

Construction Environmental Management Plan

Warrenby Site 3B Enabling Works

Client: South Tees Development Corporation

Revision: C




Issued: April 2020






Document Control Sheet

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Rev: A	Name: Dan Athey Signature:  Date: 21/10/2019	Name: Richard Small Signature:  Date: 22/10/2019	Name: Ryan Browell Signature:  Date: 22/10/2019

Enter details of Amendment: Rev B Minor amendments to wording in parts and addition of statement from ecologist within 5.13	Name: Dan Athey Signature:  Date: 24/10/2019	Name: Richard Small Signature:  Date: 25/10/2019	Name: Ryan Browell Signature:  Date: 25/10/2019
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Enter details of Amendment: Rev C Addition of site specifics, including on-site parking, loading, unloading and storage of plant & materials and the measures to control spread of dirt and debris across private road network	Name: Dan Athey Signature:  Date: 29/04/2020	Name: Richard Small Signature:  Date: 29/04/2020	Name: Ryan Browell Signature:  Date: 29/04/2020
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Enter details of Amendment:	Name: (print) Signature: Date:	Name: (print) Signature: Date:	Name: (print) Signature: Date:
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Appendix A – Integrated Management System Policy

Appendix B – Reptile Mitigation Strategy (Report ID: INCA 201931)

1 Introduction

1.1 General

1.1.1 Seymour Civil Engineering Contractors have been appointed by the South Tees Development Corporation to carry out enabling works on the former Warrenby site. This document, the Construction Environmental Management Plan (CEMP), has been developed to avoid, minimise or mitigate any construction effects on the environment.

1.1.2 This CEMP document should be seen as a 'live document' with ongoing reviews throughout the project and data added as appropriate. The measures identified in this CEMP should be:

- Viewed as mandatory and common practice on-site.
- Embedded within the company's policies and site procedures.

1.2 Purpose

1.2.1 The purpose of this CEMP is to:

- Identify stakeholder requirements.
- Set out Environmental Management System requirements (in line with ISO 14001).
- Ensure compliance with current legislation.
- Effectively minimise any potential adverse environmental effects during construction.

1.3 Structure

1.3.1 This CEMP has been structured as follows:

- Section 2 provides a summary of the works and principal components.
- Section 3 sets out the environmental management framework
- Section 4 sets out the legal requirements
- Section 5 addresses operational control requirements
- Section 6 provides an outline pollution control and contingency plan

2 Scope of Works

2.1 Location

2.1.1 The Warrenby Site 3B enabling works are located on the former Iron and Steel Works at Redcar and can be accessed from the A1085 Trunk Road.

2.2 A description of the Works

2.2.1 The works are enabling works to allow a further project at a later date and the main construction activities are:

- Vegetation clearance
- Topsoil strip
- Widening and upgrading of existing access roads
- Installation of perimeter security fencing and access gates
- Installation of filter drains across the site
- Excavation and formation of a number of settlement ponds

2.3 Construction Programme

2.3.1 The current start date of the project is unknown as the works are subject to issue of a planning consent, however, once live, the project duration is estimated as 6-8 weeks.

2.3.2 The site working hours will be 07:00 – 18:00 Mon-Fri.

2.4 Equipment and Plant

2.4.1 The equipment and plant to be utilised on this project is likely to comprise conventional earthworks and construction plant, including:

- 2 x D6 tracked dozers
- 1 x 40T 360° tracked excavator
- 2 x 20T 360° tracked excavators
- 3 x 25T articulated haulers

3 Environmental Management Framework

3.1 Environmental Policy

3.1.1 This project will be carried out in accordance with Seymour Civil Engineering Contractors' integrated management system policy, including environmental management to BS EN ISO 14001:2015. A copy of the policy has been included within [Appendix A – IMS Policy](#).

3.2 Environment Aspects and Impacts

3.2.1 A register of potential significant aspects and impacts will be produced relating to the project.

3.2.2 The register should be reviewed and updated as works progress or where changes are made to the project scope, changes should be reflected in the CEMP and within the register of environmental aspects and impacts.

3.3 Objectives and Targets

3.3.1 Seymour will ensure compliance with any environmental objectives and targets outlined by the South Tees Development Corporation in addition to our own, including:

- Zero pollution incidents
- Minimise waste sent to landfill
- Minimise disruption to others within the area
- Protect and where possible enhance biodiversity

3.3.2 Monitoring of the construction process against the project environmental objectives will be carried out by the company’s Safety, Health & Environmental (SHE) Manager at regular intervals throughout the project.

