

**LAND OFF TUNSTALL ROAD, BIDDULPH,
STAFFORDSHIRE**

HABITAT MONITORING PLAN

APRIL 2021

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Revised	

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1.0 INTRODUCTION

- 1.1 Cheshire Ecological Services (CES), the commercial division of Cheshire Wildlife Trust, was commissioned to produce a Habitat Monitoring Plan for a new Aldi foodstore off Tunstall Road, Biddulph, Staffordshire.
- 1.2 The planning application for the site includes the proposal to deliver no net loss of biodiversity units, in accordance with the Defra Biodiversity Metric (2.0). The majority of unit losses will be mitigated off-site, however, some biodiversity units will be delivered on site in line with the approved landscaping scheme.
- 1.3 Vector Design Concepts have produced a Landscape Maintenance & Management Plan to cover the creation and management of the proposed soft landscaping at the new foodstore. These habitats are required to count toward the biodiversity offset strategy for the site. Consequently, they are required to be monitored in the long-term to ensure they meet the required target condition.
- 1.4 This Habitat Monitoring Plan is designed to act as an addendum report to the Vector Landscape Maintenance & Management Plan: both of which are a requirement of planning Condition 25, which states:

Prior to the first occupation of the development hereby permitted, a Landscape and Ecology Management Plan shall be submitted to and agreed in writing by the Local Planning Authority. The plan shall detail management actions and timetables for site habitats covering a minimum of 15 years following completion of the works, with monitoring and reporting to the LPA in years 2, 5 and 15, in order that habitats achieve target conditions as set out in the Biodiversity Net Gain Metric Calculation Revised December 2020 by CES Ecology. The approved scheme shall be carried out in accordance with the approved timetable and shall thereafter be maintained and monitored.

- 1.5 This monitoring plan outlines the required size, distinctiveness and condition that all onsite habitats are required to achieve over a 15-year period to ensure they meet target condition.
- 1.6 This report should be read in conjunction with the Landscape Maintenance and Management Plan produced by Vector Design Concepts (2021) and the BNG Metrics produced by CES Ecology (2021).

2.0 BIODIVERSITY NET GAIN METRICS

- 2.1 Biodiversity Net Gain metrics were completed by CES Ecology (2021) and they concluded that the proposed development would result in an overall loss in biodiversity units. Table 1 below presents a breakdown in the changes in biodiversity unit's pre- and post-development.

Table 1: Biodiversity Units pre and post-development

Pre-development	Habitat Units	3.91
	Hedgerow Units	1.56
Post-development	Habitat Units	1.38
	Hedgerow Units	1.79
Total net unit / % change	Habitat Units/%	-2.53 / - 64.82%
	Hedgerow Units/%	+0.23 / +14.39%

- 2.2 Table 2 below presents the habitats that are to be retained or enhanced within the post-development landscape, including the required size, distinctiveness and condition for each.

Table 2: Habitats to be retained/enhanced and their required size, distinctiveness and condition

Habitat Type	Area (hectares/km).	Distinctiveness	Condition	Comments
Trees	0.01ha	Low	Moderate	Some trees are to be retained, 0.01 ha are to be lost.
Native Hedgerow	0.19km	Low	Moderate	A small section of an existing hedgerow will be enhanced, 0.15 km of the hedgerow will be lost.

- 2.3 Table 3 below displays the habitats that are to be created within the post-development landscape, including the required size, distinctiveness and condition for each.

Table 3: Habitats to be created and their required size, distinctiveness and condition

Habitat Type	Area (hectares/km)	Distinctiveness	Condition
Shrub & Bulb Mix Planting (Urban – introduced shrub)	0.05ha	Low	Poor
Wildflower Grass Seeding (Grassland-other neutral)	0.10ha	Medium	Poor
Trees (Urban street tree)	0.04ha	Medium	Moderate
Orchard (Urban – orchard)	0.10ha	Medium	Moderate
Hardstanding & Buildings (Urban-developed land; sealed surface)	0.87ha	Very Low	N/A - Other

Native Buffer Mix (Heathland and shrub-mixed scrub)	0.02ha	Medium	Moderate
Instant Hedgerow (Native hedgerow)	0.03km	Low	Moderate
Native Hedgerow (Native species rich hedgerow)	0.06km	Medium	Moderate

