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DIG GATE LANE, MILNROW, ROCHDALE

Replacement Pond Strategy and Ecological Management Plan

August 2022

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APPENDIX A: Preliminary Ecological Appraisal – May 2022

DRAWING: 1366 – 002 Ecological Mitigation Area Masterplan and Planting Plan

1 INTRODUCTION

1.1 Background

A Preliminary Ecological Appraisal (PEA), Great Crested Newt (*Triturus cristatus*)(GCN) eDNA sampling and Pond Mud Snail (*Omphiscola glabra*) survey was undertaken in May 2022 for the site at Dig Gate Lane, Milnrow, Rochdale (See Appendix A).

This confirmed the absence of GCN, but found Pond Mud Snail, which is a species of principal importance to be present within the waterbody on the site.

A future planning application is being prepared for a battery storage facility which will be located within the western three quarters of the survey site. While there is currently no confirmed proposals, it is known that the existing waterbody will be directly impacted by the proposed footprint.

Balance Power Projects Ltd have therefore asked Weddle Landscape Design to prepare a Replacement Pond Strategy and Ecological Management Plan. The replacement pond will be located to the north-east corner of the site within a safe-guarded Ecological Mitigation Area (EMA).

It is intended that the EMA is created in late 2022, in advance of planning permission for the wider development. It is proposed that this report is provided to Greater Manchester Ecology Unit (GMEU) for their consideration and consultation.

This report has been prepared by Neil Northrop BA DipLD MCIHort MARborA CMLI with over 15 years ecological field surveying, scoping, protected species surveys and report writing experience, and checked by John Harvey BA (Hons.) ACIEEM.

This Replacement Pond Strategy and Ecological Management Plan should be read in conjunction with the following other documents:

- Ecological Mitigation Area Masterplan and Planting Plan 1366 - 002

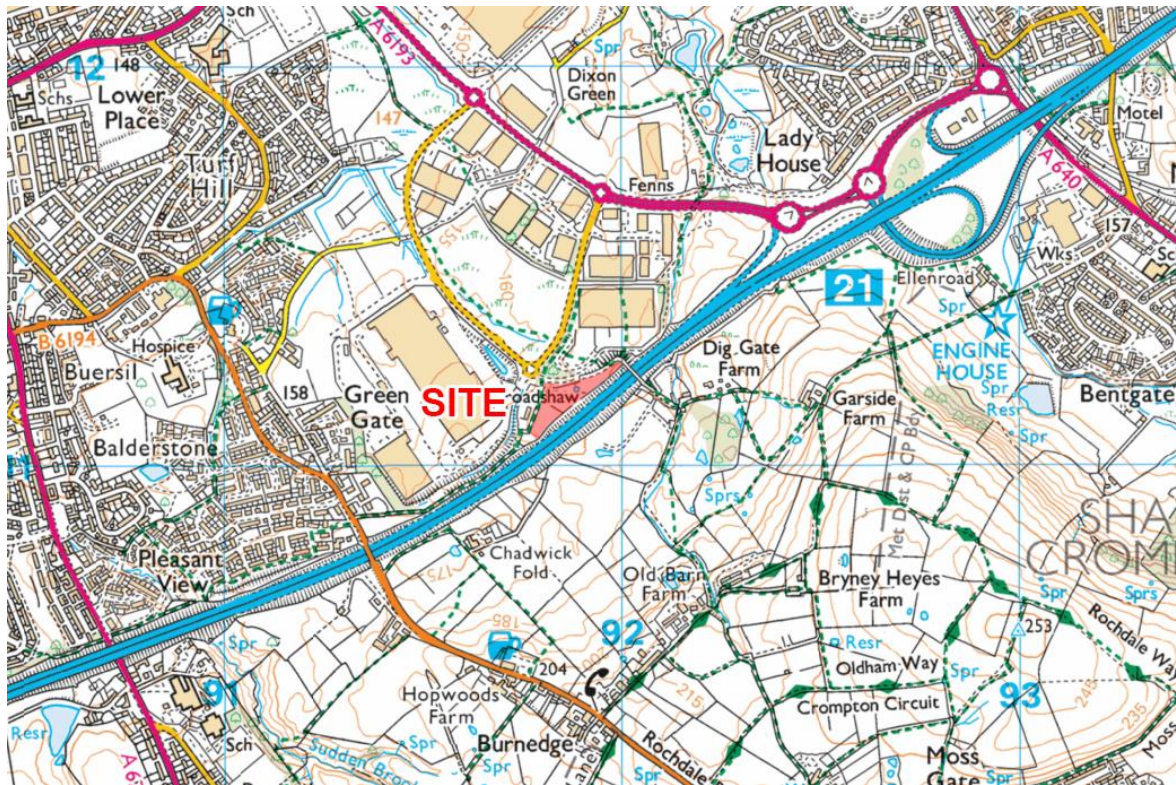
1.2 Site Description

The survey site is approximately 1.4 hectares. The site is located approximately 3km south-east of Rochdale centre at Ordnance Survey grid reference SD 918 111.

The site is currently heavily grazed horse pasture. A public footpath runs along the western boundary with a residential property beyond. A small embankment and hedgerow form the northern boundary with Dig Gate Lane.

To the south a large embankment forms the boundary to the M62 before rising again to pastoral fields beyond. To the south-west there is no physical boundary and further pasture and an area of scrub is present.

Further west and north are large scale distribution/industrial/commercial development with associated hardstandings.



OS Map showing site location



Aerial photograph with survey site boundary

1.3 Landscape and Ecological Baseline

A detailed habitat description of the site can be found in Preliminary Ecological Appraisal Report – May 2022, prepared by Weddle Landscape Design (See Appendix A).

The area of the site to be developed as the EMA comprised of intensively grazed modified grassland. Along Dig Gate Lane to the north is a young hedgerow dominated by hawthorn (*Crataegus monogyna*), ornamental privet (*Ligustrum ovalifolium*), elder (*Sambucus nigra*), occasional field rose (*Rosa arvensis*), nettle (*Urtica dioica*) and bramble (*Rubus fruticosus* agg.).



Area of the site to be developed as the EMA.

GCN were initially identified as a potential ecological constraint to future development and as such, an eDNA survey were undertaken of the waterbody on site which found an absence of individuals, however a search found presence of Pond Mud Snail.

1.4 Responsibility and Review

Balance Power Projects Ltd will be responsible for implementing the management associated with this Replacement Pond Strategy and Ecological Management Plan. This may be delegated to landscape contractors, or any person or organisation who manages the site. The management of the site will be undertaken by those with necessary expertise to implement landscape management operations.

Any transference of responsibility of this plan should be undertaken with the appropriate appointment of a competent organisation capable of delivering the detailed measures within this document.

The management period of this plan is 30 years. In order to ensure that the plan continues to remain appropriate, a review will be undertaken once every 5 years. Should it be identified that the aims and objectives of this management plan are not being met, remedial action will then be undertaken so the development delivers the biodiversity objectives of the approved management plan.

2 REASONABLE AVOIDANCE MEASURES

The following Reasonable Avoidance Measure will be implemented during the construction of the replacement pond and draining/translocation of the existing pond to reduce any residual ecological impacts.

2.1 Amphibians

Use of the existing pond by common amphibian species is unknown, however, some use by breeding common frogs *Rana temporaria*, common toad *Bufo bufo* is considered likely. Therefore the drainage of the pond should take place outside of the common amphibian breeding period (March to June), when amphibians are likely to be in the pond together with eggs and/or larvae.

2.2 Badger

While no badger setts were identified on site, badgers from the wider area may occasionally pass through or forage on the site. The following precautionary approach should be implemented:

- A check for badger should be undertaken alongside the vegetation clearance and prior to commencement of any development to establish if any badger setts are present and/or have been dug in the intervening period.
- Trenches or excavations left uncovered overnight will have a suitable means of escape (such as wooden plank).

2.3 Breeding Birds

No active nesting sites were recorded during surveys. However, potential nesting sites were identified relating to the existing hedgerow on the northern boundary. As such, vegetation clearance to allow for the development must be carefully timed to avoid any direct or indirect impacts to nesting birds within the site:

- In compliance with Wildlife and Countryside Act 1981, no construction work which will disturb nesting birds should take place during the breeding season (March – September).
- If this timing is unachievable, site clearance should only be undertaken following a thorough check by a suitably qualified ecologist, prior to clearance.
- If an active birds nest is located during the clearance works, the site and a 5m radius will be left *in situ* and undisturbed. Once a 2-week period has elapsed, the nest should be checked again for bird activity. Works may commence only once it has been confirmed that the young have fledged.

2.4 Invasive Species

Prior to any drainage, the existing pond should be assessed by a suitably qualified ecologist for the presence of any Wildlife and Countryside Act Schedule 9 Invasive Floral species such as Giant salvinia (*Salvinia molesta*), Stonecrop/New Zealand Pygmyweed (*Crassula helmsii*), Curly waterweed (*Lagarosiphon major*) or any species of the genus *Elodea*. If these species are found to be present, they should be carefully removed and appropriately disposed of at a controlled waste facility.

2.5 Pollution Prevention

To ensure that the replacement pond is not directly impacted and the downstream designated sites (Rochdale Canal SSSI / SAC) are not indirectly impacted by the proposed development the Environment Agency's Pollution Prevention Guidance (or revised documents) will be followed during all site works. Essentially these methods are to be followed:

- Storage areas for chemicals, fuels, etc. will be sited well away from the southern and eastern boundaries and stored on an impermeable base within an oil-tight bund with no drainage outlet
- Silty water from the pond drainage should be disposed of to the foul sewer.
- Grey water from washing of vehicles to be carried out in a contained area well away from the site boundaries.
- Refueling of vehicles and plant will take place in a designated area, ideally on an impermeable surface.

3 MANAGEMENT AIMS

3.1 Aims

A	Provide a practical framework for landscape maintenance and management.
B	Appropriate management of the EMA for increased biodiversity and to support the sites local Pond Mud Snail population.
C	To ensure that site is healthy, safe and secure.

3.2 Strategies

A: Provide a practical framework for landscape maintenance and management.

- Review and audit the Ecological Management Plan.
- Regular inspections to review efficiency and quality of work undertaken annually.
- Amendment and adjustments to the management plan based on annual review.
- Maintenance Schedules provided as Section 4.3 of this report.

B: Appropriate management of EMA for increased biodiversity and to support the sites Pond Mud Snail population.