3.4.1 Structure and Responsibilities

3.4.1 The following management structure sets out the respective roles and responsibilities within Seymour Civil Engineering Contractors with regard to the environment.

Role	Responsibility
Site Manager	Responsible for the management of the construction phase of the project. Has overall responsibility for the environmental performance for the project, including ensuring that all waste from the project is disposed of legally, economically and safely.
SHE Manager	Responsible for ensuring compliance with environmental legislation, consents, objectives, targets and other environmental commitments.
Site Staff	To receive general environmental awareness training, and undertake work in accordance with Method Statement Briefings and toolbox talks. Identified personnel to manage particular tasks such as refuelling plant and equipment, managing the stores and supervising the segregation and collection of waste.

3.5 Training Awareness and Competence

3.5.1 Site staff shall be competent to perform tasks that have the potential to cause a significant environmental impact. Competence is defined in terms of appropriate education, training and experience. No project specific environmental training has been highlighted at this point, however, if at any point throughout the project training is required, the Site Manager will request such training with the Seymour in-house training department.

3.5.2 Environmental awareness and training shall be achieved by:

- Site induction, including relevant environmental issues
- Environmental poster and notices
- Method statement and risk assessment briefings
- Daily pre-start work briefings, including relevant environmental issues
- Toolbox talks
- Key specific environmental issue briefings

3.5.3 Method Statements will be prepared for specific activities prior to the works commencing and include environmental protection and mitigation measures and emergency preparedness appropriate to the activity covered. The Site Manager will review all method statements prior to their issue.

3.5.4 Method Statement briefings will be given before personnel carry out key activities for the first time and all briefed will be required to sign a briefing register to confirm attendance and understanding of the method statement.

3.6 Communication

3.6.1 This CEMP will be distributed to the project team to ensure that the environmental requirements are communicated effectively. Key activities and environmentally sensitive operations will be briefed to all staff. The company's IMS policy will be displayed on site.

3.6.2 During the construction phase, internal communication will include regular progress meetings, which should cover:

- Training undertaken
- Inspections, audits and non-conformance
- Visits by external bodies (if any)
- Objective/target achievement, including reporting on environmental performance

3.7 Evaluation of Compliance

3.7.1 Seymour Civil Engineering Contractors' SHE Manager will carry out regular site surveillance/audit visits to ensure performance against legal requirements and the requirements of this CEMP.

3.8 Non-conformance and Corrective / Preventative Action

3.8.1 Procedures for addressing non-conformance and corrective action is as follows:

- A non-conformance report will be used to raise and record any environmental incident and work that has not been carried out in accordance with the CEMP or Method Statement.
- A Corrective Action Report (CAR) will be used where a deficiency is identified as a result of monitoring, inspection or audit.
- Any actions identified shall nominate an owner to follow through the action to be taken, along with a specified timescale for it to be closed out.

3.9 Control of Records

3.9.1 Environmental records, including waste management records, will be maintained in accordance with company procedures and legal requirements. The records will be maintained, in either hard copy or electronic format to ensure that they are readily identifiable, retrievable and protected against damage, deterioration and loss.

4 Legal Requirements

- 4.1.1 Seymour Civil Engineering Contractors operate and maintain a register of legislation covering all environmental legislation applicable to company activities. This register outlines what requirements are associated with each piece of legislation, what is required to achieve compliance and assigns responsibilities to key staff.

5 Operational Control Procedures

5.1 General

- 5.1.1 The following items have all been identified as potential environmental issues associated with the project and management proposals have been developed:

- Site establishment
- Boundary fencing
- Access routes/points
- Site housekeeping
- Noise and vibration
- Air quality
- Contaminated land
- Waste
- Energy
- Materials
- Transport
- Protection of common lizard

- 5.1.2 Management proposals for each of the above topics are described in sections 5.2 to 5.13 below.

5.2 Site Establishment

- 5.2.1 Facilities will be established to minimise risk to the environment and promote efficient use of resources. This will include:

- Temporary protective fencing will be erected to delineate the compound area.
- Temporary offices, welfare facilities and secure storage of equipment.
- Any necessary fuel and oil will be stored in accordance with the Control of Pollution (Oil Storage) (England) Regulations 2001. Refuelling will only be undertaken in a designated area, designed to contain contaminated runoff, and by trained personnel. Emergency spill kits are to be readily available.
- Materials storage areas will be set up and managed.
- Waste segregation areas will be established utilising containers of an appropriate design to ensure that no waste can escape.
- Sewerage effluent from the site office and welfare facilities will be removed from site using a vacuum tanker, if no sewer connection is available.
- The temporary site compound will be reinstated to its former condition, following completion of the project.

