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	mitigation/ compensation	
allotments	1.03	1.04	0.23				2.3
burial ground					4.30		4.3
Chapelton Town Park				14.83			14.8
developed	101.80	93.66	77.66	7.68			280.8
low maintenance grassland (including dry SuDS)	3.62						3.6
local green space	1.04	2.15	1.50				4.7
neighbourhood park	0.57	2.45	0.57				3.6
new riparian woodland	2.19	2.39	5.10	0.07			9.8
new woodland	2.77	2.25	3.28		11.91		20.2
not developed	3.68	1.83					5.6
reserved for country park						70.62	70.6
restructured plantation woodland	2.95	8.17	5.29	0.35	0.91		17.7
retained as agricultural land	2.61	35.40				23.27	61.3
school grounds and playing fields	1.70	9.40	5.76				16.8
SUDS	0.01	1.29	2.01	0.77	0.35		4.4
wildflower grassland	0.36						0.4
Total	124.3	160.0	101.4	23.7	17.5	93.89	520.9

Table 2.1: Summary of hectarage of proposed overall masterplan features.



Rationale and structure of the plan

- 2.8 The planning permission in principle for Chapelton (APP/2011/3100) requires Bio-diversity Action Plans to be prepared and submitted for each phase of the development site in respect of Condition 6(h):
 - **Condition 6(h)**: The landscape details to be submitted in pursuant to Condition 3 shall include: A Bio-Diversity Action Plan.
- 2.9 This document contains the overarching BAP for the Outline Area. It is a "live" document which will be added to and amended as development phases are consented and constructed, and as monitoring of natural heritage reveals new or amended management requirements. During each review and/or addition, the appropriateness of stated objectives and targets will be revisited, and new opportunities for biodiversity enhancement investigated. To this end, this version of the Elsick BAP also contains detailed management prescriptions for **Phase 1A** and the **Pheppie Burn**. Detailed prescriptions for subsequent phases will be added to the BAP during the development and planning processes.
- 2.10 The Elsick BAP sets out specific habitat creation objectives that are required to maintain and where possible enhance the extent, quality and abundance of target habitats and species across the site. The plan will be reviewed and updated in support of the construction of future phases.
- 2.11 The Elsick BAP is divided into the following sections:
 - general information relating to the pre-development ecological baseline and the perceived natural heritage priorities for the site;
 - how the BAP will be implemented;
 - the various themes to be covered by the BAP, their specific objectives and prescriptions for delivery;
 - the management units and the geographical context of the proposed biodiversity actions;
 - links between the Elsick BAP and other relevant plans and policies.





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Chapelton of Elsick Biodiversity Action Plan

Summary of Masterplan Landscape Strategy and BAP Vision



Masterplan phases

- Chapelton Town Park
- SUDS
- allotments
- burial ground
- grassland
- wildflower grassland
- local green space
- neighbourhood park
- new riparian woodland
- new woodland
- restructured plantation woodland
- school grounds and playing fields
- retained as agricultural land
- developed
- reserved for country park



not developed

Figure 2.1

Map Scale @ A3: 1:12,500

Surveyed by: -	F
Survey date: -	
Drawn by: RAH	Y Y Y
Checked by: LS-S/client	Ecology Ltd
Status: Final	

3 Site Information

Habitats

- 3.1 The site is dominated by arable land and typically supports species-poor plant assemblages characteristic of nutrient-rich and intensively managed agricultural land. Occasional fields of permanent improved cattle grazed pasture, patches of species-poor semi-improved grassland and scattered blocks of mostly young and semi-mature coniferous and mixed plantation woodland also characterise the site.
- 3.2 Two burns, the Burn of Elsick and the Pheppie Burn, flow in a west to east direction across the site. The Burn of Elsick has been monitored by SEPA in the past and was reported to be of low water quality - probably as result of agricultural activity within its catchment. The Pheppie Burn is smaller and less significant than the Burn of Elsick, but is likely to have the similar water quality issues.
- 3.3 The Phase 1 Habitat Map of the entire site is shown in **Figure 3.1**. A summary of the habitat types recorded, and their associated coverage, both in hectares and as a proportion of the total survey area within the whole Elsick development site are provided in **Table 3.1**.

Species

3.4 The site supports an assemblage of animal species that are typical of lowland agricultural land use in North East Scotland, with a range of farmland bird species, occasional late winter flocks of pink-footed geese, and low numbers of barn owl. A number of badger social groups have parts of their territorial ranges within the site, and roosting and foraging bats (a variety of species) make use of buildings for roosting, and woodland and wetland habitats for foraging and commuting. Otter make regular use the Burn of Elsick and its associated wetland habitats, and grey squirrel is present in part of the site. No evidence of red squirrel has been found by the surveys and the species is considered to be absent. A summary of the species interest of the Chapelton site is provided in **Table 3.2** below.

Designated sites

3.5 There are no sites statutorily designated for nature conservation within the site, but there are four areas of woodland listed on the ancient woodland inventory for Scotland. The first is located near East Quoscies and is classified as ancient woodland of semi-natural origin. The second is around Elsick House and includes land areas classified as long established woodland (of plantation origin) and 'other woodland' i.e. it is indicated as woodland on the Roy Map of Scotland. The third area is classified as long established woodland (of plantation origin) to the south of Wester Cairnhill. The fourth is located north of Berryhill House and is classified as long established woodland (of plantation origin) to the south of Wester Cairnhill. The fourth is located north of these woodlands have been subject to past tree planting, and a long-history of intensive forestry and/or amenity management. They lack species-rich ground floras indicative of ancient woodland and do not support large numbers of ancient woodland higher plant indicator



species that would otherwise make them good candidates for woodland restoration to meet nature conservation objectives.

Habitat type	Area (ha)	Proportion (%)
Arable (cereal)	209.1	39.1
Arable (ley)	126.2	23.6
Arable (rape)	44.5	8.3
Improved grassland	38.1	7.1
Built-up areas	22.1	4.1
Coniferous plantation woodland	21.9	4.1
Arable (freshly ploughed)	14.9	2.8
Mixed plantation woodland	10.3	1.9
Semi-improved neutral grassland	8.2	1.5
Amenity grassland	6.9	1.3
Broadleaved plantation woodland	6.4	1.2
Dense scrub	6.1	1.1
Poor semi-improved grassland	6.0	1.1
Buildings	1.7	0.3
Poor semi-improved grassland/bare ground mosaic	2.2	0.4
Standing water	2.0	0.4
Coniferous recently felled woodland	1.5	0.3
Acid dry dwarf shrub heath	1.4	0.3
Swamp	1.3	0.2
Bare ground	0.8	0.1
Broadleaved semi-natural woodland	0.8	0.2
Semi-improved neutral grassland/dense scrub mosaic	0.8	0.2
Introduced shrub	0.6	0.1
Tall ruderal	0.1	0.0
Marsh/marshy grassland	0.2	0.0
Total	534.1	100

 Table 3.1: Summary of habitat types within the Chapelton of Elsick development area.