- Establishment and monitoring of tree and shrub planting located within EMA.
- Establishment of tussocky meadow.
- Establishment of pond and scrapes and monitoring of water levels/quality.
- Regular checks of livestock proof fencing.
- Establishment of planting providing pollen and nectar-rich sources.
- Low maintenance regime for tree and shrub planting.
- Monitor pond vegetation and undertake remedial action where required
- Inspect trees annually and carry out maintenance operations as required to keep trees in safe and healthy condition
- Replace any dead trees which become apparent within the following planting season (November – March)
- Remove litter and debris
- Monitor the site for invasive species and undertake remedial action where required

C: To ensure that site is healthy, safe and secure.

- Prune shrubs back from surrounding pathways.
- All access routes to be kept clear.
- Ensure that there is adequate access for emergency and maintenance.
- Paving and fencing defects to be repaired as soon as possible.
- Monitor and review Health and Safety Policy.
- Identify health and safety issues within the site by regular review and Maintenance Attendance Report submitted at least once monthly.



Typical stock proof fence.

A low bund ~0.5m high will be implemented inside of the fencing to ensure the rainwater catchment of the site is protected from surrounding run-off.

4.2.3 Hedgerow Planting

New species-rich hedgerows will be planted to surround the ecological mitigation area, enhancing the extent and connectivity of hedgerow habitat. New native hedgerows will comprise Transplants of the following species:

- Hazel *Corylus avellana* 20%;
- Blackthorn *Prunus spinosa* 15%;
- Hawthorn *Crataegus monogyna* 30%;
- Dog Rose *Rosa canina* 5%;
- Crab apple *Malus Sylvestris* 5%;
- Elder *Sambucus nigra* 5%;
- Holly *Ilex aquifolium* 5%;
- Spindle *Euonymus europaeus* 5%;
- Wild Cherry *Prunus avium* 5%;
- Field Maple *Acer campestre* 5%;

Transplants to be notch planted and protected from poaching using 600mm high Bio Earth Biodegradable shelters, or similar approved, secured using a stake and tie.

Approved planting compost incorporated to create backfill mix. For each plant mix 10 litres compost, 35g of Enmag and 5g of P4. Backfill mix (30%) incorporated into topsoil (70%) during planting.

Annual trimming of new hedgerows (for first 5 years) will encourage dense and bushy growth until desired height of 3m is achieved. Once established topping and facing will be carried out as necessary to maintain a typical A shaped structure.

4.2.4 Tree Planting

Tree Planting will consist of feather sized native trees. Tree pits will be 600mm diameter x 450mm depth. The base of each pit to be broken up to 200mm.

Approved planting compost incorporated to create backfill mix. For each tree mix 50 litres compost, 40g of Enmag and 15g of P4. Backfill mix (30%) incorporated into topsoil (70%) during planting.

Short staking using Unilog 75mm min diameter. Driven vertically 450mm on windward side into base of pit. Secured with rubber J Tom's 37.5mm wide standard nylon reinforced rubberbelt ref L2 ties including rubber spacer pads ref L1. Tie within 25mm of top of stake.

Trees to be protected against poaching by using 1.2m high Bio Earth Biodegradable shelters, or similar approved, secured using a stake and ties.

4.2.5 Scrub Planting

Mixed scrub habitats will consist of transplants of the following species:

- Dogwood *Cornus sanguinea*;
- Hawthorn *Crataegus monogyna*;
- Spindle *Euonymus europaeus*;
- Blackthorn *Prunus spinosa*;
- Guelder rose *Viburnum opulus*;

Transplants to be notch planted and protected from poaching using 600mm high Bio Earth Biodegradable shelters, or similar approved, secured using a stake and tie.

Approved planting compost incorporated to create backfill mix. For each plant mix 10 litres compost, 35g of Enmag and 5g of P4. Backfill mix (30%) incorporated into topsoil (70%) during planting.

4.2.6 General Planting Specification

Planting to be undertaken November – March. Frozen or heavily waterlogged ground should be avoided.

New trees and plants will be watered to field capacity in periods of drought to ensure healthy establishment.

The new planting will be maintained weed free by hand pulling or spot treatment of noxious weeds using a non-residual herbicide during the growing season for the first three years.

Failed planting will be replaced in November in year of loss for 5 years.

4.2.7 Tussocky Grassland

Tussocky grassland is proposed within the EMA. An appropriate seed mix to the soil type and conditions will be sown - Emorsgate EM10, or similar approved.

For these areas the ground preparation will be a simple tilthing of the existing seed bed. Seed to be sown in late spring or early autumn. Sowing rate at 4g/m².

Establishment and maintenance including Year 1 cutting to follow supplier's instructions. Monitoring will be undertaken as part of general Site maintenance. If germination of individual wildflowers or grassland species diversity is poor, then re-seeding every 3-5 years to maintain biodiversity value may be required.

4.2.8 Ponds

Pond Construction

A new pond will be established within the EMA with interconnected surrounding network of scrapes and marginal vegetation.

The pond will be profiled with shallow slopes to allow species to easily enter and exit. The depth will be up to 1.2m deep in the centre. The margins will be scalloped (not engineered), providing places for amphibians such as frogs and toads to breed.

The surrounding EMA will be gently profiled to provide a natural catchment.

Marginal and emergent plant species will be planted into hessian bags, filled with aquatic compost, and staked in place below the water line at a depth of approximately 150mm. Fully submerged species to be planted into hessian planting bags staked in place within the deeper section of the pond. Species include soft rush (*Juncus effusus*), Hard rush (*Juncus inflexus*), Marsh marigold (*Caltha palustris*), purple loosestrife (*Lythrum salicaria*) and water mint (*Mentha aquatica*).

Pond Filling

The proposed pond should be allowed to fill naturally with groundwater with low levels of nutrients (such as nitrates and phosphates) and heavy metals, and no pesticides or other manmade chemicals. It is thought that the water table is situated close to the current surface given the existing pond, however, if test holes do not find the water table (test holes to a depth of 500mm below the maximum depth of the pond), the pond will be lined with puddle clay to ensure that it retains some water throughout the year.

Pond Draining and Translocation

Pre-requisites:

- New pond to have filled to at least 500mm depth.
- Outside of period January-March when Pond Mud Snail eggs and larvae are laid/developing.
- Outside of period March-June when common amphibians and their eggs/larvae

Prior to any drainage, the pond should be assessed by a suitably qualified ecologist for the presence of any Wildlife and Countryside Act Schedule 9 Invasive Floral species such as Giant salvinia (*Salvinia molesta*), Stonecrop/New Zealand Pygmyweed (*Crassula helmsii*), Curly waterweed (*Lagarosiphon major*) or any species of the genus *Elodea*. If these species are found to be present, they should be carefully removed and appropriately disposed of at a controlled waste facility.

Draining will be carried out with a shielded pump to prevent amphibians and larger invertebrates passing through the pump.

It is important the water is not placed into the new pond to avoid the risk of pollution.

As the water level reduces silts, mud (and invertebrates including Pond Mud Snail) will be collected by 360 excavator and distributed around the margins (along the waterline) of the new pond.

4.2.9 Breeding Birds

The proposed tussocky grassland will improve the foraging resource available to birds.

To further enhance the ecological value of the site and provide additional bird nesting opportunities. As there is no proposed structures or mature trees to affix any bird boxes, any future development should include for these within their proposals.

4.2.10 Bats

Given that the proposals include the establishment of a diverse range of habitats it is likely that the foraging resource for bats will be improved.

To further enhance the ecological value of the site and provide additional bat roosting opportunities. As there is no proposed structures or mature trees to affix any bat roosting boxes, any future development should include for these within their proposals.

These would generally be positioned facing in a southerly direction at a height of at least 3m. Suggested boxes are Vivara Pro Woodstone box, or similar approved, being suitable to a range of bat species which are likely to occur in the surrounding area.

4.2.11 Invertebrates

The grassland and meadow species will provide nectar resource for a range of invertebrates. In addition two Woodstone Insect boxes will be installed on the boundary fencing to provide habitat for a range of insects.

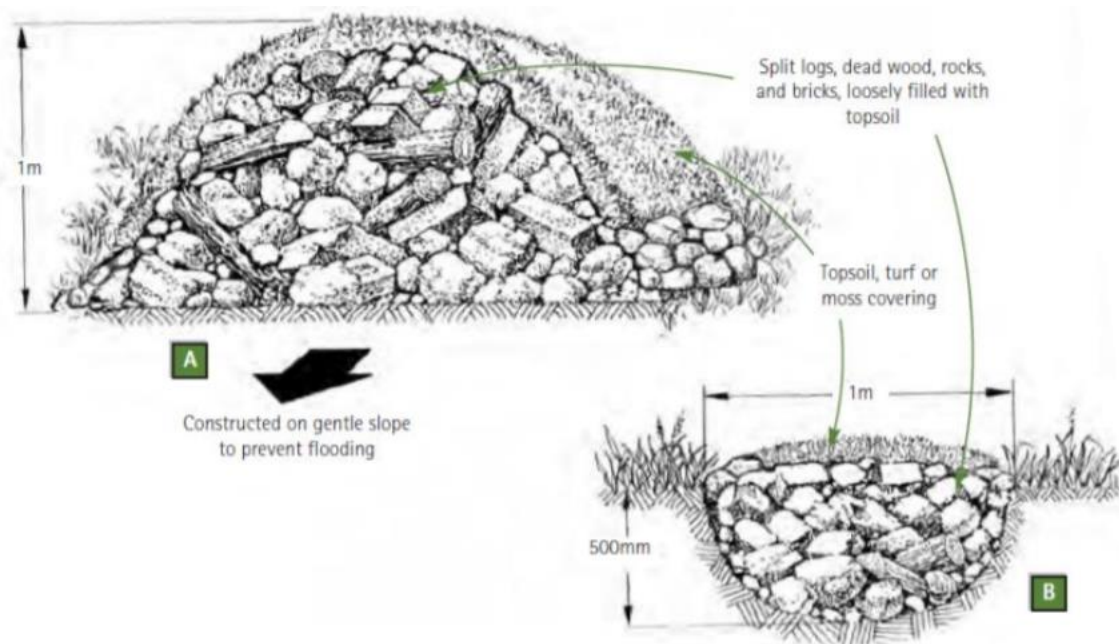
4.2.12 Habitat Piles

Three habitat piles within the EMA will be created using logs and subsequently from any brash arisings resulting from general site maintenance.

4.2.13 Amphibian and Reptile Hibernacula

In addition to the habitat piles, two hibernacula will be created close to the pond in sheltered, south-facing locations providing opportunities for basking.

