



Bromyard, Herefordshire
Biodiversity Enhancement Scheme

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1. Introduction

1.1.1 Ecus Ltd was commissioned by Keepmoat Homes Ltd in April 2016 to provide a Biodiversity Enhancement Scheme for the proposed development of land located at Porthouse Farm, Bromyard, Herefordshire, hereafter referred to as 'the site'.

1.1.2 Outline planning permission has been granted for the proposed development, with a number of conditions stipulated. This report will provide the necessary information as required to discharge Condition 13 of the planning permission, which states:

'Prior to commencement of the development, a full habitat enhancement and management scheme, including reference to Herefordshire's Biodiversity Action Plan Priority Habitats and Species, including timescale for implementation, shall be submitted to and be approved in writing by the local planning authority. The work shall be implemented as approved.'

Reasons: To ensure that all species are protected having regard to the Wildlife and Countryside Act 1981 (as amended), the Conservation of Habitats and Species Regulations 2010 and Policies NCI, NC6 and N7 of the Herefordshire Unitary Development Plan.

To comply with Policies NC8 and NC9 of Herefordshire's Unitary Development Plan in relation to Nature Conservation and Biodiversity and to meet the requirements.'

1.1.3 The aim of this document and the measures it sets out is to safeguard habitats and wildlife during the construction phase and to enhance the biodiversity of the site. Proposals set out in this report seek to maintain, protect and enhance the retained ecological interest present on site, in accordance with current planning policy.

1.1.4 The National Planning Policy Framework states that "opportunities to incorporate biodiversity in and around developments should be encouraged" (NPFF, 2012)".

1.1.5 This document should be read in conjunction with:

- Extended Phase 1 Survey: Land at Porthouse Farm, Bromyard, Herefordshire by Richard Tofts Ecology March 2013, and
- Planting Scheme by BM3 (April 2016) (Ref: 52934/D20).

2. Existing Habitats/Features of Ecological Interest

2.1 Background

- 2.1.1 Extended phase 1 habitat surveys of the site have been undertaken by Dr David Boddington and Jean Wynee-Jones in August 2008, Richard Tofts Ecology in 2011, and again by Richard Tofts Ecology in February 2013. At the time of the 2013 survey, the site was dominated by semi-improved neutral grassland, tall ruderal vegetation and scrub.
- 2.1.2 The triangular-shaped site is located to the north of Bromyard, with existing industrial buildings located to the south of the site. The site is bounded to the west by the B4214, whilst a grassland field lies to the east of the site. The River Frome flows along the far edges of the adjacent eastern field.

2.2 Habitats

- 2.2.1 The northern half of the site is dominated by rank semi-improved neutral grassland of cock's-foot (*Dactylis glomerata*), false oat-grass (*Arrhenatherum elatius*), Yorkshire fog (*Holcus lanatus*) with a suite of associated forb species typically associated with the habitat, and areas of interspersed damp grassland in several areas where depressions collect water. These areas are dominated by mosses and hard rush (*Juncus inflexus*). The southern half of the site is dominated by tall ruderal vegetation comprising a mixture of common nettle (*Urtica dioica*), broad-leaved dock (*Rumex obtusifolius*), lesser burdock (*Arctium minus*) and teasel (*Dipsacus fullonum*). Areas of dense and scattered scrub have developed across the site.
- 2.2.2 Native hedgerows present on the western boundary of the site are dominated by hawthorn (*Crataegus monogyna*), with elder (*Sambucus nigra*), dog rose (*Rosa canina*), hazel (*Corylus avellana*), dogwood (*Cornus sanguinea*) and bramble (*Rubus fruticosus* agg.). Trees on site are located within the hedgerows or scattered across the north of the site. Species include sycamore (*Acer pseudoplatanus*), pedunculate oak (*Quercus robur*), red oak (*Quercus rubra*), field maple (*Acer campestre*), and common lime (*Tilia x europaea*).

2.3 Species

- 2.3.1 The scattered trees, scrub and hedgerows on site have potential to support nesting birds.
- 2.3.2 Foraging and commuting bats are likely to use site habitats. An oak tree along the western boundary was also assessed in 2013 as having features with bat roost potential present.
- 2.3.3 No badger setts were recorded within, or immediately adjacent to, the site during the site surveys. A possible outlier badger sett was recorded off site to the south-east in 2010 and 2011, however no recent evidence of badger was recorded in association with the hole in 2013. Whilst not recorded using the site in 2013, badgers are likely to be resident within the surrounding area and could use site habitats for foraging as part of a larger territory.
- 2.3.4 While site habitats are considered to be suitable to support reptiles, a reptile

survey undertaken by Richard Tofts Ecology in 2010 did not record the presence of any reptile species on site.