Table 3.2: Notable species on the site.

Species	Value
Plants - corn spurrey and monk's-rhubarb	District
Farmland bird assemblage	County
Barn owl	County
Maternity bat roosts / colonies	County
Minor summer bat roosts	Local
Bat commuting and foraging habitat network	County
Badger	District
Otter	District





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Chapelton of Elsick **Biodiversity Action Plan**

Pre-Development Phase 1 Habitat Map and Development Phases



Status: Final

4 Implementation and Delivery of the Biodiversity Action Plan

Management structure

- 4.1 Responsibility for the implementation and progress of the BAP lies with the Elsick Development Company.
- 4.2 The BAP will run for approximately 25 years, from the pre-construction stages of each development phase, and will be managed by the Elsick Development Company.
- 4.3 Responsibilities held by the Elsick Development Company will be transferred to the Chapelton Community Investment Company (CCIC) at an appropriate time.

Execution

- 4.4 Details of planting schedules will be included in the Landscape Briefs contained within the Design Code for the site.
- 4.5 Where any potential constraints are encountered during the execution of the BAP, due to unforeseen land management practices or other unpredictable external causes, and Aberdeenshire Council or other relevant stakeholders are agreed that there is a potential risk that the principle aims and objectives will not be met, the Elsick Development Company/CCIC will propose and agree alternative and/or compensatory measures with the BAP. It is recognised that any alternative and/or compensatory measures may be required at a different location to the original proposals (either on or off site), but the proposed measures will be such that a similar level of habitat or species mitigation and enhancement will still be achieved.



5 Theme 1 - Wetlands

Overarching aims and vision

5.1 The Burn of Elsick and the Pheppie Burn and their associated riparian habitats represent key habitat corridors within the development site. These wetland features will be retained, protected and strengthened with new plantings to enhance their value to wildlife in the long-term and to reinforce habitat connectivity across the site. Extensive areas of new green space will also incorporate open water and wetland features as part of a targeted habitat mix within new public recreational spaces, creating new, interesting, high quality and diverse freshwater habitats.

Baseline

Habitats

- 5.2 Four areas of standing water currently occur within the site, as follows:
 - a large trout-stocked pond located on the north side of Elsick Burn close to Home Farm, with some fringing bulrush;
 - an on-line pond located along Elsick Burn south of Elsick House, with some marginal/emergent reed canary-grass, marsh marigold *Caltha palustris*, floating sweet-grass *Glyceria fluitans*, and submerged beds of water starwort *Callitriche* sp.;
 - an ornamental garden pond located immediately north of Elsick House, with boulderlined sloping marginal banks. A fringe of mixed planted marginal/emergent vegetation was present including bulrush, marsh marigold, water-plantain *Alisma plantagoaquatica*, greater spearwort *Ranunculus lingua* and bogbean *Menyanthes trifoliata*, together with submerged beds of broad-leaved pondweed *Potamogeton natans*, water starwort and the aquatic moss *Fontinalis antipyretica*;
 - a small ornamental butyl-lined garden pond west of Elsick House with some marginal/emergent marsh marigold, greater spearwort, water forget-me-not *Myosotis scorpioides*, water-plantain, greater spearwort and bogbean.
- 5.3 Drainage ditches and watercourses on the site are largely wet and flowing water features subject to widely fluctuating water-levels according to season and rainfall. The most significant watercourses within the site are:
 - the Burn of Elsick, which flows in a west to east direction across the centre of the site;
 - a northern tributary of the Elsick Burn;
 - the Pheppie Burn, which flows in a west to east direction close to the site's southern boundary.
- 5.4 The Elsick Burn is a small boulder-lined, or earth banked, stream (around two metres wide), with shallow flowing water (around 10-50 cm deep when not in spate) over a mostly rocky bottom, although for most of its length; the Pheppie Burn is little more than a widened ditch. Both burns are adjoined by arable land along almost their entire lengths within the



site, with a narrow fringe of marginal wetland plants growing locally along the wet earth and rocky banks. Marginal wetland plants include reed canary-grass, sweet cicely *Myrrhis odorata*, marsh woundwort *Stachys palustris*, water mint *Mentha aquatica*, meadowsweet *Filipendula ulmaria*, wild angelica *Angelica sylvestris* and opposite-leaved golden-saxifrage *Chrysosplenium oppositifolium*. In-channel submerged aquatic vegetation is restricted to occasional patches of the aquatic moss *Fontinalis antipyretica*.

5.5 The Elsick Burn has been subject to historic biological and chemical monitoring by SEPA and was reported as being in "bad" overall status in 2008. Although not historically subject to water quality monitoring (due probably to its small size), it is likely that the status of the Pheppie Burn is similar to that of the Elsick Burn.

Species

Otter

5.6 Otter spraints along the Elsick Burn, and on both islands of the pond at Home Farm, indicate usage of these areas by otter. During studies undertaken for the Environmental Statement, there was no obvious evidence of otter along the northern tributary of the Elsick Burn or along the Pheppie Burn. There was however evidence of otter occupation of a rabbit burrow on the southern edge of the Elsick Burn, and three additional potential shelters along this stretch were recorded, albeit without sprainting evidence to confirm recent usage.

Objectives

- 5.7 The following objectives are relevant to the **Wetlands** theme:
 - **Objective Wetland 1:** Increase usage of site watercourses by otter and other riparian fauna.
 - **Objective Wetland 2:** Improve condition, connectivity and extent of riparian habitats within the site.
 - **Objective Wetland 3:** Create new wetland features within the site with biodiversity value.

General management prescriptions

5.8 The following will constitute the general management prescriptions for the achievement of **Objectives Wetland 1**, **2** and **3**. Detailed prescriptions for the application of these at the management unit level can be found within the relevant section for each management unit.

Prescription Wetland 1a

5.9 Stock- and dog-proof post and wire fencing will be used for the property boundary demarcation parallel to the Pheppie Burn Corridor to prevent informal access to the riparian corridor, particularly by dogs from neighbouring residential properties. This fencing will be erected so as to enable access to the burn corridor for maintenance.



Prescription Wetland 1b

5.10 Riparian corridors will be traversed by appropriately designed watercourse crossings. This will include safe passage for riparian mammals where necessary.