These will be created by covering a mound of loose rubble and logs with topsoil or by digging a hole and backfilling with loose rubble and logs and covering with topsoil. See below detail for dimensions.



4.2.14 Small Mammals

Boundary fences can present barriers to wildlife movement. Fences will therefore incorporate openings to base of the fence with at least 130 x 130mm to allow for passage by small mammals.

4.3 Phase 2: 30-Year Management Plan Schedule

The management period of this plan is 30 years. During the first five years the quality and quantity of management work completed would be detailed at the end of each year. In order to ensure that the plan continues to remain appropriate, a review will be undertaken once every 5 years thereafter. Should it be identified that the aims of this management plan are not being met remedial action will be undertaken.

Maintenance Operation	Frequency	Seasonal
HARDSCAPE / GENERAL SITE		
1. Remove litter and tidy up all planting areas and hard surfaces.	Each Visit	
2. Written Maintenance Attendance Report and recommendations for necessary remedial works (include Health and Safety reports/issues).	Each Visit	
3. Inspect other fencing and gates and repair as necessary.	Annual	
4. Monitor site for invasive species such as Japanese Knotweed, Himalayan balsam, Bramble and control as necessary.	As required	May-Sept
PLANTING / HEDGES		
5. Remove arisings from maintenance operations.	Each Visit	
6. Trim vegetation back from paths, signage and vehicle sightlines.	As required	May-Sept

Maintenance Operation	Frequency	Seasonal
7. Undertake watering to ensure healthy establishment of all plant stock.	As required	Mar-Nov
8. Replace any dead, seriously damaged or diseased plants with of a similar size and species in following planting season, until canopies close.	As required	Nov-Mar
9. Supply & apply slow release fertiliser to shrub areas; 60g/m2.	Annual (year 1-3 only)	Mar/Apr
10. Remove any dead, seriously damaged or diseased plants.	Annual	Sept-Oct
11. Undertake pruning of hedges, to encourage growth, promote good form and achieve desired height/width.	Annual (year 1-lateral growth only)	Sept-Oct
12. Undertake formative pruning of shrubs, to encourage growth and promote good form, as required.	Annual	Sept-Oct
13. Management of dense shrub and hedgerow <u>must</u> be outside of bird nesting season	As required	Sept-Feb
MEADOW		
14. Cut meadow grass to 70mm after flowering. Carried out on warm dry days to allow any reptiles to disperse. Remove cuttings.	Annual	Mid-July-End Sept
15. Second cut to meadow grass to 70mm if re-growth exceeds 100mm. Remove cuttings.	Annual	December
16. Over-seed patchy grass areas.	Annual	Sept-Oct
TREES		
17. Inspect trees for health and hazards, and implement any recommended works	Quarterly	
18. Management of trees <u>must</u> be outside of bird nesting season	As required	Sept-Feb
19. Inspect tree stakes / ties / guards and replace/remove as required.	Quarterly	
20. Following strong winds, re-firm base and check tree stakes for stability.	As required	
21. Top of mulch layer at base of tree; 1.2m diam. x 75mm depth.	Annual	Mar
22. Supply & apply slow release fertiliser to base of each tree; 50g per new tree.	Annual	Mar-Apr
23. Undertake formative pruning of young trees to encourage good growth and shape, if required.	Biennial (year 1,3,5 only)	Oct-Nov
POND/ECOLOGY		
24. Remove any encroaching scrub by hand pulling or cutting to prevent overshadowing of the pond.	Annually	Autumn

Maintenance Operation	Frequency	Seasonal
25. Inspect pond for the presence of invasive or alien plant species, and aggressive native or naturalised plant species. Control via hand pulling, cutting and removal or as last resort through spot treatment using a non-residual herbicide in line with Environment Agency guidance.	Annually	Autumn
26. Pond-margin colonisation to be reviewed for successful establishment. Any areas which fail to establish will be planted with new plug planting of native emergent and marginal species will be implemented.	Year 3	Autumn
27. Monitor water levels/water quality	Quarterly	
28. Top up of log piles and hibernacula (by suitably competent person)	As required	Sept-Feb

APPENDIX A: Preliminary Ecological Appraisal – May 2022

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DIG GATE LANE, MILNROW, ROCHDALE

Preliminary Ecological Appraisal (PEA)

May 2022

Revision A

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APPENDICES

Appendix A: Key Species Legislation

Appendix B: Natural England's Magic Map, May 2022

Appendix C: Greater Manchester Local Records Centre - Sites of Biological Importance Map, February 2022

Appendix D: Great Crested Newt eDNA Sampling and Pond Mud Snail Survey, May 2022

DRAWING

1366 - 001 UKHABS SURVEY

1 SUMMARY

This Preliminary Ecological Appraisal (PEA) included a desk study of designated sites and ecological data, and a detailed walkover survey of the site considering habitats and species.

The survey work undertaken as part of this PEA is considered to be sufficient to inform a future planning application and no further surveys will be required.

Once the site layout has been finalised, an Ecological Impact Assessment (EclA) may need to be undertaken or a revision to this PEA may be sufficient to support the application.

It is anticipated that there is sufficient detail available to draw robust and reliable conclusions to give the local authority confidence that all ecological constraints are to be avoided, mitigated and compensated for. Ecological enhancements have also been proposed (see section 5).

Mitigation, compensation and enhancement can be secured through appropriately worded planning conditions as part of any planning consents granted.

2 INTRODUCTION

2.1 Background

A planning application for the development of the site at Dig Gate Lane, Milnrow, Rochdale is being prepared.

Balance Power Projects Ltd have asked Weddle Landscape Design to carry out a Preliminary Ecological Appraisal (PEA) of the site.

This Preliminary Ecological Appraisal aims to:

- Identify any likely ecological constraints
- Propose any necessary design changes
- Identify any further ecological surveys required to enable an Ecological Impact Assessment (EclA) to be carried out
- Propose any ecological enhancements

This PEA includes a desk study and extended UK Habitat Survey undertaken in January 2022.

This report has been prepared by Neil Northrop BA DipLD MCIHort MArborA CMLI with over 15 years ecological field surveying, scoping, protected species surveys and report writing experience. This report has been reviewed and checked by John Harvey BA (Hons.) ACIEEM Consultant Ecologist.

This report has been prepared in line with BS 42020:2013 Biodiversity: Code of practice for planning and development and the CIEEM Guidance for Preliminary Ecological Appraisal, Ecological Report Writing and Ecological Impact Assessment.

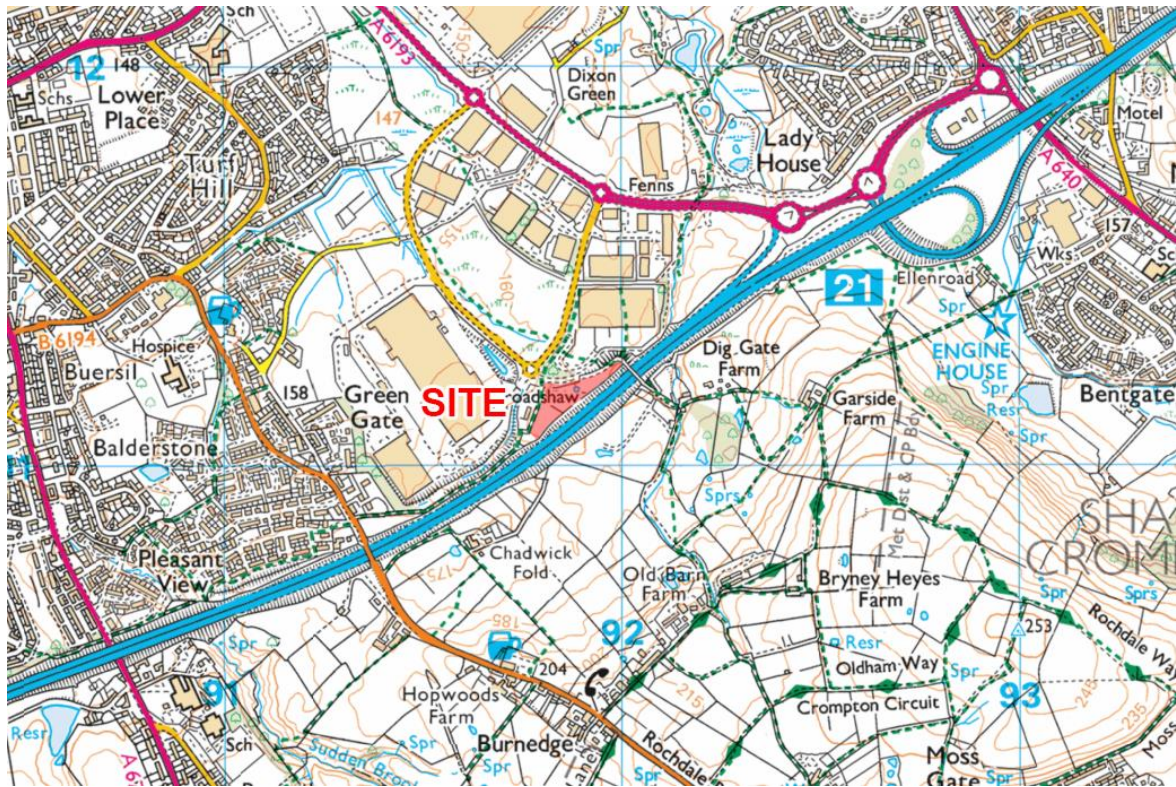
2.2 Site Description

The survey site is approximately 1.4 hectares. The site is located approximately 3km south-east of Rochdale centre at Ordnance Survey grid reference SD 918 111.

The site is currently heavily grazed horse pasture. A public footpath runs along the western boundary with a residential property beyond. A small embankment and hedgerow form the northern boundary with Dig Gate Lane.

To the south a large embankment forms the boundary to the M62 before rising again to pastoral fields beyond. To the south-west there is no physical boundary and further pasture and an area of scrub is present.

Further west and north are large scale distribution/industrial/commercial development with associated hardstandings.



OS Map showing site location



Aerial photograph with survey site boundary

2.3 The Proposals

A full planning application is being prepared for a battery storage facility which will be located within the survey site. At present there are no confirmed proposals, however a new site access is likely to be formed on the northern boundary and the existing waterbody may be impacted by the proposed footprint.

2.4 Planning Status

The site is in Rochdale, Greater Manchester under the development control of Rochdale Borough Council (RBC).

