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CLIENT:	MR NIGEL KAY
SITE:	DRAINAGE SCHEME, MOOR ROW
DATE:	APRIL 2025
DOCUMENT:	HABITAT MANAGEMENT AND MONITORING PLAN – Rev01

Associated Documents:

JN00551 D03 Moor Row Drainage Scheme BIA

Background

1.1 SK Environmental Solutions Limited (SKE) was commissioned by Mr Nigel Kay to produce a Habitat Management and Monitoring Plan (HMMP) to discharge Condition 3 of the planning permission granted in relation to a proposed sustainable drainage scheme associated with a nearby residential development, north of Moor Row, Cumbria (ref: 4/24/2391/0F1).

1.2 The land, hereafter known as the 'site' extends to approximately 0.51ha and is shown by the red line boundary on Figure 1, below. It is located at an approximate central grid reference of NY 00622 14821 and nearest postcode of CA24 3LH.

Figure 1 – Site Boundary Plan

1.3 A full Biodiversity Net Gain (BNG) assessment of the proposed development was completed as part of the original submission by SKE and is detailed in JN00551_D03 Moor Row Drainage Scheme Biodiversity Impact Assessment (BIA).

1.4 The purpose of the HMMP is to set out the management practices and monitoring requirements necessary for habitats to achieve their targeted conditions, as described in the BIA report, ensuring the claimed gain of 0.39 habitat units (37.77%) is delivered. This will cover the full 30-year period over which BNG applies. The habitat improvement works detailed in this report will be implemented no later than the first planting and seeding season following the completion of the development.

1.5 As the landowner, Mr Nigel Kay will take responsibility for ensuring the completion of the management practices specified in this report. It is expected that this will be delivered through the employment of a maintenance contractor who is suitability qualified to understand and implement the provisions of this plan. A suitable ecological contractor (such as SKE) should also be appointed to undertake the specified monitoring requirements. The landowner, as the party responsible for funding the proposals, reserves the right to contract other suitable professionals, at any point during the 30-year period, to deliver the measures detailed in this report.

Planning History

1.6 Cumberland Council granted conditional planning permission to the client on 9th April 2025 (ref: 4/24/2391/0F1). Included within the Notice of Approval is Condition 3, which states:

"*Prior to the commencement of development a Habitat Management and Monitoring Plan has been submitted to and approved in writing by the local planning authority.*

The Habitat Management and Monitoring Plan shall include the following:

i. A detailed scheme of habitat creation and habitat enhancement works that demonstrate the delivery of a minimum 10% net gain in biodiversity value post development over a minimum period of 30 years.

ii. Planned management activities including details of site-wide aims and objectives.

iii. Details of the persons and organisation(s) responsible for delivery of the habitat creation and habitat enhancement works.

iv. The habitat condition targets that form the basis of what the Habitat Management and Monitoring Plan is setting out to achieve.

v. Details of monitoring methods and a monitoring reporting schedule.

vi. *Details of adaptive management approaches.*"

Habitat Proposals – Management and Monitoring

1.7 Proposed habitats described in the sections below align with JN00551_D03.

Sustainable urban drainage feature

1.8 A sustainable urban drainage system (SUDS) basin extending to approximately 925m^2 is to be created.

1.9 Situated on sloping ground, the basin will be created by cut-and-fill, also creating a bund with excavated material that will surround the basin. Should any further material be required for this, it will be sourced from the greenfield part of the associated housing development to the south.

1.10 The basin is only expected to hold significant standing water during spate conditions. Therefore, once established, the basin is to be sown with Emorsgate EG8 Meadow Grass Mixture for Wet Soils, or similar. Sowing and first year management will be as recommended by the supplier, to ensure the sown vegetation establishes as well as possible.

1.11 Once established, this vegetation will need to be managed year-round, in order to maintain the correct function of the drainage basin. This will include regular cuts throughout the summer months to prevent the basin becoming overgrown. However, at least one-third of the basin area (changed on rotation each year) will be allowed to grow long through the summer months and not cut earlier than the start of August. This will ensure a significant proportion of vegetation in the basin can fully set seed each year, as well as providing habitat for invertebrates.

1.12 It is considered that by implementing the above management practices that a varied vegetation structure can be established (passing criterion A of the relevant condition assessment sheet), that no invasive or detrimental plant species will be present (passing criterion C), and that the vegetation present will comprise native flora suited to wetland habitats (passing E1 and E2). This ensures moderate condition is delivered.

1.13 In line with the temporal multiplier of the statutory metric, it is anticipated that the SUDS vegetation will take approximately three years to reach target condition.

Modified grassland

1.14 New areas of modified grassland are to be established on the bund that surrounds the SUDS basin. This will be approximately 0.13 ha in area.

1.15 Once the bunds have been created, Emorsgate EG1 General Purpose Meadow Grass Mixture or similar will be sown. Sowing and first year management will be as recommended by the supplier, to ensure the sown vegetation establishes as well as possible.

