Maxey Crossing Extension

Environmental Risk Assessment

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Contents

1 Introduction

1.1 Report Objectives

This Environmental Risk Assessment (ERA) has been produced by Ayesa (Byrne Looby Partners (UK) Limited) to support a bespoke permit application for a recovery activity which will be operated by Tarmac Trading Limited (Tarmac "the Operator") to restore the Maxey Crossing Extension (the Site) as required by the Planning Permission 22/01203/MMFUL granted on 26th March 2024. The Site is being restored to a mixture of agriculture, lowland meadow, woodland planting, and low-level water-based nature conservation habitat including the provision of a viewing area.

Planning Permission 10/00151/MMFUL was granted on 10th October 2012 for the Maxey Crossing Extension for the extraction of sand and gravel as a southern extension to the original Maxey Pit. The southern extension area covers an area of 140ha (including buffer zones, operational areas and access areas), of which 87ha will be worked.

Planning Permission 22/01203/MMFUL was approved on 26th March 2024. This revised the original scheme after it was identified that the original restoration scheme could not be achieved using solely site derived material due to the potential for basal heave in utilising "overdig" material *i.e.* extracted clay from beneath the superficial sand and gravels. In relation to this, Planning Permission was sought to allow the importation of inert materials to restore the site and changes were made to the final restoration scheme in order to minimise the amount of imported material required to achieve the scheme.

This report has been produced with reference to Environment Agency web-based guidance 'Risk assessments for your environmental permit'[1] to assess the potential risks associated with the proposed activity. The guidance referenced identifies the following step process to risk assessments which can be summarised as:

- Identify risks;
- Identify receptors;
- Identify possible pathways;
- Assess relevant risks; and
- Control risks.

The guidance indicates that the following parameters require assessing:

- Any discharge;
- Accidents;
- Odour;

[1] Risk assessments for your environmental permit - GOV.UK (www.gov.uk)

- Noise and vibration;
- Fugitive emissions (such as dust, litter, odour, noise and pests);
- Visible emissions; and
- Release of bioaerosols.

The guidance requires that receptors are considered with regard to the proximity of the site. Table 1 of this report identifies the most likely sensitive receptors adjacent to the site. This table has been compiled using information available through internet-based searches.

1.2 Assessment of Environmental Risk

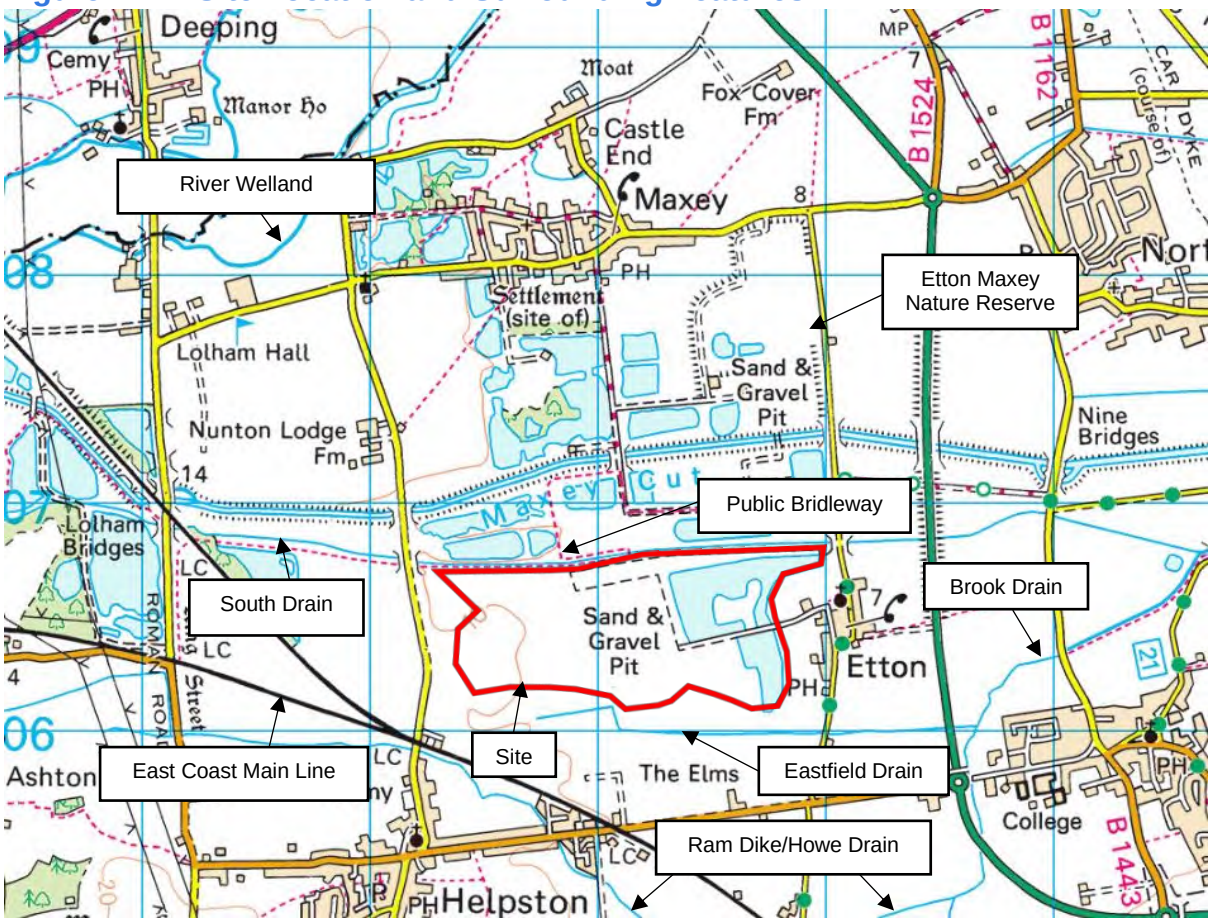
The guidance requires that everyone applying for a new environmental permit (other than a standard rules permit) or variation to an existing permit should present information in the form of risk assessment tables, one table for each actual or possible hazard identified. Identification of accident scenarios and their prevention through operational management should also be detailed. Each table should identify the hazard, the process that causes the hazard, the potential receptors and the pathway from the hazard to those receptors. In addition, the tables should also include the preventative risk management practices to be employed along with an assessment of the mitigated risk.

2 Scope of Assessment

2.1 Site Details

The Site is located at Maxey Quarry, High Street, Maxey, Peterborough, PE6 9EA approximately 10km northwest of Peterborough City centre and to the southeast of the village of Maxey. The Maxey Crossing Extension is centred on National Grid Reference (NGR) TF 13426 06630 and situated in a predominantly rural area comprising agricultural land, isolated dwellings, woodland, and water bodies (Figure 1). The East Coast Main Railway Line runs in a north-west to south-east direction 0.2km away to the south-west of the Site. There are currently no public rights of way within the extension area, however a public footpath and bridleway exists to the north of the extension area.

Figure 1 Site Location and Surrounding Features



The Site is bound to the north by an artificial watercourse known as the South Drain. The South Drain is a drainage channel that runs west to east past the Site and separates the Maxey Crossing Extension from previously worked areas of the Maxey Quarry which have been restored to a mixture of grassland and wetland habitats. To the east, west and south, the site is bound by agricultural fields. Maxey Road is positioned some 100m to the west of the site. Beyond the agricultural fields to the east, lies the village of Etton, where the closest residential properties are located at approximately 250m east of the site.

The Maxey Crossing Extension is surrounded by several surface water features as shown on Figure 1 including a number of manmade flood alleviation channels. The site is located within the Welland and Deepings Internal Drainage Board (IDB) district with the River Welland (designated by the Environment Agency as a 'Main River') located approximately 2.6km to the north east of the site at its closest point. All artificial surface water channels drain to a confluence with the River Welland 4km to the west.

Other 'Main Rivers' within the vicinity of the site include the Maxey Cut positioned 0.4km to the north of the South Drain and Brook Drain positioned 840m to the east.

The site is positioned within an area of low-lying land. The surrounding topography is relatively flat sloping gently towards the north-east from 20mAOD at Hilly Wood positioned to the south-west of the site to 5mAOD at Peakirk located to the east of the site. The site topography

slopes in a similar direction, primarily towards the east, with levels at 8mAOD reported in the east and 10.5mAOD to the west.

2.2 Proposed Operations

The Maxey Crossing Extension is set out within the Cambridgeshire and Peterborough Minerals and Waste Local Plan (adopted in July 2021) as a Mineral Development Area2. The Site is being developed as an extension to the Maxey Quarry located to the north of the Site, which has been worked since 1953 and subsequently restored. The South Drain, a manmade flood alleviation channel, physically separates the extension Site from the previously worked Maxey Quarry which is positioned to the north of the Site boundary. The Site is expected to yield a total mineral resource of 2.0 million tonnes of sand and gravel.

The Site is being worked and will be restored in a phased manner with the site split into six Phases (1 to 6). Phase 1 which occupies an area of 9.2ha has been excavated and partially restored using imported materials in accordance with Planning Permission 20/01545/FUL granted on 16th March 2021. The Phase 1 restoration material comprised of excavated material from a one-off construction project.

Mineral excavation has been progressed into Phases 2 and 3. The remaining quarry area (Phases 2 to 6) covers an area of 77.8ha and largely exists as agricultural field parcels separated by a network of land drains.

The proposed restoration scheme for the site is illustrated on Drawing M031-00421-4A. The Site will be restored to a mixture of agriculture (including the provision of irrigation lagoons), lowland meadow, dry and damp woodland planting and low-level water-based nature conservation habitat including provision of a viewing area using inert material. The site will be restored using a combination of excavation-derived material (overburden and sand and gravel) and imported inert material. Restoration of the site requires ~1.325million cubic metres of imported inert materials.

To complete the restoration works, it is proposed to import and deposit inert materials as a deposit for recovery scheme. The estimated period of completion for the scheme is 13 to 14 years, with the final restoration of phase 6 to be completed by 2036/7.

Further details are provided within the Environmental Setting and Site Design Report (Ref. K6036-ENV-K003) which supports the permit application.

2.3 Potential Hazards

2.3.1 Discharges to surface or groundwater

The materials proposed for the recovery activity are classified as inert. These types of materials have an inherently low pollution potential and will largely comprise of soils characterised as 17 05 04 (soils and stones other than 17 05 03) and 20 02 02 (soils and stones). The full list of waste to be accepted has been taken from Standard Rules Permit SR2015 No.39 and is included in Table 1 of the Waste Recovery Plan (referenced K6036-ENV-R001).

[2] Adopted Local Plan: development documents - Peterborough City Council

The proposed wastes do not contain substances at concentrations that may present a risk to surface water or groundwater.

After its deposit and subsequent profiling, the already low permeability of this material is further reduced. This further restricts the leachability of any potential soluble components and mobilisation of solids from its compacted surface. Further detail is provided in the Hydrogeological Risk Appraisal (K6036-ENV-R006) submitted with this application and will not be considered further in this ERA.

2.3.2 Odour

Due to the low or negligible organic content associated with the inert material proposed for use in the recovery activity, it is considered very unlikely this material will represent a source of odour. It is also expected to present a negligible risk in terms of biogenic gas and leachate generation. Consequently, odour is not considered further in this report.

2.3.3 Noise and Vibration

The existing Maxey Quarry has been used for the extraction of sand and gravel including processing of quarried materials. The proposed development includes an extension to the quarry for a further extraction of approximately 2.0 million tonnes of sand and gravel. This will necessitate the use of tracked excavators, dump trucks, mechanical screens, generators, and delivery vehicles.

The noise associated with the recovery activity is expected to be significantly less than that associated with the quarrying activities. Nevertheless, there is still potential for noise and vibration to be generated from the restoration activity. This will be restricted to movement and operation of site plant within the existing quarry void and surrounds and delivery vehicles. Measures to mitigate noise will be implemented in accordance with the Planning Permission. These will include:

- All operations will be carried out in adherence to the hours stipulated by the site's planning permission.
- No vehicles and/or mobile plant used exclusively onsite shall be operated unless they have been fitted with broadband noise alarms to ensure that, when reversing, they do not emit a warning noise that would have an adverse impact on residential or rural amenity.
- All plant, equipment and machinery shall be fitted with and use an effective silencer and shall be maintained in accordance with the manufacture's specification at all times.
- Mitigation in the form of bunding and/or separation distances have been built into the design of the development.
- Site roads will be maintained with smooth pothole free surfaces, and subject to a 10mph speed limit on all unsurfaced haul routes and 15 mph on surfaced haul routes.
- Site personnel will be instructed to carry out all routine operations in a manner that does not cause unnecessary levels of noise.

The risk associated with potential noise and vibration emissions and the management protocols used to control them are detailed in Table 2.

2.3.4 Fugitive/ Visible Emissions

The nature of the proposed materials to be used in the restoration of the site (inert soils and stones) excludes the potential for the site to generate litter or attract pests. These types of emissions will not be considered further.

There is potential for dust emissions to arise during the deposit and profiling of potentially dry or dusty wastes, dry un-vegetated areas and vehicle movements on unpaved or dusty roads. There are no processes to be carried out on site which will involve combustion, however there is potential for dust to form a visible plume, and this will be managed through the controls discussed below.

The primary control for dust emission minimisation will be the restriction on the acceptance of dusty wastes for deposit. The site staff will enforce strict waste acceptance protocols to manage the deposit of potentially dusty wastes. Only soil, stones and other mineral based materials are proposed to be imported for the restoration activity. However, on site material comprising of stripped soil and subsoil will be utilised where possible.

