

Llay Industrial Site

Method Statement to accompany a
Great Crested Newt Licence
23 November 2015



Quality Management

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DRAFT	22.09.2015	Client appraisal	RB	BHJ	WDR
1.1	27.10.2015	Timetable & boundaries added	RB		
2	11.11.2015	NRW amendments	RB	DW	

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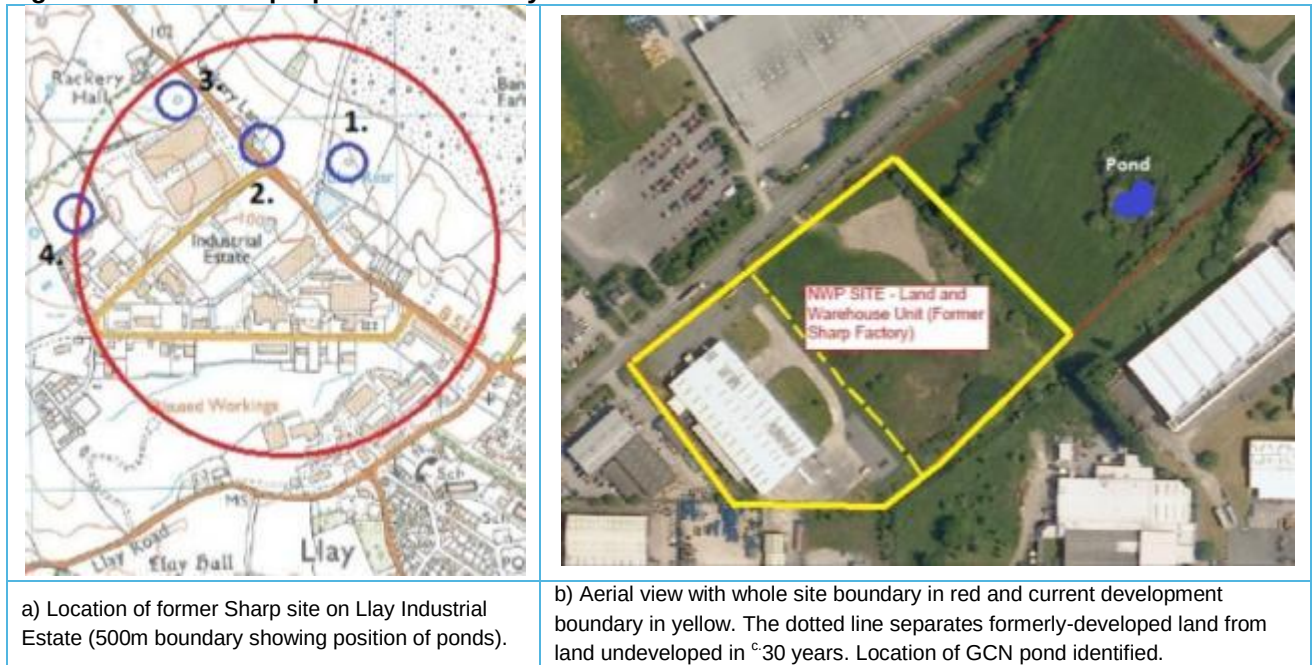
Appendix A	
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1. Introduction

1.1 Background to project

- 1.1.1 The proposal is to develop vacant and formerly-developed land at Llay industrial Site (SJ 324.566) into a new facility for North Wales Police. The location of the site is shown in Figure 1:

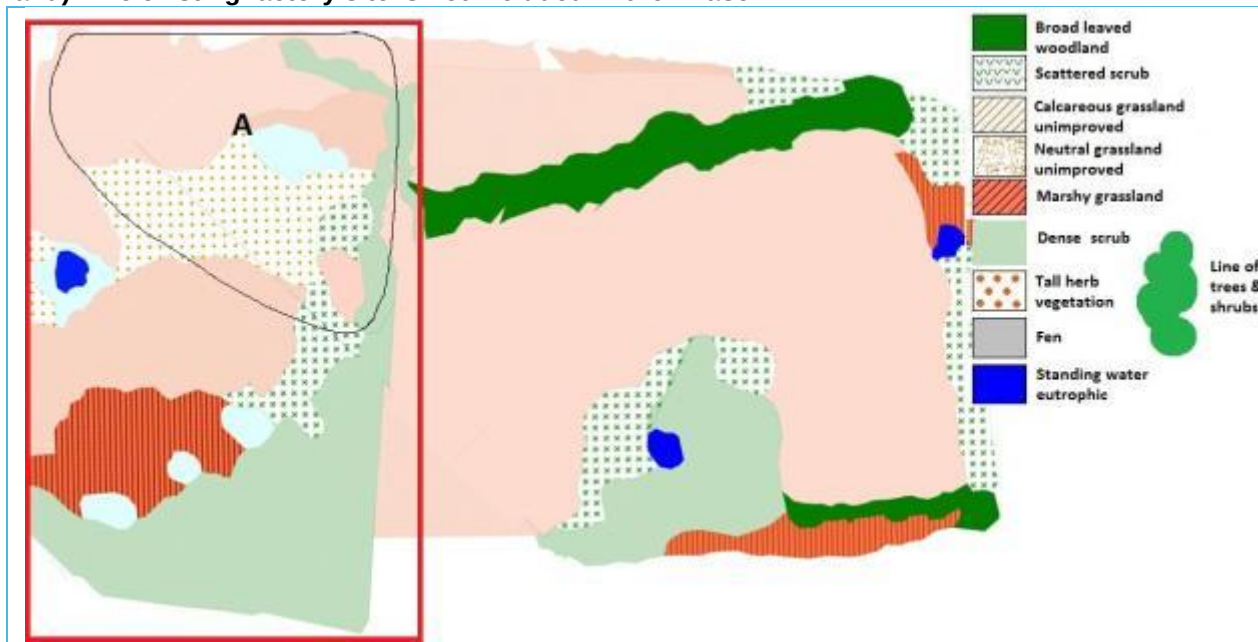
Figure 1 Location of proposals within Llay Industrial Site



- 1.1.2 A Phase 1 (Extended) survey of the site was undertaken in June 2013¹. A Phase 1 map modified from the report is shown in Figure 2 and shows three ponds (although only one was subsequently found to be permanent).

¹ 'New Police Facility: Llay Industrial Site' 17 June 2013 Capita Symonds

Figure 2 Phase 1 map (red box denotes limit of current development proposals on undeveloped land). The existing factory site is not included in the Phase 1.