Prescription Wetland 2a

5.11 Marginal habitats alongside the Elsick Burn will be managed to ensure a mix of 20-40 % tree and scrub cover, within wet grassland habitats, in order to provide a varied habitat mix along the riparian corridor. (See also **Woodland 1d**.) As per guidance in the Aberdeenshire Local Development Plan², this riparian buffer habitat will be at least 6 m wide on both sides of the burn where there is a 1 m wide channel, increasing wherever possible, and increasing where channel widths are greater than 1 m. According to **Table 2.1**, this will entail c. 5.2 ha of wet woodland habitat. *This will be delivered via the Landscape Framework Strategy.*

Prescription Wetland 2b

5.12 Marginal habitats alongside the Pheppie Burn will be managed to ensure a mix of 20- 40 % tree and scrub cover, and 60 % wet grassland habitats, in order to provide a varied habitat mix along the riparian corridor. (See also **Woodland 1d.**) As per guidance in the Aberdeenshire Local Development Plan, this riparian buffer habitat will be at least 6 m wide where there is a 1 m wide channel, increasing wherever possible, and where channel widths are greater than 1 m. According to **Table 2.1**, this will entail c. 4.6 ha of wet woodland habitat. *This will be delivered via the Landscape Framework Strategy.*

Prescription Wetland 3a

5.13 Design SuDS ponds with profiles that will allow the formation of shallow shorelines and deeper water areas, and a proportion of areas which will seasonally dry out. According to **Table 2.1**, this could represent c. 4 ha of open water habitat, but will also include swamp, fen and wet woodland habitats as part of the SuDS network. *This will be delivered via the Landscape Framework Strategy.*

Prescription Wetland 3b

5.14 Planting of SuDS areas with appropriate aquatic and marginal native species to attract invertebrates and amphibians. This will include fen and swamp species where these habitats are to be created. *This will be delivered via the Landscape Framework Strategy.*

² **Aberdeenshire Council (2011)** *Planning Advice Note No. 2: Buffer Strip Guidance.*



6 Theme 2 - Farmland Interface

Overarching aims and vision

6.1 Although the pre-development farmland character of the area will be permanently altered by the construction of Chapelton of Elsick, significant opportunities exist for retaining farmland species by ensuring connectivity with retained agricultural landscapes around the perimeter of the site, and incorporating features into the built environment which are suitable for nesting birds.

Baseline

Habitats

- 6.2 The site is currently dominated by arable land, including cereal (39.1 % of the total site area), sown grassland ley (23.6 %), oil-seed rape (8.3 %) and ploughed land (2.8 %), as well as small areas of game cover and early spring forage crops for cattle. Fields of temporary rye-grass ley are managed on a four year rotation (alternated with commercial crop production) and supported species-poor rye-grass dominated swards, usually with abundant white clover *Trifolium repens*, and some broad-leaved dock *Rumex obtusifolius*, annual meadow-grass *Poa annua*, common mouse-ear *Cerastium fontanum*, and marsh foxtail *Alopecurus geniculatus*.
- 6.3 Areas of cropped arable land are intensively managed and in general support sparse and species-poor arable weed communities, largely restricted to field margins and tracks used by farm vehicles. Typical weed species associated with cereal crops are chickweed *Stellaria media*, annual meadow-grass, lesser swine-cress *Coronopus didymus*, common ramping-fumitory *Fumaria muralis* and cleavers *Galium aparine*. The Nationally Vulnerable species corn spurrey *Spergula arvensis* is present in a single cereal field towards the east of the site. Its distribution within the site is likely to change significantly from year to year according to local variation in agricultural land management. Weed species more commonly associated with fields of oil-seed rape include scentless mayweed *Tripleurospermum inodorum*, hairy bitter-cress *Cardamine hirsuta*, field forget-me-not *Myosotis arvensis* and field pansy *Viola arvensis*.
- 6.4 Occasional fields of permanent improved species-poor rye-grass dominated pasture grassland are present locally across the site. Typically they are homogenous, but patches of poorly drained and damaged grassland within these fields are often marked by the dominance of soft-rush.
- 6.5 More species-rich semi-improved grassland occurs in neglected parts of the site, for instance around ungrazed gorse scrub, field edges, and as narrow un-mapped fringes along drainage ditches and hedgerows. These grasslands consist of unmanaged and rank swards, and support a range of common grasses and forbs.



Species

Barn owl

- 6.6 Barn owl is a Wildlife and Countryside Act Schedule 1 species, and an amber listed species of conservation concern. It is reported to have bred on the site in recent years, but searches over typical hunting habitat and careful investigation of suitable roosting and nesting out-buildings during the preparation of the Environmental Statement did not result in any observations of live birds. The remains of a dead barn owl were found in the south of the site, east of Upper Cairnhill, and signs of the historical presence of barn owl, in the form of pellets, feathers and droppings were present in two farm buildings at Wester Cairnhill.
- 6.7 Similar historical evidence of the presence of barn owl was found in two buildings at Nether Cairnhill, within the Phase 1a boundary. However, pellets there were not thought to be recently produced and it was concluded that the species did not breed within the survey area in 2011. Nevertheless, the conservation status of barn owl means that encouraging this species to the site remains an aspiration of this Biodiversity Action Plan.

Tree sparrow

- 6.8 The UK tree sparrow population has suffered a severe decline, estimated at 93 % between 1970 and 2008. It is now a red listed species of conservation concern.
- 6.9 A maximum count of 14 tree sparrows was recorded during the winter, with most birds based around a pheasant feeder close to the Elsick Burn south-east of the Home Farm Pond. Small numbers of tree sparrows were also noted regularly at Nether Cairnhill, in the south-east of the site. The species was more widespread during the breeding season where it was present mainly in association with the nesting opportunities provided by cavities in mature deciduous trees at Nether Cairnhill, Newhall, Gillybrands and Chapelton. A breeding population of approximately 15 pairs was estimated, with up to five pairs probably nesting at Nether Cairnhill.

Badger

- 6.10 Badgers and their setts are protected by law in the Protection of Badgers Act 1992 (as amended by the Nature Conservation (Scotland) Act 2004).
- 6.11 Four main setts were located within or close enough to the Chapelton site to be expected to possess territory within it, and were subject to a bait-marking study in order to determine the extent and location of their respective territories.
- 6.12 The Masterplan was informed by the results of the badger sett and territory surveys, and specific actions relating to licences required for sett closures have been provided in a confidential Badger Protection Plan³. Effects of the development on badgers have been minimised through maintaining habitat connectivity and improving the quality of retained

^{*} **AEL (2011)** *Chapelton of Elsick Proposed New Community - Badger Protection Plan.* Confidential report produced for the Elsick Development Company, August 2011.



green space for badger foraging. The Badger Protection Plan also explains that where necessary compensation for the loss of badger foraging habitat will be provided via the creation of permanent grassland. In addition, the Badger Protection Plan requires the following best practise measures to be adopted to avoid/minimise temporary threats and/or disturbance to badgers during the construction phase:

- all setts that are to be retained (and those setts to be shut down prior to their closure) will be protected from accidental machine incursion by 30m stand-off protection zones established using temporary post and wire fencing under the direction of an Ecological Clerk of Works (ECoW);
- all protection zones will be monitored regularly by the ECoW while construction operations are ongoing;
- the use of noisy plant and machinery in the vicinity of the protection zone will cease at least two hours before sunset;
- security lighting will be directed away from setts;
- chemicals will be stored as far as possible away from setts and badger paths;
- trenches and open excavations will be covered at the end of each working day, or include a means of escape for any animal falling in;
- any temporarily exposed open pipe system will be capped in such a way as to prevent badgers gaining access as may happen when contractors are off site.