The following control measures will be in place at the Site:

- The first 30m of the access road from the junction with Maxey Road shall be kept free of mud, dust and detritus to ensure that such material is not carried onto the public highway.
- All vehicles leaving site will utilise appropriate wheel and underside chassis cleaning facilities to prevent materials, including mud and debris, being deposited on the public highway. The appropriate facilities will be subject to regular inspections and maintenance to ensure appropriate functionality for the duration of the development.
- All vehicles transporting materials to and from Site will be sheeted. All vehicles are to be regularly maintained and enclosed were possible.
- A site speed limit of 10 mph is set to on all unsurfaced haul routes and 15 mph on surfaced haul routes to prevent the raising of dust.
- Drop height will be minimised when handling material to prevent dust generation.
- Internal roads will consist of compacted material and shall be regularly maintained by grading in order to minimise dust generation. If necessary, a water bowser and/or road sweeper will be used to help minimise dust emissions from the operation.
- All site personnel will be trained as to the potential sources and effective mitigation of dust.
- Regular visual inspections will be conducted to ensure that any dust sources are identified and dealt with promptly.
- Mitigation in the form of bunding and/or separation distances have been built into the design of the development.

- Restored areas will be seeded as soon as is practicable. The progressive restoration of the site will help to reduce the area of land exposed to wind blow.

The operator will ensure appropriate controls are in place during extreme weather conditions to prevent dust or particulates spreading beyond the site boundary, including restricting, or suspending activities most likely to generate dust and particulates. Additionally, the operator will ensure stockpiles are minimised in size, appropriately contained/sealed, and dampened down to reduce windblown dust as necessary.

The risks from fugitive emissions of dust and proposed management measures are discussed further in Table 3.

2.3.5 Mud

Mud can be entrained onto the highway by vehicles leaving the site after transit along unpaved roads or at point of deposit. Access to the site will be via the A15 and subsequently Maxey Road. Onsite vehicle movements will be on maintained roads and wheel cleaning measures will be employed. All drivers will be required to check their vehicles before leaving site. If a vehicle is observed to be particularly muddy and/or dusty, the driver will be redirected for wheel cleaning.

The primary receptor of any mud and debris on the road will be Maxey Road and the A15. All vehicles must turn right out of the site towards the A15 as HGV access is not permitted along Maxey High Street. If fugitive mud deposits are identified beyond the site entrance, a road sweeper will be utilised as necessary. All haul roads will be regularly inspected and cleaned as necessary. The risks from fugitive emissions of dust and proposed management measures are discussed further in Table 4.

2.3.6 Accidents

There is potential for accidents to occur during this type of recovery activity which may have a detrimental environmental impact. This can include spillages of fuels or other polluting liquids; fires causing damage to containment measures or generating contaminated liquid; or, deliberate vandalism resulting in pollution similar to the aforementioned. The risks of pollution occurring from accidents and the proposed management measures are discussed further in Table 5.

2.4 Potential Hazard Pathways

When identifying the receptors, the closest and most sensitive (if different from the closest) have been considered in each direction from the hazard and the mechanism of transport to each sensitive receptor (e.g. proximity to highway, access/egress points for mud and wind direction for airborne dust).

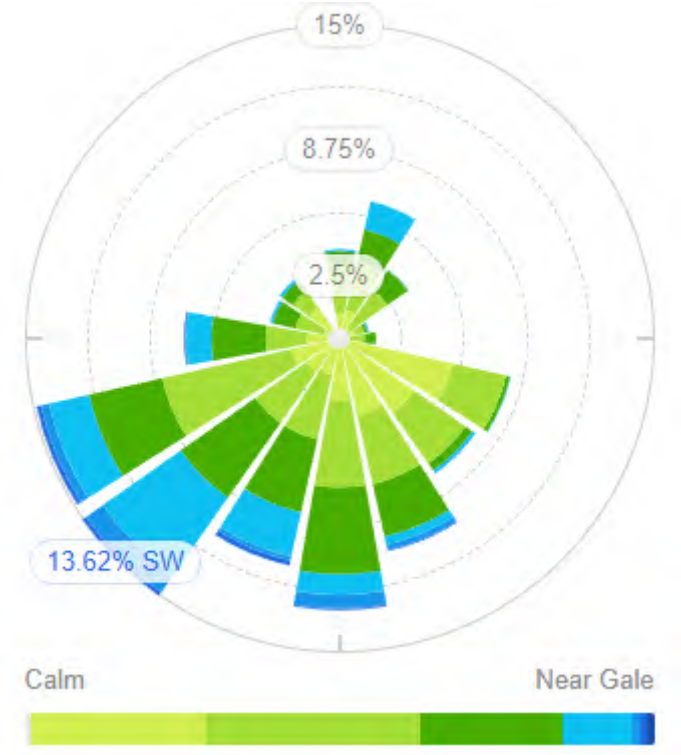
2.4.1 Meteorological Conditions

Wind directional data has been obtained for the Wittering weather station[3] which is the nearest identified Meteorological Office station to the Maxey Crossing Extension site, located

[3] Maxey Wind Forecast, Cambridgeshire PE6 9 - WillyWeather

approximately 8km away. The data is presented in Figure 2 below. The prevailing wind direction is from the southwest.

Figure 2 Wind Rose for Wittering weather station



2.4.2 Probability

The probability of exposure is determined by distance of the receptor to the site and the likelihood of the hazard reaching the receptor i.e. frequency of prevailing wind in that direction. The probability of exposure is irrespective of the type of hazard presented.

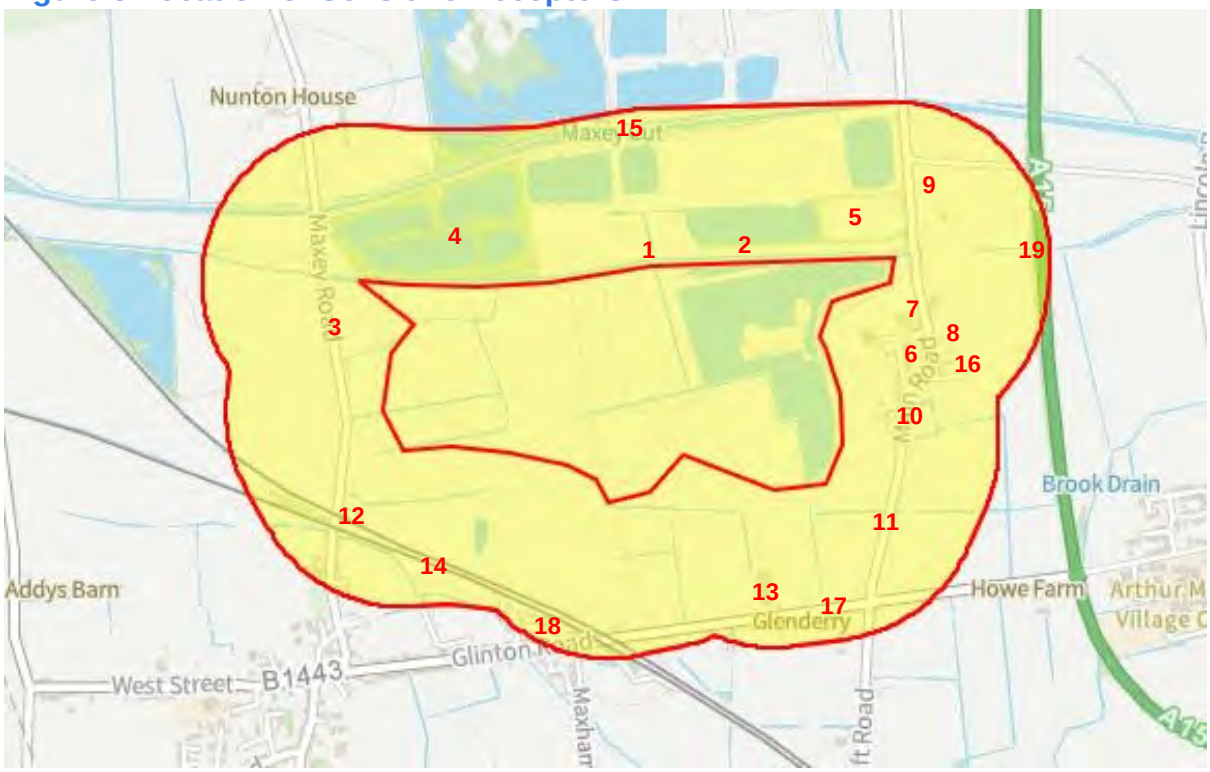
2.5 Hazard Receptors

A review of sensitive receptors within 500m is listed in Table 1. The location of each sensitive receptor is indicated in Figure 3.

Table 1 - Potentially Sensitive Receptors within 500m of Maxey Crossing Extension

Receptor No.	Receptor	Category	Direction from Site	Approximate distance from the site boundary (m)	Location Relative to Prevailing Wind Direction	Frequency Downwind (%)
1	South Drain	Watercourse	N	<10	Crosswind/ Downwind	11.78
2	Etton/Maxey Bridleways/Footpaths	Public Rights of Way	N	<10	All directions	11.78
3	Maxey Road	Public Highway	W	<10	Upwind	1.57
4	Restored Maxey Quarry Lakes	Surface water/ Ecological	NW	<10	Crosswind	7.16
5	Vergette Wood Meadow	Public/ Ecological	NE	<10	Downwind	13.62
6	Rectory Farm and adjacent properties	Agricultural/ Residential	E	170	Downwind	6.75
7	St Stephen's Church	Public	NE	170	Downwind	13.62
8	32 Main Road, Etton and adjacent properties	Residential	NE	180	Downwind	13.62
9	High Meadow, Langdyke	Public/ Ecological	NE	200	Downwind	13.62
10	Golden Pheasant Public House	Public	E	200	Crosswind	6.75
11	4 Main Road Etton and adjacent properties	Residential	SE	240	Crosswind	3.22
12	1 & 2 Crossing Cottages	Residential	SW	280	Upwind	3.63
13	The Elms Glinton Road	Residential	S	330	Crosswind	3.88
14	East Coast Mainline	Railway	SE	380	Upwind	3.22
15	Maxey Cut	Watercourse	N	420	All directions	11.78
16	The Orchard and adjacent properties	Residential	E	430	Upwind	6.75
17	B1443 Glinton Road	Public Highway	S	440	Crosswind	3.88
18	Budget Paper Supplies	Commercial	S	490	Upwind	3.88
19	A15 Main Road	Public Highway	E	490	Downwind	6.75

Figure 3 Location of Sensitive Receptors[4]



The site is surrounded by agricultural land, residential buildings, restored quarry (the majority of which has been converted into waterbodies, woodland and nature reserves) and Grade II listed properties in the villages of Etton and Maxey. The dominant land use is sand and gravel quarrying and agriculture.

The closest receptor is the South Drain manmade flood alleviation channel, which bounds the Site on its northern perimeter. Adjoining the South Drain are the Etton 1 and 9 footpaths (*Environmental Statement, David L Walker Ltd, July 2022*). Both the South Drain and these public rights of way are intersected by the Site's access haul road. The closest ecological receptors are the restored previously quarried areas to the North of the site including Vergette Wood Meadow and associated wetland. The closest residential properties are Rectory Farm and adjacent properties located in the village of Etton to the East of the site. St Stephen's Church is a Grade II listed property 170m from the site and further residential properties and the Golden Pheasant pub are also located in the village of Etton within 250m of the Site. Further residential properties exist on the edge of the village of Helpston to the South and South- West of the site within 330m and further East within Etton village (430m).

The East Coast Mainline, a major railway linking Western and Northern England to London, runs in a Northwest to Southeast direction 380m at its closest point from the site. Commercial properties exist on the very perimeter of the 500m receptor review area, in the village of Helpston.

[4] Magic Map Application (defra.gov.uk)

2.6 Potentially Sensitive Habitats

2.6.1 Protected Habitats, Watercourses and Waterbodies

There are no designated sites within 500m of the site. However, there are several habitats sites located at a distance from the site including:

- Deeping Gravel Pits Site of Scientific Interest (SSSI) – 3.5km to the north-east
- Langtoft Gravel Pits SSSI – 4.1km to the north
- Castor Hanglands SSSI and National Nature Reserve (NNR) – 3.8km to the south
- Barnack Hills and Holes SSSI, NNR and Special Area of Conservation (SAC) – 4.8m to the south-west

Although not a European habitat site, the Etton Maxey Nature Reserve lies approximately 1km north-east of the site. The reserve is managed by the Langdyke Countryside Trust in association with Tarmac and covers an area of 34 hectares. The Nature Reserve was previously a gravel pit and has been restored to a combination of pond, meadows and wild-flower abundant banks.

2.6.2 Protected Species

As part of the site's most recent planning application (22/01203/MMFUL), the Maxey Crossing Extension was subject to a number of habitat and species-specific surveys and an accompanying Ecological Appraisal[5], attached to this ERA as Appendix A.

No evidence of European Water Voles was recorded during surveying of all watercourses within the survey area and 100m beyond in each direction. The appraisal concluded that, where watercourses would be impacted by the proposed quarrying, i.e. the lagoons and waterbodies within the quarry, are 'unsuitable' for Water Voles due to regularly fluctuating water levels.

The ponds within the surveyed area were considered as 'unsuitable' for Great Crested Newts. No records of Great Crested Newts were found within 500m of the surveyed area of the Site. Additionally, water birds present within the surveyed ponds would deter Great Crested Newts. It was concluded that Great Crested Newts were not present within the surveyed area and the Maxey Crossing Extension development would have no impact on them.

Moreover, with the emplaced mitigation measures specified in Table 3 below, resulting from the deposit for recovery activity would provide a net increase in habitat availability.

3 Risk Assessment and Accident Management Plans

3.1 Risk Assessment

The site-specific risk assessments completed for noise, dust and mud are detailed in Tables 2 to 4 below. Where there is an inter-relationship between the specific risk assessment and meteorological conditions, this has been identified. The pathway is determined by the location

[5] Whitcher Wildlife Ltd Ecological Consultants (January 2022) Preliminary Ecological Appraisal

of the receptor relative to the Site, the distance from the boundary (m) and the frequency (likelihood) the prevailing wind will blow in the direction of the receptor (%) as determined by historical wind rose data for Wittering weather station located approximately 8km Southwest of the Site.

The Mitigated Risk is the residual risk presented by the hazard after control measures have been implemented. This is the most realistic representation of the risk as effective controls will be maintained under the requirements of the environmental permit, planning consent and management procedures set out in the Operator's Environmental Management Plan (EMS).