3.0 MANAGEMENT PRESCRIPTIONS TO ACHIEVE FAVOURABLE CONDITION

- 3.1 To achieve the required extent, distinctiveness and condition, certain management prescriptions will need to be implemented during the lifetime of the management plan. Monitoring and reporting periods by a qualified ecologist should be completed at years 1, 2, 3, 5, 10 and 15 years into the management plan.
- 3.2 The Defra Biodiversity Metric requires the distinctiveness and condition of habitats to be categorised and corresponding scores awarded. Distinctiveness is a collective measure of biodiversity and includes parameters such as species-richness, diversity and rarity. Condition assessment considers factors such as the presence of undesirable species and management practices (Crosher, 2019).
- 3.3 Detailed below is each of the habitats to be retained, enhanced or created as part of the approved landscaping scheme and proposed Landscape Maintenance & Management Plan. Each habitat has been discussed in turn, with detail on how a favourable condition will be achieved in line with the relevant condition assessments within the BNG technical supplements: *The Biodiversity Metric 2.0 auditing and accounting for biodiversity Technical Supplement* (Crosher, 2019), if relevant.
- 3.4 During the regular checks and monitoring periods, the following should be assessed across all habitat types;
- Check that species specified on the maintenance and management plan have been used
 - The positioning and size of habitats matches those on the maintenance and management plan
 - The health status of plants should be checked regularly, initially after the first 12 months and on a yearly basis after that
 - The management of habitats has been carried out in line with the maintenance and management plan, including pruning, cutting and weeding
 - Watering of the plants should take place regularly, especially during the first 12 – 18 months to encourage the plants to fully establish. Watering may be necessary during dry periods on a weekly or even daily basis.

Shrub Planting

- 3.5 **Native buffer mix planting must cover 0.02ha (200m²)** and will develop into mixed scrub habitat, which is of Medium distinctiveness and will achieve Moderate condition, achieving 0.17 biodiversity units.
- 3.6 In order to meet a Moderate condition, using the Scrub Condition table in the *Biodiversity Metric 2.0 auditing and accounting for biodiversity Technical Supplement*, the habitat must not fail the below listed criteria. The following criteria should be met with proper maintenance achieved over the lifetime of the management plan:
- Cover of undesirable species is less than 5%
 - At least three woody species have been planted

- There are clearing and glades within the scrub (a contoured edge will do given the small area concerned)

3.7 The Defra metric indicates that shrub planting (mixed scrub) will **achieve condition in 3 years**.

Bulb Mix Planting

3.8 There is no available condition assessment in the *Biodiversity Metric 2.0 auditing and accounting for biodiversity Technical Supplement*, for bulb planting that can be used for reference.

3.9 For the purpose of the metric, 'bulb planting' was grouped with 'neutral grassland' on account of the latter being the broad habitat type. **Bulb planting must consist of native species only**, otherwise this could impact on the unit value of the neutral grassland habitat.

Wildflower Grass Seeding (neutral grassland)

3.10 As stated in the BNG metric, a condition of 'poor' is proposed for wildflower grass seeding areas as these areas are to be used for amenity purposes and will be planted with orchard trees (which have a separate condition assessment and unit value).

3.11 **The area coverage of the wildflower grass seeding must be 0.1 hectares (1,000m²)**, which is of Medium distinctiveness and will achieve Poor condition to achieve 0.44 biodiversity units.

3.12 In order to meet a Poor (or higher) condition, using the Grassland Condition table in the *Biodiversity Metric 2.0 auditing and accounting for biodiversity Technical Supplement*, the habitat must not fail the below listed criteria. The following criteria should be met and with proper maintenance achieved over the lifetime of the management plan:

- Undesirable species and physical damage is below 5% cover
- Wildflowers, sedges and indicator species are very clearly and easily visible throughout the sward
- Cover of bracken less than 20% and cover of scrub and bramble less than 5%

3.13 It is recommended that fertilizers or herbicides are not used on the grass as this will encourage grasses to dominate the sward and out compete wildflowers (refer to the second point above).

3.14 The Defra metric indicates that wildflower grass seeding area will **achieve condition in 1 year**.

Trees (Urban Street trees - all trees excluding the orchard trees in the Pocket Park)

3.15 There is no available condition assessment for urban trees in the *Biodiversity Metric 2.0 auditing and accounting for biodiversity Technical Supplement*. However, to achieve a Moderate condition, planting should follow planting specifications within the Landscape Maintenance and Management Plan. It is good practice to use guards/stakes to support

newly planted trees and they should be replaced if they become damaged, if the tree has not yet fully established.

3.16 **The area coverage of the trees must cover 0.04ha (400m²),** which is of Low distinctiveness and will achieve Moderate condition, to achieve 0.07 biodiversity units. This area coverage has been based on the provision of 10 small and 5 medium-sized urban street trees. It does not include the orchard trees that are proposed to be planted in the Pocket Park, which is discussed below.