5.3 On-Site Parking

5.3.1 Adequate parking for site operatives, staff & visitors will be provided within the site compound. The compound will be located away from the main earthworks area on the opposite side of the road bridge.

5.4 Loading & Unloading of Plant & Materials

5.4.1 All materials will be offloaded and stored within the compound area, the storage area will be demarcated and segregated by security fencing.

5.4.2 Materials will be offloaded and lifted in accordance with specific lift plans and risk assessments, produced on site.

5.4.3 Materials will be transported from the storage area to the working areas as required.

5.5 Storage of Plant and Materials used for the Construction of Drainage Ditches

5.5.1 Temporary mounds of mudstone delivered to site will be stored locally to the work areas, these will be sealed off to prevent further drying out of materials in hot weather and to offer protection from poor weather to prevent soaking in the winter months. Mudstone bunds will be inspected periodically for condition.

5.6 Boundary Fencing

5.6.1 The site boundary will be fenced as necessary for security and to also prevent windblown litter or waste from polluting the wider environment.

5.7 Access Routes / Points

5.7.1 Once on-site Seymour will define the method of delivery / removal of materials and plant from the site, in accordance with the requirements of the South Tees Development Corporation and the wider site. Access routes for deliveries will be identified and notified to all suppliers prior to delivery.

5.8 Private Road Network

5.8.1 The private road network to and from site is to be monitored and if required, a wheel wash facility is to be established prior to exiting the site to avoid the spread of dirt and debris to the private road network.

5.9 Site Housekeeping

5.9.1 A 'good housekeeping' policy will be adopted across the site. This will include the following requirements:

- No fires on site
- Maintenance of staff welfare facilities
- Removal of food waste and other rubbish at frequent intervals
- Maintenance of road cleanliness surrounding the site

5.10 Noise and Vibration

5.10.1 The principles of best practice will be employed to minimise noise levels during construction. Recommendations for the control of noise and vibration on construction sites are set out in BS 5228. The following measures will be adopted where appropriate:

- Hydraulic plant will be used in preference to pneumatic plant where possible.
- Plant and equipment will be maintained in good working order.
- All plant will be shut down or throttled back between periods of use.
- Acoustic enclosures are to be considered for fixed plant such as generators.

5.11 Air Quality

5.11.1 Emissions to air including dust and exhaust fumes can be caused from certain construction activities, including:

- Earthworks / excavation
- Use of diesel powered plant and equipment

5.11.2 All necessary and practicable measures to control dust emissions through good housekeeping and site operational practices shall be carried out including:

- Sheeting of vehicles: all HGVs carrying loose material capable of spillage or which has the potential to give rise to dusty emissions from the vehicles during transit shall be sheeted.
- Compound: an area of hard standing of reasonable size shall be provided around site offices and over vehicle management areas, so that dust will be kept to a minimum by appropriate control methods.
- Water suppression is to be utilised during any cutting operations to reduce air borne dust
- Prevention of wind-blown dust arising from storage mounds
- Fires will be prohibited on site

- Compliance by construction vehicles with emissions legislation, servicing and MOT requirements: all vehicles regularly used on site shall comply with the relevant emissions standards and shall be serviced in accordance with the manufacturer's recommendations.
- Engine idling time: No construction plant or vehicle shall leave its engine running when not directly in use.

5.12 Contaminated Land

5.12.1 Prior to disposal of any material off site, a full suite of testing will be carried out to identify any contaminants.

5.12.2 Should contaminants be identified within any waste material, Seymour Civil Engineering Contractors' procurement department will source a suitably licensed disposal site.

5.13 Waste

5.13.1 Although no longer a legal requirement Seymour still utilise a site waste management plan as a matter of best practice and will prepare quantities of waste and waste streams prior to construction start.

5.13.2 All waste produced will be subject to the waste hierarchy, with disposal of waste seen as a last resort only.

5.13.3 Any waste requiring disposal off site will be dealt with and transferred in accordance with section 34 of the Environmental Protection Act 1990.