3.2 Environmental Accidents

The Agency guidance requires that an Accident Risk Assessment Management Plan is completed. This should assess potential hazards associated with the proposed activity not described in the sections above.

An Accident Management Plan is detailed in Table 5.

Table 2 -Noise and Vibration Risk Assessment and Management Plan

Hazard / Pathway	Receptor				Probability of Exposure	Unmitigated Consequence	Unmitigated Risk	Risk Management	Mitigated Risk
	No.	Dist* (m)	Direcⁿ	Freq** (%)					
Noise through air and Vibration through ground from: Vehicle / plant movement with delivering and handling of waste	1	<10	N	11.78	High – close proximity to Site	Low – not sensitive to noise (watercourse)	Low	Waste recovery activities are unlikely to generate noise in excess of the sand and gravel extraction activities. Drivers must turn right out of site and onto main A15 trunk road, avoiding Maxey, Etton and Helpston villages. Mitigation in the form of bunding and separation distances has been built into the design of the quarry. Planning condition restricts site operational hours Noise levels must not exceed the limits specified in the planning permission and noise monitoring is required. On site speed limits will be enforced and internal site roads will be maintained. Silencers will be used on vehicles and will be maintained in accordance with the manufacturers or supplier's specification. Where practicable, engines to be switched off when not in use. Exclusively onsite vehicles and plant will be fitted with broadband noise alarms to ensure that when reversing they do not emit a warning noise that would impact on residents or rural amenity. Deposit of material will not be undertaken from height to reduce noise / vibration.	Low
	2	<10	N	11.78	High – close proximity to Site	High- potential annoyance to footpath and bridleway users	Medium		
	3	<10	W	1.57	High – close proximity to Site	Low - transient noise annoyance	Low		
	4	<10	NW	7.16	High – close proximity to Site	Medium – potential noise disturbance to wildlife	Medium		
	5	<10	NE	13.62	High – close proximity to Site	Medium – potential noise disturbance to wildlife	Medium		
	6	170	E	6.75	Medium – proximity to Site	High – noise annoyance to residents	High		
	7	170	NE	13.62	Medium – proximity to Site	High – noise annoyance to Church visitors	High		
	8	180	NE	13.62	Medium–proximity to Site	High – noise annoyance to residents	High		
	9	200	NE	13.62	Medium– proximity to Site	Medium – potential noise disturbance to wildlife and visitors of High Meadow	Medium		
	10	200	E	6.75	Medium – proximity to Site	Medium – noise annoyance to staff and visitors	Medium		
	11	240	SE	3.22	Medium – proximity to Site	High – noise annoyance to residents	High		
	12	280	SW	3.63	Medium – proximity to Site	Medium – noise annoyance to residents	Medium		
	13	330	S	3.88	Low – proximity to Site	Medium – noise annoyance to residents	Medium		
	14	380	SE	3.22	Low – proximity Site	Low – Not sensitive to noise (railway line)	Low		
	15	420	N	11.78	Low – proximity to Site	Low – not sensitive to noise (watercourse)	Low		
	16	430	E	6.75	Low – proximity to Site	High – noise annoyance to residents	Medium		
	17	440	S	3.88	Low – proximity to Site	Low - transient noise annoyance	Low		
	18	490	S	3.88	Low – proximity to Site	Medium – noise annoyance to staff	Medium		
	19	490	E	6.75	Low - proximity to Site	Low- transient noise annoyance	Low		

Table 3 - Fugitive Dust Emissions Risk Assessment and Management Plan

Hazard / Pathway	Receptor				Probability of Exposure	Unmitigated Consequence	Unmitigated Risk	Risk Management	Mitigated Risk
	No.	Dist* (m)	Direc[n]	Freq** (%)					
Fugitive dust emissions generated by: Vehicle movements and handling of waste on site	1	<10	N	11.78	High – close proximity to Site, occasionally downwind	High– Potential accumulation in watercourse	High	Site staff will enforce strict waste acceptance protocols to manage the deposit of potentially dusty wastes. Drivers must turn right out of site and onto main A15 trunk road, avoiding Maxey, Etton and Helpston villages. All vehicles will use wheel and underside chassis cleaning facilities to prevent materials being deposited on the public highway. The facility will be appropriately maintained to ensure its effectiveness. Site staff at the weighbridge will check departing vehicles. All vehicles transporting materials to and from Site will be sheeted. All vehicles are to be regularly maintained and enclosed were possible. On site speed limits will be enforced and internal site roads will be maintained. If necessary, a water bowser and/or road sweeper will be used to help minimise dust emissions from the operation. Regular visual inspections will be conducted to ensure that any dust sources are identified and dealt with promptly. Mitigation in the form of bunding and separation distances have been built into the design of the development. Restored areas will be seeded as soon as is practicable. The progressive restoration of the site will help to reduce the area of land exposed to wind blow.	Low
	2	<10	N	11.78	High – close proximity to Site, occasionally downwind	High- dust annoyance to footpath and bridleway users	High		
	3	<10	W	1.57	Medium – close proximity to Site, infrequently downwind	High – potential to create hazardous road conditions	Medium		
	4	<10	NW	7.16	High – close proximity to Site, occasionally downwind	High – potential accumulation in surface water	High		
	5	<10	NE	13.62	High – close proximity to Site, frequently downwind	High – potential noise disturbance to wildlife	High		
	6	170	E	6.75	Medium – proximity to Site, occasionally downwind	High – dust annoyance to residents	Medium		
	7	170	NE	13.62	Medium – proximity to Site, frequently downwind	High – dust annoyance to Church visitors	High		
	8	180	NE	13.62	Medium – proximity to Site, frequently downwind	High – dust annoyance to residents	High		
	9	200	NE	13.62	Medium –proximity to Site, frequently downwind	High – potential dust disturbance to wildlife and visitors, accumulation of dust on vegetation	High		
	10	200	E	6.75	Medium – proximity to Site, occasionally downwind	Medium – dust annoyance to staff and visitors	Medium		
	11	240	SE	3.22	Medium – proximity to Site, infrequently downwind	Medium– dust annoyance to residents	Low		
	12	280	SW	3.63	Medium – proximity to Site, infrequently downwind	Medium – dust annoyance to residents	Low		
	13	330	S	3.88	Low – proximity to Site, infrequently downwind	Medium – dust annoyance to residents	Low		
	14	380	SE	3.22	Low – proximity to Site, infrequently downwind	Medium- potential for reduced visibility for train drivers	Low		
	15	420	N	11.78	Medium – proximity to Site, frequently downwind	Medium- potential accumulation in watercourse	Medium		
	16	430	E	6.75	Low – proximity to Site, occasionally downwind	High – dust annoyance to residents	Medium		
	17	440	S	3.88	Low – proximity to Site, infrequently downwind	Low - transient dust annoyance	Low		
	18	500	S	3.88	Low – proximity to Site, infrequently downwind	Medium – dust annoyance to staff	Low		
	19	490	E	6.75	Low - proximity to Site, occasionally downwind	Medium – potential to create hazardous road conditions	Medium		

Table 4 - Fugitive Mud Emission Risk Assessment and Management Plan

Hazard / Pathway	Receptor				Probability of Exposure	Unmitigated Consequence	Unmitigated Risk	Risk Management	Mitigated Risk
	No.	Dist* (m)	Direc[n]	Freq** (%)					
Fugitive mud emissions generated by: Vehicle movements onto public roads	1	<10	N	11.78	High – site haul road passes South Drain	High– Potential accumulation in watercourse	High	All vehicles will use wheel and underside chassis cleaning facilities to prevent mud / dust being trailed onto adjacent roads and creating a hazard / nuisance. Drivers must turn right out of site and onto main A15 trunk road, avoiding Maxey, Etton and Helpston villages. Site staff at the weighbridge and at the tipping face will be vigilant to excessive mud tracked from the site by visiting HGV's and site plant. Any vehicles observed to be carrying mud in their tyres will be directed back through the cleaning facilities until the wheels are clean before leaving site. The integrity of the haul roads will be regularly assessed to ensure the surface is not accumulating mud that could be tracked off site. Repairs will be made to surfaced roads or where potholes / low points are causing water or mud to accumulate. A road sweeper will regularly clean the site haul roads and public highway as necessary. Drivers will be reminded of their responsibility to maintain clean vehicles and not to track mud onto the public highway. Mitigation in the form of bunding and separation distances have been built into the design of the development including along haul roads passing restored areas.	Low
	2	<10	N	11.78	High – Haul road crosses footpath and bridleway	High- mud accumulation on footpath and bridleway	High		
	3	<10	W	1.57	Low- no HGV access on Maxey Road	Low – no impact	Low		
	4	<10	NW	7.16	Low- site haul roads do not pass restored lakes	Low- no impact	Medium		
	5	<10	NE	13.62	Medium- located within 5m of Vergette Wood Meadow	Medium- within 5m of haul road	Low		
	6	170	E	6.75	Low- no HGV access to Etton village	Low- no impact	Low		
	7	170	NE	13.62	Low- no HGV access to Etton village	Low- no impact	Low		
	8	180	NE	13.62	Low- no HGV access to Etton village	Low- no impact	Low		
	9	200	NE	13.62	Low- located 290m from haul road and 200m from A15.	Low- No impact.	Low		
	10	200	E	6.75	Low- no HGV access to Etton village and Main Road	Low- no impact.	Low		
	11	240	SE	3.22	Low – no HGV access to Etton village.	Low- no impact	Low		
	12	280	SW	3.63	Low- no HGV access on Maxey Road	Low- no impact	Low		
	13	330	S	3.88	Low- no HGV access to B1443 Glinton Road	Low- no impact	Low		
	14	380	SE	3.22	Low- no HGV access to roads running in close proximity to trainline	Low- no impact	Low		
	15	420	N	11.78	Medium- both haul road and A15 intersect Maxey Cut	Medium- potential accumulation in watercourse	Medium		
	16	430	E	6.75	Low- no HGV access to Etton village	Low- no impact	Low		
	17	440	S	3.88	Low- no HGV access to B1443 Glinton Road	Low – no impact	Low		
	18	500	S	3.88	Low- no HGV access to B1443 Glinton Road or Helpston Village	Low- no impact	Low		
	19	490	E	6.75	High- all HGVs must use A15 to enter and exit the site	High – potential to create hazardous road conditions	High		

Table 5 – Accident Management Plan

Hazard	Receptor	Pathway	Probability	Consequence	Overall Risk	Risk Management	Mitigated Risk
Fuel / engine oil Leak or damage to portable fuel bowser, static fuel storage tank or site vehicles	Groundwater	Base of quarry	Low	High - pollution of groundwater	Medium	Fuel and engine oils will be stored within appropriate secondary containment and with spillage contingencies. Site vehicles will not be refuelled within recovery area; Site vehicles and plant subject to regular preventative maintenance in accordance with EMS procedures. Site haul roads maintained to ensure minimal surface permeability. Main access roads are hard-standing impermeable surfaces.	Low
	Receptors listed in Table 1above.	Site access routes.	Low	High- pollution of ground and surface water through run-off	Medium		
Fire Uncontrolled burning of wastes, gas or site vehicles.	Groundwater	Base of quarry	Low	High - pollution of groundwater through firewater run-off or leaks from damaged equipment	Medium	Wastes to be accepted at site will effectively be inert, have a low organic content and be inherently non-combustible in nature and not conducive to the production of landfill gas; Site vehicles and plant are subject to regular preventative maintenance in line with site EMS procedures; Fire control equipment will be on hand, with major incidents to be dealt with by the Fire Brigade in accordance with site EMS Procedures. No smoking except in designated areas.	Low
	Receptors listed in Table 1 above	Airborne	Low	Medium - smoke / odour annoyance	Medium		
Explosion Compressed gas cylinders, combustion of gas or fuel storage tank	Site staff	Airborne	Low	High - danger of serious injury	Medium	Fuel and engine oils will be stored within appropriate secondary containment with appropriate controls to prevent fire or explosion (i.e. no smoking on site); Compressed gases not required and therefore present for operation of recovery activity. Low organic content of waste will generate negligible volumes of landfill gas and will not present an explosion risk.	Low
	Groundwater	Base of quarry	Low	High - pollution of groundwater through leaks from damaged equipment	Medium		
Wastes deposited Chemical reaction of incompatible wastes	Receptors listed in Table 1 above	Airborne	Low	Medium - odour annoyance or smoke from oxidising agents	Medium	Waste acceptance protocols will exclude the deposit of chemically reactive wastes. Those accepted will be of an inert nature and will not generate noxious gases or contaminating leachate.	Low
Vandalism Damage to site vehicles, fuel bowsers, gas or leachate extraction pipework	Groundwater	Base of quarry	Low	High - pollution of groundwater through leaks from damaged equipment	Medium	Site security will prevent access by unauthorised persons. Vehicles will be kept overnight in a secure area with appropriate security measures; Wastes not expected to require exposed active gas or leachate control infrastructure which could be subject to damage.	Low
	Receptors listed in Table 1above	Airborne	Low	Medium - odour annoyance	Medium		
Leachate Accidental damage to leachate monitoring chamber	Groundwater	Base of quarry	Low	High - pollution of groundwater through leaks from damaged well	Medium	Wastes not expected to require active gas or leachate control infrastructure which could be exposed to damage; CQA supervision will prevent damage to basal drainage pipework with the deposit of waste.	Low

4 Conclusion

The operational hazards associated with the proposed recovery activities have been considered in the tables above. It has been concluded that with the use of appropriate mitigating controls where necessary, the recovery activity will not present a significant risk to surrounding receptors.

The potential hazards for emissions to groundwater and surface water, noise & vibration, dust, mud and accidents have been considered and the risks associated have been reduced and managed as far as reasonably practicable. The most sensitive receptors have been identified and their impacts of any emissions from sites have been addressed with mitigation measures in place. As a result, it is considered that any emissions from the operations of the Maxey Crossing Extension site with all management techniques in place, will not have a detrimental impact on the sensitive receptors identified.

