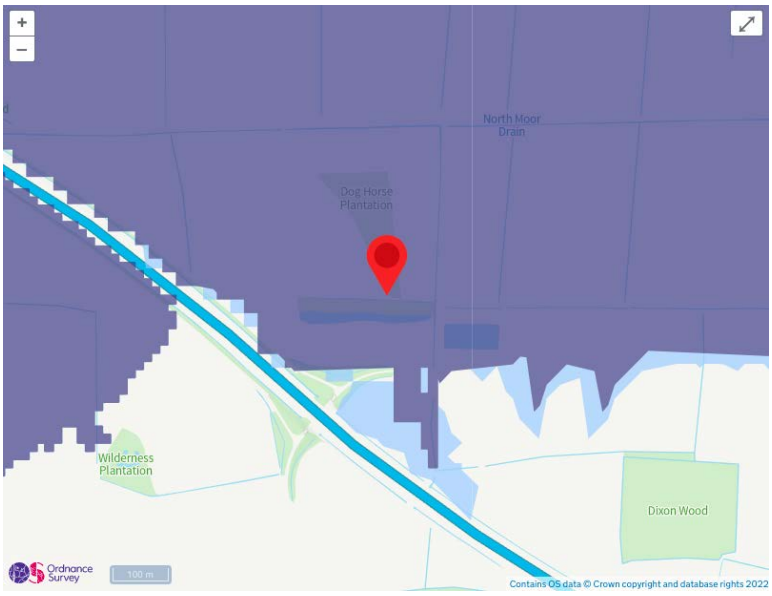
POND SURVEY CHECKLIST

PART A: DESK-TOP SURVEY

Region	North Lincolnshire	
Reference No.	NL-59	
Site Name and Address	Aaron Kew (Farm Manager) Rockscape North Moor Farm Crowle DN17 4DA	
Landowner Name (and address if different from site)	Tim Beltcher North Moor Farm Crowle DN17 4DA	
Tel: 07516 028753	**Email:** Aaron.Kew@rockscape.co.uk	
No. of ponds	3	
Creation or Restoration	Creation	
Pond(s) Grid Reference gridreferencefinder.com	Pond 1 - SE 79704 08145 Pond 2 - SE 79828 07992 Pond 3 - SE 79851 08000	
Core or Fringe SOAs	Pond 1 – Fringe Pond 2 – Fringe Pond 3 – Fringe	
Nearest pond (+ distance from pond) Google maps/gridreferencefinder.com	SE 79376 07858 - Nearest Pond (450m from proposed site)	
GCN Records (+ distance from pond) magic.defra.gov.uk/SOAs/Paul Liptrot	GCN records very scarce in the surrounding area. However, numerous SOA's are present around the site and previous years DLL ponds within a close proximity to the proposed site (1km approx. @ SE 78804 07581). Great Crested Newt Pond Surveys 2017 - 2019 - Present result located 6.1km from proposed site. Great Crested Newt Class Survey Licence Returns – 6.7km from proposed site.	
On or near a Designated Site? Is the site located outside of or greater than 100m from a SAC or RAMSCAR site or 500m away from an SPA? magic.defra.gov.uk	**SSSI: No** **SPA: No** **SAC: No** **RAMSAR: No** **AONB: No** **LNR: No**	**Details:** Proposed site is located in NVZ. will need to assess the area during site visit. Sites located next to Priority Habitat Inventory - Deciduous Woodland (England) 2.3km from nearest SSSI. Proposed site located within SSSI impact risk zone.
If yes, has a HRA and AA, taking into account the generic mitigation principles been undertaken?	N/A	
Is the geology/soil type likely to hold water/suitable for pond creation? www.landis.org.uk/soilscapes	Pond 1 - Loamy and clayey soils of coastal flats with naturally high groundwater. Texture is loamy/clay based with poor drainage due to a naturally high-water table. Pond 2 and 3 - Slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soils. Texture is loamy/clay	

	based with impeded drainage due to heavy clay content across the site.
Can the works be undertaken without impacting Priority Habitat or Species? magic.defra.gov.uk/local BAPs	Yes - If works done in winter, as the area is listed as Priority Species for CS Targeting - Lapwing. Close to Priority Species for CS Targeting – Snipe also. During the site visit, signs of any protected species within the surrounding area of each pond will be subject to a walkover survey. If the proposed works are to proceed further a LERC records check will be carried out. So, any potential works that could be carried out would be outside of the Bird Breeding Season with a preference of November-February to allow for an extended period of time for pond development and surrounding habitat regeneration.
Archaeology present? https://archaeologydataservice.ac.uk/	SE 79676 08113 - Temple Belwood, alternative site of Knights Templar grange, and later Hospitaller's camera. SE 80101 079790 - B & T flint arrowhead in field east of pond 3 location. SE 80069 07925 - Site of former Knights Templars camera or grange, which passed to the Hospitallers as a grange by 1312, and was leased in 1338, at Belwood farm. There are no extant remains. A scatter of Medieval pottery may indicate the site. SE 79895 08394 - Prehistoric flint flakes, Roman and Medieval pottery were found by the M180 committee.
Underground Utilities? Line Search or Cornerstone (free/paid)	Cadent gas and National Grid Transmission supply within vicinity
Flood Zone? flood-map-for-planning.service.gov.uk	 Pond 1 – Proposed site within flood zone 3. Pond 2 – Proposed site within flood zone 1. Pond 3 – Proposed site within flood zone 1.
SITE VISIT RECOMMENDED	**Yes**