3.17 **The Defra metric indicates that urban street trees will achieve condition in 27 years.**

Orchard

3.18 As stated in the BNG metric, a condition of Moderate is proposed for the orchard within the 'Pocket Park'.

3.19 **The area coverage of the orchard must cover 0.1ha (1000m²),** which is of Medium distinctiveness and will achieve Moderate condition to achieve 0.54 biodiversity units.

3.20 The required number of trees will be spaced out across the entire area of the Pocket Park, but nowhere will they be planted densely. The approved landscaping plan indicates the planting of 15x native fruit tree varieties in this area to form an orchard.

3.21 In order to meet a Moderate condition, using the Orchard Condition table, in the *Biodiversity Metric 2.0 auditing and accounting for biodiversity Technical Supplement*, the habitat must not fail the below listed criteria. The following criteria should be met and with proper maintenance achieved over the lifetime of the management plan:

- An absence of scrub growing between the trees
- At least 80% of the trees should be free from damage
- The average sward height of the grass sward should be between 5 cm and 30cm
- There should be less than 5% cover of bare ground, injurious weeds or scrub

3.22 **The Defra metric indicates that the orchard will achieve condition in 15 years.**

Instant (native) Hedgerow & Native (species rich) Hedgerow

3.23 As stated in the BNG metric, a condition of Moderate is proposed for all the hedgerows on site (enhance and newly created).

3.24 **The area coverage of the instant hedgerows must cover 0.03km (30m),** which is of Low distinctiveness and will achieve Moderate condition to achieve 0.12 biodiversity units. **Time to condition is shown to be 5 years.**

3.25 **The area coverage of the native hedgerows must cover 0.06km (60m),** which is of Medium distinctiveness and will achieve Moderate condition to achieve 0.31 biodiversity units. **Time to target condition is again 5 years.**

3.26 In order to meet a moderate condition, using the Hedgerow Condition table, in the *Biodiversity Metric 2.0 auditing and accounting for biodiversity Technical Supplement*,

the habitat must fail no more than 4 criteria. The following criteria should be met with proper maintenance achieved over the lifetime of the management plan:

- >1.5m in height along the length
- >1.5m in width along the length
- >90% of the hedgerow is free from damage
- No Canopy gaps greater than 5m
- Undesirable species should account for less than 20%

3.27 All of the species rich native hedgerows should comprise at least five woody species, as specified on the Maintenance and Management plan. **For the retained hedgerow being enhanced on site, the hedge should be stocked with at least 4 additional species of native origin.**

3.28 New and existing hedgerows will be subject to cutting / flailing of no more than one third of each hedgerow annually, to maximise fruit production. Cutting between October & February (to avoid the nesting bird season) but ideally January/February to allow birds/small mammals the opportunity to feed on berries. Cutting areas on rotation may be implemented.

4.0 MONITORING AND REPORTING SCHEDULE

4.1 All newly created and enhanced habitats at the Aldi foodstore site shall be monitored by a suitably experienced ecologist to ensure they are being appropriately managed. Monitoring over specified years will allow any failings in condition to be identified, reported and appropriate action taken so that the target conditions is achieved within the set time parameters for the required number of biodiversity units to be delivered.

4.2 In line with planning condition 25, reporting to the LPA is required in years 2, 5 and 15.

4.3 The developer's appointed ecologist shall undertake condition assessments over the following years from the point of landscaping/planting. Each condition assessment will require a site visit and will be based upon the condition assessments & management prescriptions detailed in this report (refer to Section 5, Table 6).

Table 4: Monitoring & Reporting

	Year 1 (2021)	Year 2 (2022)	Year 5 (2025)	Year 8 (2028)	Year 10 (2030)	Year 15 (2035)
Landscaping, planting & habitat creation	✓					
Site visit to monitor against condition assessment	✓	✓	✓	✓	✓	✓
Reporting to the LPA		✓	✓			✓

5.0 MANAGEMENT PRESCRIPTIONS – Table 5

Habitat/ Feature to be Managed	Management Prescriptions	Timing	Favourable Condition Parameters	Expected Benefits of Management Prescriptions
Across all Habitat Types	Check that species specified on the maintenance and management plan have been used. The positioning and size of habitats matches those on the maintenance and management plan. The health status of plants should be checked regularly. The management of habitats has been carried out in line with the maintenance and management plan, including pruning, cutting and weeding. Watering of the plants should take place regularly to encourage the plants to fully establish. Watering may be necessary during dry periods.	During planting and during the growing seasons. Initially after the first 12 months and on a yearly basis after that. During Monitoring years 2, 5 and 15 Initially during 12-18 months. During dry period, weekly or daily.	Successful establishment of all plants	Botanical diversity Invertebrates - shelter & foraging Birds - Foraging & shelter habitat Bats - Foraging habitat Mammals - Foraging & shelter habitat
Native Buffer Mix	Remove or cut back undesirable species Clear areas to keep glades/clearing intact, through pruning or cutting. Create contours within the buffer mix to allow for greater habitat interface (see condition assessment).	Yearly checks Cut during the winter months when plants are dormant	Successful establishment of all plants Cover of undesirable species is less than 5% At least three native woody species has been used There are clearing and glades within the scrub	Botanical diversity Invertebrates - shelter & foraging Amphibians - Foraging habitat Birds - Foraging & shelter habitat Bats - Foraging habitat Mammals - Foraging & shelter habitat