The Country Park

6.13 Compensation habitat for badger within the Outline Area may be specifically provided in the area that has been safeguarded for use as a Country Park. Should the Country Park not be delivered, it is envisaged that this area of land will still be used to accommodate appropriate badger mitigation measures and will be managed accordingly. Again further detail of these measures will be provided through future versions of the BAP. As and when the Country Park is brought forwards, appropriate additional management prescriptions will be implemented to enhance biodiversity, including but also in addition to badgers, and will be described in future versions of this BAP (see paragraph 2.10).

6.14

Objectives

- 6.15 The following objectives are relevant to the **Farmland Interface** theme:
 - **Objective Farmland Interface 1:** Maintain numbers of breeding barn owl at or above baseline levels.
 - **Objective Farmland Interface 2:** Ensure long-term management of nesting provision for tree sparrow.
 - **Objective Farmland Interface 3:** Increase bat roosting opportunities around the periphery of the site.
 - **Objective Farmland Interface 4**: Provide new areas of permanent pasture to compensate for loss of badger foraging habitat.



• **Objective Farmland Interface 5:** Create and manage for wildlife new grassland habitats.

General management prescriptions

6.16 The following will constitute the general management prescriptions for the achievement of **Objectives Farmland Interface 1, 2, 3, 4 and 5**. Detailed prescriptions for the application of these at the management unit level can be found within the relevant section for each management unit.

Prescription Farmland Interface 1a

6.17 Tree planting along main access roads will be designed so as to minimise the probability of barn owl collision with vehicles. Where appropriate from a highways safety perspective, this will entail minimising the width of grass verges through road edge tree planting in order encourage barn owls to fly at height over the carriageways, and regular cutting of any grass verges and embankments to discourage barn owls from using the carriageway corridor for hunting. *This will be delivered via the Landscape Framework Strategy.*

Prescription Farmland Interface 1b

6.18 Identification of appropriate new civic buildings or outbuildings which overlook countryside areas which will have barn owl access incorporated into their design and a nest chamber provided. This will involve a suitably sized access point (minimum of 300 x 300 mm) at a minimum height of 3 m above the ground. *This will be delivered during architectural Detailed Design Phases.*

Prescription Farmland Interface 1c

- 6.19 10 barn owl boxes to be provided in suitable locations such as:
 - retained, dark but open farm buildings;
 - detached residential buildings or their outbuildings on the perimeter of the site adjacent to suitable forage habitat;
 - at least 4 m off the ground on mature trees on the perimeter of the site and adjacent to open farmland;
 - not close to busy roads.

6.20 This will be delivered during architectural Detailed Design Phases.

Prescription Farmland Interface 2a

6.21 Identification of at least three suitable tree-ed areas on the periphery of the site for the erection of tree sparrow nest boxes. Next boxes should be erected in groups of about 25 boxes, with several on each tree, placed close together and above head-height. The boxes should have a 2.8 cm diameter hole, and an internal drop of 20 cm.

Prescription Farmland Interface 3a

6.22 Identify new buildings fronting open countryside, parkland, landscape corridors and buffer strips suitable for the incorporation of either enclosed (brick faced or similar) bat boxes into the external fabric, or for bat roost features to be incorporated into the buildings' design.



One in every three such buildings will contain an integrated bat roost feature. *This will be delivered during architectural Detailed Design Phases.*

Prescription Farmland Interface 4a

- 6.23 Identify areas of arable land for reversion to permanent pasture as compensatory badger foraging habitat. These areas of grassland must each be contiguous parcels of land (i.e. not fragmented), be within the known territory of each respective badger group, and connected to retained areas of foraging.
- 6.24 Updated bait marking surveys will be undertaken prior to the commencement of each phase to determine the specifics of the required badger mitigation strategy.

Prescription Farmland Interface 4b

6.25 Reseed areas identified for reversion to pasture with Germinal Seeds' A25 Agricultural Reinstatement grassland seed mix.

Prescription Farmland Interface 4c

6.26 Manage reversion areas in the first year post-establishment in accordance with the seed supplier's instructions. Thereafter these areas can be grazed by sheep or cattle, or cut down to c. 40 mm at the end of July and mid-October (to avoid disturbing nesting birds), removing the arisings on both occasions. Arisings can be used for winter animal feed if required. No vermicides are to be used.

Prescription Farmland Interface 5a

6.27 Sow areas identified as wildflower strips with an MG5 wildflower mix, preferably using a seed source of local provenance.

Prescription Farmland Interface 5b

6.28 Manage wildflower areas in the first year post-establishment in accordance with the seed supplier's instructions. In subsequent years, mow no more than twice a year, in the last week of July and first week of October, and remove arisings on both occasions.



7 Theme 3 – Built-up Areas and Roadsides

Overarching aims and vision

7.1 The built-up areas of the Chapelton of Elsick development will continue to support a thriving biodiversity resource. The buildings, gardens, parks and road-ways will provide many opportunities for wildlife, and the presence of natural heritage in close proximity to human settlement will add to the amenity value and quality of the development.

Baseline

Species

General bird species associated with human settlement

- 7.2 **House sparrow** was recorded in few areas of the site. During winter, the species was recorded regularly at East Rothnick, west of the current site boundary, and on one occasion only in the far south-east, at Nether Cairnhill. As a breeding bird, house sparrow remained scarce but was more widespread with between 10 and 15 pairs, mainly associated with the built areas of Newhall, East Windyedge, and Chapelton.
- 7.3 Blue tit, great tit and coal tit were all recorded on the site. Over winter, a population of c. 15 blue tits was associated with woodlands and gardens, foraging along hedgerows. Coal tits were associated with coniferous woodland and were probably under-recorded. Great tits were widespread in woodlands and were also foraging along hedgerows. In terms of breeding tits, between 30 and 40 pairs of blue tit were present within the site, and were widespread within gardens and deciduous woodland. A similar pattern was seen for great tits. 20-30 coal tit territories were also recorded, primarily in coniferous woodland.
- 7.4 **Common swift** was not recorded as breeding, but was seen foraging in small numbers over the site.
- 7.5 Between 30 and 40 breeding pairs of **swallow** were recorded across the site. They were associated with nearly every collection of buildings within the study area.