PART B: FIELD SURVEY

<table>
<tr><td>Date</td><td>20/07/2022</td></tr>
<tr><td>Surveyor</td><td>J Porter - Wildscapes</td></tr>
<tr><td>Agreed number of ponds</td><td>3</td></tr>
<tr><td>GPS locations(s) of pond(s)</td><td>Pond 1 - SE 79704 08145
Pond 2 - SE 79828 07992
Pond 3 - SE 79851 08000</td></tr>
<tr><td>Size of ponds (sq meterage x depth)</td><td>Pond 1 - 150m2
Pond 2 - 150m2
Pond 3 - 170m2</td></tr>
<tr><td>Fencing required? (approx length)</td><td>Pond 1 – No
Pond 2 – No
Pond 3 – No</td></tr>
<tr><td>Habitat within 50m suitable for GCN? (Briefly describe)</td><td>Yes
Pond 1 – Pond location is present in field margin regeneration strip between arable field to the North and West and borders onto mixed broadleaf woodland strips (Dog Horse Plantation) to the South and Eastern sides.
Ponds 2-3 - Field used for hay previously and will be taken out of active arable practise and developed into a more diverse grassland habitat.</td></tr>
<tr><td>Habitat type within 50m? (Select up to three or two and a free text option)</td><td>
<table>
<tr><td>Broadleaved Woodland</td><td>X</td><td>Bog</td><td></td></tr>
<tr><td>Coniferous Woodland</td><td></td><td>Inland Rock</td><td></td></tr>
<tr><td>Arable & Horticulture</td><td>X</td><td>Saltwater</td><td></td></tr>
<tr><td>Improved Grassland</td><td></td><td>Freshwater</td><td></td></tr>
<tr><td>Neutral Grassland</td><td></td><td>Supra-littoral Rock</td><td></td></tr>
<tr><td>Calcareous Grassland</td><td></td><td>Supra-Littoral Sediment</td><td></td></tr>
<tr><td>Acid Grassland</td><td></td><td>Littoral Rock</td><td></td></tr>
<tr><td>Fen, Marsh & Swampland</td><td></td><td>Saltmarsh</td><td></td></tr>
<tr><td>Heather</td><td></td><td>Urban</td><td></td></tr>
<tr><td>Heather Grassland</td><td></td><td>Suburban</td><td></td></tr>
</table>
</td></tr>
<tr><td>Good connectivity between pond and surrounding habitat?</td><td>Yes
Hedgerows and land drainage channels along field boundaries linking pond sites together and well as to surrounding habitats. The M180 flyover in close proximity to the site and the land drainage tunnels/channels underneath the road also provides habitat connection heading towards Belton and other known suitable ponds at Wilderness Plantation and previous years DLL ponds at SE 78804 07581.</td></tr>
<tr><td>Located in ‘Wider Green Space’?</td><td>No</td></tr>
<tr><td>GCN likely to be present on site?</td><td>No</td></tr>
<tr><td>Any consents required?</td><td>North Lincolnshire County Council (Planning), Landowner Consent</td></tr>
<tr><td>Buffer zone requirements/size
Nutrient runoff, additional habitat</td><td>3m perimeter around each of the ponds. The surrounding land is flat with small bunding bordering on the North and Western sides of Pond 1 to reduce surface nutrient run off. Ponds 2 & 3 won’t need any bunding as the surrounding area where surface run off water may enter the pond will be a developing grassland habitat.</td></tr>
</table>