3 METHODOLOGY

3.1 Desk Study

A desk study was undertaken to collate any existing ecological data for the site and its surroundings. As part of the desk study process, the following sources of record have been considered:

- Natural England Magic website for geographic information on key environmental schemes and designations. www.magic.gov.uk, May 2022 (see Appendix A).
- Greater Manchester Local Records Centre's data at OS grid reference SD 918 111. Received 25th February 2022 (see Appendix C – full data set available on request).
- National Biodiversity Network Gateway. <https://nbn.org.uk/>

3.2 Field Surveys

Habitat Survey

Habitat surveys were carried out in accordance with the UK Habitat Classification¹ (Professional Edition) at a minimum of Level 4 and at a Minimum Mapping Unit of 25m²/5 linear m. The survey was undertaken on 12th January 2022 (a cold but clear day). This is considered to be outside of the optimum period for Habitat Field Surveys, between March and October.

This appraisal includes a:

- Description of each habitat including a general list of species and assessment of general management.
- Condition assessment for each habitat, carried out following the condition criteria of The Biodiversity Metric 3.1 – Technical Supplement²
- Identification of UK BAP Priority Habitats under S41 of NERC Act and Habitats Directive Annex I habitat types.

A UK Habitats Plan of the site showing the various identified habitats is provided as drawing number 1366 - 001.

Badger Surveys

The site and immediate surroundings (where access was possible), was searched for any evidence of Badger (*Meles meles*) in accordance with Surveying Badgers³ as part of the walkover survey.

During the walkover the site was searched for evidence of badger including setts, paths and prints, latrines, dung pits, snuffle holes, foraging signs, and hairs caught on wire fencing.

¹ The UK Habitat Classification User Manual, Version 1.1, Butcher et al, UKHab, 2020

² The Biodiversity Metric 3.1 – Technical Supplement, Natural England, 2021
<http://publications.naturalengland.org.uk/file/6089603756064768>

³ Surveying Badgers, Harris, Cresswell and Jefferies, The Mammal Society. 1989.

Bat Preliminary Roost Assessment of Trees

Trees within the site were inspected from ground level using binoculars and elevated survey by ladder if safe to search for any field signs of bats or potential roost features (PRF's). The survey was undertaken as part of the walkover survey for all accessible trees.

Each tree was searched for potential bat roost features (PRF's) including; Woodpecker Holes; Cavity's from knots, pruning wounds and cankers; Overlapping forks; Substantial Ivy; Cracks and splits; and Loose Bark.

Each tree was then categorised as the table below which has been structured in accordance with BCT Good Practice Guidelines⁴ (Table 4.1) and BS 8596:2015 Surveying for Bats in Trees and Woodlands⁵.

Category (Potential risk)	Description of Tree and Potential Roost Features
Known or Confirmed Roost	Bats discovered roosting within the tree, or recorded emerging from / entering the tree at dusk and / or dawn. Tree found to contain conclusive evidence of occupation by bats, such as bat droppings within a potential roost feature. A confirmed record (as supplied by an established source such as the local bat group) would also apply to this category.
High risk	Trees with a suitable potential roost feature, or with several features with some bat roost potential. Usually mature or veteran trees with multiple woodpecker holes / deep cracks and /or crevices. Often with a hollow trunk. May support dense ivy.
Medium risk	Trees with few cracks and fissures (of usable depth for low numbers of bats) and /or dense ivy / loose bark. Often semi-mature or mature specimens. Trees tend not to have large splits, hollow trunks or woodpecker holes for example. If present suitable features are likely to be low level or shallower than those in trees with high risk.
Low risk	Trees of sufficient size and age to contain bat roosts but with no obvious potential roost features seen during the ground level survey, or features seen with limited roosting potential only, e.g., small amounts of ivy.
Negligible/No risk	Trees with low or no potential to support bats. Usually without ivy or loose bark and cracks / fissures. Often young or occasionally semi-mature specimens with small girth. Likely to be relatively isolated from suitable foraging habitat or commuting features. May be located in well lit areas.

Classification of trees for risk of bat roost presence

Bat Preliminary Roost Assessment of Buildings

A thorough internal and external inspection of the building to look for evidence of bats and assess bat roosting potential was undertaken as part of the walkover survey. Evidence of bats may take the form of droppings, urine stains, feeding remains, live bats, dead bats, grease mark stains, fur and claw marks made by bats regularly roosting in the same location.

During the external survey the roof and walls were inspected from ground level (using binoculars to aid visibility where required) and elevated survey by ladder if safe to search for gaps and voids that would allow bats access to suitable roost sites.

⁴ Bat Surveys for Professional Ecologists, Good Practice Guidelines, 3rd Edition, Collins J, The Bat Conservation Trust, 2016.

⁵ BS 8596:2015 Surveying for Bats in Trees and Woodlands. BSI Group.

The building was assigned a roost suitability as defined BCT Good Practice Guidelines (Table 4.1) as the table below.

Suitability	Description of Roosting Habitats
High suitability	A structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.
Moderate suitability	A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).
Low suitability	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation).
Negligible suitability	Negligible habitat features on site likely to be used by roosting bats.

Classification of building suitability for bats

Pond Scoping Assessment

A pond scoping exercise was undertaken to identify any ponds or watercourses located within 500m of the site using ordnance survey maps and aerial photography.

Great Crested Newt Habitat Suitability Index Assessment

Habitat Suitability Index (HSI) assessment was carried out on accessible ponds. The survey was undertaken on as part of the walkover survey. The survey was undertaken in accordance with the methodology described in ARG UK Advice Note 5⁶.

The Habitat Suitability Index (HSI) was developed by Oldham et al (2000) in order to provide an index allowing a direct comparison to be made between different water bodies. This index assesses ponds against different criteria, each of which have a bearing on the likelihood of great crested newts (*Triturus cristatus*) being present in the pond under consideration.

The criterion are Geographic Location; Pond Area; Permanence; Water Quality; Perimeter Shading; Wildfowl presence; Fish Presence; Pond Count (within a 1.0 km radius); Terrestrial Habitat (within 250 m); and Macrophyte Cover.

The HSI score is used to demonstrate whether a pond is suitable for breeding GCN and therefore, if it requires detailed survey. Generally, ponds with a high HSI score are more likely to support GCN than those with lower scores. Pond suitability is categorised using the following scale:

⁶ ARG UK (2010), ARG UK Advice Note 5: Great Crested Newt Habitat Suitability Index, Amphibian and Reptile Groups of the United Kingdom.

HSI Score	Pond Suitability
<0.5	Poor
0.5-0.59	Below Average
0.6-0.69	Average
0.7-0.79	Good
>0.8	Excellent

HSI Suitability

Dr L Brady⁷ provides further advice on interpreting HSI suitability scores:

- *GCN tend to avoid ponds with low HSI scores. Ponds with relatively low HSI scores (poor to below average) typically only support GCN when they are located close to another occupied pond. Low scoring ponds are therefore only likely to support GCN in areas of high pond density.*
- *GCN do not necessarily avoid ponds with average suitability, but nor do they actively seek them out. The presence of GCN in ponds with an 'average' HSI score appears to be simply down to chance.*
- *GCN appear to prefer ponds with high HSI scores. Ponds with relatively high HSI scores (good to excellent) frequently support GCN. Survey work undertaken in SE England indicates that great crested newt are present in more than 90% of ponds with an 'excellent' HSI score.*

Therefore, any ponds that have an 'average' habitat suitability score or higher, or any low scoring ponds in areas of high pond density are likely to require further surveys to determine whether GCN are present, and if so, to establish population size.

Invasive Species

As part of the walkover survey the site and immediate surroundings were searched for any evidence of invasive non-native plant species (INNS) listed on Schedule 9 of the Wildlife and Countryside Act 1981.

The species which are often encountered are Japanese Knotweed (*Fallopia japonica*), Himalayan balsam (*Impatiens glandulifera*), Giant Hogweed (*Heracleum mantegazzianum*), *Cotoneaster sp.*, *Rhododendron sp.*, and Variegated Yellow Archangel (*Lamium galeobdolon subsp. argentatum*).

3.3 Limitations

While the survey visit was undertaken outside of the optimum period for vegetation surveys it is not considered to have been a limitation in identifying the range and diversity of habitats onsite.

⁷ Brady, L, Habitat Suitability Index; Interpreting HSI Scores, Calluma Ecological Services. Available: <https://www.calumma.co.uk/services/15-information/40-habitat-suitability-index>

4 BASELINE ECOLOGICAL CONDITION

4.1 Designations

Rochdale Canal is both a Special Area of Conservation (SAC) and Site of Special Scientific Interest (SSSI) and is located 1.4km to the north of the site. The canal is designated for its aquatic and emergent plants and in particular the nationally scarce floating water-plantain (*Luronium natans*).

Using Natural England's SSSI Risk Zone mapping impacts are considered to be unlikely to arise from the proposed development on the SSSI. No direct impacts are anticipated on the canal SSSI/SAC due to the intervening distance. However, as the site lies upstream of the canal there is the potential for indirect impacts through run-off and pollutants.

Within the 2km search area there are five Sites of Biological Importance (SBI). These are Rochdale Canal (Scowcroft to Warland); Stanney Brook; Meadow North of Moss Gate; Sudden Brook (East and West); and Marsh near Turf Hill which is the closest being 700m to the north west. A map of their locations in Appendix D.

These sites are all considered to be separated from the site either by the M62 or the surrounding large scale developments, with no direct impacts predicted to arise. As with the Rochdale Canal SAC indirect impacts could occur on downstream sites.

Natural England Magic website indicates that within a 2km radius there are three types of Priority Habitat Inventory (PHI) allocations (See Appendix C). There are several areas, allocated as Deciduous Woodland, the closest being approximately 200m southeast. One area of 'Good Quality Semi-improved grassland' approximately 900m southwest, and 'Lowland Fen' approximately 700m north.

4.2 Habitats and Flora

Flora Records

Greater Manchester Local Records Centre (GMLRC) have provided four records of the nationally scarce floating water-plantain (*Luronium natans*) located within the Rochdale Canal.

All higher plant species present were recorded during the site walkover and are provided within the description of each habitat.

No rare or notable plants were recorded during the site walkover.

Invasive Non-Native Species

GMLRC provided no records of invasive non-native species.

No invasive species were noted during the site walk over. However, previous reporting (WYG A105041-13-5 noted the presence of himalayan balsam (*Impatiens glandulifera*) in the verge on Dig Gate Lane, in October 2017.

This area (TN 01) was checked for signs of himalayan balsam and the area had been recently cleared/excavated. It is unknown if work has been carried out to eradicate the plant, and due

to the time of year whether it has been successful and therefore it should be assumed that it is still present.