Appendix A – Preliminary Ecological Appraisal

Whitcher Wildlife Ltd.
Ecological Consultants.

MAXEY QUARRY.

OS REF: TF 1327 0656.

PRELIMINARY ECOLOGICAL APPRAISAL.

Ref No: **211159/Rev 2.**

Date: **5th January 2022.**

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TABLE OF CONTENTS.

1. INTRODUCTION.

1.1. Tarmac have the benefit of planning consent for mineral extraction at Maxey Crossing extension at Maxey Quarry near Peterborough.

1.2. The approved scheme of restoration of the extension provides for the use of on-site materials to achieve a combination of restored agricultural land and native conservation habitat.

1.3. It is understood that it is no longer possible to achieve restoration by on site resources alone, and therefore Tarmac have developed proposals to import inert restoration materials into the extension area to achieve a satisfactory restoration.

1.4. Whitcher Wildlife Ltd has been commissioned to carry out a Preliminary Ecological Appraisal of the site to establish whether there are any issues that may affect the proposed works.

1.5. The site survey was carried out on 30th November 2021 and this report outlines the findings of that survey and makes appropriate recommendations.

1.6. Appendices I to IV of this report provide additional information on specific species and are designed to assist the reader in understanding the contents of this report.

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2. SURVEY METHODOLOGY.

2.1. Prior to visiting the site, the survey area was cross referenced to maps and aerial photographs to give a general idea of the habitats and potential issues within the area and to identify potential access and walking routes.

2.2. The survey area was walked where access was agreed and public rights of way were used where no access was agreed. All habitats within and immediately around the survey area were documented and the dominant species within that habitat listed in line with the JNCC Handbook for Phase 1 Habitat surveys.

2.3. The survey area and immediate surrounding area was thoroughly searched for evidence of badger (*Meles meles*) activity by looking for the following signs in line with Harris S, Cresswell P and Jefferies D (1989). *Surveying Badgers*. Mammal Society: -

* Badger setts.
* Badger latrines or dung pits.
* Badger snuffle holes and evidence of foraging.
* Badger paths.
* Badger prints in areas of soft mud.
* Badger hairs caught on fencing.

2.4. The survey area was searched for watercourses and where found all watercourses within the survey area and for approximately 100m in each direction were thoroughly searched for evidence of water vole (*Arvicola amphibius*) activity by looking for the following signs, in line with Dean M, Strachen R, Gow D and Andres R (2016). *The Water Vole Mitigation Handbook (The Mammal Society Mitigation Guidance Series).* Eds Fiona Mathews and Paul Chanin. The mammal Society, London: -
(2011). *Water Vole Handbook: Third Edition*: -

* Water vole burrows.
* Water vole faeces and latrines.
* Water vole feeding stations.
* Water vole runs.
* Water vole prints in areas of soft mud.
* Water vole lawns.
* Predator field signs.

2.5. The survey area was searched for watercourses and where found all watercourses within the survey area and for approximately 50m in each direction were thoroughly searched for evidence of otter (*Lutra lutra*) activity by looking for the following signs in line with the P Chanin (2003). *Monitoring the Otter* and *Conserving Natura 2000 Rivers: Monitoring Series No10 Guidelines: -*

* Otter prints in soft mud.
* Otter spraints.
* Otter Holts.

2.6. The survey area was searched for watercourses and waterbodies. Where found, and where safe to enter the water, all were thoroughly searched for the presence of crayfish, for approximately 50m in each direction of the site, by searching under rocks and logs. Where stated, crayfish traps were also deployed into the watercourse. All survey work was carried out in accordance with the *Conserving Natural 2000 Rivers Monitoring Series No 1, Protocol for Monitoring the White Clawed Crayfish*.

2.7. The survey area was searched for trees and structures and where found these were checked for potential bat roosting sites in line with Collins, J. (ed.) (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edition)* by looking for the following signs: -

* Holes, cracks or crevices.
* Bat Droppings.

2.8. The land immediately adjacent to the survey area was assessed for bat roosting potential and bat foraging potential. Connective routes and flight lines were also assessed whilst on site and using maps of the area.

2.9. The area within 500m of the survey site was cross referenced to maps to highlight all ponds close to the site. Where possible, all ponds identified were accessed using agreed access or public rights of way to assess the potential for great crested newts (*Triturus cristatus*) to be present.

2.10. The survey area was assessed for the potential for reptiles and suitable reptile habitats. Where applicable the area was also searched for the presence of reptiles.

2.11. Where appropriate, the habitat within and surrounding the survey area was searched for species such as hazel, oak, honeysuckle, bramble and other species which may provide potential habitat for hazel dormice (*Muscardinus avellanarius*). Field signs such as feeding remains and nests were also searched for where possible, in line with P Bright, P Morris and T Mitchell-Jones *The Dormouse Conservation Handbook 2nd Edition*.

2.12. Where appropriate, the area within and surrounding the survey area was assessed for its potential to house habitat for red squirrels. Field signs of red squirrels were searched for at least every 50m, looking for any dreys, feeding signs or sightings of red squirrels.

2.13. The survey area was searched for all alien invasive plant species as listed on Schedule 9 of the Wildlife and Countryside Act 1981. The location of all plants identified were recorded and listed within the survey report along with appropriate recommendations to avoid causing the plants to spread in the wild. All species were searched for, but the main species generally found under this category are Japanese knotweed, Giant hogweed, Himalayan balsam, Cotoneaster, Rhododendron and Japanese Rose.

2.14. All surveys were carried out in line with the Chartered Institute of Ecological and Environmental Management (CIEEM) survey standards and advice.

2.15. This document is prepared in line with The National Planning Policy Framework (NPPF). This sets out the government policy on biodiversity and nature conservation and places a duty on Planning Authorities to give material consideration to the effect of a development on legally protected species when considering planning applications. The NPPF and the Planning Practice Guidance on "Natural Environment" also promote sustainable development by ensuring that developments take account of the role and value of biodiversity and that it is conserved and enhanced within the development.

2.16. This report is prepared in line with the Natural Environment and Rural Communities (NERC) Act that came into force on 1st Oct 2006. Section 41 (S41) of the Act requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England.

2.17. This survey was carried out by Jenny Whitcher Roebuck MCIEEM and Stevan Roebuck.

2.17.1. Since 2001 Jenny has had experience in a professional capacity as a Wildlife Consultant carrying out Ecology Surveys and Phase 1 Habitat surveys. Jenny holds Natural England Survey Licences in respect of bats, great crested newts, crayfish and barn owls, NRW and SNH Survey Licences in respect of bats and great crested newts. She has also successfully completed several courses run by the Chartered Institute of Ecology and Environmental Management (CIEEM), the Bat Conservation Trust (BCT) and the Field Studies Council (FSC) in the relative protected species, plant species and in carrying out Phase 1 Habitat Surveys. As a full member of CIEEM she is committed to continuous professional development, a continual process of learning and career development, a condition of CIEEM membership.

2.17.2. Since 2011 Stevan has had experience carrying out great crested newt and bat surveys. Since 2013 Stevan has had experience in a professional capacity as a Wildlife Consultant carrying out ecology surveys, badger, great crested newt and bat surveys. Stevan holds a Natural England Survey License for Great Crested Newts and Bats and is currently working towards gaining further Natural England, NRW and SNH survey licences. Stevan is also a Qualifying Member of CIEEM.

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3. SURVEY RESULTS.

3.1. Data Search Results.

3.1.1. A desktop data search was requested from Cambridgeshire and Peterborough Environmental Records Centre for records of protected species and designated sites within 2km of the survey area.

3.1.2. There are six records of great crested newts, five recorded in 2015 located 650m to the south of the survey area in the village of Helpston. The sixth record was recorded in 2019 but is a 1km grid square record with no specific location.

3.1.3. There is one record of a grass snake, recorded in 2002 and located 800m to the southwest of the survey area.

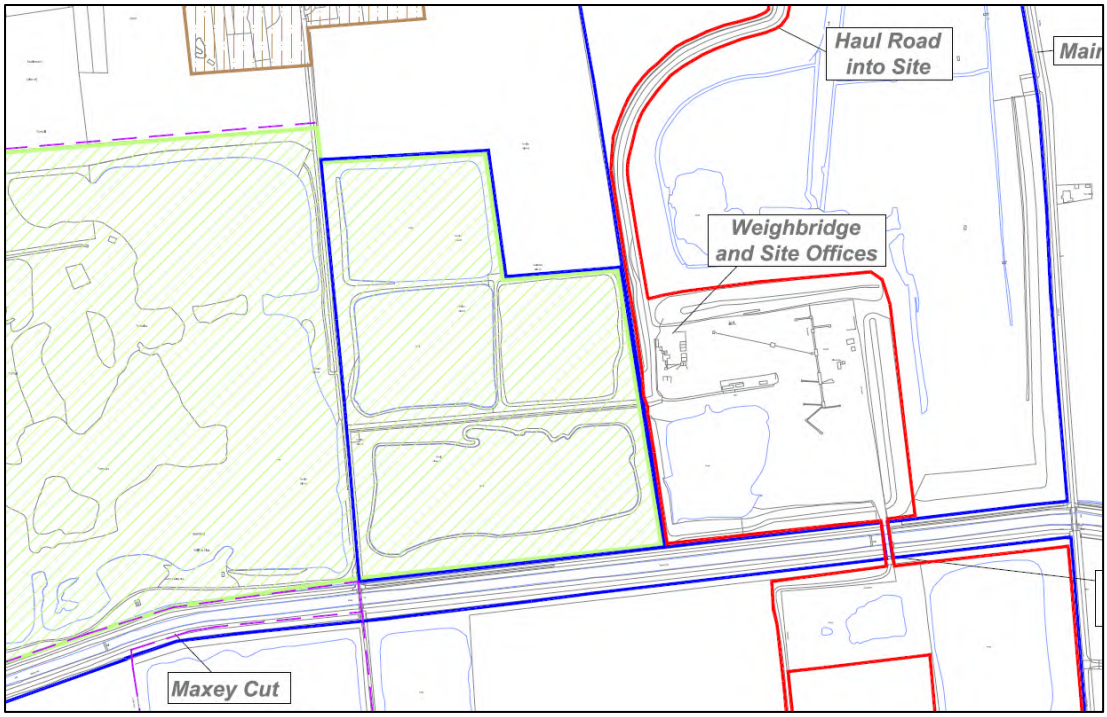
3.1.4. There are records of otter within Maxey Cut, recorded between 1997 and 2017 with the nearest record 500m to the east of the survey area.

3.1.5. There are records of water vole, recorded between 1989 and 2020 with the nearest record 185m to the east, which is a record of a dead animal.

3.1.6. There are records of badger within 2km of the survey area, but there are no specific locations for these records. The most recent record is from 2006.

3.1.7. There are records of various species of bat within 2km of the survey area, although most records are within a 1km grid square with no specific location. There are no records specific to the survey area.

3.1.8. Maxey Quarry County Wildlife Site lies adjacent to the northern section of the survey area. This is shown in green hatching on the map below with the survey area within the red line.



3.1.9. There are other County Wildlife Sites within 2km, although all lie over 400m from the survey area.

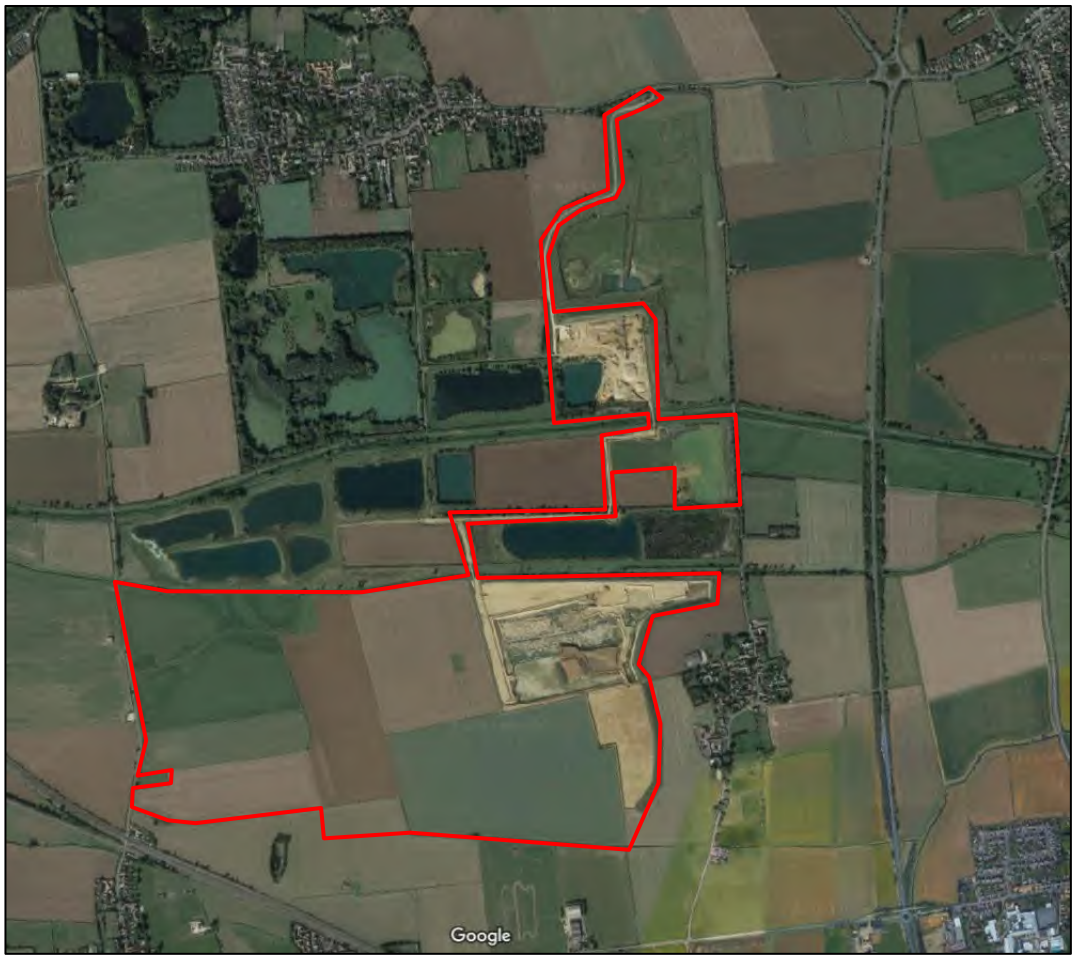
3.1.10. The northern and southern sections of the quarry both form Maxey Quarry Local Geological Site.