1.1.3 The conclusions of the Phase 1 (Extended) survey are summarised in Table 1:

Table 1 Survey recommendations from Phase 1 (extended) Survey 2013

SPECIES	SURVEY REQUIREMENTS
Great Crested Newt (recorded from Cofnod data)	Survey of ponds between March and late May, to involve four visits by ecologists using bottle-trap, torch survey, egg-search or netting at each visit.
Badger (recorded from Cofnod data)	Survey of hedges and scrub to locate presence of setts or foraging activity.
Bats (recorded from Cofnod data)	Walkover survey between April and September to determine level of bat activity; Survey of trees to identify potential roost sites.
Breeding Birds (recorded from Cofnod data)	Two dawn visits, two weeks apart, between April and June to record territorial and singing birds.
Reptiles	Refugia survey - placing of 100+ reptile refugia in strategic habitats; Checking refugia a minimum of 7 times between April and June and again in September-early October for the presence of reptiles.
Invertebrates (recorded from Cofnod data)	Survey of butterflies (and moths) requiring 3 visits between April and September and the use of moth traps or sugar-baiting as required; Other methods including pitfall traps or netting may be used

- 1.1.4 These surveys (including the requirement for great crested newt surveys), were undertaken between March & July 2015² and a small population of great crested newts was identified in the pond approximately 200m from the current development boundary, as marked in Figure 1 & Figure 2.
- 1.1.5 Great crested newts are a European Protected Species and development adversely affecting a population can only proceed under licence if the 'three tests' to ensure a minimum requirement of 'no net loss' are met (Table 2):

Table 2 Application of the 'three tests'

The purpose of the work is for preserving public health or public safety or other imperative reasons of over-riding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment
There is no satisfactory alternative
The action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status (FCS) in their natural range

- 1.1.6 The results of the surveys form the basis of this Licence Method Statement.

1.2 Details of proposed works to be covered by the licence

- 1.2.1 The former Sharp Industrial Building will be redeveloped, and car parking will be built on half the land currently occupied by a mixture of mesotrophic grassland dominated by false oat grass (*Arrhenatherum elatius*), tall herb vegetation and scrub (denoted by 'A' in Figure 2).
- 1.2.2 The remaining land will be developed as an amenity park including trails.
- 1.2.3 The development proposals are illustrated in Figure 3:

² 'Llay Industrial Estate & Former Sharp Site: Ecological Survey & Report' July 2015 Capita

1 Proposed Site Plan
T:000

JACOBS

PROPOSED SITE PLAN

37305210AR000.001-PA

1.3.1 The following actions will be covered by a development licence:

- 4

2. Survey and Site Assessment

2.1 Existing information on Great Crested Newts at survey location

- 2.1.1 Biodiversity records were purchased from the North Wales Biodiversity Records Centre (Cofnod) on 24th June 2013, for the location centred on SJ 325.566 up to a distance of 1km.
- 2.1.2 Great crested newts were identified in ponds within the 500m boundary at SJ 325.563 and beyond the boundary at SJ 320.561 between 1998 and 2007. These ponds were not surveyed within the prescribed time: access was not granted to pond no's 1 & 2 and permission was not obtained to visit Pond No. 3 (see Figure 1 on page 1).
- 2.1.3 eDNA sampling of ponds to the north and east (outside the 500m boundary) was undertaken by Environmental Resources Management Ltd of Bristol and results shared, but unfortunately these were inconclusive owing to low water levels at time of sampling.
- 2.1.4 Populations of great crested newt are recorded from adjacent areas including:
 - Alyn waters Country park (2km south);
 - Rackery Farm (1.5km north);
 - Llay Hall Farm (1.5km south-west).
- 2.1.5 The Llay Industrial Site is considered to be an outlier from these metapopulations, with a population density estimated as **low** based on survey data.

2.2 Statutory sites notified for species within 10km

- 2.2.1 The Deeside & Buckley Newt Site Special Area of Conservation (SAC) is approximately 5 kilometres to the north.

2.3 Objectives of the survey

- 2.3.1 The objectives of the survey were to determine;
 - Presence/absence at the Llay Industrial Site;
 - If present, population size was to be determined;
 - Habitat quality and potential of the site to support viable populations.

2.4 Scaled plan of survey area

- 2.4.1 Figure 1, page 1, shows the location of the site. Figure 3, page 4 shows the proposed construction design. Figure 4, page 6 shows the Phase 1 habitat map of the area (with pond#1 representing the extant breeding pond for great crested newt):

Figure 4 Phase 1 map of survey area with permanent pond#1, temporary wetlands 2-4, construction boundary (yellow), proposed GCN boundary (white) and retained land (grey)



2.5 Site description

- 2.5.1 Figure 4 shows the Phase 1 map of habitats. Table 3 identifies the broad habitat types within the construction site boundary (which includes the existing factory site) and the area occupied by each habitat.

Table 3 Broad habitat types at Llay

HABITAT	AREA (M ²)	%
Species-rich neutral grassland	10833.2	26.30
Marshy grassland	1990.4	4.83

HABITAT	AREA (M ²)	%
Species-rich (calcareous) grassland	255.4	0.62
Tall herb vegetation	2976.6	7.23
Woodland	6485	15.74
Dense scrub	1176.2	2.86
Fen	817.3	1.98
Open water	123	0.30
Hard standing	16539	40.15
TOTALS	41,196.10	100

- 2.5.2 The terrestrial habitat as included in Table 3 (not including the existing hard standing occupied by the factory site) is all of the highest quality for amphibians. The aquatic habitat consists of four ponds (as shown in Figure 4) where ponds 2-4 were impermanent and dried up by mid-May. Pond#1 was permanent, but is heavily overgrown by willow carr which reduces its favourable status for great crested newt (see Figure 5):

Figure 5 Pond#1: Aquatic habitat for newts



2.6 Field survey

- 2.6.1 The survey method followed the specifications given in the '*Great Crested Newt Mitigation Guidelines*' (EN 2001) with the following site-specific actions:

- Of the four methods of survey, only two were employed regularly and effectively, notably torch-search & bottle trapping. An egg search was carried out on one occasion but the value of this method was limited. The presence of leaves and branches in the water made netting impractical and possibly counter-productive by stirring up noxious gases.
- Five surveys were undertaken between 18th March and 19th May 2015. Ponds where standing water was present early in the season were only visited in March and early April, after which they had dried up.
- eDNA surveys were undertaken by a consultant (Environment Resources Management Ltd, Bristol) where ponds overlapped with an adjacent development scheme, but these did not provide any useful data because ponds were dry during sampling.