5.14 Energy

5.14.1 In line with the UK Energy Efficiency Target, energy efficiency measures and greener energy sources will be considered where possible. Using energy more efficiently assists with cutting carbon emissions:

- Energy use is to be minimised wherever possible throughout the construction phase
- Construction plant and equipment is to be maintained to maximise fuel efficiency
- Ensure efficient materials handling
- Wherever possible, minimise workforce travel
- Wherever possible, source materials locally to minimise associated transportation

5.15 Materials

- 5.15.1 Local materials will be sourced to minimise transportation, wherever possible.
- 5.15.2 Material procurement procedures are to be employed that involve considering the environmental impact of materials when purchasing them.

5.16 Transport

- 5.16.1 Road transport is a major source of air and noise pollution and contributes to carbon dioxide emissions. Opportunities to minimise construction traffic are to be considered such as, utilising workers local to the site and ensuring disposal can be back to back with collection to reduce wagon movements.

5.17 Protection of Common Lizard

- 5.17.1 An ecologist appointed by the South Tees Development Corporation has identified the presence of a single common lizard in an area of wasteland within the site boundary.
- 5.17.2 The presence of the lizard is to be identified within the site specific induction and an environmental briefing given to all on the common lizard.
- 5.17.3 The requirements of the Reptile Mitigation Strategy (Report ID: INCA 201931) will be adhered to in full:
- Prior to clearance works commencing the area where there is a risk of Common Lizards being present will be cordoned off with Heras fencing. This area will be left intact until Common Lizards emerge from hibernation, which is predicted to be mid-March 2020 dependant on weather conditions.
 - Long grass in this remaining area will be strimmed prior to clearance with the aim of concentrating the Common Lizard at the perimeter.
 - The remaining vegetation will be gradually removed at no more than two square meters in one block, with each block of vegetation being checked by an ecological clerk of works prior to removal.
 - Any reptiles present will be caught and translocated to an area of suitable habitat off site.

6 Pollution Control

6.1 General

- 6.1.1 Prior to any works being carried out the site manager will appoint certain employees as a spill response team.
- 6.1.2 The site manager will be ultimately responsible to ensure measures are implemented and identify the actions to be taken in the event of an environmental incident or emergency (in line with the requirements of the South Tees Development Corporation and them of the wider site).
- 6.1.3 An 'environmental incident' is defined as any event, activity or condition that causes, or has the potential to cause harm to people, or damage to property of the environment. 'Pollution' is defined as any harmful impact on the local atmospheric, aquatic or land environment caused by release of hazardous or nuisance-causing substances or excessive noise and vibration.

6.2 Pollution Prevention

- 6.2.1 Potential pollutants from this project include:
- Silt
 - Cement and concrete
 - Oils and fuels
 - Waste materials
 - Effluent/waste water from the site accommodation
- 6.2.2 Concrete and cement are very alkaline and can cause serious pollution. To minimise the risk of pollution, any concrete plant will be cleaned within a designated washout area.
- 6.2.3 To minimise the risk of pollution from oils on site, measures are required in relation to their storage, use and disposal. Environmentally considerate lubricants, such as synthetic, non-toxic biodegradable hydraulic fluids are available and may be used at sensitive locations.

6.3 Fuel and Oil Handling

- 6.3.1 All fuel and oil will be stored in accordance with the Control of Pollution (Oil Storage) (England) Regulations 2001 and they will be handled in such a way that risk of pollution is minimised, this will include:
- Fuel and oil storage tanks will comply with the Control of Pollution (Oil Storage) (England) Regulations 2001 and will be locked when not in use.

- Drums will be stored in bunded areas with a minimum capacity of 25% of the total volume contained within the bund, or 110% of the largest container, whichever is greater.
- Trained operatives only will carry out refuelling of plant and equipment.
- Static combustion engine plant (e.g. compressors, lighting sets) will be integrally bunded or placed on drip trays.
- Plant will be regularly checked for leaks and will be regularly maintained.
- Spill kits will be provided within close proximity to fuel and oil storage areas and operatives will be trained in their use.

6.4 Maintenance of Plant

- 6.4.1 Any maintenance of plant and equipment will be carried out by a competent and trained fitter. Spill kits will be available during all plant maintenance operations and where required drip trays used to contain any leakage of oil.
- 6.4.2 Any plant or equipment considered to be a pollution risk will either be repaired or removed from site.

6.5 Concrete Washout

- 6.5.1 A designated concrete washout area will be provided for washing out concrete delivery wagons. This will consist of a small skip lined with an impermeable membrane or similar arrangement.