3.1.11. The full data search is available to the client on request but must not be placed in the public domain.

3.2. The Surveyed Area.

3.2.1. The survey area is mainly a large extension area to the south of the quarry and also includes the existing access and the working areas around the plant site and site offices.

3.2.2. The aerial photograph below shows the survey area.



3.2.3. The aerial photograph below shows the survey aera and wider surrounding area.

3.3. Description of Habitats.

3.3.1. Appendix V of this report contains annotated maps marked up with the varying habitats that are cross referenced to target notes in Appendix VI of this report. The habitats on and adjacent to the site are: -

- Arable
- Improved Grassland
- Dense Scrub
- Scattered Scrub
- Scattered Trees
- Tall Ruderal
- Ephemeral/Short Perennial
- Bare Ground
- Building
- Hedgerow, Defunct, Species Poor
- Hedgerow with Trees
- Standing Water
- Running Water
- Dry Ditch
- Fence
- Quarry

3.3.2. Arable

3.3.2.1. Within the central section of the site there is a freshly ploughed arable field, half of which is within the survey area. This field did not appear to have an arable margin.

3.3.2.2. Within the southern section of the site there are large open arable fields separated by dry drainage ditches, which are improved grassland with a narrow margin of improved grassland along the tops of the banks. All the banks are mown short. These fields did not appear to have arable margins.

3.3.3. Improved Grassland

3.3.3.1. Within the northern section of the site there are bunds along each side of the access road to the quarry and bunds around the northern and eastern sides of the working area. These are all covered with improved grassland with a short sward.

3.3.3.2. Within the central section of the site there is a bund along the eastern side of the lagoon, which is covered with improved grassland with a short sward. The banks of Maxey Cut, which flows between the northern and central sections of the site are also improved grassland with a short sward.

3.3.3.3. Within the southern section of the site there are numerous areas of improved grassland including along the bund along the northern boundary. There are a number of dry ditches within the southern section separating the arable fields, which are improved grassland with a narrow margin along the tops of the banks. The western half of the northern dry ditch is also improved grassland.


3.3.3.4. The main species present within all areas of improved grassland across the whole site are perennial rye grass *(Lolium perenne)*, cocks foot *(Dactylis glomerata)*, annual meadowgrass *(Poa annua)*, common daisy *(Bellis perennis)*, ragwort *(Senecio jacobaea)*, white clover *(Trifolium repens)*, teasel *(Dipsacus sylvestris)*, creeping buttercup *(Ranunculus Repens)*, sow thistle *(Sonchus oleraceus)*, thistle *(Cirsium sp(p))*, dandelion *(Taraxacum officinale)*, nettle *(Urtica dioica)*, dock *(Rumex sp.)*, ribwort plantain *(Plantago lanceolata)*, white dead nettle *(Lamium album)* and bramble *(Rubus fruticosus)* with occasional small sapling hawthorn *(Crataegus monogyna)*.

3.3.5. Dense Scrub

3.3.5.1. Within the northern section of the site there is a margin of dense scrub around three sides of the lagoon. The main species present are bramble *(Rubus fruticosus)*, blackthorn *(Prunus spinosa)*, elder *(Sambucus nigra)*, teasel *(Dipsacus sylvestris)*, hogweed *(Heracleum sphondylium)*, nettle *(Urtica dioica)*, goat willow *(Salix caprea)*, crack willow *(Salix fragilis)* and hawthorn *(Crataegus monogyna)*.


3.3.5.2. Within the southern section of the site there is a dry ditch along the northern side. The eastern half of this ditch is full of dense scrub, mainly bramble *(Rubus fruticosus)*, blackthorn *(Prunus spinosa)*, elder *(Sambucus nigra)*, dog rose *(Rosa canina)* and hawthorn *(Crataegus monogyna)*.


3.3.6. Scattered Scrub

3.3.6.1. Along the western side of the bund, along the western side of the access road to the quarry there is occasional scattered scrub, including bramble *(Rubus fruticosus)*, blackthorn *(Prunus spinosa)* and sapling hawthorn *(Crataegus monogyna)* and elder *(Sambucus nigra)*.

3.3.6.2. Within the central section of the site there is a large lagoon, which at the time of the survey only contained water in the northern half. The southern half of the lagoon was silt becoming overgrown with large numbers of sapling crack willow *(Salix fragilis)* and some phragmites *(Phragmites australis (Cav.))*.

3.3.7. Scattered Trees

3.3.7.1. There are few trees on the site. Adjacent to the car park within the northern section of the site there are three semi-mature pine *(Pinus sp.)* trees.

3.3.7.2. Within the central section of the site there is a row of small semi-mature trees along the northern side of the lagoon. The main species present are oak *(Quercus sp(p))*, alder *(Alnus glutinosa)*, silver birch *(Betula pendula)* and crack willow *(Salix fragilis)*.

3.3.7.3. Within the southern section of the site there are three trees along the northern boundary. Two large ash *(Fraxinus excelsior)* are just outside the site boundary on the bank of South Drain. One semi-mature oak *(Quercus sp(p))* is within the site boundary on the southern side of the dry ditch.

3.3.8. Tall Ruderal

3.3.8.1. Along the eastern bund, within the northern section of the site, there is tall ruderal vegetation on the western side of the bund with improved grass covering the top and eastern side of the bund. The main species present are teasel *(Dipsacus sylvestris)*, sow thistle *(Sonchus oleraceus)*, thistle *(sp(p))*, nettle *(Urtica dioica)*, sapling elder *(Sambucus nigra)*, sapling goat willow *(Salix caprea)*, sapling hawthorn *(Crataegus monogyna)*, buddleia *(Buddleia davidii)* and bramble *(Rubus fruticosus)*.

3.3.8.2. Within the central section of the site there is a small strip of tall ruderal habitat along the eastern bank of the lagoon, including nettle *(Urtica dioica)*, sapling crack willow *(Salix caprea)*, thistle *(Cirsium sp(p))* and sow thistle *(Salix caprea)*.

3.3.8.3. Within the southern section of the site there is a bund along the western side of the southern lagoon, which is covered with thistle *(sp(p))*, nettle *(Urtica dioica)*, dock *(Rumex sp.)*, sow thistle *(Sonchus oleraceus)*, comfrey *(Symphytum officinale)*, chickweed *(Stellaria media)*, white dead nettle *(Lamium album)*, coltsfoot *(Tussilago farfara)*, annual meadow grass *(Poa annua)* and cocks foot *(Dactylis glomerata)*.

3.3.9. Ephemeral/Short Perennial

3.3.9.1. Within the northern section of the site along the western side of the car park there is an area of sparse short ephemeral species growing between the car park and the access track, including teasel *(Dipsacus sylvestris)*, creeping buttercup *(Ranunculus Repens)*, bugle *(Ajuga reptans)*, white clover *(Trifolium repens)*, common daisy *(Bellis perennis)*, ragwort *(Senecio jacobaea)*, thistle *(Cirsium sp(p))*, ribwort plantain *(Plantago lanceolata)* and small sapling buddleia *(Buddleia davidii)*.

3.3.9.2. Within the southern section of the site wihtin the areas of lagoons there is a series of sand bunds, which are becoming vegetated with nettle *(Urtica dioica)*, thistle *(Cirsium sp(p))*, sow thistle *(Sonchus oleraceus)*, dock *(Rumex sp.)*, coltsfoot *(Tussilago farfara)* and cocks foot *(Dactylis glomerata)*.

3.3.10. Bare Ground

There are large areas of bare ground within all sections of the site, which are mainly bare sand and topsoil within the operational areas of the quarry. There is also a concrete car park, a tarmac access road and two metal bridges.

3.3.11. Building

There are a number of buildings within the northern section of the site included the site office and weighbridge portacabins and a series of metal workshops and metal storage containers.

3.3.12. Hedgerow, Defunct, Species Poor

3.3.12.1. Within the central section of the site there is a hedgerow along the southern boundary, which is mainly sapling hawthorn *(Crataegus monogyna)* with sapling oak *(Quercus sp(p))*, alder *(Alnus glutinosa)*, silver birch *(Sambucus nigra)* and elder *(Sambucus nigra)*.

3.3.12.2. Along the western side of the southern section of the site between the arable fields and adjacent road there is a newly planted hedgerow of young trees, mainly hawthorn *(Crataegus monogyna)* with occasional sapling oak *(Quercus sp(p))*.

3.3.13. Hedgerow with Trees

Along the eastern boundary of the central section of the site there is a hedgerow containing semi-mature and mature trees, between the site and the adjacent road. The main species present are hawthorn *(Crataegus monogyna)*, elder *(Sambucus nigra)* and sapling ash *(Fraxinus excelsior)* with mature oak *(Quercus sp(p))* and semi-mature ash *(Fraxinus excelsior)*.


3.3.14. Standing Water

3.3.14.1. Within the northern section of the site there is a large lagoon with scrub around three sides and bare ground on the eastern side. There are a number of large pipes both taking water from the lagoon and putting water into the lagoon as part of the working quarry.

3.3.14.2. Within the central section of the site there is a large lagoon with scrub around two sides and improved grassland around the other two sides. The lagoon is shallow and at the time of this survey there was only water in the northern half of the lagoon with cracked silt and newly growing scattered scrub in the southern half.

3.3.14.3. Within the southern section of the site there are two large areas of open water comprised of flooded mineral workings surrounded mainly by bare sand and topsoil. There is an improved grass bund along the eastern side, an area of ephemeral vegetation on a bund in the centre of the water bodies and a section of bund on the western side covered with tall ruderal habitat. The water bodies are within an area of the quarry currently being worked.

3.3.15. Running Water

Maxey Cut flows between the northern and central sections of the site with a bailey bridge crossing the watercourse. The watercourse is approximately 10m wide with a moderate flow. The banks are improved grassland with a short sward with a public footpath along the northern bank. There is reed in the water and during the survey water was being pumped into the river from the bridge. This is a manmade drainage feature maintained for that purpose and is as such highly engineered.


3.3.16. Dry Ditch

3.3.16.1. South Drain extends between the central and southern sections of the site but this drain is totally dry and the banks and the drain are improved grassland with a short sward. Again, this is a manmade drainage feature.

3.3.16.2. Within the southern section of the site there are a series of dry ditches and drains along the northern boundary and separating the arable fields. The banks, the drains and a narrow margin each side of the banks are improved grassland with a short sward. These were all found to be dry at the time of the survey.

3.3.17. Fence

There are a series of fences throughout the site, which are mainly post and wire stock fencing with some timber post and rail fencing around the site offices and car park.

3.3.18. Quarry

These areas are the working areas of the existing quarry with regular vehicle movements and extraction works.

3.4. Description of Fauna.

3.4.1. During this survey, a badger sett was identified at the bottom of the western side of the eastern bund behind the quarries workshop. The sett consists of five entrances with small to medium spoil heaps. Three of the entrances were full of leaf debris and two entrances had old bedding blocking the entrances. There was old bedding in the spoil heaps with badger hairs also found in the spoil. A fresh badger dung pit was located between two of the entrances and there was a clear path leading south at the bottom of the bund. The badger sett has been assessed as a currently active outlying sett. The photographs below show one of the entrances, a spoil heap, the dung pit and a badger hair.

3.4.2. Maxey Cut flows through the site from west to east between the northern and central sections of the quarry. This watercourse may provide a suitable habitat for water voles, otters and freshwater white clawed crayfish. However, the proposed works will have no impact on the watercourse as this feature is already crossed by a clear span bailey bridge.

3.4.2.1. Several ditches were identified in the surrounding arable land, although at the time of this survey, all the ditches were dry and therefore provide no potential for

water vole, otter or crayfish. It is understood that the consented extraction scheme already provides for the removal of these features.

3.4.2.3. The lagoons and other water bodies on the quarry are unsuitable for water voles, otters and crayfish as the water levels fluctuate on a regular basis.

3.4.3. There are a number of buildings within the northern section of the site including the site office and weighbridge portacabins and a series of metal workshops and metal storage containers. None of the buildings on the site provide any suitable habitat for roosting bats. No other structures that may provide any suitable roosting opportunities for bats were identified within the surveyed area.

3.4.4. There are two ash trees and a mature oak tree that lie just outside the eastern site boundary of the central area within the hedgerow with trees. The trees overhang the site boundary and may provide suitable roosting bat opportunities with broken limbs and lifted bark that provide suitable features for roosting bats. The photographs below show the oak tree and some of the features in the ash trees.

3.4.5. The hedgerows and trees along the site boundaries and areas of dense scrub may provide low potential for foraging and commuting bats, although the proposed works will not cause the loss or fragmentation of any of the suitable habitats.

3.4.6. There were fifteen ponds identified within 500m of the survey area whilst on site or on an Ordnance Survey Map of the area. Three of these ponds are quarry lagoons and other water bodies within the survey area. Five of the ponds lie on the southern side of Maxey Cut and ten ponds lie on the northern side. Maxey Cut is flowing water and forms a barrier to the movement of amphibians.

3.4.6.1. The ponds within the survey area are unsuitable for great crested newts as they are part of the working quarry with fluctuating water levels, and all contained water birds which will deter newts.

3.4.6.2. The habitat within the survey area is largely unsuitable habitat for great crested newts as it is mainly bare ground which is the working quarry and large areas of open arable land.

3.4.6.3. There are no records of great crested newts within 500m of the survey area. The nearest records lie 650m to the southwest with residential properties and a busy road between the records and the site.