2.7 Survey results

- 2.7.1 The original assessment visit³ involved Habitat Suitability Indexing (HSI) to estimate the likelihood of pond(s) supporting great crested newt. The result for pond#1 (the main permanent waterbody) and a temporary pool that still contained water at time of survey, is shown in Table 4:

Table 4 Habitat Suitability Indices (HSI)

Pond number	1	2
LOCATION	C	C
Pond shape	Circle	Irregular
Long axis diameter	40	60
Short axis diameter	40	10
Irregular pond area	200	80
Pond area (m ²)	1256.64	80.00
Pond drying	Never dries	Dries annually
Water quality	Moderate	Poor
Shade (%)	100	60
Fowl	Minor	Absent
Fish	Absent	Absent
No. Ponds in 500 m	6	6
Terrestrial habitat	Good	Good
Barriers	None	None
Macrophytes (%)	10	25
HSI	0.43	0.34

³ 'New Police Facility: Llay Industrial Site. Phase I Ecological Survey' Capita 17th June 2013.

- 2.7.2 The HSI is low primarily because the pond is overgrown with willow and is rapidly reverting to carr.
- 2.7.3 The results of the surveys are shown in Table 5 (note that all ponds referred to follow the numbering system in Figure 4, page 6).

Table 5 Summary of newt survey results

SITE VISIT					
	18.03.2015	30/31.03.2015	13/14.04.2015	29/30.04.2015	18/19.05.2015
TORCH	3 smooth newt in pond#1 10 newts observed in pond#2 (inc. poss. palmate)	4 newts in pond#2	3 newts in pond#2	6 smooth newt in pond#1	3 F & 2 M smooth newt in pond#1 Poss Palmate newt (F) in pond#2 after heavy rain
BOTTLE	NA	1 toad in pond#1 2 (M) smooth newt in pond#2	2 smooth newt in pond#1 (M) 3 smooth newt in pond#2 (M) 2 smooth newt in pond#3 (M/F)	2 smooth newt (F) in pond#1 1 great crested newt (F) in pond#1	5 F smooth newt & 1 F great crested newt in pond#1
EGG	NA	NA	NA	NA	Smooth newt eggs on <i>Rosa canina</i> leaves in pond#1

- 2.7.4 Full details of the survey and results is included in the report '*Llay Industrial Estate & Former Sharp Site: Ecological Survey & Report*' (July 2015, Capita) which is included as an addendum to the licence method statement.

2.8 Interpretation

- 2.8.1 The interpretation is that great crested newt is present at **low density** in pond#1 (maximum count of 1 great crested newt in one trapping period), the only permanent pond within 120m of the proposed construction zone.

3. Impact Assessment (*without* mitigation)

3.1 Short term impacts

3.1.1 The short-term impacts of the proposals will include:

- Destruction of terrestrial habitat used by great crested newt;
- Loss of potential feeding and foraging habit for great crested newt for the duration of construction;
- Potential killing of individual great crested newt.

3.2 Long term impacts

3.2.1 The long term impacts of the proposal will include:

- Permanent loss of a mixture of species rich grassland, tall herb vegetation and scrub, amounting to approximately 25% of the construction site.

3.3 Post development impacts

3.3.1 The post-development impacts of the proposal will include:

- Permanent loss of terrestrial habitat preventing the increase and spread of great crested newt;
- Cumulative effects of additional obstacles to the spread of great crested newt.

3.4 Scale of impacts

3.4.1 The changes in habitat within the construction zone before and after construction is shown in Table 6:

Table 6 Habitat changes pre and post construction (includes habitat creation)

HABITAT	Pre-construction	%	Post-construction	%
	AREA (M ²)		AREA (M ²)	
Species-rich neutral grassland	10833.2	26.30	10759.2	26.12
Marshy grassland	1990.4	4.83	1606.1	3.90
Species-rich (calcareous) grassland	255.4	0.62	0	0.00
Tall herb vegetation	2976.6	7.23	0	0.00
Woodland	6485	15.74	2440.6	5.92
Dense scrub	1176.2	2.86	729.3	1.77
Fen	817.3	1.98	287.9	0.70

HABITAT	Pre-construction	%	Post-construction	%
	AREA (M ²)		AREA (M ²)	
Open water	123	0.30	123	0.30
Hard standing	16539	40.15	25249.9	61.29
TOTALS	41,196.10	100	41,196.00	100

- 3.4.2 The potential impact during- and post-construction are assessed on whether they are likely to happen (on a scale 1-5 of increasing likelihood), and the level of significance of that likelihood (on a scale of 1-5 of increasing significance). This assessment is made on the basis that impacts to the population of great crested newt can be regarded as significant at a local level, especially when considered in conjunction with other nearby proposals.
- 3.4.3 The Impact Assessment is summarised in Table 7, page 12. The conclusion is that the development will, without mitigation, have a **moderately severe** impact at a **local level**, on a species of **International importance**.

3/ Impact Assessment (without
mitigation)Table 7 Impact Assessment *without* mitigation

ACTIVITY	FEATURES AFFECTED	DURATION	LIKELIHOOD OF PREDICTION	SIGNIFICANCE WITHOUT MITIGATION	SIGNIFICANCE × LIKELIHOOD																															
<u>SHORT-TERM IMPACTS</u>																																				
Destruction of terrestrial habitat used by great crested newt	Habitat used by great crested newt		5	5	25																															
Loss of potential feeding and foraging habit for great crested newt for the duration of construction	Habitat used by great crested newt		5	2	10																															
Potential killing of individual great crested newt	Individual great crested newt		4	4	16																															
<u>LONG-TERM IMPACTS</u>																																				
Permanent loss of a mixture of species rich grassland, tall herb vegetation and scrub, amounting to approximately 25% of the construction site	Habitat used by great crested newt		5	2	10																															
<u>POST-DEVELOPMENT IMPACTS</u>																																				
Permanent loss of terrestrial habitat preventing the increase and spread of great crested newt	Habitat used by great crested newt		5	4	20																															
Cumulative effects of additional obstacles to the spread of great crested newt	Metapopulation of great crested newt		3	5	15																															
<table> <tr> <th><u>LIKELIHOOD</u></th><th></th><th><u>SIGNIFICANCE</u></th><th></th><th><u>SIGNIFICANCE × LIKELIHOOD</u></th><th></th></tr> <tr> <td>Imminent</td><td>5</td><td>Severe significant negative impact</td><td>5</td><td rowspan="2">Likely or imminent severe impacts on feature</td><td rowspan="2">15-25</td></tr> <tr> <td>Very likely</td><td>4</td><td>Moderately significant negative impact</td><td>4</td></tr> <tr> <td>May happen</td><td>3</td><td>Minor significant negative impact</td><td>3</td><td rowspan="2">Possible negative impacts on feature</td><td rowspan="2">10-14</td></tr> <tr> <td>Unlikely</td><td>2</td><td rowspan="2">Neutral impact</td><td>2</td></tr> <tr> <td>Very unlikely</td><td>1</td><td>1</td><td>Minimal negative impacts (possible positive impacts)</td><td>1-9</td></tr> </table>						<u>LIKELIHOOD</u>		<u>SIGNIFICANCE</u>		<u>SIGNIFICANCE × LIKELIHOOD</u>		Imminent	5	Severe significant negative impact	5	Likely or imminent severe impacts on feature	15-25	Very likely	4	Moderately significant negative impact	4	May happen	3	Minor significant negative impact	3	Possible negative impacts on feature	10-14	Unlikely	2	Neutral impact	2	Very unlikely	1	1	Minimal negative impacts (possible positive impacts)	1-9
<u>LIKELIHOOD</u>		<u>SIGNIFICANCE</u>		<u>SIGNIFICANCE × LIKELIHOOD</u>																																
Imminent	5	Severe significant negative impact	5	Likely or imminent severe impacts on feature	15-25																															
Very likely	4	Moderately significant negative impact	4																																	
May happen	3	Minor significant negative impact	3	Possible negative impacts on feature	10-14																															
Unlikely	2	Neutral impact	2																																	
Very unlikely	1		1	Minimal negative impacts (possible positive impacts)	1-9																															