6.6 Notification Procedure

- 6.6.1 Procedures for reporting any spillages or pollution incidents will be developed by the Site Manager once on site.
- 6.6.2 The procedure will include recording all incidents in the project progress report and providing details to the client's project manager.
- 6.6.3 Contact details for key site and emergency response personnel with responsibilities relating to the protection of the environment will be kept and displayed within the site cabin. Key contacts will include:
- Site Manager
 - Client's Project Manager
 - Fire, Police, Ambulance
 - Environment Agency (0800 80 70 60)

END OF DOCUMENT

Appendix A

Integrated Management System Policy

Quality, Safety, Health and Environmental Policy

Seymour (Civil Engineering Contractors) Limited is a general civil engineering contractor committed to providing the very best service to satisfy the requirements of all interested parties. Prime importance is placed on the continuous development and delivery of the best practices to achieve the satisfaction of its Customers. Every part of the business is constantly reviewed to meet the requirements of the international quality standards and we will measure our performance through the use of annual targets and objectives.

The Company is committed to continually improving its quality, safety, health and environmental performance and to achieving higher levels of awareness among its management and workforce, suppliers and subcontractors. The Directors and Managers of the Company are responsible for ensuring that all employees understand and fulfil Quality, Safety, Health and Environmental Management System requirements. The Company recognises the duties placed upon it, to preserve and protect the safety, health and environment of all its employees, other persons, sectors of the public and the public in general. We recognise that our activities have an impact on the environment and are committed to preventing pollution through implementing strict control measures and continually seeking to improve our environmental performance.

The Company will put its Quality, Safety, Health and Environmental Policy into practice by pursuing the following objectives. We will:

1. Meet all applicable legal requirements together with other requirements which relate to quality, safety, health and environmental aspects of the business such as industry and client codes of practice.
2. We will produce Quality, Safety, Health and Environmental plans for all major works or those with specific contractual requirements.
3. The Company shall provide and maintain places, plant and systems of work that are safe and without risk to health or the environment when properly used as far as is reasonably practicable.
4. Ensure that all our staff (and sub-contractors) develop a good understanding of the quality, safety, health and environmental impacts of our business and what is expected of them;
5. Make efficient use of natural resources by following the waste hierarchy, conserving energy and water and seeking to use re-cycled materials wherever possible;
6. Seek to use the most environmentally efficient modes of transport and reduce unnecessary travel;
7. As far as is reasonably practicable, the Company shall make arrangements to ensure use, handling, storage and transport of articles and substances that are safe and without risk to health or the environment when properly used.
8. Actively encourage the consultation and participation of workers in matters of quality, safety, health & environmental management.
9. Ensure that all our suppliers are aware of this policy and the company helps them apply similar quality, safety, health and environmental standards to their own work.
10. Communicate with local communities to ensure that our construction sites cause the minimum amount of disruption and have minimum impact on the local environment.
11. Report annually to our board on our Quality, Safety, Health and Environmental performance and how, in particular, we have met our annual Safety, Health and Environmental targets.
12. The Policy Statement together with the annual report to the board will be made available to all interested parties by publishing them on our website.

Quality, Safety, Health and Environmental Policy (Continued)

A continual process of instruction, training and assessment of employees together with the monitoring of all our business activities will be implemented. All employees must be aware of their individual responsibility to take reasonable care of themselves and others that may be affected by their work and the environment, and to co-operate with the Company to fulfil its duties under Safety, Health and Environmental legislation. To this end it is recognised that the taking of drugs or consumption of alcohol can impair performance and this is subject to specific disciplinary procedures.

The Policy will be implemented and achieved through the actions of all employees of the Company in general and in accordance with the Company's Quality, Safety, Health and Environmental Procedures.

A handwritten signature in black ink, appearing to read "Kevin J Byrne".

Kevin J Byrne

Director with responsibility for Quality, Safety, Health and the Environment

This policy is to be reviewed as a minimum annually, or if there is any change within the company that would impact upon the policy.

Last Reviewed: April 2020

Next Review: April 2021

Appendix B

Reptile Mitigation Strategy

Report ID INCA 201931
Reptile mitigation strategy
Ian Bond
October 2019



1. Introduction

This report has been produced to fulfil Condition 10 of Redcar & Cleveland Borough Council Planning Application Number: R/2019/0427/FFM, which is for “DEMOLITION OF STRUCTURES AND ENGINEERING OPERATIONS ASSOCIATED WITH GROUND PREPARATION AND TEMPORARY STORAGE OF SOILS AND ITS FINAL USE IN THE REMEDIATION AND PREPARATION OF LAND FOR REGENERATION AND DEVELOPMENT.”

