SYNTEGRA CONSULTING

Former Mepal Outdoor Centre, Chatteris Road, Mepal, Ely, Cambridgeshire CB6 2AZ

Biodiversity Impact Calculation Report

February 2021

Ref: 19-6364

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Revision	-
Date	16/02/2021
Prepared by	P.Holden (on behalf of Syntegra Consulting Ltd)
Checked by	M. Buck
Authorised by	P. Holden

The advice which we have prepared and provided within this report is in accordance with the CIEEM Code of Professional Conduct. We confirm that the opinions expressed are our true and professional opinions.

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The methodology adopted and the sources of information used by SC in providing its services are outlined in this report. The work described in this report was undertaken in **2020 and 2021** and is based on the conditions encountered and the information available during the said period of time. The scope of this report and the services are accordingly factually limited by these circumstances.

Where assessments of works or costs identified in this report are made, such assessments are based upon the information available at the time and where appropriate are subject to further investigations or information which may become available.

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Forecast cost estimates do not include such costs associated with any negotiations, appeals or other non-technical actions associated with the agreement on measures to meet the requirements of the authorities, nor are potential business loss and interruption costs considered that may be incurred as part of any technical measures.

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1. Introduction and Aims

1.1. Syntegra Group was commissioned on behalf of the client, East Cambridgeshire District Council, to produce a Biodiversity Audit for Former Mepal Outdoor Centre, Chatteris Road, Mepal, Ely, Cambridgeshire CB6 2AZ (Grid Ref: TL 42274 82982).

1.2. The proposals include the demolition of the existing buildings on site and the construction of a crematorium and associated service and administration building, function building, memorial garden, natural burial areas, pet cemetery, car parking and landscaping. The proposals are situated within the southern section of the site and will impact the derelict buildings, former car park, select areas of open mosaic habitats, and woodland.

1.3. The site is irregular in shape. The proposed development site comprises of a former outdoor centre. Within the site is a formed lake that comprises around half of the site, located within the northern section of the site. The other half of the site comprises of derelict buildings, a car park and areas of open sand and gravel. The margins of the site are vegetated with areas of planted shrubs, mature tree boundaries, and hedgerows. The site is part of the Mepal Gravel Pits County Wildlife Site (CWS).

1.4. A biodiversity audit was required in order to determine if the proposals will have a net gain, in accordance with Local Plan Policy ENV 7: Biodiversity and Geology (East Cambridgeshire District Council, 2015)and paragraph 174 and 175 of the National Planning Policy Framework. The biodiversity audit includes use of Defra's biodiversity metric to determine if the sites proposals will have an overall net gain of biodiversity and factors in newly created habitats and the overall risk of implementation. There is a requirement for all new developments to demonstrate 'net gains' in biodiversity following the release of an updated National Planning Policy Framework (NPPF 2019) by the Department of Housing, Communities and Local Government. Local Councils are requesting for developments to produce a quantifiable assessment utilising the DEFRA 'Biodiversity Metric 2.0 to be carried out, by comparison of the habitat provision prior to and post development. The calculations should provide a net gain for biodiversity of 10% or above.

1.5. The brief provides the findings of the Biodiversity Metric Calculations undertaken in order to support the proposed development of Former Mepal Outdoor Centre, Chatteris Road, Mepal, Ely, Cambridgeshire CB6 2AZ (hereafter referred to as 'the scheme').

1.6. The aim of the report is to determine the change in the biodiversity units as a result of the scheme. This report provides the results of the Biodiversity Impact Calculation based on the existing habitat and the final scheme plans.

2. Methodology

2.1. The calculations for this brief were restricted to the scheme's red line boundary, as provided by the agent.

2.2. The calculations for this scheme followed the guidance from Defra's Biodiversity Metric (Crosher et al 2019). The Biodiversity metric 2.0 has been designed to assess or audit the biodiversity unit value or an area of land and to calculate the losses and gains in biodiversity unit value.

2.3. In order to obtain the value habitats for biodiversity, the habitats recorded on site were classified using Phase 1 Habitat classification in order to assign each a habitat parcel. This information was obtained from a walkover survey carried out during November 2019. Condition assessments of each habitat on site were obtained by use of the Condition Tables found within The Biodiversity Metric 2.0 Technical Supplement. For input into the Biodiversity Metric calculation tool, the Phase 1 habitat categories were converted into habitat categories appropriate for the metric calculation.

2.4. Biodiversity units for post-intervention are the predicted future site conditions. The Phase 1 Habitat types (parcels) for the predicted future site were derived from the Landscape Plan produced in support of the scheme (CDS_EN_22_DR-L-001).

2.5. The calculation includes the 'pre-intervention' value in biodiversity units and then the 'post-development' value in biodiversity units to give a change in value of biodiversity units.