4. Delivery information

4.1 Works to be undertaken

4.1.1 The strategy of reducing negative impacts on a species of International importance regarded as significant at a local level will involve two strategies:

- Avoidance
- Mitigation

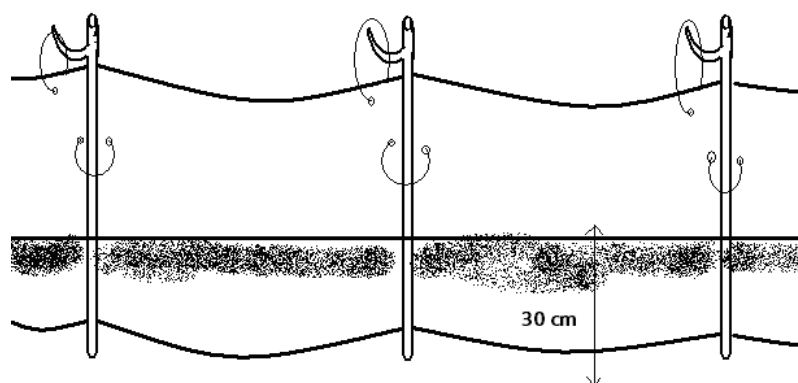
4.1.2 **Avoidance** is where works are timed or implemented to reduce the risk of killing individual great crested newts or having the minimum detrimental impact on the population.

4.1.3 **Mitigation** is compensation for the loss of habitat to development, which will include enhancement of habitat quality or provision of features that will enable the increase of the population.

4.1.4 In order to maintain the Favourable Conservation Status (FCS) of a European Protected Species as a result of development, and to fulfil the three tests, the developer will undertake the following **avoidance** strategies:

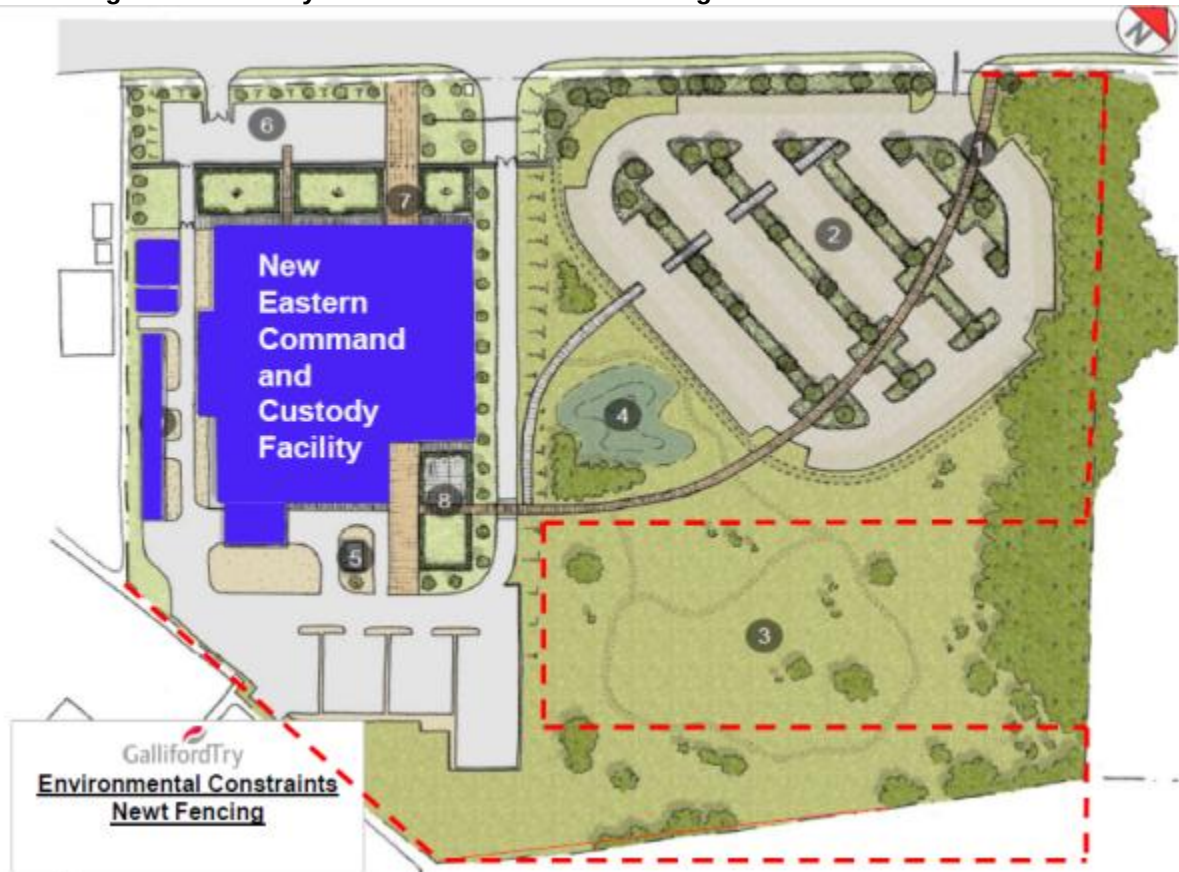
- Prior to any on-site works, the boundary of the site will be defined with exclusion fencing made from a flexible woven fabric (Phormisol©) supported by metal posts at 3m intervals, to which it is fixed by wire or cable ties through reinforced eye loops (Figure 6).
- Anchor posts providing tension are placed at 12m intervals.