Planning Condition 10 states:

“Prior to the deposition of earth in any area that has been identified in the Ecology report (ID: INCA 201920) as supporting or potentially supporting reptiles, a reptile mitigation strategy should be prepared, submitted to and approved by the local planning authority and any necessary actions resulting from that implemented in accordance with the strategy.

Reason: In the interests of preventing harm to protected species.”

2. Background Information

It is known that Common Lizards *Zootoca vivipara*, are present across various habitats on the coastal strip from South Gare to Coatham Green. A series of reptile surveys were undertaken by Quants Environmental in 2018 on South Tees Development Corporation (STDC) land, at four sites on and adjacent to the area known as the “Tear Drop” site. The surveys found a single Common Lizard on one of the four sites, with no reptiles found at the other three sites. The location of the lizard was just north of the Fleet at National Grid Reference NZ57362452. The location is shown in Figure 2. The report concluded that there was a low population of Common Lizards and that no other species of reptile were present.

The INCA report 201920 identified that the northern end of Warrenby and parts of CLE 31 are the only areas with a reasonable potential to support Common Lizards that are within the red line boundary of the application and have not been surveyed for this species. It concluded that it is likely that if present, these would similarly be small populations as the extent of the potentially suitable habitat in those areas is quite small and that the worst-case scenario from the proposal, without mitigation, is therefore potential harm to a small number of a widespread reptile species.

In order to determine whether Common Lizards are present in those areas INCA undertook a series of reptile surveys in each area from July to September 2019.

3. Survey methods

Surveys were carried out using the standard method of placing a suite of artificial cover objects (ACOs), in the form of tiles of roofing felt, in places likely to attract reptiles. The ACOs heat up much more effectively than the surrounding vegetation therefore in cooler weather reptiles seek them out as places to bask, which they do either on top of or underneath the ACO. The ACOs are then checked in suitable weather conditions.

ACOs were put out on 28th June 2019 and were left for a week to allow time for them to be found by reptiles before surveys commenced. The locations where the ACOs were put it is shown in Figure 1. A total of 30 ACOs were placed out at Warrenby, 25 at CLE31/Site 3A and 20 at Site 3B. In addition at Warrenby and Site 3B, there were already a large number of ACOs in the form of discarded metal, tyres and railway sleepers, all of which were very suitable for reptiles to bask on. These were also checked for reptiles.

The surveys were undertaken by scanning ahead with binoculars to try and see any reptiles basking on ACOs, without disturbing them. Using binoculars, any other open areas such as rocks, piles of wood etc were also checked for lizards. If no reptiles were seen on the tiles of roofing felt or on other ACOs that could be safely moved, these were turned over to check for lizards underneath them.

Current guidance is that a series of seven visits in suitable weather conditions at the optimal time of year are considered sufficient to establish presence/absence of reptiles though further surveys may be required if carried out under sub-optimal conditions.

A series of eight visits were undertaken at Site 3B, seven at Site 3A and six at Warrenby. Details of the visits are given in Table 1. All were carried out under suitable weather conditions but the two surveys in July were at a sub-optimal time of year. Reptiles are very active in July but due to the generally higher ambient temperatures at that time of year they spend less time basking so are not as easily seen.

Table 1. Survey details

Date	Start time	End time	Weather start	Weather end
04/07/19	08:45	10:30	Sunny, 50% cloud cover; light breeze; ca 15°C	Sunny, 50% cloud cover; light breeze; ca 20°C
15/07/19	09:00	10:45	Intermittent sun, 50% cloud cover, light breeze, ca 16°C	Sunny, 50% cloud cover; light breeze; ca 19°C
20/08/19	10:00	11:45	Full cloud; light breeze, ca 15°C	90% cloud, intermittent hazy sun; light breeze, ca 15°C
30/08/19 Site 3B only	10:00	10:30	Full cloud; strong breeze; ca 18°C	Full cloud; strong breeze; ca 18°C
04/09/18	08:45	10:45	Overcast, 80% cloud cover; dry following overnight rain; ca 14°C; gentle breeze	Intermittent sun, 50% cloud; wind picking up to light breeze; ca 16°C
10/09/19 Site 3A and 3B only	09:00	10:15	Sun with 50% cloud; ca 12°C; no appreciable wind	Sun with 50% cloud; ca 13°C; no appreciable wind
27/09/19 Site 3A and 3B only	09:30	10:45	25% cloud, mainly sunny; dry following overnight rain; ca 14°C; gentle breeze	50% cloud, sun intermittent; ca 15°C; gentle breeze
02/10/09	10:15	11:45	Full sun; gentle breeze; ca 11°C	Full sun; gentle breeze; ca 12°C