Cleared verge previously noted to contain himalayan balsam

w1g6 – Line of trees

A short line of trees is present at the northwest corner of the site. This comprises of semi-mature alders (*Alnus glutinosa*) approximately 7m high.



Line of Alders

g4 - Modified Grassland

The majority of the site comprises intensively grazed modified grassland. Grass species identified include perennial rye-grass (*Lolium perenne*), common bent (*Agrostis capillaris*), red fescue (*Festuca rubra*), Yorkshire-fog (*Holcus lanatus*) and cock's-foot (*Dactylis glomerata*). Other forbs identified include creeping buttercup (*Ranunculus repens*), ragwort (*Senecio jacobaea*), soft-rush (*Juncus effusus*), dandelion (*Taraxacum officinale*), ribwort plantain (*Plantago lanceolata*), broad-leaved dock (*Rumex obtusifolius*), daisy (*Bellis perennis*) and clover (*Trifolium repens*).



Northern field looking northwards

The southern field has greater density of soft-rush (TN 02). At the southern end of the site are some scattered hawthorn (10) bushes.



Southern field

To the north-west ruderal vegetation (17) has colonised, where ungrazed outside of the post and rail fence. This includes creeping buttercup, creeping thistle (*Cirsium arvense*), nettle and broad-leaved dock.

h2a – Hedgerow

The northern boundary of the site is comprised of three sections of young hedgerow dominated by hawthorn (*Crataegus monogyna*), ornamental privet (*Ligustrum ovalifolium*), elder (*Sambucus nigra*), occasional field rose (*Rosa arvensis*), nettle (*Urtica dioica*) and bramble (*Rubus fruticosus* agg.). A large stand of Chinese bramble (*Rubus tricolour*) (TN 03) is present.



Hedgerow with modified grassland verge

Hedgerow Table				UKBAP Priority Habitat >20m Long and <5m wide. >80% of at least 1 UK native woody species
Hedgerow	Approx. Linear m	Management	Species Composition	
H1	160m	In three parts Managed at 2-3m	Hawthorn, Privet, Elder, Field Rose	No

r1 – Standing open water

A small fenced-off waterbody is present in the northern part of the site. This is choked with soft-rush and while it contained some shallow water at during the walkover survey, it has previously been reported (Enzygo January 2021 SHF.366.020.EC.R.001) to be dry.



Soft-rush choked pond

u1b5 – Buildings

There are two buildings present, both located in the northern part of the site.

B1 is a flat roofed electrical substation constructed of concrete blocks and steel doors and has no potential entry points for bats or birds.



Building 1

B2 is an open horse shelter which is on the verge of collapse.



Building 2

Both buildings were considered to have **negligible** suitability for bats and no nests were present.

u1e – Built linear features

The majority of the boundaries are constructed of wooden post and rail fencing.



Northern corner of the site surrounded by wooden post and rail fencing

4.3 Fauna

Species legislation is provided in Appendix A.

Riparian Mammals

GMLRC have provided 29 records of water vole (*Arvicola amphibius*) all located along the Stanney Brook and Stanney Brook Park and further distant at Rochdale Canal. The closest record is 160m north east. No records of otter (*Lutra lutra*) were returned by GMLRC.

This site and immediate surroundings provide no suitable riparian habitat for these species and is isolated from the Stanney Brook, and therefore the site offers no opportunity for these species.

Badger

GMLRC provided eight records for badger (*Meles meles*) and their field signs within the 2km search area, although no records were within 1km of the site.

No setts or other field signs of badgers were identified on the site.

The site provides some foraging opportunities for badgers, and they may pass through the site on occasions.

Other Terrestrial Mammals

GMLRC provided seven records of brown hare (*Lepus europaeus*) all located to the south beyond the M62. Sixteen records of hedgehog (*Erinaceus europaeus*) were located within residential areas more than 1km from the site.

No incidental sightings and no specific field signs of small mammals were noted during the site walkover.

The intensively grazed grassland is unlikely to support hare. The boundary vegetation may provide some cover and some foraging for hedgehog and other small mammals and therefore they may occur on site if present in the local area.

Bats

GMLRC provided a number of bat records within the 2km search area, with an unidentified bat record within the site. The records also include roosts with the nearest for a common pipistrelle (*Pipistrellus pipistrellus*) roost located 630m northwest of the site.

There are no records of granted Natural England protected species licences relating to bats within 2km of the site on the Magic website.

The northern field boundary hedgerow trees were generally not of an age to have developed PRF's and were assessed as providing negligible/no risk of supporting roosting bats.

The existing wooden field shelter and substation were inspected (see section 3.2). These were found to have no PRF's and therefore negligible suitability to support bat roosts.

The grassland over the majority of the site provides very limited foraging opportunity for bats, with the northern boundary providing some commuting and foraging opportunities, but with limited connectivity to wider habitats.

Birds

GMLRC provided numerous bird records within the 2km search area.

The majority of the site provides very limited foraging, cover and nesting opportunities and no nests were noted during the site walkover. Opportunities are focused on the northern boundary hedgerow although this is limited in its extent and to species which use this habitat.

The short grazed pasture and compact scale of the site provides no habitat for ground-nesting birds such as Skylark (*Alauda arvensis*) and Lapwing (*Vanellus vanellus*). The field shelter provides no roosting for Barn Owl (*Tyto alba*) and the habitat on site provides negligible foraging opportunity for this species.

Limited bird activity was observed during the site walkover with magpie (*Pica pica*) and pigeon (*Columba livia domestica*) identified flying overhead.

Amphibians

The GMLRC data search returned no records for common amphibians and one 2013 record of great crested newt (GCN) (*Triturus cristatus*) located 1.6km to the north of the site.

No EPS licences relating to GCN were identified within 2km of the site using the Magic website.

The pond scoping exercise identified one pond (P1) located 100m northwest of the site. Based on aerial photography this was constructed in 2014/2015 as part of the adjacent warehouse development. Four further ponds have been identified to the southeast beyond the M62, but these are not considered further as the motorway is a barrier to dispersal.

The onsite waterbody (P2) was reported (Enzygo SHF.366.020.EC.R.001) to be dry at the time of their visit on 27th January 2021. The fluctuating water level and complete drying of the pond during the breeding season means a metapopulation is highly unlikely to be present.

As the proposal may directly impact on the pond, further GCN eDNA sampling has been undertaken in May 2022 (See Appendix D) and GCN were confirmed to be absent.

As there is a lack of pond network facilitating dispersal to the west of the motorway, and no evidence of any historical metapopulation, the pond P1 is highly unlikely to support GCN. Alongside the negative result from P2 the site is not considered to support GCN.

The onsite waterbody may support small numbers of common amphibians, and the northern boundary habitats provides some limited terrestrial habitat, but with a lack of hibernation opportunities.

Reptiles

GMLRC provided a single reptile record within the 2km search area. This is a historical record of common lizard (*Zootoca vivipara*), located approximately 1.9km south of the site.

The majority of the site was assessed as providing little or no value to reptiles due to the lack of suitable mosaic habitats, opportunities for foraging, basking or hibernacula. The northern boundary vegetation and the land to the south east of the site may provide some more suitable habitat.

No reptiles were identified during the walkover survey and are considered unlikely to be present on the site.

Invertebrates

GMLRC provided a small number of invertebrate records including a record of wall (*Lasiommata megera*) a species of principal importance, located 1.3km east of the site and four records of cinnabar (*Tyria jacobaeae*), with the closest record approximately 1km to the west. Due to the intensity of grazing the site does not provide food source plants to support these species.

Two records of pond mud snail (*Omphiscola glabra*), a species of principal importance, were provided, one within the pond on the opposite side of the motorway and one at 'Marsh Near Turf Hill' SBI, 740m northwest of the site.

A further search of the waterbody on site was undertaken in May 2022 (see Appendix D) and pond mud snail were confirmed to be present.

The remaining habitats are likely to support a range of common invertebrate species, however the lack of diverse habitat mosaic means it is unlikely to support any other rare or notable populations.

5 ECOLOGICAL CONSTRAINTS AND OPPORTUNITIES

5.1 Confirmed Ecological Constraints

Avoidance, mitigation and/or compensation measures are required for the following constraints:

Trees

Retained trees and hedgerows should be protected in line with BS5837:2012 '*Trees in relation to Design, Construction and Demolition -recommendations*'.

Birds

The tree and hedgerow along the northern boundary provide bird nesting habitat. In compliance with Wildlife and Countryside Act 1981, no construction work which will disturb nesting birds should take place during the breeding season (March – August).

Foraging and nesting opportunities should be designed into the development through suitable shrub and tree planting.

Waterbody / Pond Mud Snail

The waterbody on site was found to contain pond mud snail, which is a species of principal importance.

The proposals should ideally be designed to avoid and retain the waterbody with an appropriate habitat buffer of 5m-10m to any development. Pollution prevention shall be implemented to ensure the waterbody is not impacted by the proposed works. The hydrology of the waterbody will also be protected with no surface water discharge either during construction or in-use as this will affect the pond mud snail habitat.

It is understood that avoidance may not be possible, and the pond may need to be removed as part of the proposals. If this is the case, then a replacement/receptor waterbody will need to be implemented elsewhere on site with silts, mud, vegetation, and invertebrates translocated in advance of any other development. Again, pollution prevention measures will need to be put in place and the replacement waterbody will need to be managed to ensure a hydrological balance is established and maintained. A specific waterbody mitigation strategy would need to be prepared.

Rochdale Canal SSSI / SAC

To ensure that the downstream designated sites are not indirectly impacted by the proposed development the Environment Agency's Pollution Prevention Guidance (or revised documents) will be followed during all site works. Essentially these methods are to be followed:

- Storage areas for chemicals, fuels, etc. will be sited well away from the southern and eastern boundaries and stored on an impermeable base within an oil-tight bund with no drainage outlet
- Where possible silty water should be disposed of to the foul sewer.

- Grey water from washing of vehicles to be carried out in a contained area away from the boundaries.
- Refueling of vehicles and plant will take place in a designated area, ideally on an impermeable surface.

5.2 Potential Ecological Constraints

Avoidance, mitigation and/or compensation measures are required for the following potential constraints:

Invasive Species

It is currently unknown whether the himalayan balsam along the verge of Dig Gate Lane has been previously removed. This should be confirmed, and if still present then a management plan for its control /removal/eradication should be put in place as part of the development.