- 2.3.5 Amphibians, including great crested newt, are not considered to use the site due to a lack of suitable breeding ponds on site or within 500 m.

2.4 Invasive Species

- 2.4.1 No invasive species were recorded within the site boundary.

3. Mitigation, Enhancement and Management Works

- 3.1.1 The proposed development will comprise 76 houses, with new access roads and soft landscaping. Landtake of all semi-improved grassland and tall ruderal vegetation will be required to accommodate the proposed development.
- 3.1.2 The majority of the hedgerow along the western boundary will be retained, with new sections planted where gaps exist or in areas highlighted for replacement. The majority of trees located on site boundaries will also be retained. A landscaped open space area comprising of grassland, shrub, tree and bulb planting will be created at the southern end of the site.
- 3.1.3 Ecological enhancement features likely to be of particular value to specific local wildlife species, including bats and birds, will be incorporated into the scheme design. Indicative locations for enhancement measures, e.g. bat and bird boxes, are detailed on Figure 2.
- 3.1.4 Mitigation, enhancement and management works can be divided into the following broad categories:
- inspection of mature trees for roosting bats prior to removal;
 - nesting bird checks prior to vegetation removal in the nesting bird season;
 - pre commencement badger survey;
 - retention and protection of existing hedgerows and scattered trees where practicable;
 - grassland seeding using an appropriate mix; and
 - incorporation of features to enhance the value of the site for specific ecological receptors.

3.2 Habitat Retention, Protection and Enhancement

Hedgerow

- 3.2.1 The majority of the western hedgerow and standard trees will be retained and gap planted. Where removal of short sections are required, reinstatement in the same place or nearby using native species is proposed to ensure no net loss.
- 3.2.2 Sections of hedgerow that are being retained will be protected with Root Protection Zones (RPZ) in accordance with British Standard BS5837 (2012). RPZs should be clearly fenced during the construction process to prevent encroachment by machinery.
- 3.2.3 Additional native hedgerow and shrub planting is proposed on sections of the western and southern boundary. Species will include native flowering and fruiting species including hawthorn (*Crataegus monogyna*), blackthorn (*Prunus spinosa*), guelder rose (*Viburnum opulus*), dog rose (*Rosa canina*) and dogwood (*Cornus sanguinea*). Full details are provided in Figure 3. These species will also be incorporated into a landscape buffer along the

southern boundary to screen existing development. In addition, landscaping in this area will comprise a mix of seeded grassland, native species planting and bulb planting. New, native beech (*Fagus sylvatica*) hedging is proposed for the eastern boundary.

Grassland

- 3.2.4 Areas of wildflower rich grassland will be created within the landscaping buffer at the south of the site. Incorporation of a damp grassland seed mix, appropriate to the area will help to retain species composition currently provided by the areas of damp grassland. Species are detailed within the Planting Plan (Figure 3).
- 3.2.5 Appropriate management including a sensitive mowing regime in this area should be implemented to help maintain species diversity within the sward. The grassland should be mown no more than twice a year, and should not be undertaken between May and September; to allow plants to flower and go to seed. Arisings from mowing should then be removed to maintain a low nutrient status for the area and help to maintain species diversity.

Scattered trees

- 3.2.6 All trees to be retained will be protected with Root Protection Zones (RPZ) in accordance with British Standard BS5837 (2012): Trees in relation to design, demolition and construction. RPZs should be clearly fenced during the construction process to prevent encroachment by machinery and soil compaction of the roots, which could result in tree failure.
- 3.2.7 New tree planting will be incorporated across the site and will include a mix of fruiting and flowering species along with ornamental varieties, chosen because of their biodiversity benefits. Proposed planting includes species such as downy birch (*Betula pubescens*), black poplar (*Populus nigra*), pedunculate oak (*Quercus robur*), rowan (*Sorbus aucuparia*), common plum (*Prunus domestica*) and apple (*Malus domestica*). Where possible, trees will be clustered to provide enhanced habitat structure/be of greater value to birds and bats. Heavy standards will be used to reduce establishment time, and a scheme of management to ensure establishment and replacement of lost specimens where necessary.