Monk's rhubarb

7.6 Two patches of the nationally Near Threatened plant species monk's-rhubarb *Rumex pseudoalpinus* were present along a southern road verge at NO 8894 9393 and a field verge just south of Wester Cairnhill at NO 8860 9368. This species is locally common in East Scotland, and is thought to have been present in Scotland since medieval times.

Bats

7.7 Four, and possibly five, bat species were recorded within the Chapelton site, including common and soprano pipistrelle, brown long-eared bat, and one or two *Myotis* species: Daubenton's and/or Natterer's bat. The network of woodland and wetland habitat



concentrated around Elsick House, Home Farm and the Elsick Burn, together with interconnecting coniferous plantation woodlands and scrub extending over the wider site, provide good foraging habitat for bats, and survey work indicates that all the recorded bat species were using this network for commuting purposes.

7.8 Management measures related to bats are also covered under the **Woodland**, **Trees and Boundary Features theme**. The management objectives and prescriptions included under the **Built-Up Theme** are those that are specifically related to the built environment.

Objectives

- 7.9 The following objectives are relevant to the **Built-Up** theme:
 - **Objective Built-Up 1:** Ensure that nesting opportunities for bird species associated with human settlement are integrated into the development.
 - **Objective Built-Up 2:** Ensure no decrease in the population of monk's rhubarb on the site.

General management prescriptions

7.10 The following will constitute the general management prescriptions for the achievement of **Objectives Built-Up 1** and **2**. Detailed prescriptions for the application of these at the management unit level can be found within the relevant section for each management unit.

Prescription Built-Up 1a

7.11 Conversion of existing buildings will retain or replace features accessible and suitable for nesting swallow wherever practicable to do so. *This will be delivered during architectural Detailed Design Phases.*

Prescription Built-Up 1b

7.12 Outbuildings within the parkland, allotment and small-holding areas will be designed with features accessible and suitable for nesting swallow wherever practicable to do so. *This will be delivered during architectural Detailed Design Phases.*

Prescription Built-Up 1c

7.13 One in every three suitable buildings, in appropriate areas, will be constructed with an integrated bird nest brick suitable for a range of species, but in particular house sparrow, tits and common swift. *This will be delivered during architectural Detailed Design Phases.*

Prescription Built-Up 2a

7.14 Areas suitable for the translocation of monk's rhubarb will be identified prior to development in those areas where this species occurs, and appropriately prepared to receive translocated rhizomes.

Prescription Built-Up 2b

7.15 Rhizomes of monk's rhubarb will be collected prior to development and propagating in suitable greenhouse conditions until the receptors sites described in **Built-Up 2a** have been prepared.



Prescription Built-Up 2c

7.16 Propagated rhizomes of monk's rhubarb will be translocated to the receptor sites.



8 Theme 4 - Woodland, Trees and Boundary Features

Overarching aims and vision

8.1 The Chapelton of Elsick development will retain wherever possible existing field and vegetation patterns as a defining aspect of its character. These features will link the settlement into its surrounding undeveloped countryside and landscape context, and provide green spaces and corridors within the site for wildlife movement and connectivity.

Baseline

Habitats

Woodland and scrub

- 8.2 The majority of woodland within the site currently comprises dense blocks of young/semimature Sitka spruce *Picea sitchensis*, with very sparse and species-poor ground layers. Small stands of more mature spruce and younger stands of spruce and mixed plantation also occur. Typically, the more mature conifer woodlands possess a more open canopy and support a better developed, but usually species-poor, ground layer dominated by creeping soft-grass *Holcus mollis* and nettle *Urtica dioica*, with cleavers, broad buckler-fern *Dryopteris dilatata*, male fern *Dryopteris filix-mas*, pignut *Conopodium majus*, Yorkshire-fog *Holcus lanatus* and germander speedwell *Veronica chamaedrys*.
- 8.3 The largest and most significant areas of woodland occur around Elsick House and to the west and north of Home Farm. These correspond to land areas included on the Ancient Woodland Inventory (AWI) as long established woodland of plantation origin and ancient semi-natural woodland, respectively. The woodland immediately around Elsick House consists of parkland style plantings of widely spaced mature and young broad-leaved and coniferous trees and shrubs over an amenity grassland lawn, and support a range of tree species trees including chestnuts, beech, limes, maples, spruce and cypress. Narrow belts of mature broad-leaved trees also occur around the perimeter of Elsick House grounds, including numerous beech and sycamore, with a few oak *Quercus* sp., wych elm *Ulmus glabra*, Norway maple *Acer platanoides* and ash *Fraxinus excelsior*.
- 8.4 The woodland area to the north of Home Farm currently comprises young and semi-mature coniferous plantation with occasional mature broad-leaved trees around the perimeter, and a central core of recently felled plantation woodland supporting pioneer bog/wet heath type vegetation. There is also a small stand of mature dry heather heath with some silver birch regeneration. Although part of this area has been classified as ancient woodland of semi-natural origin by the AWI, the majority no longer has semi-natural woodland cover due to felling. A small range of ancient woodland indicator vascular plants (AWVPs) are present in this area and in other scattered woodland locations across the site including chickweed-wintergreen *Trientalis europaea*, wood-sorrel *Oxalis acetosella*,



climbing corydalis *Ceratocapnos claviculata*, pignut, great wood-rush *Luzula sylvatica* and hairy wood-rush *Luzula pilosa*. These species, both individually and in combination, represent a relatively poor suite of AWVPs and do not indicate significant ancient woodland interest within the site. This is to be expected as the woodlands have had a long association with commercial forestry planting and management.

8.5 Areas of dense scrub are largely restricted to linear stands of dense and scattered gorse along field boundaries and burns, and in poorly managed pastures.

Hedgerows

8.6 Hedgerows are largely restricted to single species and regularly cut examples of beech hedging along the driveways leading to Elsick House and along field boundaries in the north of the site. Stretches of more mixed hedgerow, including some standard trees, are present along the roadside south of Lodge Croft. Hedgerow verges typically support rank grassland vegetation with tall ruderal species, often with cock's-foot *Dactylis glomerata*, false oat-grass *Arrhenatherum elatius*, Timothy *Phleum pratense*, cow-parsley *Anthriscus sylvestris*, nettle, broad-leaved dock, bush vetch *Vicia sepium*, common sorrel *Rumex acetosa*, broad buckler-fern and male-fern.

Species

Bats

- 8.7 Four, and possibly five, bat species were recorded within the Chapelton site, including common and soprano pipistrelle, brown long-eared bat, and one or two *Myotis* species: Daubenton's and/or Natterer's bat. The network of woodland and wetland habitat concentrated around Elsick House, Home Farm and the Elsick Burn, together with interconnecting coniferous plantation woodlands and scrub extending over the wider site, provide good foraging habitat for bats, and all the bat species recorded are using this network for commuting purposes. These habitats will be restructured and retained in order to maintain this habitat connectivity.
- 8.8 Bats are also covered under the **Farmland Interface and Built-Up Themes**. The management objectives and prescriptions included under the **Woodland, Trees and Boundary Features Theme** are those that are specifically related to the non-built environment.