3.4.6.4. It is therefore assessed that there will be no great crested newts within the survey area.

3.4.7. The vegetation within the surveyed area may provide a suitable habitat for nesting birds during the nesting bird season, which extends from March to September each year. A nesting bird survey was not carried out during this survey as the survey was carried out outside the nesting season, although numerous old nests were seen during the survey.

3.4.8. The surveyed area may provide low potential for reptiles as there are limited areas for refuge. However, due to the high levels of activity on the site, it is unlikely that reptiles will be present.

3.4.9. The surveyed area provides no potential for hazel dormice as the site lies outside the natural range of the species.

3.4.10. The surveyed area provides no potential for red squirrels as the site lies outside the natural range of the species.

3.4.11. No alien invasive species of plant listed on Schedule 9 of the Wildlife and Countryside Act 1981 were identified within the surveyed area.

****

4. EVALUATION OF FINDINGS.

4.1. Maxey Quarry County Wildlife Site (CWS) lies adjacent to the western side of the northern section of the site. There is a large bund between the access road to the quarry and the adjacent CWS. There will be no works carried out in this area that will have any impact on the CWS. The southern extension to the quarry is to the south and over 450m from the CWS, therefore will have no impact on this designated site.

4.2. The site is generally of low ecological value as it is mainly bare ground, working quarry, large areas of open arable fields and managed improved grassland with a short sward. These features are only of site or local significance. There are lagoons and other open water features, although these are low value as they are part of the working quarry with fluctuating water levels.

4.2.1. The areas of scrub and the hedgerows provide moderate ecological value, although have limited connectivity to other areas of ecological value in the wider area due to the limited connectivity, they are only considered of local significance.

4.2.2. Maxey Cut is of moderate ecology value as the banks of the watercourse are well managed and short and there is a well-used public footpath along the bank of the watercourse. This is a highly modified drainage feature subject to high fluctuation in water levels.

4.3. Biodiversity calculations were carried out of the current habitat within the southern extension area using the DEFRA Metric 3.0. The baseline habitats on the site were calculated at 233.86 Habitat Units as shown in the table below.

Habitat Type	Extent (ha)	Distinctiveness	Condition Assessment	Biodiversity units
Urban – Sand pit quarry or open cast mine	21.3	Low	Poor	46.86
Lakes – Temporary lakes, ponds and pools	10.2	High	Poor	61.20
Sparsely vegetated land – Ruderal/Ephemeral	2.7	Low	Poor	5.40

Cropland – Cereal crops	59	Low	N/A Agricultural	118
Heathland and Scrub – Mixed Scrub	0.6	Medium	Poor	2.40
Total	93.80			**233.86**

4.3.2. The baseline hedgerow on the site was calculated at 3.20 Habitat Units as shown in the table below. This hedgerow will be retained.

Hedgerow Type	Length (km)	Distinctiveness	Condition Assessment	Biodiversity units
Native Hedgerow	0.8	Low	Moderate	3.20
Total	0.8			**3.20**

4.1.1.5. The following tables show the post development habitats on the southern extension.

Habitat Type	Extent (ha)	Distinctiveness	Condition Assessment	Biodiversity units
Woodland and Forest – Broadleaved Woodland	9.4	Medium	Fairly Good	46.10
Woodland and Forest – Wet Woodland	6.6	High	Good	25.45
Wetland – Fens (upland and lowland)	3.7	V. High	Fairly Good	10.02
Grassland – Lowland Meadows	26.1	V. High	Fairly Good	112.33
Grassland – Floodplain Wetland Mosaic	3.7	High	Fairly Good	10.73

Wetland – Reedbeds	0.8	High	Moderate	5.01
Cropland – Cereal Crops	28.9	Low	N/A Agricultural	55.78
Lakes – Moderate alkalinity lakes	9.5	High	Fairly Good	23.06
Lakes – Low alkalinity lakes	5.1	High	Fairly Good	12.38
Total	93.80			**300.87**

Hedgerow Type	Length (km)	Distinctiveness	Condition Assessment	Biodiversity units
Native Hedgerow	12.4	Low	Moderate	41.51
Total	12.4			**41.51**

4.1.1.6. The results show that there will be an increase of area habitat Biodiversity Units from 233.86 to 300.87Bu and the hedgerow Biodiversity Units will increase considerably from 3.20 to 41.51Bu. This is an area habitat increase of 28.65% and a hedgerow increase of 1297.08%.

4.4. Species Evaluation.

4.4.1. During this survey a badger sett was identified at the bottom of the western side of the eastern bund behind the quarries workshop. The sett consists of five entrances with small to medium spoil heaps. Three of the entrances were full of leaf debris and two entrances had old bedding blocking the entrances. There was old bedding in the spoil heaps with badger hairs also found in the spoil. A fresh badger dung pit was located between two of the entrances and there was a clear path leading south at the bottom of the bund. The badger sett has been assessed as a currently active outlying sett. Therefore, the current works will have no impact on the badger sett. However, if the bund will be affected by future works, there will be a high impact on badgers and their setts.

4.4.5. Maxey Cut flows through the site from west to east between the northern and central sections of the quarry. This watercourse may provide a suitable habitat for water voles, otters and freshwater white clawed crayfish. However, the proposed works will have no impact on the watercourse. The dry irrigation ditches that were

identified in the surrounding arable land, and the lagoons on the quarry are unsuitable for water voles, otters and crayfish as the water levels in the lagoons fluctuate and the ditches are dry. These features are approved for removal as part of the already consented scheme. In any event, the proposed changes to site restoration will have no impact on water voles, otters or freshwater white clawed crayfish.

4.4.6. The site offices are constructed with porta cabins and metal workshops and containers and do not provide any suitable habitat for roosting bats. No other structures that may provide any suitable roosting opportunities for bats were identified within the surveyed area. Therefore, the proposed works will have no impact on bats roosting within any structures.

4.4.7. There are two ash trees and a mature oak tree that lie just outside the eastern site boundary of the central area that overhang the site boundary that may provide suitable roosting bat opportunities with broken limbs and lifted bark that provide roosting potential. Therefore, if these trees will be affected by the works, there may be an impact on bats roosting within the trees.

4.4.8. The hedgerows and trees along the site boundaries and areas of dense scrub may provide suitable foraging and commuting bat habitat, although the proposed works will not cause the loss or fragmentation of any of the suitable habitats. Therefore, the proposed works will have no impact on foraging or commuting bats.

4.4.9. There were fifteen ponds identified within 500m of the survey area whilst on site or on an Ordnance Survey Map of the area. Three of these ponds are quarry lagoons or other water bodies within the survey area. Five of the ponds lie on the southern side of Maxey Cut and ten ponds lie on the northern side. Maxey Cut is flowing water and forms a barrier to the movement of amphibians.

4.4.9.1. The ponds within the survey area are unsuitable for great crested newts as they are part of the working quarry with fluctuating water levels, and all contained water birds which will deter newts.

4.4.9.2. The habitat within the survey area is largely unsuitable habitat for great crested newts as it is mainly bare ground which is the working quarry and large areas of open arable land.

4.4.9.3. There are no records of great crested newts within 500m of the survey area. The nearest records lie 650m to the southwest with residential properties and a busy road between the records and the site.

4.4.9.4. Therefore, it is assessed that there will be no great crested newts within the survey area and the proposed extension will have no impact on the species.

4.4.10. The vegetation within the surveyed area may provide a suitable habitat for nesting birds during the nesting bird season, which extends from March to September each year. A nesting bird survey was not carried out during this survey as the survey was carried out outside the nesting season. Therefore, any vegetation clearance carried out during the nesting season will potentially have an impact on nesting birds if they are present.

4.4.11. The surveyed area may provide low potential for reptiles as there are limited areas for refuge. However, due to the high levels of activity on the site, it is unlikely that reptiles will be present. Therefore, the proposed works are highly unlikely to have any impact on reptiles if suitable precautionary measures are put into place.

4.4.12. The surveyed area provides no potential for hazel dormice as the site lies outside the natural range of the species. Therefore, the proposed works will have no impact on hazel dormice.

4.4.13. The surveyed area provides no potential for red squirrels as the site lies outside the natural range of the species. Therefore, the proposed works will have no impact on red squirrels.

4.4.14. No alien invasive species of plant listed on Schedule 9 of the Wildlife and Countryside Act 1981 were identified within the surveyed area. Therefore, the proposed works will have no impact on spreading such species.

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5. RECOMMENDATIONS.

5.1. This Preliminary Ecological Appraisal report is designed to advise the client of the initial survey results so that they may be considered within the site development plan.

5.2. Once any further surveys required have been completed and the development plans have been finalised, the report must be converted into an Ecological Impact Assessment (EcIA) where details of further survey results, mitigation and biological enhancements are included, to arrive at an assessment of the residual impact of the proposed development. This should include biodiversity calculation to demonstrate no net loss of biodiversity as a result of the development. The EcIA format will be suitable to submit to the Local Authority.

5.3. It is recommended that if any future works will affect the eastern bund behind the quarry workshop where the badger sett was identified, the badger sett must be closed down under licence.

5.4. It is recommended that the trees along the eastern site boundary that provide roosting bat potential are left undisturbed during the proposed works to avoid having any impact on roosting bat if they are present.

5.5. If the trees will be affected by the works, further bat surveys will be required on the trees before the works to the trees can commence.

5.6. It is recommended that any vegetation clearance work carried out on the site is carried out outside of the nesting bird season, which extends from March to September each year.

5.7. If any vegetation clearance work is carried out during the nesting season the work must be immediately preceded by a thorough nesting bird survey carried out by a suitably experienced person. Any nests identified must remain undisturbed until the young have fledged from the nest.

5.8. As a precaution, it is recommended that all personnel working on the site are briefed on the potential presence of reptiles and how to identify the species. A toolbox talk on reptiles has been included at the end of this report to aid in this matter.

5.9. In the unlikely event that any reptiles are encountered during the works they should be allowed to move off the site of their own accord. If large numbers of reptiles (5+) are identified work in that area should cease and the author of this report should be contacted for further advice.

5.10. As part of the restoration of the site native plant species should be used, including fruit and berry bearing species.

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Prepared by:	
Jenny Whitcher Roebuck MCIEEM & Stevan Roebuck	Date: 7th December 2021.
Revised by:	
Jenny Whitcher Roebuck MCIEEM	Date: 5th January 2022.

Checked by:	
Derek Whitcher, BSc, MCIEEM, MCMI	Date: 5th January 2022.

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Appendix I. BADGER INFORMATION.

Ecology

Badgers are territorial animals who live in social groups called 'clans. The territory of these clans can vary in size from 0.2km^2 to 1.5 km^2 with anywhere between two and twenty Badgers present. In areas where two clans meet territorial boundaries become well-defined, marked by a series of dung pits called latrines. In areas with relatively low Badger populations there will be less competition for territory and the number of territorial markings will be low or even non-existent.

Badgers use paths around their territory repeatedly, following a scent trail from previous use; thus, Badger paths become well worn. These paths are important to the Badgers and obstruction to these paths will interfere with the Badger's movement around their territory.

Badger setts are any structure or place which displays signs of current or seasonal use by a Badger. Within a Badger clan territory there can be several Badger setts which are categorised in the following ways:

- ***Main Sett.*** *There will normally be one main sett in a territory. This will generally be the largest sett in the territory, typically with five or more entrances, will be permanently occupied throughout the year and used as the breeding sett.*
- ***Outlying Sett.*** *These are the smallest setts with generally only one or two entrances. They are intermittently occupied and there can be any number in a territory.*
- ***Annex Sett.*** *A sett of intermediate size, located close to the main sett and connected by well-defined paths. These are occupied for prolonged periods and may be used as a second breeding sett if there are two breeding sows in the clan.*
- ***Subsidiary Sett.*** *A sett of intermediate size, similar to an annex sett but located at some distance from the main sett and not connected to the main sett by defined paths.*

Badgers can mate at any time of year, but delayed implantation controls the time of birth. Most cubs are born between January and March, but they can be born at any time between December and June. An average of two to three Badger cubs are born to each sow and will initially be totally dependent on their mother. Cubs do not appear above ground until during April or May when they are 8 – 10 weeks old and are not fully weaned until at least June of each year.

Badgers are omnivorous, but their preferred food source is worms and insects. Worms are most abundant in well-grazed pastureland while mixed woodland is a good source of insects and grubs. Badgers have a soft and supple nose with which they snuffle into the ground to find insects. When they do this, they leave distinct round holes known as snuffle holes or grubbings. Badgers easily find worms on the surface of well-grazed pastureland and often leave no visible indications of this foraging.

Surveys

Walkover surveys can be conducted to identify the presence of Badgers within an area. This will identify the presence of any setts, dung pits, paths or foraging activity.

Bait marking techniques can be used to survey Badger territories. This involves feeding Badgers at each sett pellets of different colours over a period of at least two weeks. The colour of pellet found in dung pits and territorial latrines shows what areas each clan of Badgers is occupying.

Legislation

Badgers are protected under Schedule 6 of the Wildlife and Countryside Act (1981) and the Protection of Badgers Act (1992).

This makes it an offence to take, kill or injure a Badger, cruelly ill-treat a badger, use Badger tongs or firearms in the killing or taking (or attempt) of a Badger. It is also an offence to damage, destroy, obstruct access to, or any entrance of, a Badger sett, to cause a dog to enter a Badger sett or disturb a Badger while it is occupying a sett.

Appendix II. BAT INFORMATION.

Ecology

There are currently 18 species of bat residing in Britain, 17 of which of which are known to breed here. They are extremely difficult to identify in the hand and even more so in flight.

All appear to be diminishing in numbers, probably due to habitat change and shortage of food, caused by pesticides, as insects are their sole diet.

As their diet consists solely of insects, bats hibernate during the winter when their food source is at its most scarce. They will spend the winter in hollow trees, caves, mines and the roofs of buildings.

Certain species, particularly the pipistrelle (the commonest and most widespread British bat) can quickly adapt to man-made structures and will readily use these to roost and to rear their young.