1.16 Once established, this grassland will be subject to meadow-style management. This involves no cutting of the grassland until early August, to allow the vegetation to fully set seed. At least one-third of the bund area (changed on rotation each year) will remain un-mown into and through the winter months, to maintain an area with a tussocky sward through this season to provide refuge for invertebrates and small mammals.

1.17 While it is not considered that medium distinctiveness level other neutral grassland is realistic in these areas, it is considered that good condition can be targeted for the modified grassland. By adhering to the above management regime, it is considered that a species diversity of greater than 6 species per m^2 can be maintained (passing criterion A of the relevant condition assessment sheet), that a varied sward height will be maintained (passing criterion B), that scrub will account for less than 20% of the total area (passing criterion C), that there will be less than 5% physical damage to the habitat (passing criterion D), that cover of bare ground will be between 1 and 10% (passing criterion E), that bracken *Pteridium aquilinum* will cover less than 10% of the area (passing criterion F) and that there will be an absence of invasive plant species (passing criterion G).

1.18 In line with the temporal multiplier of the statutory metric, it is anticipated that the grassland will take approximately seven years to reach target condition.

1.19 Existing grassland over the drainage routes is only considered to be temporarily impacted during their installation and would return to their original (poor) condition within 2 years. The installation period for the buried drainage infrastructure will be brief, with removed topsoil immediately reinstated upon completion. This will be readily recolonised by vegetation similar to that previously present (from the seed mix within the soil) and in the adjacent areas.

1.20 Given that these areas are to be returned to their existing agricultural grazing regime upon completion of the works, in line with BNG guidelines, these areas are recorded as retained modified grassland in poor condition. Details of the condition assessment of these parcels can be found in JN00551_D03 BIA.

1.21 As these areas comprise habitat retention in poor condition, no specific condition criteria are targeted with specific management prescriptions (beyond the return of these areas to agricultural management by the tenant farmer) are stipulated in this report. No other management is required to deliver poor condition modified grassland in these areas.

Monitoring

1.22 Ecological monitoring visits will be conducted on all areal habitats annually in years 2, 5, 7, 10, 20, 25 and 30, in line with Condition 7 of the granted permission.

1.23 Given the range of habitats being improved by the above management prescriptions, it is considered that late spring to mid-summer is the optimal time of year in which to undertake the monitoring visit. This visit will comprise an assessment of each habitat parcel using the relevant condition assessment sheet, to track the delivery of the targeted criteria for each.

1.24 Should the findings of this assessment indicate that a habitat parcel is not on track to achieve its target condition within the expected timeframe, or should any other, unforeseen impediment to a habitat parcel achieving its target condition be identified, then the management prescriptions for that parcel may be adapted or added to, in order to best avert the risk of the establishment / improvement of that habitat failing.

1.25 Upon completion of monitoring of the site in a given year, a monitoring report will be submitted to the LPA by no later than October that same year. This report will detail the findings of the monitoring survey, and the assessed condition of each habitat parcel at the time of the visit, along with any alterations that have been made to the management of any habitat parcel in light of the results of the survey.

Risk Register and Remedial Measures

1.26 Table 1 below details potential risks associated with the creation and enhancements of the habitats as outlined in the above report, along with proposed remedial actions, to ensure habitats remain on track for their targeted conditions.

Table 1 – Risk Register

Risk	Habitat Type	Remedial Action
Encroachment of non-native species (e.g. Himalayan balsam known to be present on the River Keekle)	All	Hand pull any identified Himalayan balsam plants before flowering (May-June). Should any plants survive to develop seed pods, care should be taken around these plants as they are explosive and can fire seeds up to 6m from the plant, aiding its spread.
Scrub encroachment	Modified grassland	Undertake early intervention to cut back / remove scrub, including root system as much as possible. Use of herbicides to treat undesirable vegetation is not recommended.
Domination of bramble within areas of thinning	Modified grassland	Use hand-held tools to cut back bramble and allow light penetration to ground level. Repeat as necessary.

Bracken encroachment	Modified grassland	Cutting using hand-held tools in mid-June and late August / early September annually to curb dominant growth.
Failure to maintain sufficient species diversity	Modified grassland (good condition)	Supplementary seeding or planting of suitable species as required.

1.27 Should the findings of a monitoring assessment indicate that a habitat parcel is not on track to achieve its target condition within the expected timeframe, for a reason not foreseen in the table above, then other responsive remedial actions may be implemented, in order to best avert the establishment / improvement of that habitat failing. The implementation of any such remedial actions will be detailed in the subsequent monitoring report, including on their efficacy, if sufficient time has passed for this to be determined.

Biodiversity Unit Score – Net Change

1.28 The proposals detailed above yield a total gain of **0.39 habitat units (37.77%)**, as required by Condition 3 of the notice of approval (ref: 4/24/2391/0F1).