3. Constraints

3.1. The proposals will not include any hedgerow removal and therefore the calculations of this small section removal were not undertaken. Given that the proposed mitigation measures are followed, it is considered that this parcel will have adequate protection and will have minimal to no direct or indirect impacts from the proposed works. Hedgerows have therefore not been included in the calculations.

3.2. At the time of producing this biodiversity audit report, DEFRA's biodiversity metric 2.0 was used, as this has replaced the original 2012 metric.

3.3. The Preliminary Ecological Appraisal has identified habitats outside of the red line boundary, as these habitats will remain intact with no proposals, they were not included within the calculations. The audit has focused on the habitats within the southern section of the site that will have direct losses or modifications of habitats as a result of the scheme.

3.4. For the habitat parcel hard standing, this included all buildings and paved areas outside of the former car park area. As the graveled car park hosted invertebrates and botanical value, this area was separated from the generic hard standing areas.

3.5. The parcels, SI grassland, car park, ephemeral, bare ground, and introduced shrub were combined and classed as open mosaic habitats on previously developed land.

4. Results

4.1. Phase 1 – Habitat Parcels

4.1.1. For Pre-Intervention/Pre-Development, the following Phase 1 Habitats were on site and each assigned as an individual habitat parcel: hard standing/building, open mosaic habitat, inundated vegetation, and woodland.

4.1.2. The conditions for each parcel were assigned based on both the PEA Report (Syntegra Group, 2020) and the Higher-Level Stewardship Farm Environment Plan Manual (2010) and assigned a score. Habitat Condition was assessed by the ecologist during the initial PEA Survey and set as Good, Moderate, Poor, or N/A. Connectivity was determined by its distinctiveness and set as low, medium, high, or N/A. Strategic location was based on local plan. Distinctiveness scores were determined from table 6.1 from The Biodiversity Metric 2.0 (Crosher et al 2019). Table 1 below details each habitats assessment.

Table 1: Existing Habitats and Conversion for Biodiversity Metric Calculation Tool

Habitat Type	Biodiversity Metric Habitat Type	Distinctiveness, and Condition
Building/Hard standing	Urban Developed Land, sealed surface	Very Low Distinctiveness Poor Condition
Open Mosaic Habitat	Urban - Open Mosaic Habitats on Previously Developed Land	High Distinctiveness Moderate Condition
Woodland	Other Woodland - Mixed	Medium Distinctiveness Moderate Condition
Inundated Vegetation	Wetland - Reedbeds	High Distinctiveness Moderate Condition

4.1.3. For Post-Intervention (the baseline), the following Phase 1 Habitats were predicted on site and assigned as an individual habitat parcel: Hard standing, Urban Cemetery, grassland – other neutral, open mosaic habitats, and urban woodland.

4.1.4. The following habitats are to either have partial loss or complete loss post-development during Phase 1: hard standing/building, urban open mosaic habitats, and woodland. The following habitats are to be retained and enhanced: Inundated vegetation – wetlands. The following habitats are to be created: Hard standing/building, urban- cemetery, urban – open mosaic habitats, urban -woodland, and grassland -other neutral.

4.1.5. Hedgerows will be retained on site and will have minimal disturbance; it is considered that the time to target condition will be less as these areas will have minimal to no disturbance and will have prescribed management in place.

4.1.6. For post-development, the conditions of each habitat parcel were all assigned moderate condition, however, it is assumed with a detailed management plan in place over time each parcel will have moderate to good conditions. Difficulty categories values were obtained from Appendix 1 of Defra (2012). Biodiversity Offsetting Pilots Technical Paper: The Metric for the Biodiversity Offsetting Pilot in England.

4.2. Calculations

4.2.1. *Pre-Intervention*

Calculation as follows or shown in Appendix 1 using the Biodiversity Metric 2.0 Calculation Tool

Broad Habitat	Habitat type	Area (hectares)	Distinctiveness	Score	Condition	Score	Ecological connectivity	Connectivity	Connectivity multiplier	Strategic significance	Strategic significance	Strategic position multiplier	address habitat losses	Total habitat units	Area retained	Area enhanced	Area succession	Baseline units retained	Baseline units	Baseline units successi	Area lost	Units lost
Urban	Urban - Developed land; sealed surface	0.4	V.Low	0	N/A - Other	0	N/A	Assessment not appropriate	1	Area/compensation not in local strategy/ no local	Low Strategic Significance	1	Compensation Not Required	0.00	0			0.00	0.00	0.00	0.40	0.00
Wetland	Wetland - Reedbeds	0.01	High	6	Moderate	2	Medium	Moderately connected habitat	1.1	Location ecologically desirable but not in local strategy	Medium strategic significance	1.1	Same habitat required	0.15	0.01			0.15	0.00	0.00	0.00	0.00
Woodland and forest	Woodland and forest - Other woodland; mixed	0.283	Medium	4	Moderate	2	Medium	Moderately connected habitat	1.1	Location ecologically desirable but not in local strategy	Medium strategic significance	1.1	Same broad habitat or a higher distinctiveness	2.74	0.019			0.18	0.00	0.00	0.26	2.56
Urban	Urban - Open Mosaic Habitats on Previously Developed Land	1.598	High	6	Moderate	2	Medium	Moderately connected habitat	1.1	Within area formally identified in local strategy	High strategic significance	1.15	Same habitat required	24.26	0.248			3.76	0.00	0.00	1.35	20.49
	Total site area ha	2.29											Total Site baseline	27.14	0.28	0.00	0.00	4.09	0.00	0.00	2.01	23.05