Badger

While no badger setts were identified on site, not all areas of the site were accessible and badgers from the wider area may occasionally pass through or forage on the site. The following precautionary approach should be implemented:

- A check for badger should be undertaken alongside the vegetation clearance and prior to commencement of any development to establish if any badger setts are present and/or have been dug in the intervening period.
- Any pipes left uncovered overnight will be capped to prevent any badger getting trapped.
- Trenches or excavations left uncovered overnight will have a suitable means of escape (such as wooden plank).

Bats

The retention and protection of the majority of the northern boundary vegetation will avoid the loss of suitable bat foraging and commuting habitat. However, it is understood that the proposals will require the removal of a section of the vegetation on the northern boundary to Dig Gate Lane to allow for the site access. Landscaping proposals should include for additional tree, shrub and hedgerow planting to bolster this boundary, with new planting implemented along the other boundaries on the site to improve vegetation structure for bats.

Lighting of the development both during construction and in-use should be minimised, and any lighting should utilise downward facing low-level lighting and PIR / timer systems.

Amphibians

The site may support a small number of common amphibians, around the waterbody and along the northern boundary. In order to minimise the risk of killing or injury a precautionary silt clearance method will be implemented.

Vegetation clearance will be undertaken in a phased approach (from centre of the site towards the boundaries) allowing any amphibians the time to disperse.

5.3 Recommendations for further surveys

No further survey work is considered necessary to establish the ecological baseline of the site.

5.4 Ecological Enhancement Opportunities

The following ecological enhancements should be incorporated into the proposed development:

- Shrub and tree planting which includes a diverse mix of native and non-native species in accordance with recognised good practice.
- Bat Roosting Opportunities
- Bird Nesting Opportunities
- Wood pile habitats should be provided for a range of species.

5.5 Mechanism to secure Mitigation and Enhancement

The mitigation measures and enhancement opportunities set out above can be secured through appropriately worded planning conditions as part of any planning consents granted.

6 CONCLUSION

This Preliminary Ecological Appraisal has identified a number of ecological constraints as defined within section 5 and specific avoidance, mitigation and compensation measures have been provided.

No further survey work is considered to be necessary to establish the ecological baseline of the site.

Once the site layout has been finalised an Ecological Impact Assessment (EclA) may be required or a revision to this PEA may be sufficient to support the planning application.

It is anticipated that there is sufficient detail available to draw robust and reliable conclusions to give the local authority confidence that all ecological constraints are to be avoided, mitigated and compensated for.

Ecological enhancements have also been proposed (see section 5).

Mitigation, compensation and enhancement can be secured through appropriately worded planning conditions as part of any planning consents granted.

APPENDIX A

Key Species Legislation

Bats

Bats are European Protected Species (EPS) listed on Annex IV of the Habitats Directive 1992 which is transposed into UK law by the Conservation (Natural Habitats &c) Regulations 1994 or “Habitats Regulations” and consolidated within The Conservation of Habitats and Species Regulations 2017. Bats are also protected through Schedules 5 and 6 of the Wildlife and Countryside Act (WCA) 1981 (as amended). Certain species are also listed in Section 41 of the NERC Act 2006, as species which are of principal importance for the conservation of biodiversity in England. A number of Bat species are listed as a Biodiversity Action Plan (BAP) priority species on the UK BAP.

European Otter (*Lutra lutra*)

Otters are an EPS listed on Annex IV of the Habitats Directive 1992 which is transposed into UK law by the Conservation (Natural Habitats &c) Regulations 1994 or “Habitats Regulations” and consolidated within The Conservation of Habitats and Species Regulations 2017. Otters are also a UK BAP priority species and listed as a species of principal importance for the conservation of biodiversity in England under Section 41 of the NERC Act 2006. Otters are also protected through Schedules 5 and 6 of the WCA 1981 (as amended).

European Water Vole (*Arvicola amphibious*)

Water Vole is protected under Schedule 5 of the WCA 1981 (as amended) and is listed as a species of principal importance for the conservation of biodiversity in England under Section 41 of the NERC Act 2006. Water Voles are also listed as a UK BAP priority species.

Eurasian Badger (*Meles meles*)

Badgers are protected in the UK under the Protection of Badgers Act 1992 which protects both the individual animals and their setts. However, habitats used for any other purpose are not afforded any form of protection under this or other legislation. This species is also listed on Schedule 6 of the Wildlife and Countryside Act 1981 (as amended) which outlaws certain methods of taking and killing when this is necessary.

Hazel Dormouse (*Muscardinus avellanarius*)

Hazel Dormouse is an EPS included on schedule 2 of the Habitats Regulations, and on Schedule 5 of the WCA 1981 (as amended). Dormouse is listed as a species of principal importance for the conservation of biodiversity in England under Section 41 of the NERC Act 2006 and is also listed as a UK BAP priority species.

Polecat (*Mustela putorius*)

Polecats are protected under Schedule 4 of the Habitats Regulations and Schedule 6 of the WCA 1981 (as amended). Polecat are also listed as a UK BAP priority species.

Harvest Mouse (*Micromys minutus*)

Harvest mouse is listed as a species of principal importance for the conservation of biodiversity in England under Section 41 of the NERC Act 2006 and is also listed as a UK BAP priority species.

European Hedgehog (*Erinaceus europaeus*)

Hedgehog are listed as a species of principal importance for the conservation of biodiversity in England under Section 41 of the NERC Act 2006 and is also listed as a UK BAP priority species.

Birds

All bird species including their eggs and nests, are protected from harm during the breeding season under the WCA 1981 to varying degrees. Some bird species are also included on Schedule 1 of the WCA 1981 (as amended) and inclusion on this schedule makes it an offence to intentionally or recklessly disturb these birds at, on or near an 'active' nest. A number of birds are listed as species of principal importance for the conservation of biodiversity in England under Section 41 of the NERC Act 2006.

Reptiles

Widespread reptiles; Adder (*Vipera berus*), Grass snake (*Natrix natrix*), Common lizard (*Lacerta vivipara*) and Slow-worm (*Anguis fragilis*) are protected against killing, injuring and sale under UK legislation through their inclusion in Appendix III of the Bern Convention (1979), Schedule 5 of the WCA 1981 (as amended).

Sand Lizard (*Lacerta agilis*) and Smooth snake (*Coronella austriaca*) are also EPS listed on Annex IV of the Habitats Directive 1992 which is transposed into UK law by the Habitats Regulations, and on Schedule 5 of the WCA 1981 (as amended).

All reptiles are listed as UK BAP Priority species and are also listed as a species of principal importance for the conservation of biodiversity in England under Section 41 of the NERC Act 2006.

Amphibians

Widespread amphibians; Smooth newt (*Triturus vulgaris*), Palmate newt (*Triturus helveticus*), Common frog (*Rana temporaria*) and Common toad (*Bufo bufo*) are only protected from sale under Schedule 5 of the WCA 1981 (as amended). Common toad is also listed as a UK BAP Priority species.

Great crested newt (*Triturus cristatus*) and Natterjack toad (*Bufo calamita*) are also EPS listed on Annex II and IV and Annex IV respectively of the Habitats Directive 1992 which is transposed into U.K law by the Habitats Regulations, and on Schedule 5 of the WCA 1981 (as amended). Both are also listed as a UK BAP Priority species and GCN are also listed as a species of principal importance for the conservation of biodiversity in England under Section 41 of the NERC Act 2006.

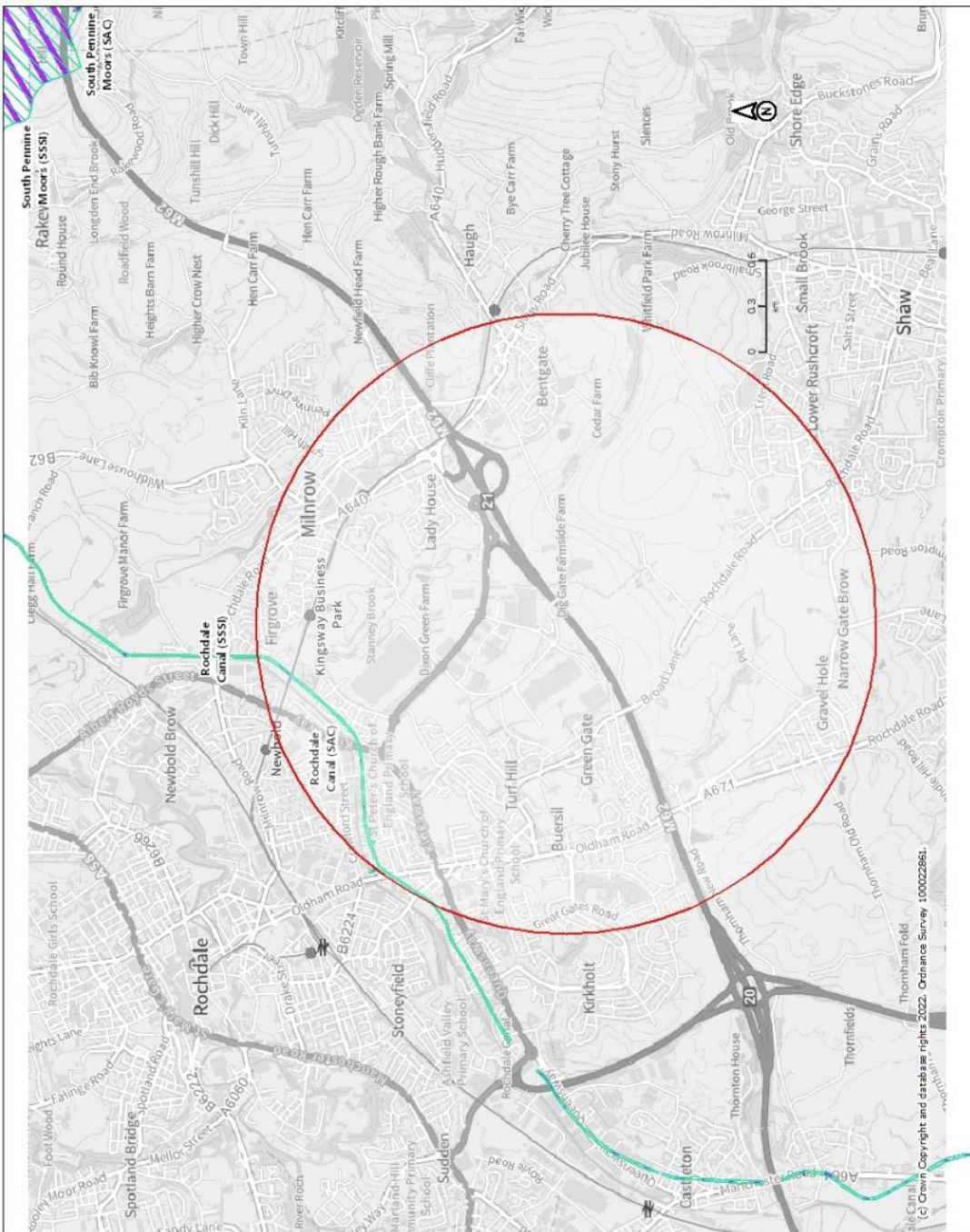
Invertebrates

A large number of British invertebrates are protected under Schedule 5 of the WCA 1981 (as amended). Different species are protected under one, some or all of the parts of Section 9. Hundreds of invertebrate species are of principal importance for the conservation of biodiversity in England under Section 41 of the NERC Act 2006. Similarly, several hundred are also listed as a UK BAP priority species.