Is the pond likely to suffer from the following?	**Invasive Species** **X**	**Fish** **X**	**Wildfowl** **X**
Is water quality likely to be good?	**Yes** If the above-mentioned buffer perimeter sizes and measures are to be carried out then water quality should be good across all three ponds.		
Can works avoid run-off/silting local water bodies?	**Yes** There is an adequate distance between surrounding waterbodies and the proposed pond sites.		
Is the pond at least 30m from a badger sett or road?	**Yes** LERC records check shows no nearby badger records or any other protected species of note within the proximity to all three pond areas and a walkover survey (focused on the adjacent woodland to proposed pond site 1 – Dog Horse plantation) during the site visit showed no signs of protected species within the respective surrounding areas. The area seems suitable for ground nesting birds although no evidence was found during the walkover survey. Either way any potential works will take place during the winter months to avoid any potential negative impact on bird breeding season.		
Is the geology/soil type likely to hold water? (Clay depth)	**Yes** Clay soils exhibiting good water retention properties found at a depth of 60cm for pond site 1. Good clay soils (Gleysol) found at a depth of 40cm at the sites for ponds 2 & 3.		
Are any historical/archaeological features visible?	**No** None according to Landowner and none visible on site. A full HER check has subsequently been carried out with North Lincs Council HER officer with the following noted: "The pond locations are within the Isle of Axholme area of Special Historic Landscape Interest that is locally designated in the North Lincolnshire Local Plan (Policy LC14). This area is designated for its unique historic landscape character retaining the pattern of ancient open strip fields and enclosures surrounding the villages on the Isle and is considered to be of national importance. The introduction of features unrelated to the historic landscape can have an adverse effect on the character and setting that would be contrary to the planning policy. For example, tree planting in the wrong place such as within the Ancient Open Strip Field landscape would be inappropriate. It is not expected that this would be the case with the GCN ponds, nevertheless sensitive siting of the ponds should be taken into account to conserve all aspects of the historic landscape." The corresponding zones for the pond location sites are as follows: "North Moor Farm – Designed Landscape: Design/Ornamental Zone (Parklands)"		

Overhead services	**No.** In line with the Cornerstone search and site visit, no overhead services are present within the work and/or immediate surrounding areas.
Underground services **CATSCAN**	**Yes** Full Cornerstone utilities search carried out, the only issue of note is the presence of a Gas pipeline along the field boundary of pond site 2&3, a 10m easement each side of the pipeline is required. Before construction works commence a Cadent site technician will be present on site to assist with locating the pipeline and establishing the easement zone. This will be arranged 2 weeks prior to an agreed upon start date. Apart from this, no other underground utilities are present across all three pond sites. Each pond site will be marked out and scanned on site with Cat & Genny prior to any works commencing by a qualified project staff member.
Timing of works	January – February 2023
Site requirements **Access, spoil, machinery**	Access – Machinery to access the site via drop off point at North Moor Farm, Crowle, DN17 4DA. This will then be tracked to site by the site supervisor along the agreed upon rout of access via established farm tracks. Spoil - For each of the creations the spoil will be graded in around the initial "Work Footprint" surrounding area of the pond, with the remainder used to cover any potential exposed pond edges and for the 2 hibernacula creation per pond. Machinery - 8 tonne 360˚ excavator and a 5-6 tonne forward tipping dumper would be the ideal size machinery to use on site due to access and pond size creation.
Photos taken of pond locations? **Upload at the office**	**Yes** Uploaded to the respective drive folder.

Method Statement

Access & Route to Site

1. Project staff members to meet with the landowner/manager (Aaron Kew) and Cadent Site technician at Point F shown below.
2. The above-mentioned machinery (see desktop/field survey) will be offloaded here (this is the previously agreed upon drop off location) under project staff supervision.
3. The machinery to be used for the pond construction process across all three pond sites will then be tracked from point F along the highlighted route (established farm track) to the pond creation sites (see Fig.1 below)