3.3 Species protection

Badger

- 3.3.1 A pre-commencement badger check will be undertaken prior to the start of site works commencing to ensure that no badger setts have been established on site in the interim of previous surveys and establish the current status of previously recorded mammal holes outwith but adjacent to the site boundary.
- 3.3.2 Badgers have potential to cross the site from time to time and therefore a best practice approach to construction will be taken. All deep excavations should be covered overnight during demolition/construction works. Shallow excavations should have a scaffold board or equivalent placed in them overnight to allow any badgers to exit, should they fall in, and all chemicals should be stored securely in accordance with best practice guidelines.

Birds

- 3.3.3 Nesting birds are protected against destruction of active nest sites under the Wildlife and Countryside Act 1981 as amended. Where possible, vegetation clearance and any arboricultural works will be undertaken outwith the bird-breeding season, which is generally defined as between March to August (inclusive), to minimise risk of destruction of active nests and to reduce disturbance to nesting birds. Should vegetation clearance during the bird breeding season be unavoidable, no such works will be undertaken until the site has been inspected by an appropriately trained, qualified and experienced ecologist to determine the presence of any active nests.
- 3.3.4 Should active nests be identified, works will not be permitted within an agreed exclusion zone, defined dependant upon species present. The nest will then be monitored by an ecologist to establish when the young have fledged/the nest is no longer in use.
- 3.3.5 Hedgerow management (trimming) should also be timed to avoid the nesting bird season (March-August inclusive). Trimming of alternate sides on an annual basis, in the autumn, would also be beneficial to retain good, thick habitat structure for nesting and sheltering.

Bats

- 3.3.6 Mature trees with bat roost potential will be inspected by a bat licence holder prior to their removal.
- 3.3.7 A sensitive lighting plan will be devised to prevent light spill onto the western hedgerow and retained trees to maintain their functionality for roosting, foraging and commuting bats.

3.4 Species Specific Enhancements

Bats

- 3.4.1 All bats are European Protected Species and are protected under the EC Habitats Directive 1992, which is implemented by the Habitat Regulations 2010, and the Wildlife and Countryside Act 1981 (as amended). Under the Act (as amended) it is an offence to intentionally or recklessly kill, injure, capture or disturb bats or to damage, destroy or obstruct access to any place used by bats for shelter or protection. This is irrespective of whether the animals are present.
- 3.4.2 Four bat boxes will be incorporated within new housing on site. Integral boxes such as Schwegler 1FR bat tubes are recommended to be incorporated into houses facing onto areas of suitable habitat. Boxes will be located at a minimum of 4 m from the ground with clear flightlines from the boxes. Heavily lit areas will be avoided.
- 3.4.3 Boxes will be placed on different elevations to maximise microclimates available to bats roosting within the boxes.
- 3.4.4 Retention of the hedgerow on the western boundary and landscaping buffer at the south of the site will maintain commuting and foraging opportunities for any bats resident in the local area.

Birds

- 3.4.5 Bird boxes will be incorporated to enhance site habitats in accordance with the NPFF (2012).
- 3.4.6 Bird boxes to be attached to new houses or on retained trees where suitable include a minimum of:
- four sparrow terrace boxes e.g. 1SP Schwegler Sparrow Terrace; and
 - four general purpose nest boxes e.g. 1MR Schwegler Avianex.
- 3.4.7 Schwegler-type nest boxes will be used, due to their proven long-lasting woodcrete construction and design. Nest boxes will be placed on new houses and retained trees and positioned to face onto areas of potential foraging habitat, where practical, e.g. the eastern boundary hedgerow and field habitat. All nest boxes should be positioned to avoid true south-facing aspects, which carry a risk of overheating during the summer months.
- 3.4.8 Hedgerow and tree retention and planting will maintain and enhance nesting and foraging potential for birds currently using the site and the local area.

4. Future Management

4.1 Management Responsibility

- 4.1.1 The site should be maintained in accordance with the landscaping maintenance schedule. Responsibility for ensuring that bat and bird boxes remain in place post construction should also fall to the contractor.

4.2 Restrictions and Limitations for Maintenance Operations

- 4.2.1 Should any trees or vegetation require thinning or removal in the future, works will be undertaken outside nesting bird season which falls between March and August inclusive, unless checked prior to works by a suitably experienced ecologist. Consideration should also be given for trees requiring work in which bats could be present if suitable features are present. Where necessary appropriate, checks should be undertaken by an experienced and licenced bat ecologist.