Based on the calculations the baseline is 27.14 units with a total site area of 2.29 ha
Retained Wetland is 0.01 ha
Retained Open Mosaic is 0.24ha
Retained Woodland is 0.019
Total area lost 2.01ha
Units Lost 23.05

4.2.2.Post-Intervention – Newly Created Habitats

Calculation as follows or shown in Appendix 1 using the Biodiversity Metric 2.0 Calculation Tool

Proposed habitat	Area (hectares)	Distinctiveness	Score	Condition	Score	Ecological connectivity			Strategic significance			Temporal multiplier		Difficulty multipliers		Habitat units delivered
						Ecological connectivity	Connectivity	Connectivity multiplier	Strategic significance	Strategic significance	Strategic position multiplier	Time to target conditionlyear s	Time to target multiplier	Difficulty of creation category	Difficulty of creation multiplier	
Urban - Developed land; sealed surface	1.12	V.Low	0	N/A - Other	0	N/A	Assessment not appropriate	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	0	1.000	Low	1	0.00
Grassland - Other neutral grassland	0.1	Medium	4	Moderate	2	Medium	Moderately connected habitat	1.1	Location ecologically desirable but not in local strategy	Medium strategic	1.1	10	0.700	Low	1	0.68
Urban - Woodland	0.069	Medium	4	Moderate	2	Medium	Moderately connected habitat	1.1	Location ecologically desirable but not in local strategy	Medium strategic	1.1	27	0.382	Low	1	0.26
Urban - Cemeteries and churchyards	0.4	Medium	4	Moderate	2	Medium	Moderately connected habitat	1.1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	15	0.586	Medium	0.67	1.38
Urban - Open Mosaic Habitats on Previously Developed Land	0.323	High	6	Moderate	2	Medium	Moderately connected habitat	1.1	Within area formally identified in local strategy	High strategic significance	1.15	4	0.867	Medium	0.67	2.85
Totals	2.01														Total Units	5.16

Based on calculations the total units are 5.16 with a total of 2.01ha
Including 0.28 retained habitats

4.3. Net Unit Change

Net project biodiversity units (including all on-site & off-site habitat retention/creation)		
	Habitat units	-17.88
	Hedgerow units	0.00
	River units	0.00

Total project biodiversity % change (including all On-site & Off-site Habitat Creation + Retained Habitats)		
	Habitat units	-65.89%
	Hedgerow units	0.00%
	River units	0.00%

lost by distinctiveness

Category	Area lost (hectares)	Area lost (%)
V.High	0	
High	1.35	84
Medium	0.264	16
Low	0	
V.Low	0	

The proposed development will result in a loss of 17.88 units, with 1.35ha of high distinctiveness habitats and 0.264ha of medium distinctiveness habitats.

5. Discussion

5.1. Habitats on the site are considered to be of high ecological value and the presence of notable and protected species is of moderate to high potential. The site has notable and rare plants, notable and rare invertebrates, nesting birds, potential for roosting bats, traversing and foraging bats, and potential foraging and sheltering sites for hedgehogs and small mammals.

5.2. The proposed plans will result in the loss of open mosaic habitats on previously developed land, and woodland, habitats that are of high and medium distinctiveness and of high ecological value. Areas retained include 0.01ha of inundated vegetation – wetland, 0.019ha of woodland, and 0.248 of open mosaic habitats.

5.3. The loss of the woodland and open mosaic habitats on site is to be offset/compensated by the creation of grassland -other neutral, urban woodland, urban cemetery, and open mosaic habitat. The creation of these habitats however will result in a loss of 17.88 biodiversity units, considering the metrics difficulty factor with the time it takes for the new habitats overall ecological benefits to occur.

5.4. The results of the Biodiversity Metric Calculation show the proposed scheme habitat creation will result in a loss of 17.88 units, with a net loss of 65.89%. The results of these scores are due to the loss of high and medium distinctiveness habitats.