Red squirrel

8.9 No red squirrel were recorded on the site during the studies undertaken for the Environmental Statement. Grey squirrel were recorded in the gardens around Elsick House. Red squirrels are in decline in the UK, and Scotland now hosts 75 % of the entire UK population. Grampian remains a stronghold for the red squirrel, with large areas of good quality red squirrel habitat. Although much of this habitat remains free of grey squirrels, greys are beginning to spread out of Aberdeen City and across Aberdeenshire, particularly down the river corridors of the Dee and Don. Red squirrels have been disappearing from many areas, including much of Aberdeen City, and the species is of high conservation priority in the area.



Objectives

- 8.10 The following objectives are relevant to the **Woodland**, Trees and Boundary Features Theme:
 - **Objective Woodland 1:** Maintain extent and improve condition of key native woodland areas and boundary features.
 - **Objective Woodland 2:** Increase tree roosting opportunities for bats and maintain bat populations at at least pre-construction levels.
 - **Objective Woodland 3:** Attract red squirrel and discourage grey squirrel from the site.

General management prescriptions

8.11 The following will constitute the general management prescriptions for the achievement of **Objectives Woodland 1, 2** and **3.** Detailed prescriptions for the application of these at the management unit level can be found within the relevant section for each management unit.

Prescription Woodland 1a

8.12 Restructure existing spruce-dominated woodlands through the removal of the spruce and the re-establishment of heathland (north of Home Farm) or mixed woodland with native species such as rowan *Sorbus aucuparia*, willows *Salix* spp., silver birch *Betula pendula*, downy birch *B. pubescens*, alder *Alnus glutinosa*, and Scot's pine. According to **Table 2.1**, this will entail the restructuring of c. 18 ha of woodland. *This will be delivered via the Landscape Framework Strategy.*

Prescription Woodland 1b

8.13 Planting of woodland areas, shelter belts, roundels and copses with native species such as rowan *Sorbus aucuparia*, willows *Salix* spp., silver birch *Betula pendula*, downy birch *B. pubescens*, alder *Alnus glutinosa*, and Scots pine. According to **Table 2.1**, this will entail the creation of c. 20 ha of new woodland. *This will be delivered via the Landscape Framework Strategy.*

Prescription Woodland 1c

8.14 Planting of riparian corridor woodland using species such as willows and alder, at a density that ensures 20-0 % tree cover, depending on location (see Wetland 2c and Wetland 2d). According to Table 2.1, this will entail the creation of c. 4.6 ha of riparian woodland habitat along the Pheppie Burn, and approximately 5.2 ha along the Elsick Burn. This will be delivered via the Landscape Framework Strategy.

Prescription Woodland 1d

8.15 Improve the biodiversity value of the existing hedgerow network, using native species such as hawthorn, holly, blackthorn, guelder rose, elder and dog rose in newly planted hedges. Use a late winter trim (no later than end of February) to cut one of the hedgerow sides or the top once every three years. *This will be delivered via the Landscape Framework Strategy.*



Prescription Woodland 2a

8.16 Identify trees within the woodlands close to wetland habitats along the Pheppie Burn and the Burn of Elsick suitable for the erection of bat boxes. A minimum of 25 bat boxes should be installed across these two locations.

Prescription Woodland 3a

8.17 Tree species planted within the site will include preferential red squirrel drey and forage trees including Norway spruce *Picea abies*, Scots pine *Pinus sylvestris*, Corsican pine *Pinus nigra var.* and Larch *Larix decidua*. Specimens of such species present in existing plantations will be retained to maturity. Planted broad-leaved species will include small-seeded species that will encourage red squirrel, such as rowan *Sorbus aucuparia*, willows *Salix* spp., silver birch *Betula pendula*, downy *birch B. pubescens* or alder *Alnus glutinosa*. According to **Table 2.1**, a total of c. 48 ha of woodland will either be restructured or planted as new. *This will be delivered via the Landscape Framework Strategy*.

Prescription Woodland 3b

8.18 Grey squirrels will be controlled using locally appropriate and licensed means, and in collaboration with the strategies promoted by Saving Scotland's Red Squirrels (SSRS) and SNH. For development phases that include areas where greys are known or likely (e.g. Elsick House grounds), EDC/CICC will agree the amount of trapping effort required with SSRS, and will either undertake this work directly or fund SSRS to undertake the work.



9 Management Units and Their Plans

Overview

9.1 The Biodiversity Action Plan will be applicable across the whole of the Chapelton of Elsick site. However, not all Themes, Objectives or Prescriptions will be applicable in all areas, and due to the phased nature of the development's construction programme, not all actions under this plan can be implemented simultaneously. **Condition 7** of the Full Permission for the first phase of the development (reference APP/2011/3103) states:

"Prior to occupation of works within a given phase of the development hereby approved a Bio-diversity Action Plan for that phase shall be submitted to and approved in writing by the Planning Authority. The scheme shall be based on the approved detailed habitat, hydrological and ecological studies. The management proposals for each phase shall be carried out in complete accordance with the approved scheme."

9.2 This section provides details regarding the specific Prescriptions to be adopted in each management unit, which broadly coincide with the proposed development phases of the scheme. This section will be added to as the detailed designs for each development phase are produced.

Management Unit 1A: Development Phase 1A

Overview of MU 1A

- 9.3 Development Phase 1A comprises part of the neighbourhood of Cairnhill, which forms the south-eastern section of the development. Its main elements include 802 homes, a neighbourhood centre (comprising a convenience supermarket, other local shops, a surgery, community centre and place of worship), a primary school, and associated open space and play areas.
- 9.4 Management Unit 1A covers the Development Phase 1A and the main access road, as shown in **Figure 9.1**. It covers just under 54 ha and is separated into nine sub-management units, called 1Aa-1Ai. These management sub-units are currently predominantly arable farmland, with mixed and coniferous plantation woodland restricted to MSU 1Aa and 1Ah, and a small area of broad-leaved woodland in 1Ab, 1Ah and 1Ai.

Management Prescriptions applicable to MU 1A

9.5 A summary of the main objectives and prescriptions for Management Unit 1A are summarised in **Tables 9.1-9.3** below, and illustrated in **Figure 9.2**.