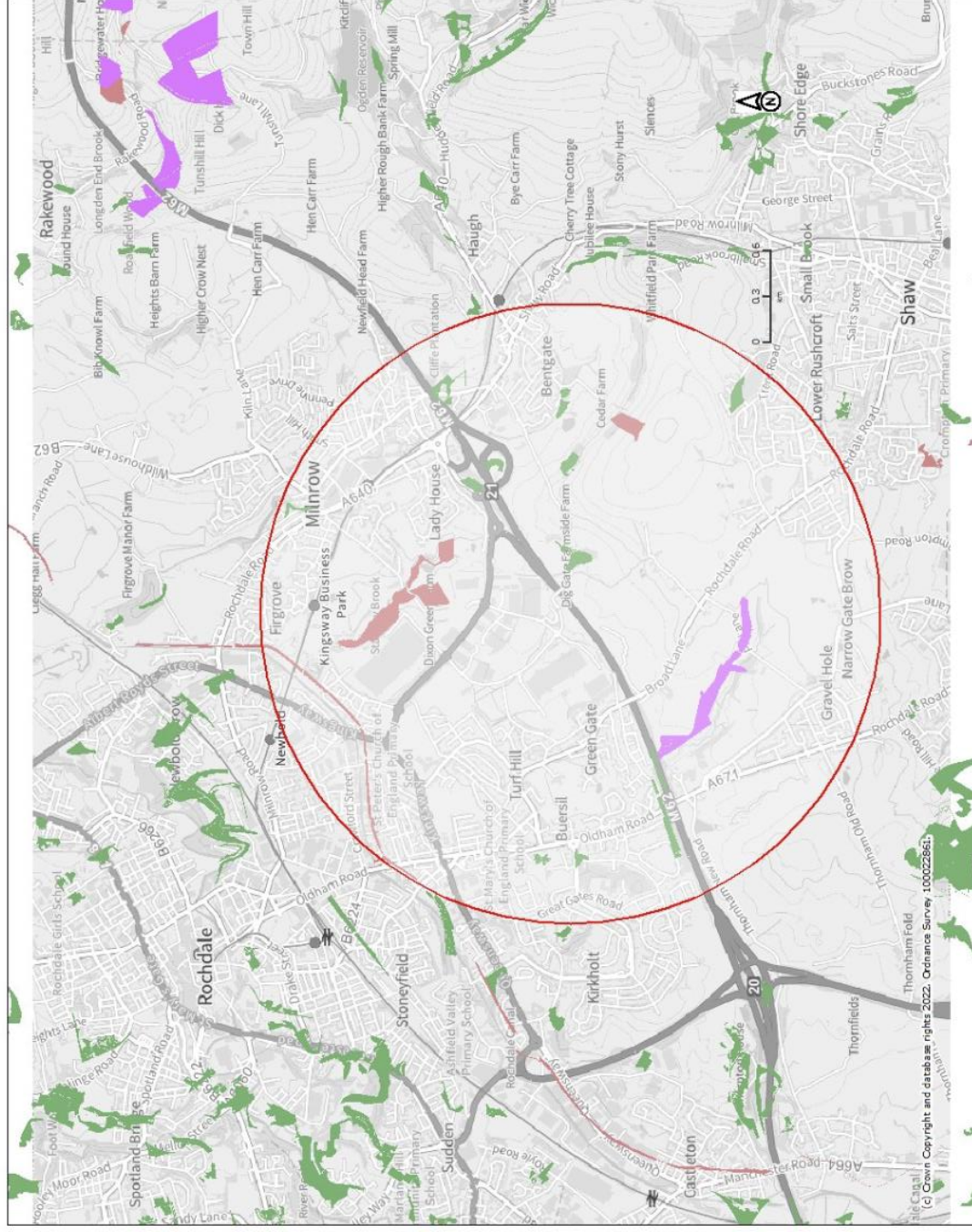
White-clawed crayfish (*Austropotamobius pallipes*)

White-clawed crayfish is listed in Appendix III of the Bern Convention, and Annexes II and IV of the EC Habitats Directive, and is protected under Schedule 5 of the WCA 1981 (as amended) in respect of taking from the wild and sale. White-clawed crayfish is a species of principal importance for the conservation of biodiversity in England under Section 41 of the NERC Act 2006 and is also listed as a UK BAP priority species.

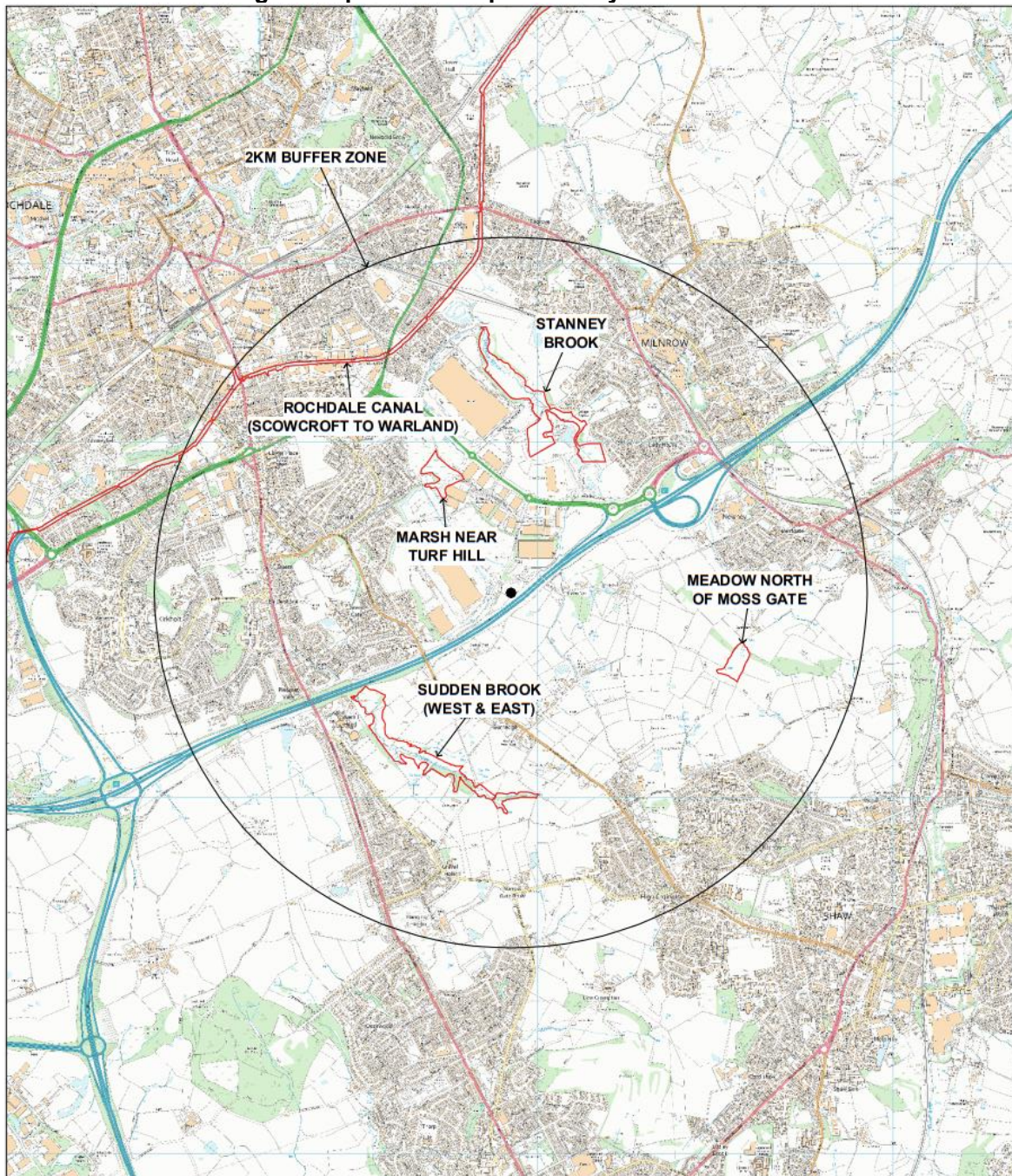
May 2022



Habitats



APPENDIX C
GMLRC Sites of Biological Importance Map. February 2022



KEY
 SITE OF BIOLOGICAL IMPORTANCE
 SBI BOUNDARY

GREATER MANCHESTER ECOLOGY UNIT
ECOLOGICAL SEARCH - SD 918 111
MILNROW - MAP 1

SCALE 1:20,000

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Date Produced: 24/02/2022

APPENDIX D

Great Crested Newt eDNA Sampling and Pond Mud Snail Survey, May 2022

Fahey Ecology Ltd

Survey notes of eDNA/Pond mud snail at Milnrow, Rochdale on 26th April 2022

Date: 18/05/22

To Neil Northrop,

This letter notes the eDNA sampling and aquatic invertebrate survey results of a pond at Milnrow, Rochdale carried out on 26th April 2022.

Introduction

Fahey Ecology Ltd were instructed by Weddle Landscape Design to undertake eDNA sampling for Great Crested Newts (GCN) of a pond situated at SD91893 11200.

The site was visited and sampled on 20th April 2022 by Liam Fahey who holds a Natural England Level-2 GCN licence (CL09: 2021-52219-CLS-CLS).

Within the same visit, a survey for Pond Mud Snail *Omphiscola glabra* was also undertaken.

Results

The pond was found to be largely overgrown with vegetation (Photo 1). A small patch in the middle of rushes remained, yet comprised a Sphagnum lawn (Photo 2). The edges of this were where access to pockets of water was possible and as such sampled.