4.3 Plant Replacements

- 4.3.1 Any plants that fail to establish within a period of five years are to be replaced in the next planting season with others of similar size and species unless written consent is provided by the Local Planning Authority to vary the approved details.
- 4.3.2 After five years it is recommended that a requirement of the yearly site inspections includes recording where replacement planting or over-seeding is required to maintain the quality of the landscape scheme, to be actioned following client instruction.

Table 5. Management prescriptions for ecological enhancement habitats on the site

Year	Landscape/ Wildlife Planting	Tree Planting	Grassland Seeding / Maintenance	Retained semi- improved grassland / hedgerow	Bird Boxes	Bat Boxes
Year 1	<p>All landscaping planted to specification.</p> <p>Ensure newly planted shrubs remain weed free around base, re-mulch if required to suppress weed growth.</p> <p>Replace any failed container grown plants (June). Replace any failed bare root plants with same species (Nov - Feb).</p> <p>Check any stakes/guards (if present), adjust and repair as required.</p>	<p>Plant new heavy standards. Install stakes and ties as appropriate.</p> <p>Check any stakes/guards (if present), adjust and repair as required.</p>	<p>Appropriate grass seed mix to be sown according to manufacturer's specification.</p> <p>Follow mowing regime as detailed in landscaping management plan</p>	<p>Implement 5 m no-build buffer to ensure habitats protected throughout development</p> <p>Grass should be cut 1-2 times a year. Mow in early spring and then again from mid-July. All arisings should be removed off site.</p> <p>Gap up hedgerow as required with native species.</p> <p>Hedgerows should be trimmed/ flailed prior to March</p>	<p>Securely install bird boxes on site to provide nesting opportunities for species.</p>	<p>Install bat boxes during the construction stage.</p>

Year	Landscape/ Wildlife Planting	Tree Planting	Grassland Seeding / Maintenance	Retained semi- improved grassland / hedgerow	Bird Boxes	Bat Boxes
	Trimming of shrub/ornamentals to be undertaken outside of main growing season i.e. once flowering/fruiting has finished.					
Year 2	As above	Removal/ adjustment of stakes and ties.	Follow mowing regime as detailed in landscaping management plan	Grass should be cut 1-2 times a year. Mow in early spring and then again from mid-July. All arisings from grass cutting should be removed.	No management required	No management required
Year 3	As above	Removal/ adjustment of stakes and ties	Follow mowing regime as detailed in landscaping management plan	Grass should be cut 1-2 times a year. Mow in early spring and then again from mid-July. All arisings from grass cutting should be removed.	If boxes have not been used by the end of Year 3, where feasible, consider relocation to a different location/elevation to encourage uptake.	Encourage a monitoring visit by the local bat group if required.
Year 4	As above	Removal/ adjustment of stakes and ties	Follow mowing regime as detailed in landscaping management plan	Grass should be cut 1-2 times a year. Mow in early spring and then again from mid-July. All arisings from grass	No management required	No management required

Year	Landscape/ Wildlife Planting	Tree Planting	Grassland Seeding / Maintenance	Retained semi- improved grassland / hedgerow	Bird Boxes	Bat Boxes
				cutting should be removed.		
Year 5	As above Quinquennial review including management plan for next five years.	Tree works to remove dead, damaged or diseased wood. Other works- removal of debris in branches etc. Quinquennial review including management plan for next five years.	Follow mowing regime as detailed in landscaping management plan. Quinquennial review including management plan for next five years.	Grass should be cut 1-2 times a year. Mow in early spring and then again from mid-July. All arisings from grass cutting should be removed. Quinquennial review including management plan for next five years.	Quinquennial review including management plan for next five years.	Quinquennial review including management plan for next five years.

5. References

British Standards Institution (2012) BS5837: 2012. *Trees in Relation to Design, Demolition and Construction*.

Great Britain. Department for Communities and Local Government (2012) *National Planning Policy Framework*. London: Department for Communities and Local Government.

Extended Phase 1 Survey: Land at Porthouse Farm, Bromyard, Herefordshire by Richard Tofts Ecology March 2013, and

Planting Scheme by BM3 (April 2016) (Ref: 52934/D20).