Table 9.1: Summary of landscaping	g actions in Phase 1A	management units.
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Feature	ha
allotments	0.2
developed	43.7
grassland	3.6
local green space	0.6
neighbourhood park	0.6
new woodland	0.7
restructured plantation woodland	1.5
retained as agricultural land	2.5
SUDS	0.0
wildflower grassland	0.4
Total	53.8

Table 9.2: Summary of BAP actions for the Phase 1A Management Units.

Objective	Aim	Actions for Phase 1A		
Wetland 1	Increase usage of site watercourses by otter and other riparian fauna.	 Wetland 1a: dog-proof post and wire fencing for properties bordering the Pheppie Burn; Wetland 1b: mammal culverts or dry passage ledges for watercourse crossing points on the Pheppie Burn. 		
Farmland Interface 1	Maintain numbers of breeding barn owl at or above baseline levels.	 Farmland Interface 1a: soft landscaping of main access road to Phase 1A to be designed so as to minimise barn owl collisions. Farmland Interface 1c: provision of at least two barn owl boxes within Phase 1A on appropriately located mature trees or buildings which overlook areas of open countryside. 		
Farmland Interface 2	Ensure long-term management of nesting provision for tree sparrow.	• Farmland Interface 2a: erection of 25 tree sparrow boxes in a suitable area of trees on the periphery of the Phase 1A area, overlooking open countryside. This will constitute one of the three target areas for tree sparrow for the entire site.		
Farmland Interface 3	Increase bat roosting opportunities around the periphery of the site.	• Farmland Interface 3a: one in every three buildings within Phase 1A which face open countryside to be constructed with either an enclosed (brick faced or similar) bat box or to have bat roost features incorporated into the design. This will represent 4-5 of the steading plots in Phase 1A which open out onto farmland along the boundary.		
Farmland Interface 5	Create and manage for wildlife new grassland habitats.	 Farmland Interface 5a: Prepare areas for wildlife grasslands as per details in Landscape Framework. Sow c. 0.4 ha of identified areas with MG5 wildflower mix, in accordance with supplier's instructions. Farmland Interface 5b: Manage wildflower areas in the first year post-seeding in accordance with seed supplier's instructions. Thereafter, mow no more than twice a year, in the last week of July and first week of October and remove arisings on both occasions. 		
Built-Up 1	Ensure that nesting opportunities for bird species associated with human settlement are integrated into the development	 Built-Up 1a: retain features accessible to and suitable for nesting swallow in all buildings within Phase 1A that are to be converted or updated; Built-Up 1b: all new out-buildings within the Phase 1A (garages, sheds etc.) to be designed with features accessible to and suitable for nesting swallow; Built-Up 2c: integrate one nest box/nest brick for every three suitable new buildings within appropriate areas of Phase 1A, suitable for a range of species, but in particular house sparrow, tits and common swift Locations 		



Objective	Aim	Actions for Phase 1A			
		for boxes in Phase 1A are shown in Figure 9.2.			
Built-Up 2	Ensure no decrease in the population of monk's rhubarb on the site	 Built-Up 2a: Establish whether or not there are areas suitable within Phase 1A for the translocation of monk's rhubarb; Built-Up 2b: Prior to development, collect and propagate rhizomes of monk's rhubarb from the areas within Phase 1A where the species is known to occur; Built-Up 2c: if Built-Up 2a has identified suitable receptor sites within Phase 1A, translocation to these sites should occur in due course. 			
Built-Up 4	Ensure no net loss in the number of bat roosts within the site, nor decreases in their productivity	• Built-Up 4a: one in every three buildings within Phase 1A which face open countryside to be constructed with either an enclosed (brick faced or similar) bat box or to have bat roost features incorporated into the design. This will represent 4-5 of the steading plots in Phase 1A which open out onto farmland along the boundary.			
Woodland 1	Maintain extent and improve condition of key native woodland areas and boundary features	 Woodland 1a: restructuring of retained woodlands within the Phase 1A area; Woodland 1b: planting of 0.5 ha of shelter belts, roundels and copses with native woodland species within Phase 1A, and 770 m of linear boundary planting along the Causey Mount; Woodland 1d: establish 2,500 m of new native species-rich hedgerows within the Phase 1A area. 			
Woodland 3	Attract red squirrel and discourage grey squirrel from the site	 Woodland 3a: Use tree species preferred by red squirrel in newly planted and restructured woodlands – Scot's pine, Corsican pine, larch, rowan, willows, silver birch, downy birch and alder. Woodland 3b: control grey squirrels within non-residential areas of Phase 1A using currently accepted trap and kill methods. 			



Prescription	Primary delivery	Management sub-units								
	mechanism	1Aa	1Ab	1Ac	1Ad	1Ae	1Af	1Ag	1Ah	1Ai
Wetland 1a	Landscape Strategy					✓	✓			
Wetland 1b	Landscape Strategy/Design					1	√			
Farmland Interface 1a	Landscape Strategy									✓
Farmland Interface 1c	Building design				✓	√	√			
Farmland Interface 2a	Biodiversity management								1	
Farmland Interface 3a	Biodiversity management				✓	~	~			
Farmland Interface 5a	Landscape Strategy									√
Farmland Interface 5b	Landscape Strategy									✓
Built-Up 1b	Building design			✓						
Built-Up 1c	Building design	✓			✓	✓	✓			
Built-Up 2a	Biodiversity management		⁵ ?		?					
Built-Up 2b	Biodiversity management		?		?					
Built-Up 2c	Biodiversity management		?		?					
Woodland 1a	Landscape Strategy								✓	
Woodland 1b	Landscape Strategy							✓		
Woodland 1d	Landscape Strategy							✓		
Woodland 3a	Landscape Strategy							✓	✓	
Woodland 3b	Biodiversity	1	~	~	✓	~	~	✓	✓	

Table 9.3: Summary of management prescriptions applicable to the Phase 1Amanagement sub-units and the primary mechanism for their delivery.

⁴ Biodiversity Management = direct biodiversity management prescription; Landscape Strategy = prescription to be delivered as part of Landscape Framework Strategy; Building Design = prescription to be delivered via architectural design of buildings. ⁵ Locations suitable for monk's rhubarb translocation are still to be determined (as of August 2013). It is possible that such locations may be found in 1Ab and 1Ad but this should not be treated prescriptively.