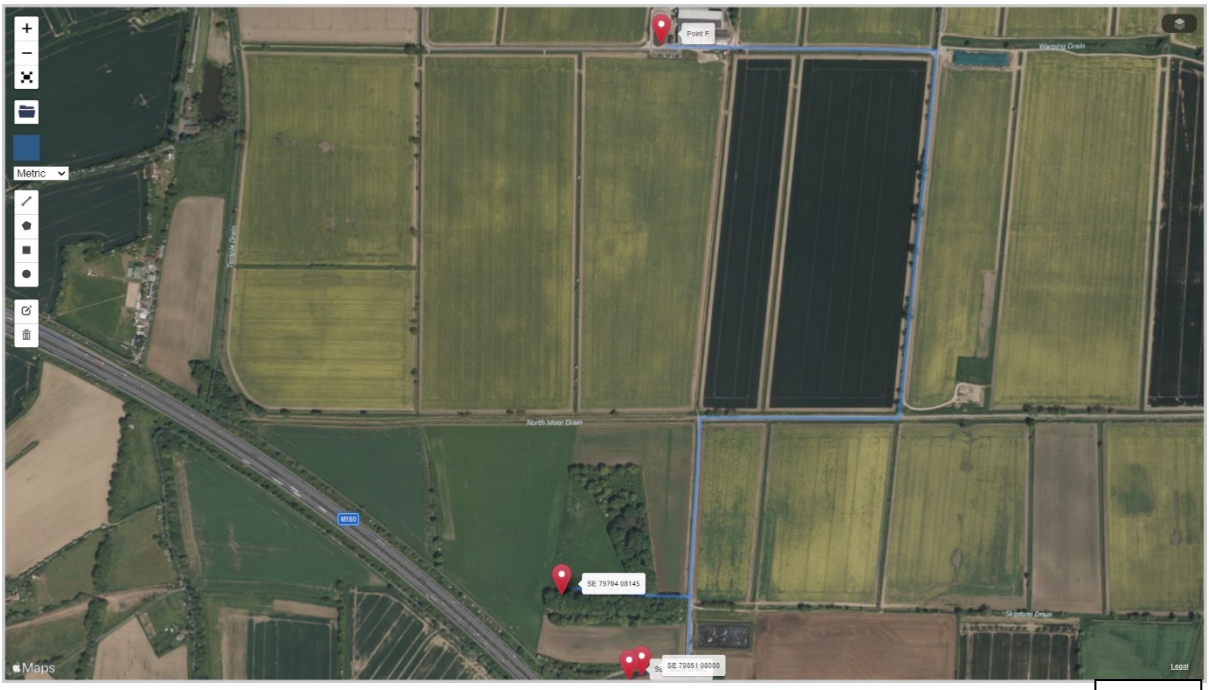


Fig.1

Task Sequencing for Pond Creation

1. Arrive at the proposed pond site via the agreed upon access route with the landowner. The site supervisor will then carry out the tool box talk with all active site members to complement the RAMS documentation and ensure that all required paper work is signed (this includes the Cadent site technician for step 2).
2. Cadent Site Technician will take over site supervision duties whilst the pipe is located and easement area marked out in line with the 10m zone (excavator driver will be Gas certified)
3. Measure & mark out the dimensions of the pond surface area centred on the pond specific grid references to match with the planning permission application using marking posts & spray.

4. Certified project staff member will then proceed to Catscan the outlined area (+ 3m perimeter to account for the "work footprint") to determine presence/absence of services to complement the previously carried out Cornerstone utilities search survey.
5. Depending on the visibility of the work site (which may change due to the time of year and vegetation sward height) a walkover/fingertip survey of the work area may be carried out by project staff.
6. Once Steps 1-4 have been completed, then construction of the ponds to the Natural England specification may begin. The ponds will be created/restored as follows to achieve the below characteristics:

    - Surface area between 100m^2 and 1000m^2;
    - Maximum central depth of 1m to 3.5m;
    - Variable bank gradients of 1:10, or ideally 1:20;
    - A range of depths across the pond;
    - Occasional drying out is not a problem, however the pond must hold water throughout at least one summer in every three years;
    - Substantial cover of submerged and marginal vegetation (about 66% submerged plant cover and 25% to 50% emergent/floating vegetation cover);
    - Areas of open water to facilitate courtship behaviour;
    - Located in areas of good quality terrestrial habitat;
    - Terrestrial buffer zone of *at least* 3m around each pond (see below);
    - Abundance of invertebrate prey;
    - Ponds in clusters (within 250m generally), rather than in isolation;
    - Absence of shading on the south side;
    - Absence of fish;
    - Absence or low density of waterfowl;
    - Good water quality, with negligible run-off from agriculture and roads.

7. The excavator (under the site supervisors' direction) will strip off the vegetation, then top soil within the marked-out area to expose the subsoil (the vegetation and top soil layers will be piled separately).
8. Then under the site supervisor's instruction subsoil excavation works will begin in order to shape and form the pond to achieve the above-mentioned characteristics. The specific methodology of this may change depending on the subsoil structure as excavation works proceed (i.e., a Key & Trench method may be more suitable for use depending on subsoil profile).
9. Once the desired shape and size of the pond is formed, then tracking and layering in of some excavated subsoil will take place to increase water im-permeability of the pond.
10. Excavated top soil and vegetation will be reapplied around the work footprint area by the excavator and top soil will also be added to the first 30cm of exposed clay on the pond edges at a depth of 30-50mm to cover any exposed clay edges.
11. Remaining top soil will then be used to create hibernaculum piles (2 per pond) alongside materials brought to site with project staff i.e., logs & brash (in line with the Natural England specification). The final location of the hibernaculum will be agreed with the landowner
12. Once construction is completed to the above-mentioned specification, the excavator will be tracked to the next pond site and the process from step 2 will be repeated. This sequencing will be followed until all 3 ponds are created on this site.
13. Creation Project duration approx. 8 working days (@2.5 days per pond).
14. After all pond creation works are completed, the above-mentioned access route will then be used to track the machinery off site to the previously agreed upon pick up point.