Surveys

During walkover surveys, bat roosts can be identified by looking for:

- Suitable holes, cracks and crevices within any building, tree or other structure.
- Bat droppings along walls, window cills, or on the ground.
- Prey remains, such as insect wings.

Further investigations can be made using endoscopes, by carrying out aerial inspections of trees or by conducting bat activity surveys during dusk and dawn over summer months.

Legislation

Bats are protected under Appendix II and III of the Bern Convention (1982), Schedule 5 and 6 of the Wildlife and Countryside Act (1981), Annex IV of the Habitats Directive (some species under Annex II), Annex II of the Conservation of Habitats and Species Regulations (2010) and EUROBATS agreement. Numerous species are also listed under section 41 of the Natural Environment and Rural Communities Act (2006) making them species of principal importance.

All bats and their roosts are therefore protected in the UK. This makes it an offence to kill, injure or take any bat, to interfere with any place used for shelter or protection, or to intentionally disturb any animal occupying such a place.

The UK has designated maternity and hibernacula areas as Special Areas of Conservation (SAC's) under the Habitats Directive. Implementation of the UK Biodiversity Action Plan also includes action for a number bat species and the habitats which support them.

Where development proposals are likely to affect a bat roost site, a licence is required from Natural England.

Appendix III. NESTING BIRD INFORMATION.

Ecology

The nesting season will vary according to the weather each year but generally commences in March, peaks during May and June and continues until September. It is also worth remembering that some birds nest in trees and scrub, but others are ground nesting or prefer man- made structures or buildings.

Surveys

Nesting bird surveys search for potential nest sites in vegetation, buildings etc. Potential nesting sites are observed over a suitable period of time for bird movements or calling male birds that would indicate the presence of a nest. The presence of a nest can be identified from the field signs without the necessity to see the nest itself, thereby avoiding any disturbance of the nests. The best way to avoid this issue is to plan for vegetation clearance to be carried out outside the bird-nesting season.

Legislation

Nesting birds are protected under The Wildlife and Countryside Act 1981.

Part 1. -(1) Of the Act states that: - If any person intentionally: - kills, injures or takes any wild bird; takes, damages or destroys the nest of any wild bird while that nest is in use or being built; or takes or destroys an egg of any wild bird, he shall be guilty of an offence.

Part 1. -(5) of the Act states that: - If any person intentionally: - disturbs any wild bird included in Schedule 1 while it is building a nest or is in, on, or near a nest containing eggs or young; or disturbs young of such a bird, he shall be guilty of an offence and liable to a special penalty.

The Countryside and Rights of Way Act 2000 amends the above by inserting after “intentionally” the words “or recklessly”.

Appendix IV. REPTILE INFORMATION.

Ecology

There are five main species of reptile that reside in the UK; Common or Viviparous Lizard (*Lacerta vivipara*); Sand Lizard (*Lacerta agilis*); Slow Worm *(Anguis fragilis*); Grass Snake (*Natrix natrix*) and Adder (*Vipera berus*). The Adder is the only native species that is venomous although this is rarely harmful to humans.

Reptiles occupy a wide range of habitats including woodland, marshes, heathland, moors, sand dunes, hedgerows and bogs. Sand Lizards are confined to moorland and coastal sand dunes where they lay their eggs in the warm sand. The range of the Sand Lizard in the UK is therefore very limited. Slow Worms can be found in a wide variety of habitats throughout Britain and is the most likely reptile to be found in urban and suburban environments.

Maintaining the right body temperature is vital to reptiles' survival. In the morning, they find a warm basking site to heat up their bodies, then later they may move back into the shade because they do not sweat and have to be careful not to overheat. During hot summers, Adders will try to move to damper, cooler sites.

Over winter reptiles will hibernate in burrows or under longs where they are protected from the cold and predators, emerging from February onwards as the weather warms up.

Reptiles generally begin to mate April to May with young born in late July to September. The Common Lizard gives birth to live young, hence the term viviparous, meaning live bearing.

Surveys

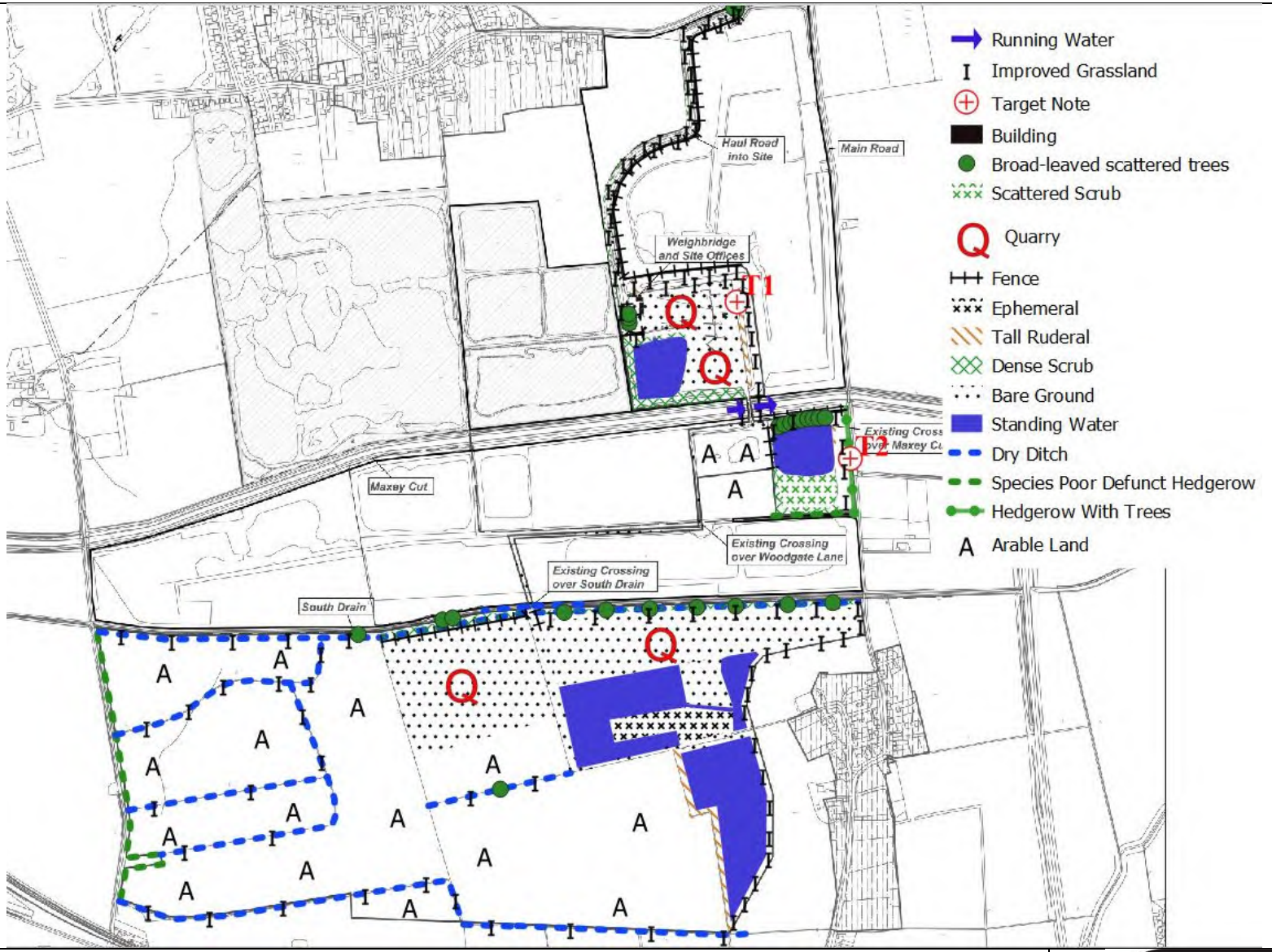
Reptile surveys involve the searching of refuge such as logs and stones for any animal sheltering below. Artificial refuge may be laid out on site for the purpose of reptile surveys.

Legislation

Reptiles are protected under Appendix II (sand lizards) and Appendix III (common lizard, slow worms, smooth snake, grass snake and adders) of the BERN Convention (1982), partially protected under Schedule 5 of the Wildlife and Countryside Act (1981), Annex IV of the Habitats Directive and are all listed under section 41 of the Natural Environment and Communities Act (2006) making them a species of principal importance.

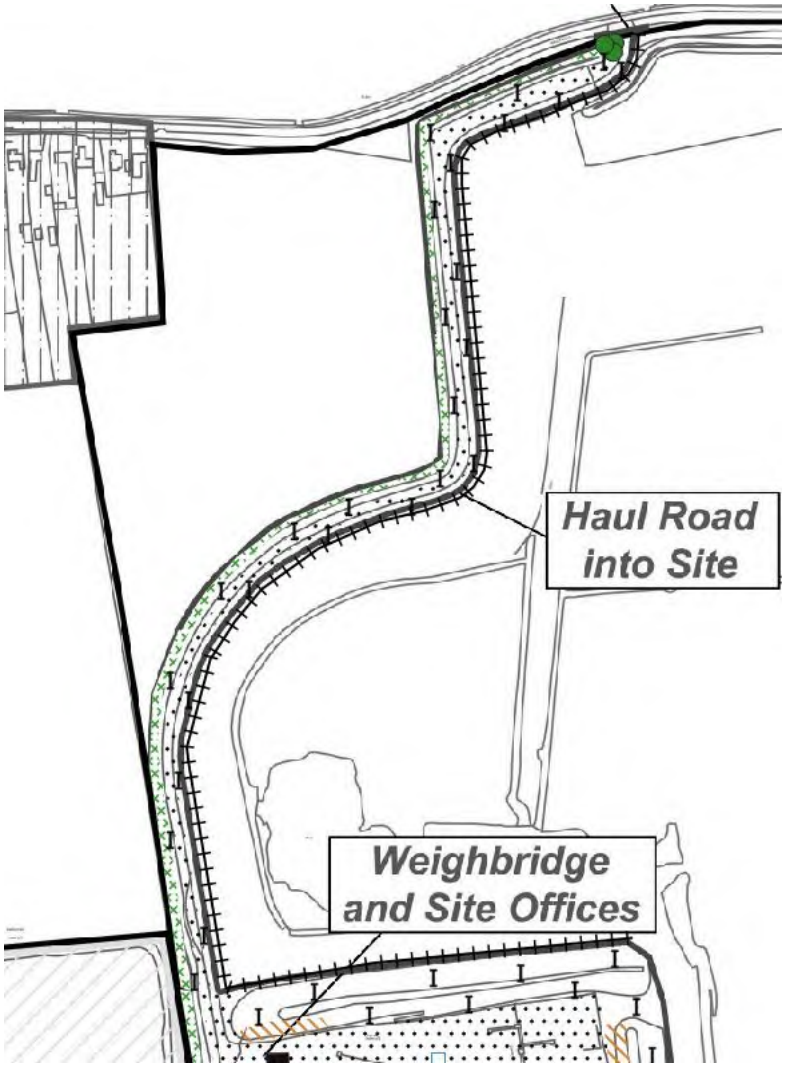
This makes it an offence to disturb any reptile while it is occupying a structure or place it uses for shelter or protection or to obstruct access to such a place.

Appendix V. ANNOTATED MAP OF THE SURVEY AREA. WHOLE SITE



Reference:	211159	Prepared by:	Whitcher Wildlife Ltd
Site:	Maxey Quarry	Date:	1st December 2021