Management Unit PB: The Pheppie Burn

Overview of MU PB

- 9.6 The Pheppie Burn flows from west to east across the Elsick site, on the southern edge of Phase 1A. Pre-development surveys reported the water to be typically 10-20 cm deep, occasionally up to 0.5 m deep, over a silt and predominantly rocky substrate. The burn's profile was currently little more than a widened ditch. The banks edges were almost vertical and averaged a depth of 1.5 m deep, with an overall channel depth of around 1.5 m wide, occasionally widening and deepening to over 2 m. The burn's banks were fully vegetated with rank species such as hogweed, false oat-grass, bedstraws, common sorrel, bush vetch, cock's-foot, broad buckler fern and male fern, red fescue, and occasional gorse. Gorse dominated in some locations, and marsh marigold occurred occasionally in the water.
- 9.7 For most of its length the burn was reported to be fenced or walled within a corridor of semi-natural vegetation around 6 m in width, with tall ruderal vegetation comprised locally abundant rosebay willowherb, as well as nettle and bramble.
- 9.8 Cattle access to the burn was occasionally possible, and in these places, rough meadow grass and creeping bent-grass were often frequent, with occasional wavy bitter-cress. A short section near the middle of the stream's length was impeded by floating sweet-grass.
- 9.9 **Condition 23** of the Full Permission for the first phase of the development (reference APP/2011/3103) states:

"The development of properties adjacent to the Pheppie Burn (as specified on Brooks Murray drawing reference 859-204-P) shall not take place unless a management plan for the land within residential plots adjacent to the Pheppie Burn has been submitted to and approved in writing by the Planning Authority. The management plan shall specify how the plot boundary with the Pheppie Burn shall be delineated. The management plan shall be based upon the approved detailed hydrological and ecological studies. The management proposals for these plots shall be carried out in complete accordance with the approved scheme."

9.10 The Pheppie Burn management details that are required by Condition 23 will be prepared as part of the detailed landscaping details for that area. However, to ensure that these fit within a wider framework the overarching management prescriptions for this area are specified here within the Biodiversity Action Plan. To this end, Management Unit PB covers the riparian corridor around the Pheppie Burn area as shown in **Figure 9.1**. It is separated into two sub-management units, called PBa and PBb.

Management Prescriptions applicable to MU PB

9.11 Just over 3.5 ha of riparian woodland habitat will be established along the Pheppie Burn as part of the BAP. A summary of the main objectives and prescriptions for Management Unit 1A are summarised in **Tables 9.4** and **9.5** below.



Objective	Aim	Actions for Phase 1A		
Wetland 1	Increase usage of site watercourses by otter and other riparian fauna	 Wetland 1a: dog-proof post and wire fencing for properties bordering the Pheppie Burn; Wetland 1b: mammal culverts or dry passage ledges for watercourse crossing points on the Pheppie Burn. 		
Wetland 2	Improve condition, connectivity and extent of riparian habitats within the site	 Wetland 2b: planting scheme to create 40 %⁶ cover trees/shrubs along Pheppie Burn within wet grassland habitats along a riparian buffer zone of varying widths, from c. 6 m up to c. 30 m. 		
Woodland 1	Maintain extent and improve condition of key native woodland areas and boundary features	• Woodland 1c: planting of alder and downy birch to create 40 % ⁷ cover of trees/shrubs along Pheppie Burn. 11 trees to be planted and natural scrub regeneration to be encouraged and managed.		
Woodland 2	Increase tree roosting opportunities for bats	• Woodland 2a: Identification of locations for and erection of 10 tree- mounted bat boxes along the Pheppie Burn corridor.		

Table 9.4: Summary of BAP actions for the Pheppie Burn Management Units

Table 9.5: Summary of management prescriptions applicable to the Pheppie Burnmanagement sub-units and the primary mechanism for their delivery

Prescription	Primary delivery mechanism [®]	Management sub-units	
		РВа	PBb
Wetland 1a	Biodiversity management	\checkmark	\checkmark
Wetland 1b	Landscape Strategy	✓	
Wetland 2b	Landscape Strategy	\checkmark	\checkmark
Woodland 1c	Landscape Strategy	✓	✓
Woodland 2a	Biodiversity management	\checkmark	\checkmark

⁸ Biodiversity Management = direct biodiversity management prescription; Landscape Strategy = prescription to be delivered as part of Landscape Framework Strategy; Building Design = prescription to be delivered via architectural design of buildings.



⁶ The intention is to provide tree cover of 40 %, the details of which will be provided via Condition 23 (see para 9.10).

⁷ The intention is to provide tree cover of 40 %, the details of which will be provided via Condition 23 (see para 9.10).



Chapelton of Elsick Biodiversity Action Plan

Phase 1A and Pheppie Burn Coverage

Management Units:



Phase 1A management units Pheppie Burn management units

Figure 9.1

Map Scale @ A3: 1:7,500

Surveyed by: -Survey date: -Drawn by: RAH Checked by: Status: Final





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Phase 1A and Pheppie Burn Management Units



retained as agricultural land

developed

Bird boxes:



buildings suitable for house sparrow terrace buildings suitable for house sparrow & barn owl

- buildings suitable for swift boxes
- area of tree sparrow boxes

Other features:

hedgerows



Figure 9.2

Main Map Scale @ A3: 1:5,000



10 Links to Other Strategies and Plans

Scottish Biodiversity Strategy

- 10.1 The Scottish Biodiversity Strategy has five main objectives, all of which are integral to the planning and delivery of the Elsick BAP. These are:
 - **Species and Habitats:** To halt the loss of biodiversity and continue to reverse previous losses through targeted action for species and habitats;
 - **People**: To increase awareness, understanding and enjoyment of biodiversity, and engage many more people in conservation and enhancement;
 - Landscapes and Ecosystems: To restore and enhance biodiversity in all our urban, rural and marine environments through better planning, design and practice;
 - Integration and Co-ordination: To develop an effective management framework that ensures biodiversity is taken into account in all decision making;
 - **Knowledge**: To ensure that the best new and existing knowledge on biodiversity is available to all policy makers and practitioners.
- 10.2 The Scottish Biodiversity List is a list of animals, plants and habitats that Scottish Ministers consider to be of principal importance for biodiversity conservation in Scotland. It includes species and habitats that are priorities for conservation, but also species that have high cultural or social significance. The overlaps between the target habitats and species of the Elsick BAP and those of the Scottish Biodiversity Strategy are summarised in **Table 10.1** below.

North East Scotland Local Biodiversity Action Plan

10.3 The North East Scotland Local Biodiversity Action Plan (LBAP) covers the Aberdeen, Aberdeenshire and Moray areas. It contains a number of objectives and targets that are the subject of the Elsick BAP. These overlaps are summarised in **Table 10.1** below.

Elsick BAP theme	Scottish Biodiversity List	North East Scotland LBAP action plan
Wetlands	Rivers; otter	Rivers and burns; wet and riparian woodlands
Farmland interface	Skylark; barn owl; tree sparrow	Farmland
Built-up areas and roadsides	Swift; all bats	Urban areas
Woodlands, trees and boundary features	Hedgerows; lowland mixed deciduous woods; wood pasture and parkland; all bat species; red squirrel	Broad-leaved woodland; wood pasture, parkland and wayside trees; wych elm; red squirrel; Daubenton's bat

Table 10.1: Links between the Scottish Biodiversity List, the North East Scotland LBAP and the Elsick BAP.



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