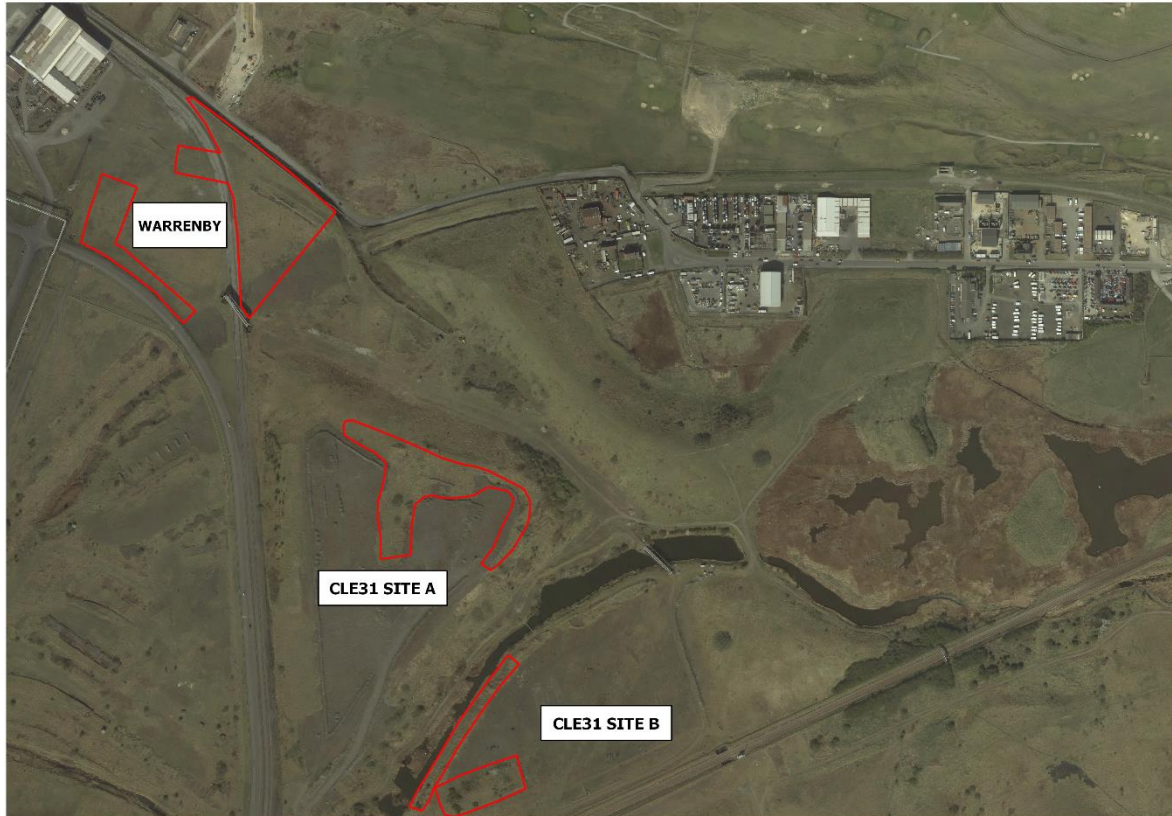


Figure 1. Locations of ACO placement

4. Survey results

Common Lizards were found in each of Warrenby, Site 3A and Site 3B. The locations where they were found are shown in Figure 2 with details given in Table 2.

Table 2. Survey results

Date	Location	
20/08/19	Site 3B	Single juvenile lizard basking on an ACO at the very edge of the plateau at the northern end
20/08/19	Warrenby	<ul style="list-style-type: none"> • Single juvenile lizard basking on an ACO within a few metres of the northern perimeter fence. • Single juvenile lizard basking on an ACO on the embankment adjacent to the road
04/08/19	Site3A	Single juvenile lizard basking on the same ACO as on 20/08/19
04/08/19	Warrenby	Single juvenile lizard basking on an ACO within a few metres of the northern perimeter fence and approximately 60m east of that seen on 20/08/19
27/09/19	Site 3A	A single lizard was basking on an ACO at the northern end approximately 10m from the lizard seen on 20/08/19 and 04/09/19
27/09/19	Site 3B	A single lizard was found under an ACO

A total of six lizards were seen; three at Warrenby; two at Site 3A and one at Site 3B. This assumes that the two records of a lizard on the same ACO in Site 3A were of the same individual but that a lizard that was found on an ACO 10m away was a separate individual. The results indicate a small population of lizards in each location. The full complement of seven surveys was not undertaken at

Warrenby as it is considered that sufficient information had been gained to characterise the population and to inform mitigation.