Figure 6 Design for flexible exclusion fencing made from woven fabric



- The material is not unduly tensioned, so that it presents a barrier that cannot be scaled by amphibians but is easily crossed by foraging mammals. It can be temporarily removed from the posts and laid on the ground to allow access by vehicles.
- The fence will be clearly marked on a site map (Figure 7 and also Figure 9, Appendix A) and considered as a condition of the licence that no violation of the boundary will be undertaken without a review of the licence method statement.

Figure 7 Boundary defined with exclusion fencing



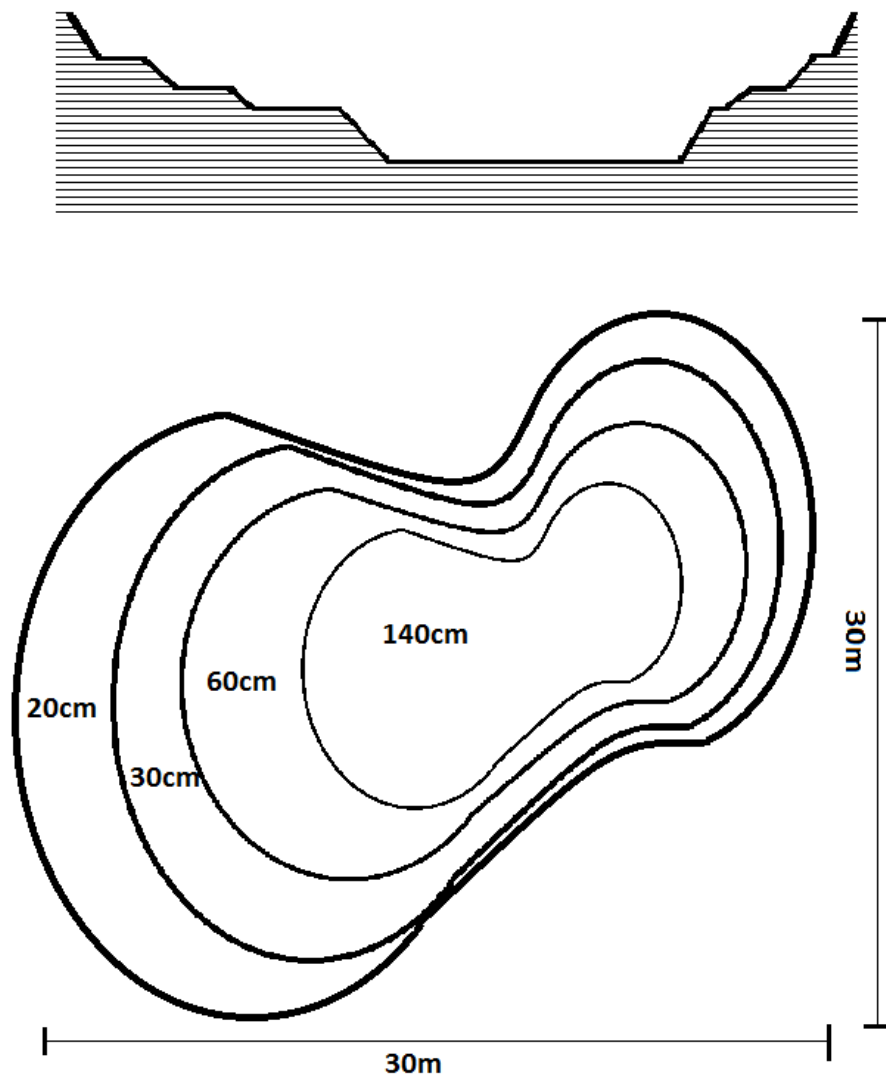
- Site clearance will be undertaken **not before** the end of February, when great crested newt activity is just starting after the winter dormancy. Conditions on the day of site clearance must be mild and humid, with no evidence of ground frost, and with an ambient temperature of 7°C;
- Site clearance must be undertaken only under the supervision of a Suitably Qualified and licensed Ecologist (SQE), who will oversee the soil strip and be on hand to fingertip-search and collect any great crested newt exposed during the clearance operation.
- Any great crested newt found during this operation will be collected in a plastic bucket and relocated in the protected habitat shown as no. 3 in Figure 7.

4.1.5 As compensation for the reduction in habitat available to great crested newt, and to mitigate for any potentially negative impacts of the works on the population, the following **mitigation** strategies will be implemented:

- A 5m corridor of land extending from the northern site boundary to Davy Way and connecting the proposed mitigation with the existing great crested newt pond will remain in North Wales Police ownership should sale of the adjacent land be agreed (see Figure 9, Appendix A).

- A permanent breeding pond(s) will be excavated at the location of the seasonally-wet pond and marsh shown as pond#4 in the Phase 1 map in Figure 4, page 6.
- The pond design and contours are illustrated in Figure 8. The hydrology must be assessed and if necessary, the pond must be lined to ensure permanence (at least for the maximum core depth). The contours shown create a range of depths for the establishment of marginal plants and aquatics.

Figure 8 Pond profile (Modified from 'The Amphibian Management handbook Baker et al 2011)



- 4.1.6 Material excavated from the pond, if suitable, should be re-used on site to construct landscape features as specified in the Ecology Report⁴.
- 4.1.7 Pond marginal and aquatic planting follows the recommendations in the BREEAM report⁵ and include the following species not already recorded on site:
- 5x 5litre Marsh marigold (*Caltha palustris*);
 - 5x 5 litre Greater spearwort (*Ranunculus lingua*);
 - 5x 5 litre Water mint (*Mentha aquatica*);
 - 5x 5 litre Skullcap (*Scutellaria galericulata*);
 - 5x 5 litre Flowering rush (*Butomus umbellatus*)
- Submerged planting (often supplied as bunches secured by zinc rings) to include:
 - Broad-leaved pondweed (*Potamogeton natans*);
 - Curled Pondweed (*P. crispus*);
 - Spiked water milfoil (*Myriophyllum spicatum*);
 - Water lily (*Nymphaea* sp.) – can be any selection of flower colour.
 - No fish will be introduced to the pond.
 - Biosecurity precautions to be implemented to prevent the introduction of New Zealand Pygmy weed *Crassula helmsi*, Floating Pennywort *Hydrocotyle ranunculoides*, Canadian Pondweed *Elodea canadensis*, Curly-leaved Pondweed *Lagarosiphon major* and Water Fern *Azolla filiculoides*.
 - Should any of these species be accidentally introduced, the licensee undertakes to treat the affected waterbody until they are eradicated.
- 4.1.8 NOTE: the design in Figure 7 shows a single pond. Should drainage considerations mean that the proposed pond will be included as attenuation for car park run-off, the design will be amended to show two ponds separated from one another, the largest to have minimum dimensions as specified in Figure 8, to be solely for the mitigation of great crested newt.