NORTHERN SECTION



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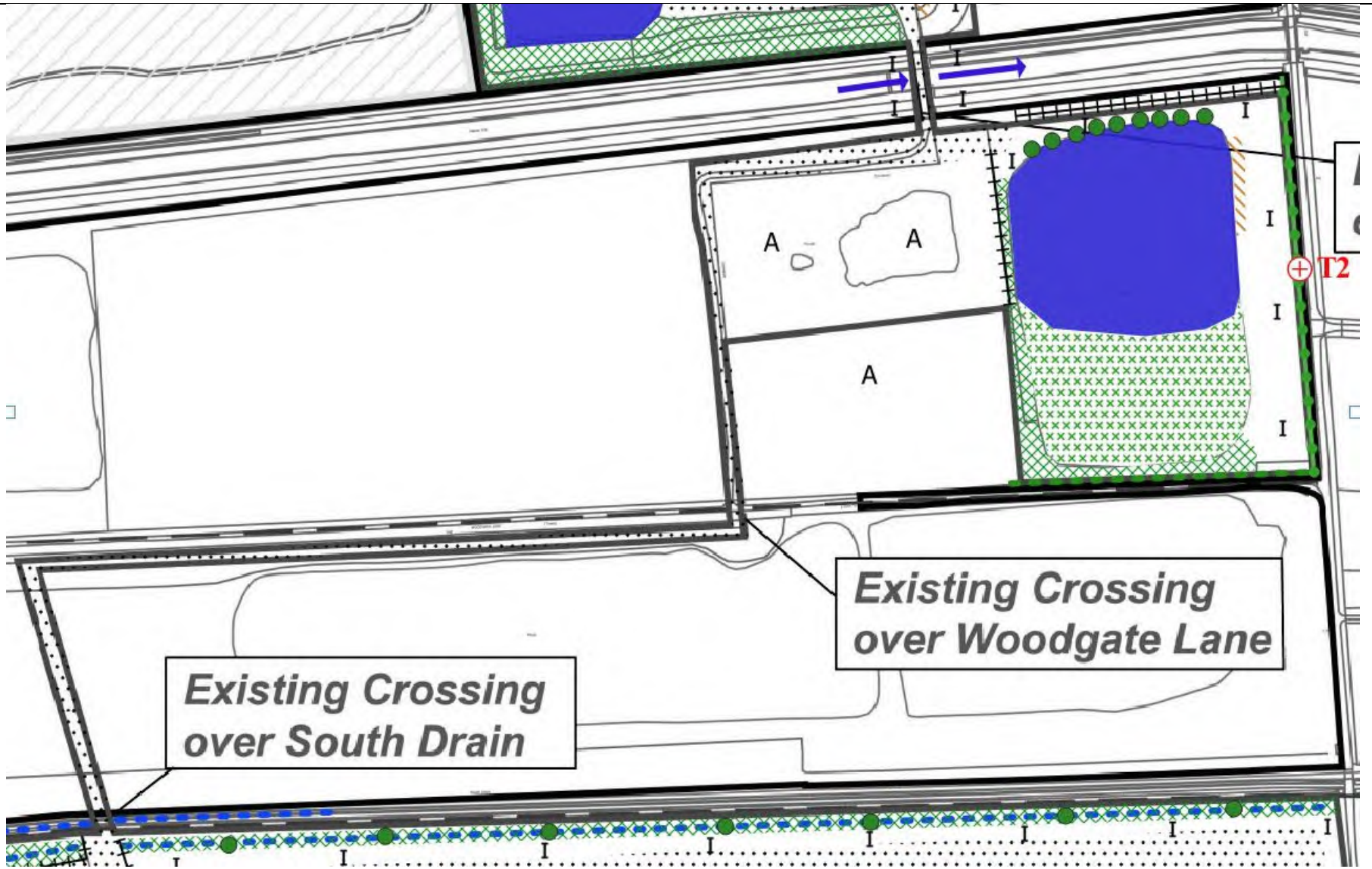
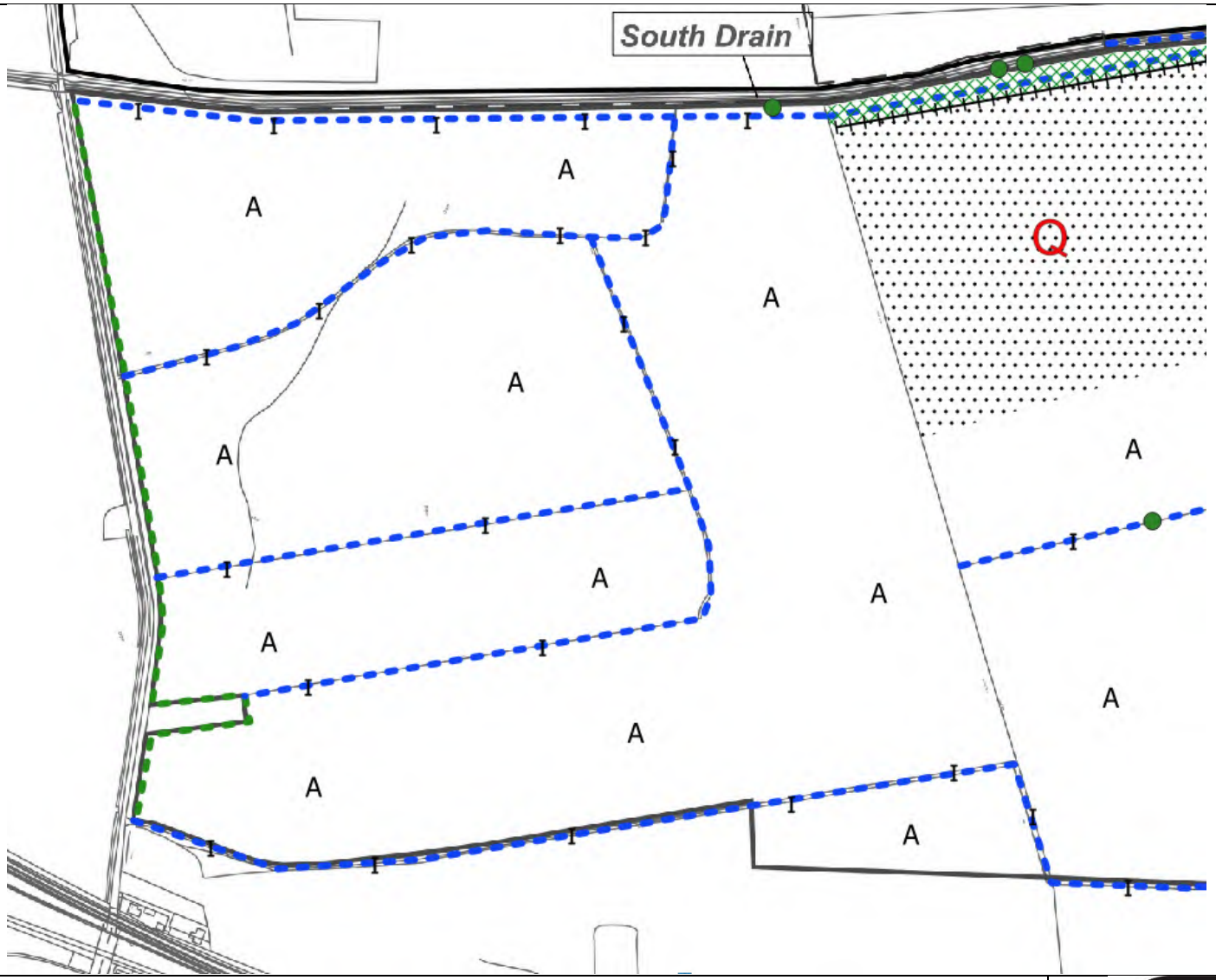
Site:	Maxey Quarry	Date:	1st December 2021

CENTRAL SECTION



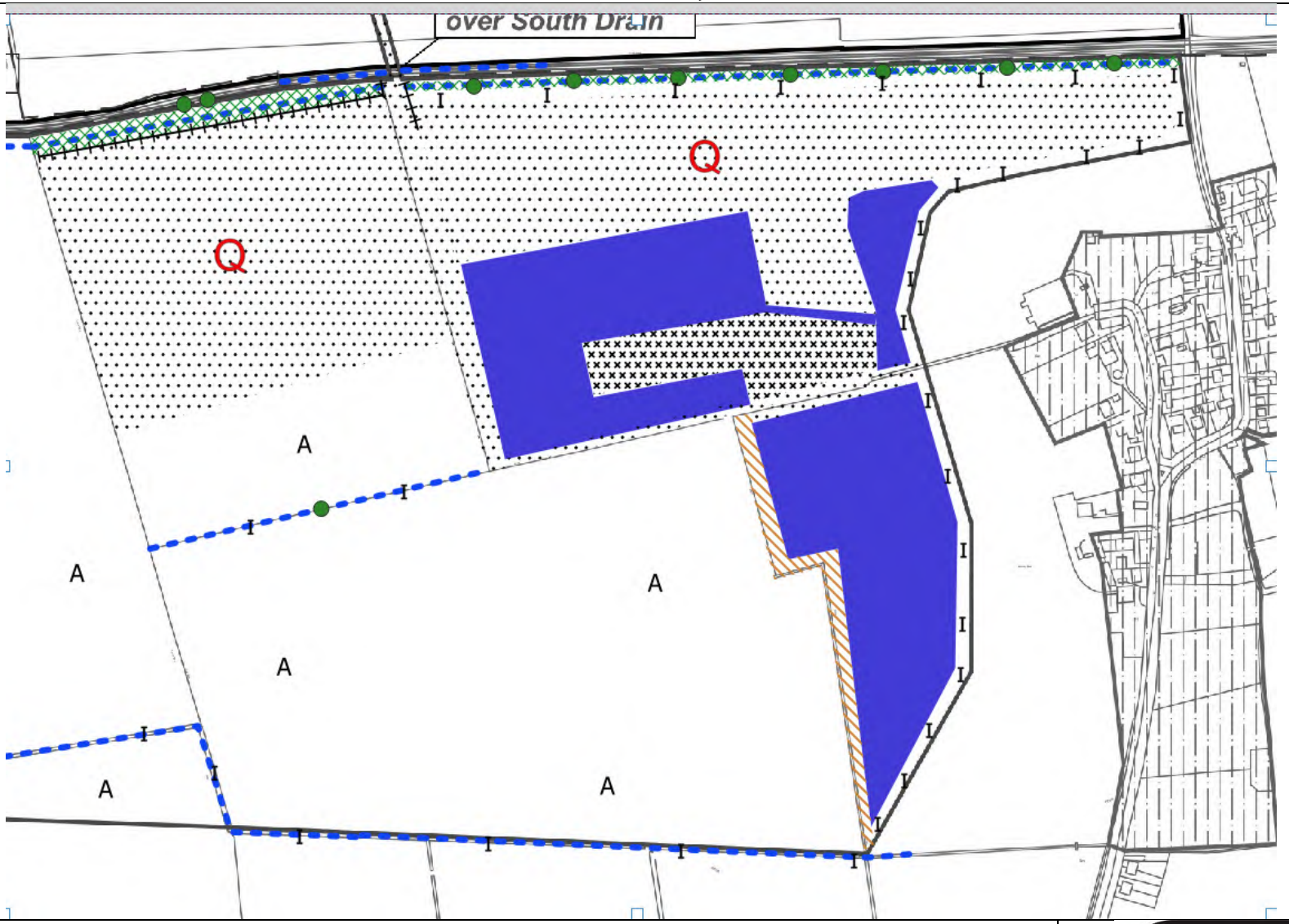
Reference:	211159	Prepared by: Whitcher Wildlife Ltd	
Site:	Maxey Quarry	Date: 1st December 2021	

SOUTHERN SECTION, WEST SIDE



Reference:	211159	Prepared by:	Whitcher Wildlife Ltd
Site:	Maxey Quarry	Date:	1st December 2021

SOUTHERN SECTION, EAST SIDE



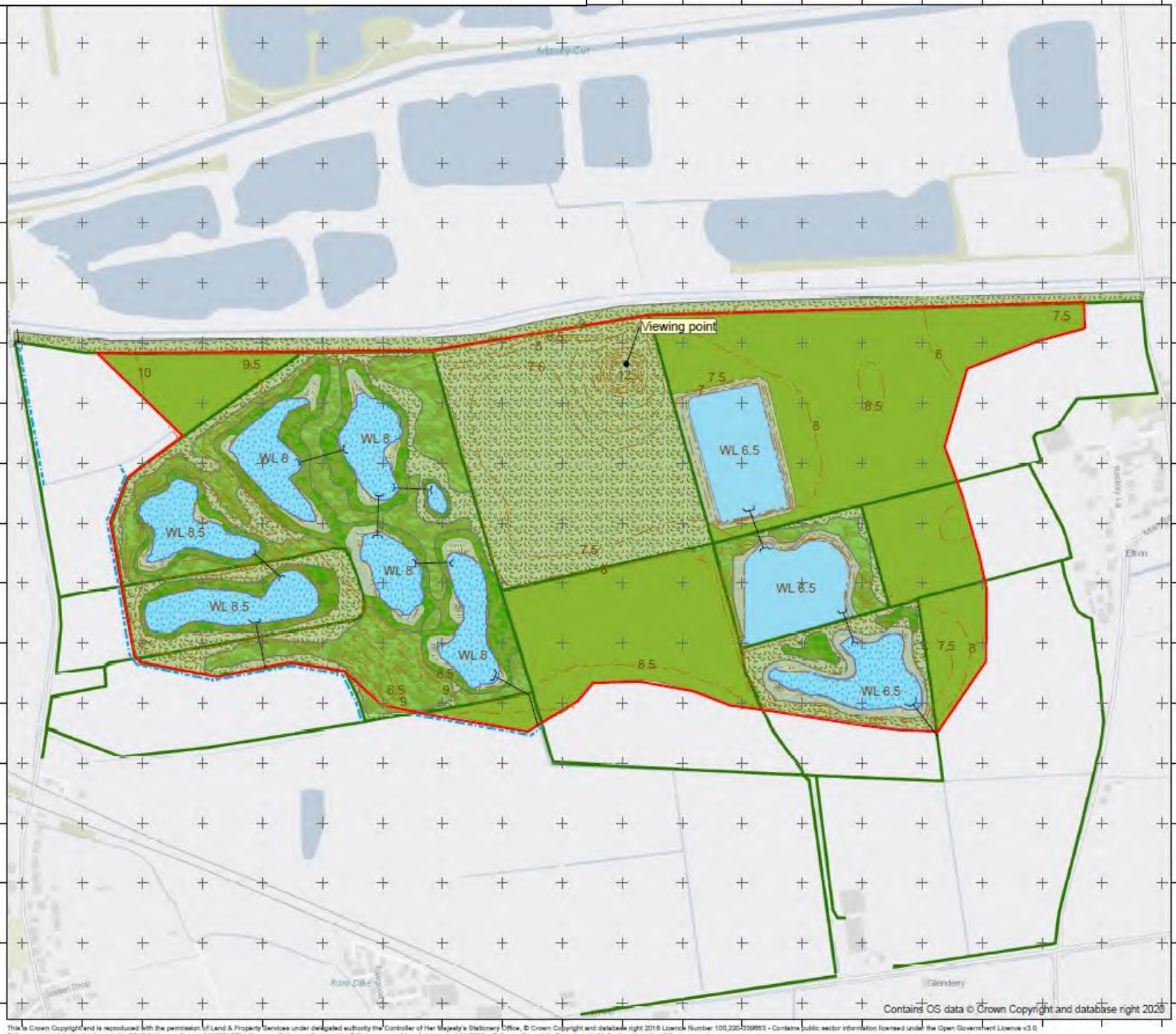
Reference:	211159	Prepared by: Whitcher Wildlife Ltd	
Site:	Maxey Quarry	Date:	1st December 2021

Appendix VI. TARGET NOTES.

T1 – Location of the badger sett.

T2 – Most of the trees within this hedgerow with trees contain features which could provide potential for roosting bats, splits, holes and rot holes.

Appendix VII. RESTORATION PLAN.



Legend

- Interts importation area
- Hedgerow
- Arable
- Lowland Meadow
- Lowland Mixed Decidous Woodland
- Mesotrophic Lake
- Oligotrophic and Dystrophic Lake
- Reedbed
- Wet Grassland
- Wet Woodland
- Diverted drains

TARMAC
A CRH COMPANY

Site Name: *Maxey Quarry*

Drawing Name: *Restoration Proposal Maxey Crossing Extension*

Drawn By:	Scale @ A3:
EMM	1:6,000
Date:	**Drawing No:**
17/12/2021	M032-00420