Figure 2. Locations where Common Lizards have been found up to 27th September 2019 (Yellow = 2018 Quants surveys; red = 2019 INCA surveys)

5. Assessment

5.1 At Warrenby lizards have been found in three locations around the perimeter. The centre of the site, being largely flat with relatively sparse vegetation is less suitable for them. The lizards at the northern perimeter of Warrenby are very close the boundary fences and individual lizards could easily move in and out of the site. A single lizard has been found further into the site adjacent to the road and this is unlikely to disperse off site. Given that this road verge is somewhat isolated from areas that are other than of sub-optimal suitability for lizards then this may be an isolated individual.

5.2 At Site 3A lizards have only been found on the edge of the plateau where the habitat is continuous with that of Coatham Marsh. It is possible that some may also be present in parts of the south facing embankment, but none were found on top of the plateau and suitable habitat there is very limited in any case.

5.3 A single lizard was found on the vegetated mound in the centre of Site 3B on the visit on 27/09/19 but was not found on a subsequent visit, despite idea weather conditions for surveying. This is a small, vegetated mound is covered in scrub and trees and is sub-optimal for lizards. Furthermore it is surrounded by habitat that is unsuitable for reptiles to live in. Therefore it is possible that this is a vagrant individual that has found this area by chance but even if there is a population of lizards present it would be very small

6. Mitigation options

6.1 Where lizards are using habitat that is continuous with habitat outside the boundary fence then they can be discouraged from using those areas by spraying off the vegetation. Any lizards that are present can then simply move back outside of the boundary. This would apply to the northern perimeter of Warrenby and to CLE 31. Spraying should be undertaken in spring and summer when lizards are active rather than in autumn when they will be going into hibernation. Once the vegetation has had died off and a further two weeks have elapsed to allow the lizards time to move then the vegetation can be scraped off under the supervision of an ecological clerk of works.

6.2 On the embankment of the road verge at Warrenby and adjacent to the Fleet on the Tear Drop site, any lizards that are present would need to be translocated as they would not be expected to move off site by themselves. As works in these areas are not scheduled to occur in the next year and given the amount of work that would be required for translocations of what might be single individuals or at most very small populations, it is recommended that another survey of these areas is carried out in Spring 2020 to see if lizards are still present. If lizards are still present, then a translocation programme will be implemented but if they have subsequently disappeared then works can proceed. The results of surveys are usually considered to be relevant for two years therefore, after 2022, if suitable habitat still exists for lizards in these areas *and* there continues to be habitat connectivity with other areas of suitable reptile habitat, further surveys would be required.

6.3 At Site 3B, works are scheduled to commence over winter 2019/20. It is not possible to translocate lizards over the winter period as they would be hibernating. Therefore translocation of lizards will commence in spring 2020. Prior to any works commencing on Site 3B a cordon of Heras fencing will be placed around the mound to exclude machinery. The areas of trees and shrubs on the vegetated mound can be removed over winter to prevent them being used by nesting birds in the spring. The areas that can be removed should be marked out by an ecological clerk of works. Any areas of long grass should be left intact until spring 2020 but with the grass strimmed to concentrate any lizards that are present to the perimeter around the ACOs. In spring 2020, the remaining vegetation will be gradually removed at no more than two square metres in one block, with each block of vegetation being checked by an ecological clerk of works prior to removal. Any reptiles present will be caught and translocated to an area of suitable habitat off site.

Table 3. Work schedule

Area	Timing	Works
Warrenby (excluding road perimeter)	Spring/ early summer (2020 or as required for development)	Spray off vegetation to encourage lizards to move off site
Warrenby road perimeter/ Tear Drop site	Spring 2020	Further survey to establish if lizards are still present. If present catch and translocate lizards prior to development
CLE 31/Site 3A	Spring/ early summer (2020 or as required for development)	Spray off vegetation to encourage lizards to move off site
Site 3B	Winter 2019/20	Cordon off vegetated mound with Heras fencing prior to works commencing. Strim long grass on the mound
Site 3B	Spring 2020 (From late March, depending on weather conditions)	Gradually remove ground vegetation under close supervision of ecological clerk of works. Translocate any lizards present