4.2 Mechanism for ensuring delivery

- 4.2.1 The mechanism for delivery will be by audit (see Appendix A: A.2 Compliance Audit).

4.3 Mitigation contingencies

- 4.3.1 Mitigation failure – in the form of failure to comply with the recommendations in the Method Statement or failure of the mitigation to maintain the FCS of great crested newt will be determined by audit.
- 4.3.2 In instances of failure to comply, the licensee will be deemed to be in breach of the terms of the licence.
- 4.3.3 Failure in the overall quality of the pond can be comprehensively determined using the Performance Indicators given in Table 10 Performance Indicators (PI's). Failure in one or more of these PI's will require remedial action in the form of:

⁴ 'Llay Industrial estate & Former Sharp Site: Ecological Survey & Report' (July 2015) **Capita**

⁵ 'Llay Industrial Estate & Former Sharp Site: Ecological Assessment for BREEAM' **August 2015** (Capita)

- Re-excavation of suitable amphibian pond(s);
- Restoration of pond to a suitable condition to support breeding amphibians.

4.4 Biodiversity risk assessment

4.4.1 A Biodiversity Risk Assessment is included in Table 11, A.4 (Appendix A)

4.4.2 As a result of the proposals in the method statement, the criteria of the 'three tests' are as follows:

Table 8 The 'three tests' reviewed

The purpose of the work is for preserving public health or public safety or other imperative reasons of over-riding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment	✓
There is no satisfactory alternative	✓
The action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status (FCS) in their natural range	✓

4.4.3 Following the avoidance & mitigation strategies outlined above, a revised Impact Assessment reduces the risk to the population to minor negative / potential positive impact on a population at a local / regional level.

4.4.4 The revised Impact Assessment is shown in Table 9.

Table 9 Impact Assessment *post* mitigation

ACTIVITY	CHARACTERISATION OF UNMITIGATED IMPACT ON FEATURE	AVOIDANCE & MITIGATION	REVISED LIKELIHOOD OF PREDICTION	REVISED SIGNIFICANCE	SIGNIFICANCE × LIKELIHOOD																															
MITIGATING SHORT-TERM IMPACTS																																				
Destruction of terrestrial habitat used by great crested newt	Loss of habitat used by great crested newt. Potential death of individual great crested newt	Demarcation of site works & protection of features.	5	2	10																															
Loss of potential feeding and foraging habit for great crested newt for the duration of construction	Loss of habitat used by great crested newt during construction	- Timing of site clearance - Demarcation of site works & protection of features. - Preservation of 'newt corridor'	3	1	3																															
Potential killing of individual great crested newt	Individual great crested newt	Site clearance under controlled conditions and supervision of ecologist.	3	2	6																															
MITIGATING LONG-TERM IMPACTS																																				
Permanent loss of a mixture of species rich grassland, tall herb vegetation and scrub, amounting to approximately 25% of the construction site	Loss of habitat used by great crested newt	- Habitat creation (as part of BREEAM and recommendations for Dingy Skipper) - Habitat improvement	5	1	5																															
MITIGATING POST-DEVELOPMENT IMPACTS																																				
Permanent loss of terrestrial habitat preventing the increase and spread of great crested newt		- Habitat creation (as part of BREEAM and recommendations for Dingy Skipper) - Habitat improvement - Creation of new breeding pond	3	2	6																															
Cumulative effects of additional obstacles to the spread of great crested newt		- Habitat improvement - Provision of breeding pond - Preservation of 'newt corridor' post-development	3	3	9																															
<table> <tr> <th>LIKELIHOOD</th><th></th><th>SIGNIFICANCE</th><th></th><th>SIGNIFICANCE × LIKELIHOOD</th><th></th></tr> <tr> <td>Imminent</td><td>5</td><td>Severe significant negative impact</td><td>5</td><td rowspan="2">Likely or imminent severe impacts on feature</td><td rowspan="2">15-25</td></tr> <tr> <td>Very likely</td><td>4</td><td>Moderately significant negative impact</td><td>4</td></tr> <tr> <td>May happen</td><td>3</td><td>Minor significant negative impact</td><td>3</td><td rowspan="2">Possible negative impacts on feature</td><td rowspan="2">10-14</td></tr> <tr> <td>Unlikely</td><td>2</td><td rowspan="2">Neutral impact</td><td>2</td></tr> <tr> <td>Very unlikely</td><td>1</td><td>1</td><td>Minimal negative impacts (possible positive impacts)</td><td>1-9</td></tr> </table>						LIKELIHOOD		SIGNIFICANCE		SIGNIFICANCE × LIKELIHOOD		Imminent	5	Severe significant negative impact	5	Likely or imminent severe impacts on feature	15-25	Very likely	4	Moderately significant negative impact	4	May happen	3	Minor significant negative impact	3	Possible negative impacts on feature	10-14	Unlikely	2	Neutral impact	2	Very unlikely	1	1	Minimal negative impacts (possible positive impacts)	1-9
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Unlikely	2	Neutral impact	2																																	
Very unlikely	1		1	Minimal negative impacts (possible positive impacts)	1-9																															

5. Post-Development Site Safeguard

5.1 Habitat management and maintenance

- 5.1.1 Continued habitat management for the benefit of great crested newt will be assured by adherence to the management regime proposed in appendix A of the BREEAM Management Plan (Appendix A: A.1 Five Year Management Plan).

5.2 Monitoring

- 5.2.1 Monitoring of the site will be undertaken for a period of **five years** post-construction. Responsibility for monitoring will pass from the Contractor to the Client (North Wales Police) on completion of construction.
- 5.2.2 Monitoring will assess the success of the mitigation against the Performance Indicators given in Table 10

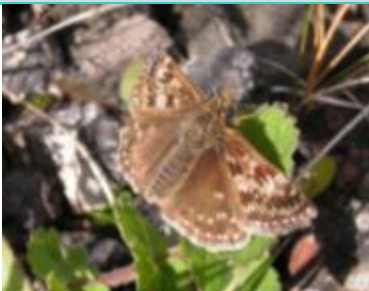
Table 10 Performance Indicators (PI's)

PERFORMANCE INDICATOR	ASSESSED BY	CONDITIONS FOR FAILURE
Habitat quality of pond for newts	Pond still functional	Pond dry / overgrown
	Newts present? (one night survey using standard techniques at appropriate season)	No newts (of any species) seen or captured on site
	Water Quality Monitoring using PSYM (see Appendix A.5: PSYM water quality monitoring assessment pack)	Low macrophyte / invertebrate scores, high or low pH, low dissolved oxygen, high proportion of N ₂ indicator plants / presence of fish. Pollution from car park run-off
	Habitat Suitability Index (see Table 5 Habitat Suitability Indices)	Poor HSI score
	Monitored against pond planting list (see paragraph 4.1.7)	Few macrophytes present
Terrestrial habitat quality appraisal	Species diversity against Phase II plant data (see Ecological Report)	Significant decline in species and habitat quality
	Survey for Invasive species (see section 4.4)	Invasive species present

- 5.2.3 The PI assessment will be undertaken alongside the monitoring in the habitat management plan given in Appendix A: Five Year Management Plan (from BREEAM report).