Habitat/ Feature to be Managed	Management Prescriptions	Timing	Favourable Condition Parameters	Expected Benefits of Management Prescriptions
Bulb Mix Planting	Follow planting specifications within the Landscape Maintenance and Management Plan. Locally native bulb species only.	-	Successful establishment of all plants Minimal weeds within the planting beds/neutral grassland sward.	Botanical diversity Invertebrates - shelter & foraging Birds - Foraging Bats - Foraging habitat Mammals - Foraging
Wildflower Grass Seeding	Check for undesirable species and remove by hand. Remove bracken and scrub from the wildflower and stop encroachment. Do not use fertilizer and avoid herbicide as this will encourage grasses to dominate the sward and out compete wildflowers.	Check each year during flowering period (May – September) Yearly checks. All year round.	Successful establishment of seeded area Undesirable species and physical damage is below 5% cover Wildflowers, sedges and indicator species are very clearly and easily visible throughout the sward Cover of bracken less than 20% and cover of scrub less than 5%. The average sward height of the grass sward should be between 5 cm and 30cm.	Botanical diversity Invertebrates - shelter & foraging Amphibians - Foraging habitat Birds - Foraging & shelter habitat Bats - Foraging habitat Mammals - Foraging & shelter habitat
Trees (urban street trees 15x)	Follow planting specifications within the Landscape Maintenance and Management Plan.	-	Successful establishment of all trees	Botanical diversity Invertebrates - shelter & foraging Birds - Foraging & shelter habitat Bats - Foraging habitat

Habitat/ Feature to be Managed	Management Prescriptions	Timing	Favourable Condition Parameters	Expected Benefits of Management Prescriptions
				Mammals - Foraging & shelter habitat
Orchard	Plant orchard trees across the entire pocket park (0.1ha) Remove scrub from the orchard and stop encroachment When cutting the grassland, keep height of sward between 5cm and 30cm	Yearly checks In early autumn once flowers have gone to seed	Successful establishment of all trees and seeded areas An absence of scrub growing between the trees At least 80% of the trees should be free from damage The average sward height of the grass sward should be between 5 cm and 30cm	Botanical diversity Invertebrates - shelter & foraging Birds - Foraging & shelter habitat Bats - Foraging habitat Mammals - Foraging & shelter habitat
Instant & Native Hedgerow	Check the health status of plants, ensuring that no gaps have formed and replace/replant if necessary Remove undesirable species from the hedge to promote healthy growth Cutting the hedge, to prescribed height and width. New and existing hedgerows will be subject to cutting / flailing of no more than one third of each hedgerow annually, to maximise fruit production.	Yearly checks Yearly checks Cutting between October & February (to avoid the nesting bird season) but ideally January/February to allow birds/small mammals the opportunity to feed on berries. Cutting areas on rotation may be implemented.	Successful establishment of all plants >1.5m in height along the length >1.5m in width along the length >90% of the hedgerow is free from damage No Canopy gaps greater than 5m Undesirable species should account for less than 20%	Botanical diversity Invertebrates - shelter & foraging Amphibians - Foraging habitat Birds - Foraging & shelter habitat Bats - Foraging habitat Mammals - Foraging & shelter habitat
Undesirable species include injurious weeds including (but not exclusive to): Creeping thistle (<i>C. arvense</i>), Spear thistle (<i>C. vulgare</i>), Curled dock (<i>R. crispus</i>), Broad-leaved dock (<i>R. obtusifolius</i>), Common ragwort (<i>S. jacobaea</i>) and Common nettle (<i>U. dioica</i>). Invasive species; Japanese knotweed (<i>Fallopia japonica</i>).				

6.0 REFERENCES

CES Ecology, (2021), *Site off Tunstall Road, Biddulph, Staffordshire - Biodiversity Net Gain Metric Calculation*

Crosher, I, Gold, S, Heaver, M, Heydon, M, Moore, L, Panks, S, Scott, S, Stone, D and White, N. (2019). *The Biodiversity Metric 2.0: Auditing and Accounting For Biodiversity Value: Technical Supplement (Beta Version July 2019)*. Natural England

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