5.5. Although a net loss on site, the council will work with The Wildlife Trust for Bedfordshire, Cambridgeshire and Northamptonshire to ensure the retained habitats adjacent and associated with the Mepal Gravel Pits, County Wildlife Site, are managed in a way to ensure longevity and ensure maximum benefit for the notable and protected species recorded on site. The retained open mosaic and woodland habitats will be managed with guidance from The Wildlife Trust, a suitability qualified entomologist and botanist to enable to reach a target condition of good.

5.6. The proposed amenity grassland is to be seeded with a flowering lawn mixture that includes 20% native flowers and if managed correctly can provide additional foraging potential for local invertebrates. The proposed wildflower grassland is to be seeded with a seed mixture, that includes a diverse range of native flowers, when managed correctly it will ensure additional foraging and shelter areas for local invertebrates. The woodland garden will incorporate a range of native and local providence species that will in turn provide additional shelter and foraging areas for invertebrates, bats, and birds.

5.7. Habitat creation on site includes urban woodland, urban cemetery, and other grassland neutral. Retained habitats include wetland- reedbeds, woodland, and open mosaic habitat. With a long-term management plan in place, it is considered that the retained and newly created habitats will have an overall positive impact on local invertebrates, birds, bats, reptiles, hedgehogs, and small mammals, as these will provide new foraging, nesting, breeding, and traversing grounds.

5.8. With a long-term management plan in place, it is considered that the proposed development will provide an overall positive impact to local invertebrates, birds, bats, and hedgehogs as these will provide new foraging, nesting, breeding, and traversing grounds. Further enhancements can be incorporated into the layout of the proposed cemetery site.

5.9. The site will provide further onsite enhancements by incorporating further bat roosting and bird nesting sites in the form of boxes within trees, retainment of deadwood and placement of log piles within hedgerow boundaries, placement of insect blocks and towers within the woodland garden and grassland, along with a lighting plan which is direct, of low light spill, and retainment of dark corridors.

References

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Joint Nature Conservation Committee (2010). *Handbook for Phase 1 Habitat Survey – a Technique for Environmental Audit*. JNCC, Peterborough.

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APPENDIX I: BIODIVERSITY METRIC 2.0 CALCULATION TOOL RESULTS

Summary Figures

Net project biodiversity units (including all on-site & off-site habitat retention/creation)	*Habitat units*	-17.88
	Hedgerow units	0.00
	River units	0.00
Total project biodiversity % change (including all On-site & Off-site Habitat Creation + Retained Habitats)	*Habitat units*	-65.89%
	Hedgerow units	0.00%
	River units	0.00%

On-site habitat retention and enhancement

	Habitats	Hedgerows	Rivers
Total site area / length	2.29	0.00	0.00
Total site units	27.14	0.00	0.00
Area / length retained	0.28	0.00	0.00
Units Retained	4.09	0.00	0.00
Area / length enhanced	0.00	0.00	0.00
Baseline units enhanced	0.00	0.00	0.00
Area / length succession	0.00		
Units succession	0.00		
Area / length lost	2.01	0.00	0.00
Units lost	23.05	0.00	0.00

lost by distinctiveness l

Category	Area lost (hectares)	Area lost (%)
V.High	0	
High	1.35	84
Medium	0.264	16
Low	0	
V.Low	0	

Habitats and areas			Habitat distinctiveness		Habitat condition		Ecological connectivity			Strategic significance			Suggested action to address habitat losses	Ecological Total habitat units	Retention category biodiversity value							
Broad Habitat	Habitat type	Area (hectares)	Distinctiveness	Score	Condition	Score	Ecological connectiv	Connectivity	Connectivity multiplier	Strategic significance	Strategic significance	Strategic position multiplier			Area retained	Area enhanced	Area succession	Baseline units retaine	Baseline units	Baseline units successi	Area lost	Units lost
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	Total site area ha	2.29											Total Site baseline	27.14	0.28	0.00	0.00	4.09	0.00	0.00	2.01	23.05

Post development post intervention habitats

Proposed habitat	Area (hectares)	Distinctiveness	Score	Condition	Score	Ecological connectivity			Strategic significance			Temporal multiplier		Difficulty multipliers		Habitat units delivered
						Ecological connectivity	Connectivity	Connectivity multiplier	Strategic significance	Strategic significance	Strategic position multiplier	Time to target condition/years	Time to target multiplier	Difficulty of creation category	Difficulty of creation multiplier	
Urban - Developed land; sealed surface	1.12	V.Low	0	N/A - Other	0	N/A	Assessment not appropriate	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	0	1.000	Low	1	0.00
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Totals	2.01														Total Units	5.16

mail@syntegragroup.com
Tel: 0330 053 6774

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