Appendix A

A.1 Five Year Management Plan (from BREEAM report⁶)

Completion & Year 1	
	1. Compliance audit of all mitigation and enhancement features (including EPS audit and close-out) 2. Issue of BREEAM Appendix F 3. Mowing of raised earth banks to be undertaken only between July and March, <u>not</u> exceeding fortnightly and with mower blades above 100mm 4. All thinning removed from site or composted in a purpose-built facility (left) 5. Mitigation success monitored against PI's (given in Table 10). Ecological consultant required to undertake water quality and habitat assessment
Year 2	
	1. Site visit by SQE to undertake Phase II of created habitat where seed mix RE1 was used to determine evolution to Mesotrophic Grassland 5a ('Hay meadow') 2. Mitigation success monitored against PI's. Ecological consultant required to undertake water quality and habitat assessment for great crested newt. 3. Walkover by SQE in May-June to assess population of Dingy skipper and effectiveness of management of existing and recreated habitats
Year 3	
	1. SQE to check all bird and bat boxes from October to February for evidence of use 2. Walkover by SQE in May-June to assess population of Dingy Skipper and effectiveness of management of existing and recreated habitats. Amend as required to ensure the minimum standard of no 'net loss'
Year 4	
	1. Mitigation success monitored against PI's. 2. Generic pond management in October to clear excessive weed growth and prevent encroachment. Use rake to remove excessive aquatic growth. Leave thinning on dry bank to enable aquatic species

⁶ 'Llay Industrial Estate & Former Sharp Site: Ecological Assessment for BREEAM' August 2015 (Capita)

	(including larvae of great crested & other newt species) to return to water 3. Audit of planting, including repeat of Phase II and checking/replacement of planted trees and shrubs
Year 5	
	1. Mitigation success monitored against PI's 2. Bat & breeding bird survey against baseline from 'Llay Industrial Estate & Former Sharp Site: <i>Ecological Survey & Report</i> ' (July 2015 Capita) 3. Check all bird and bat boxes from October to February for evidence of use

A.2 Compliance Audit

AUDIT DATE:			
AUDIT BY:			
OVERALL COMPLIANCE (Y/N)			
AVOIDANCE ELEMENT		Y/N	DATE
Boundary of the site clearly marked on a site map and defined with orange demarcation fencing throughout works?			
Site clearance undertaken at the end of February?			
Conditions on the day of site clearance mild & humid, with no evidence of ground frost, with an ambient temperature of 7°C?			
Great crested newt captured & relocated?			
MITIGATION ELEMENT		Y/N	DATE
Breeding pond constructed as per design?			
Marginal and aquatic plants added:			
5x 5litre Marsh marigold (<i>Caltha palustris</i>);			
5x 5 litre Greater spearwort (<i>Ranunculus lingua</i>);			
5x 5 litre Water mint (<i>Mentha aquatica</i>);			
5x 5 litre Skullcap (<i>Scutellaria galericulata</i>);			
5x 5 litre Flowering rush (<i>Butomus umbellatus</i>)			
Broad-leaved pondweed (<i>Potamogeton natans</i>);			
Curled Pondweed (<i>P. crispus</i>);			
Spiked water milfoil (<i>Myriophyllum spicatum</i>);			
Water lily (<i>Nymphaea</i> sp.)			

AUDIT DATE:			
No fish introduced to pond?			

A.3 Timetable of Works

Commencement: 1st January 2016
Duration: 70 weeks

Filter: None

View: Bar Chart View

[illegible]

Line	Name	Duration	Start	Finish	-4	-3	-2	-1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
					December 2015	January 2016	February 2016	March 2016	April 2016	May 2016	June 2016	July 2016	August 2016	September 2016	October 2016	November 2016	December 2016	January 2017	February 2017	March 2017	April 2017	May 2017	June 2017	July 2017	August 2017	September 2017	October 2017																																																																												
7	14	21	28	4	11	18	25	1	8	15	22	29	7	14	21	28	4	11	18	25	2	9	16	23	30	6	13	20	27	4	11	18	25	1	8	15	22	29	5	12	19	26	3	10	17	24	31	7	14	21	28	5	12	19	26	2	9	16	23	30	6	13	20	27	4	11	18	25	1	8	15	22	29	5	12	19	26	3	10	17	24	31	7	14	21	28	4	11	18	25	2	9	16	23									
					2016																																										2017																																																								

Filter: None
View: Bar Chart View



A.4 Biodiversity Risk Assessment

Table 11 Biodiversity Risk Assessment

COMMON NAME	LATIN NAME	POTENTIAL CONTAMINATION ROUTE	RISK ASSESSMENT	OPERATIONAL PROCEDURE
<i>Impatiens glandulifera</i>	Himalayan balsam	Spread of species via construction machinery/ movement of soil	Low. Himalayan Balsam is not known to be present on site.	Ensure contractors know what Himalayan Balsam looks like. If any plants are identified these should be pulled up and left to dry before the seeds set (July/ August).
		Introduction of seeds via contaminated soil.		
<i>Fallopia japonica</i>	Japanese knotweed	Spread of species via construction machinery/ movement of soil.	Low. Japanese knotweed is not known to be present on site.	Ensure contractors know what Japanese knotweed looks like. If it is identified on site, refer to the Environment Agency's Japanese knotweed Code of Practice.
		Introduction via imported material		
<i>Crocsmia crocosmiflora & Scilla hispanica</i>	Montbretia and Spanish Bluebell	Fly-tipping of garden waste	Medium	Site security to prevent tipping. Screen all imports for garden waste. If encountered, secure in plastic rubbish bags and remove from site
<i>Hydrocotyle lanuginosa</i>	Floating Pennywort	Imported with aquatic planting	Medium	Purchase plants from reputable supplier Screen plants prior to planting If encountered, secure in plastic rubbish bags and remove from site. Treat persistent infestations with mechanical and chemical means as advised in 'Managing Invasive Non-Native Plants in or near fresh water'(Environment Agency 2010) (available at: http://webarchive.nationalarchives.gov.uk/20140328084622/http://cdn.environment-agency.gov.uk/LIT_5001_d24b8c.PDF)
<i>Azolla filiculoides</i>	Water Fern	Imported with aquatic planting	High	
<i>Ludwigia grandiflora</i>	Water Primrose	Imported with aquatic planting	Medium	
<i>Crassula helmsii</i>	New Zealand Pygmyweed	Imported with aquatic planting	High	
<i>Myriophyllum aquaticum</i>	Parrot's Feather	Imported with aquatic planting	Medium	
	Fish – all species	Deliberate introduction	High	Site Security to prevent access Adherence to BREEAM management plan