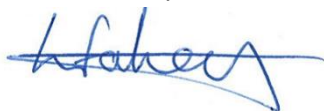
No GCN or signs of were observed during the sampling.

The samples were analysed by Surescreen Scientific with the results being **negative** for GCN eDNA (Appendix 2).

Pond mud snail were found to be **present**. (Photos 3 & 4)

A full survey could not be undertaken due to the limited access to the water and hence mud below, however, pond mud snail were identified in the small pockets of water that were accessible.

Yours sincerely,



Liam Fahey – Fahey Ecology

Fahey Ecology Ltd

Appendix 1: Pond photographs

Photo 1	Photo 2
	

Pond Mud Snail Photographs:

Photo 3	Photo 4
	

Fahey Ecology Ltd

Appendix 2: eDNA results



Folio No: E13169
Report No: 1
Purchase Order: FE04
Client: FAHEY ECOLOGY
Contact: Liam Fahey

TECHNICAL REPORT

ANALYSIS OF ENVIRONMENTAL DNA IN POND WATER FOR THE DETECTION OF GREAT CRESTED NEWTS (TRITURUS CRISTATUS)

SUMMARY

When great crested newts (GCN), *Triturus cristatus*, inhabit a pond, they continuously release small amounts of their DNA into the environment. By collecting and analysing water samples, we can detect these small traces of environmental DNA (eDNA) to confirm GCN habitation or establish GCN absence.

RESULTS

Date sample received at Laboratory: 03/05/2022
Date Reported: 10/05/2022
Matters Affecting Results: None

Lab Sample No.	Site Name	O/S Reference	SIC	DC	IC	Result	Positive Replicates
1295	#1 Rochdale	SD 91893 11200	Pass	Pass	Pass	Negative	0

If you have any questions regarding results, please contact us: ForensicEcology@surescreen.com

Reported by: Esther Strafford

Approved by: Jennifer Higginbottom



Forensic Scientists and Consultant Engineers
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Company Registration No. 08950940

DRAWING
1366 001 UK HABS SURVEY PLAN

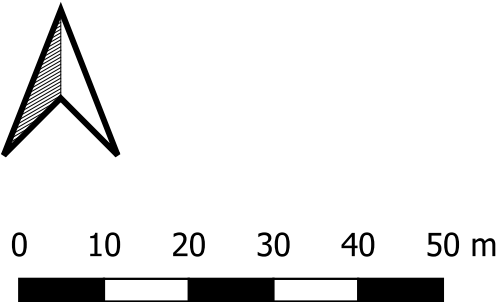
UK HABITAT MAP

- Key
- Survey Boundary
 - Target Notes
 - Line of Trees
 - Hedgerow
 - Built Linear Features
- Habitats
- g4 - modified grassland
 - u1b5 - buildings
 - r1 - standing open water and canals

Weddle Landscape Design
Dig Gate Lane, Milnrow, Rochdale

Drawing Number 1366 - 001

Scale: 1:1500 @ A3



Existing Hedgerow to be Retained

Existing Grass Verges to be Retained

Native Tree Planting

Native Hedge Planting

Native Scrub Planting

Marginal Pond Planting

Species Rich Tussocky Grassland

Pond

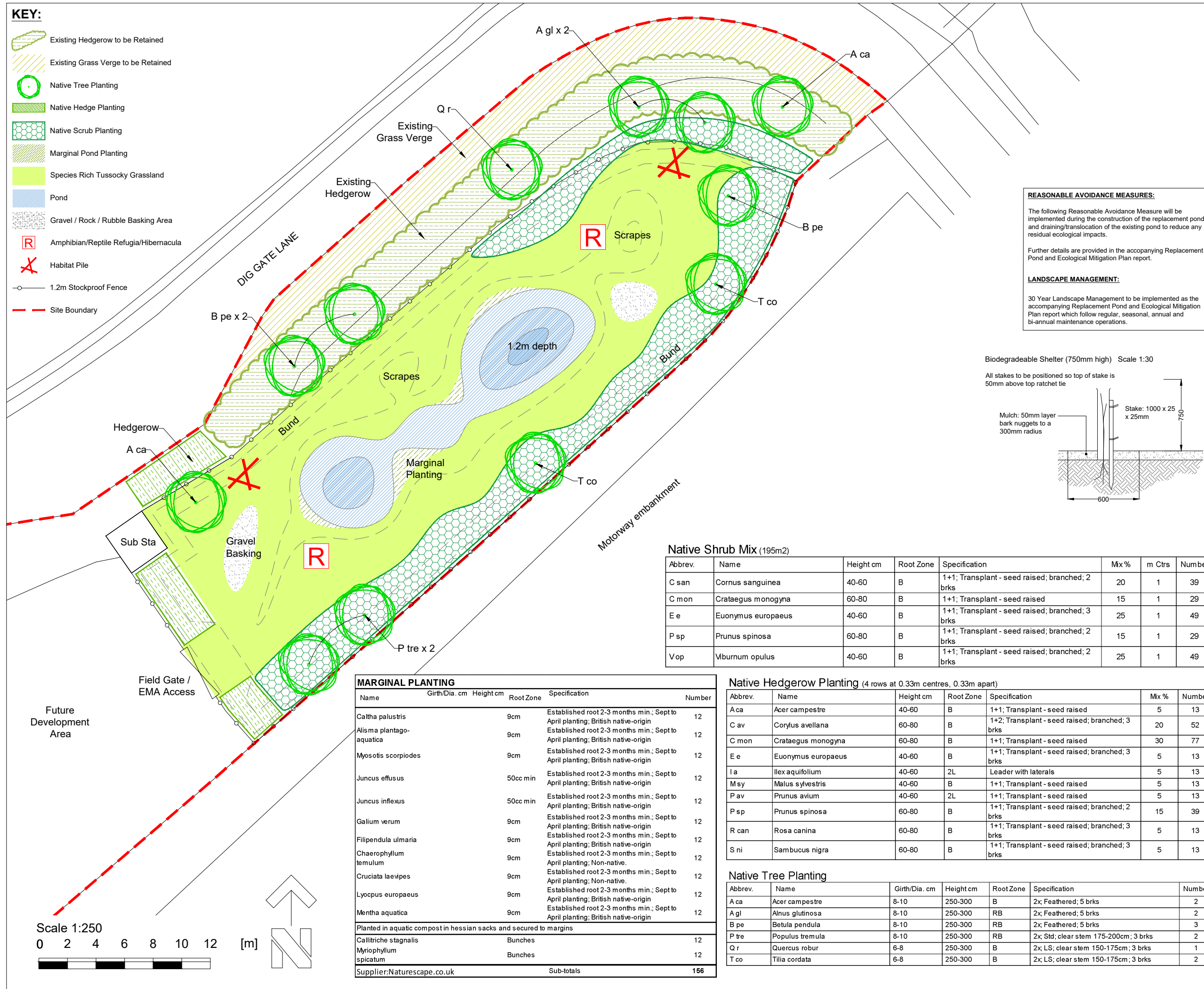
Gravel / Rock / Rubble Basking Area

Ambibian/Reptile Refuge/Hibernacula

Habitat Pile

1.2m Stockproof Fence

Site Boundary



GENERAL
All works to be in accordance all relevant British Standards and the Landscape Consultant's planting plans and specification (to be issued) and in compliance with the National Landscape Specification (NBS) 1998, latest revision.

All dimensions and levels should be checked and adjusted on site.
Contractor responsible for care around all services. Do not scale
from this drawing.

Building rubble in excess of 50mm dimension to be removed, compaction ripped 150mm deep or broken out by JCB back-actor leaving surface rough. Ensure free drainage.

Multipurpose topsoil BS:3882 medium loam, not more than slightly stoney, pH 5.7-7.5.
Depth 450mm all planting areas. 150mm to all other areas.
Provide Declaration of Analysis of topsoil to Employer's Agent.

Specific purpose topsoil to BS:3882, low fertility. 150mm depth to be used. Supplier to provide certification of testing.

Transplants 300mmØ x 300mm depth
Feathered 600mmØ x 450mm depth

Weed allowed to grow and treated with up to three applications of weed killer prior to cultivation or planting during the fallow period.

Grassing between April-October.
Cultivate to prepare seed bed. Finished seed bed levels 25mm
above pavings and kerb edges. Stones pick to 25mm.
Emorsgate EM10 Tussocky Meadow Mix, or similar approved.

General
Plant material in accordance with the HTA's National Plant Specification 1997. All plants container grown, well formed and free from disease. Plant handling to CPSE Plant Handling Code.

Quality as supplied by:
Johnsons of Whixley Ltd, York YO26 8AQ. Tel: 01423 330234.
Or other nursery listed in the Horticultural Trades Association
Nursery Certification Scheme.

Plant November to March.
Planting areas cultivated 150 mm deep and stone picked of material greater than 50mm. Plant material pit planted 300 x 300 x 200 minimum. Approved planting compost incorporated into the soil during planting.

Backfill mix	Enmag	P4	Compost
Transplants	35g	5g	10 litres
Whips	35g	5g	10 litres

Backfill mix (30%) incorporated into topsoil (70%) during planting.

Transplant Shelters
75cm Biodegradable Standard Tree shelters. Secured with 100cm x (25mm square) softwood stake driven at least 30cm into the ground.

Feathered -Short Single Staking
Short staked using Unilog painted black 75mm min diameter. Driven vertically 450mm on windward side into base of pit. Secured with rubber J Tom's 37.5mm wide standard nylon reinforced rubberbelt ref L2 ties including rubber spacer pads ref L1. Tie within 25mm of top of stake.

Total cover coarse bark mulch to 300mm diameter around tree planting, Melcourt Bark Nuggets 75mm deep.

24 months aftercare by planting contractor. Including grass and meadow cutting, weed, pest and disease control, pruning and watering. Weed control by residual herbicide or hand weeding as necessary to achieve a weed free condition. Watering in periods of drought to ensure establishment and continued thriving of planting.

Twenty-four months on plant material and grass. Replacements in November in year of loss.

Continue to maintain for thirty years in accordance with the accompanying Replacement Pond and Ecological Mitigation Plan report.

LANDSCAPE ENVIRONMENTAL **ARCHITECTURE PLANNING**
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Job DIG GATE LANE, MILNROW, ROCHDALE

Title **ECOLOGICAL MITIGATION AREA
MASTERPLAN AND PLANTING PLAN**

scale@A3	drawn	date	drawing number	revision
1:250	NN	AUG 22	1366 - 002	-