Figure 1. Proposed Site Layout

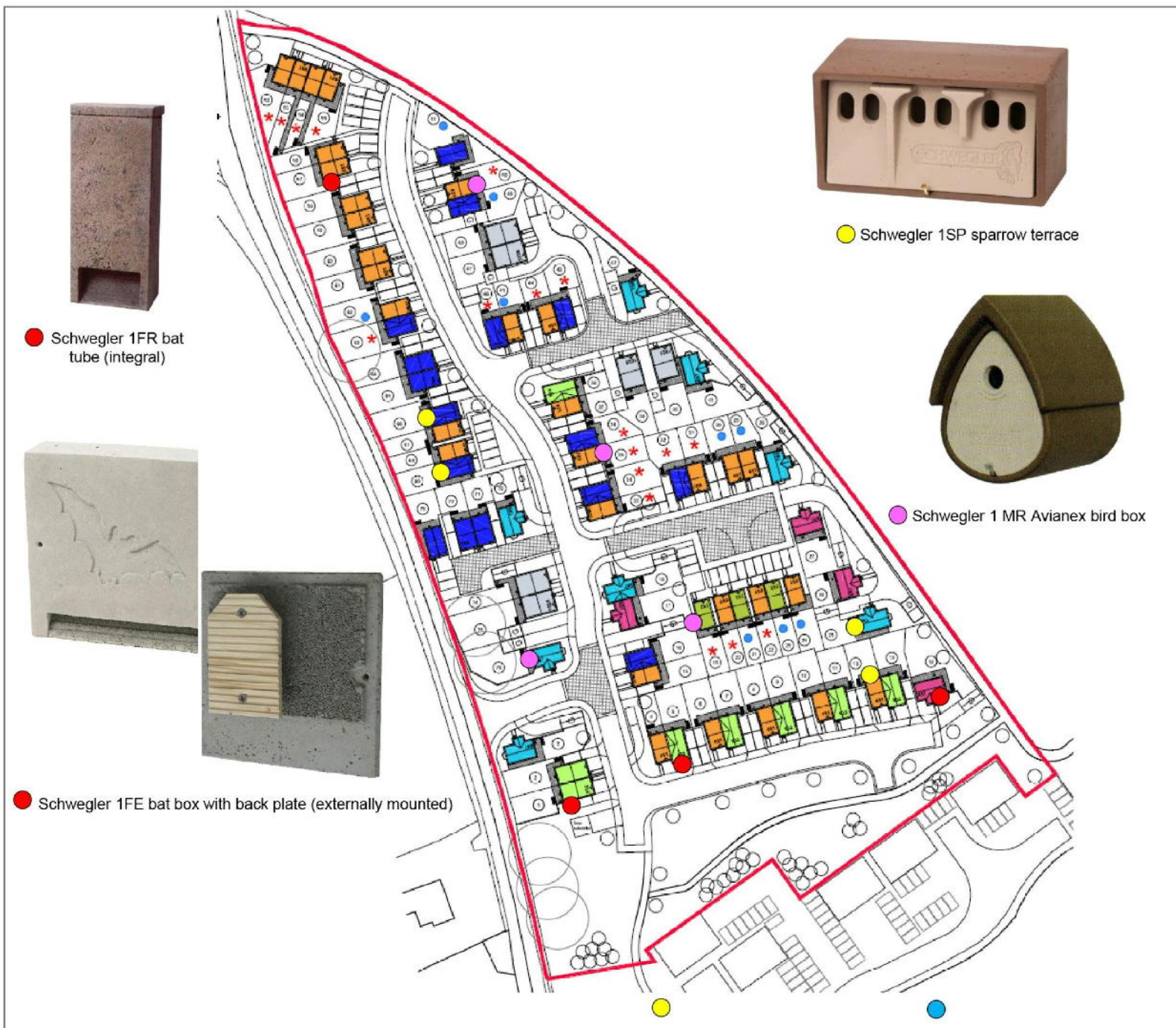
Figure 2. Suggested Bird and Bat Box Locations

Legend

Indicative location of building mounted bat box e.g. integral Schwegler 1FR bat tube OR externally mounted Schwegler 1FE bat box with back plate (microsited to avoid bright light spill and windows and doorways beneath). Box should have a clear and uninterrupted drop below and be fixed at a minimum height of 3.5 m, preferably at eaves level. Total: 4.

Indicative location of building mounted general purpose bird nest box e.g. Schwegler Avianex 1MR bird box (microsited to avoid windows and doorways beneath). To be fixed at a minimum height of 3 m. Total: 4.

Indicative location of building mounted sparrow nest box e.g. Schwegler 1SP sparrow terrace (microsited to avoid windows and doorways beneath). To be fixed at a minimum height of 3 m, preferably at eaves level. Total: 4.



Keepmoat Homes Ltd

Bromyard – Ecological Condition Discharge

Figure 1

Bat and Bird Box Plan

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Figure 3. Soft Landscape Plan