A.5 Protected areas (including newt fence and habitat corridor)

Figure 9 Boundary of newt fence and habitat corridor (shown in red) remaining in NWP ownership



A.6 PSYM water quality monitoring assessment pack

Name	LBAP Area
Grid reference	Visited

Altitude (m)		pH	
Shade: % pond overhung		% emergent plant cover	
Inflow: absent=0, present=1		Pond area (m ²)	
% of pond margin grazed			

Pond base: categorise into one of three groups:
1 = 0% - 32%, 2 = 33% - 66%, 3 = 67% - 100%

Clay / silt		Sand, gravel, cobbles		Bed rock	
Peat		Other			

Determinand	Unit
pH	
Temperature	
Dissolved Oxygen	
Secchi disc depth	
Alkalinity	
Conductivity	
Dissolved Organic Carbon	
Total Phosphorus (TP)	
Chlorophyll a	
Total Nitrogen (TN)	
Nitrate Nitrogen	
Sulphate	
Total Soluble Iron	
Sodium	
Potassium	
Magnesium	
Calcium	
Chloride	

NOTES

Total no. emergent plant species	
Total no. submergent plant species	
Presence of unusual or uncommon plant species	

Total no. of invertebrate taxa	
Presence of unusual or uncommon species	
Fish / waterfowl	

POND REF:	DATE:
------------------	--------------

Type of pond	permanent	
	peat pool	
	aquifer fed	
	field pond	
	upland pond	
	lowland heath	
	temporary pond	
	seasonally dry natural pond	

Fish present ?	
----------------	--

Determinand	Notes	
pH	Field and lab measurements	
Temperature	As profile in deepest part at 25cm depth intervals	
Dissolved Oxygen	As profile in deepest part at 25cm depth intervals	
Conductivity	Field and lab measurements	
Secchi disc depth (cm)	As 10cm intervals	

Charophyta species	Utricularia species
N/A	N/A

Callitriche species	Potamogeton species
N/A	<i>Potamogeton natans</i>

Emergent Plants	D	Emergent Plants (cont'd)	D	Emergent Plants (cont'd)	D	Submerged Plants	D
<i>Achillea ptarmica</i>		<i>Epilobium hirsutum</i>		<i>Phragmites australis</i>		<i>Apium inundatum</i>	
<i>Acorus calamus</i>		<i>Epilobium obscurum</i>		<i>Pilularia globulifera</i>		<i>Aponogeton distachyos</i>	
<i>Agrostis canina</i>		<i>Epilobium palustre</i>		<i>Pinguicula lusitanica</i>		<i>Cabomba caroliniana</i>	
<i>Agrostis stolonifera</i>		<i>Epilobium parviflorum</i>		<i>Pinguicula vulgaris</i>		<i>Callitriche brutia</i>	
<i>Alisma gramineum</i>		<i>Epilobium tetragonum</i>		<i>Potentilla erecta</i>		<i>Callitriche hamulata</i>	
<i>Alisma lanceolatum</i>		<i>Epipactis palustris</i>		<i>Potentilla palustris</i>		<i>Callitriche hermaphrodita</i>	
<i>Alisma plantago-aquatica</i>		<i>Equisetum fluviatile</i>		<i>Pulicaria dysenterica</i>		<i>Callitriche obtusangula</i>	
<i>Alopecurus aequalis</i>		<i>Equisetum palustre</i>		<i>Pulicaria vulgaris</i>		<i>Callitriche platycarpa</i>	
<i>Alopecurus borealis</i>		<i>Erica tetralix</i>		<i>Ranunculus ficaria</i>		<i>Callitriche stagnalis</i>	
<i>Alopecurus geniculatus</i>		<i>Eriophorum angustifolium</i>		<i>Ranunculus flammula</i>		<i>Callitriche truncata</i>	
<i>Anagallis tenella</i>		<i>Eriophorum gracile</i>		<i>Ranunculus hederaceus</i>		<i>C. stagnalis/platycarpa agg.</i>	
<i>Andromeda polifolia</i>		<i>Eriophorum latifolium</i>		<i>Ranunculus lingua</i>		<i>C. hamulata/brutia agg.</i>	
<i>Angelica archangelica</i>		<i>Eriophorum vaginatum</i>		<i>Ranunculus omiophyllus</i>		<i>Callitriche sp. (undet.)</i>	
<i>Angelica sylvestris</i>		<i>Eupatorium cannabinum</i>		<i>Ranunculus ophioglossifolius</i>		<i>Ceratophyllum demersum</i>	
<i>Apium graveolens</i>		<i>Filipendula ulmaria</i>		<i>Ranunculus reptans</i>		<i>Ceratophyllum submersum</i>	
<i>Apium nodiflorum</i>		<i>Galium boreale</i>		<i>Ranunculus sceleratus</i>		<i>Chara sp.</i>	
<i>Apium repens</i>		<i>Galium constrictum</i>		<i>Rhynchospora alba</i>		<i>Egeria densa</i>	
<i>Baldellia ranunculoides</i>		<i>Galium palustre</i>		<i>Rhynchospora fusca</i>		<i>Elatine hexandra</i>	
<i>Berula erecta</i>		<i>Galium uliginosum</i>		<i>Rorippa amphibia</i>		<i>Elatine hypodipiper</i>	
<i>Bidens cernua</i>		<i>Geum rivale</i>		<i>Rorippa islandica</i>		<i>Eleogiton fluitans</i>	
<i>Bidens connata</i>		<i>Glyceria declinata</i>		<i>Rorippa microphylla</i>		<i>Elodea callitrichoides</i>	
<i>Bidens frondosa</i>		<i>Glyceria fluitans</i>		<i>Rorippa nasturtium-aquaticum</i>		<i>Elodea canadensis</i>	
<i>Bidens tripartita</i>		<i>Glyceria maxima</i>		<i>Rorippa (undet.)</i>		<i>Elodea nuttallii</i>	
<i>Blysmus compressus</i>		<i>Glyceria notata</i>		<i>Rorippa palustris</i>		<i>Eriocaulon aquaticum</i>	
<i>Bolboschoenus maritimus</i>		<i>Gnaphalium uliginosum</i>		<i>Rumex hydrolapathum</i>		<i>Fontinalis antipyretica</i>	
<i>Butomus umbellatus</i>		<i>Hydrocotyle vulgaris</i>		<i>Rumex maritimus</i>		<i>Groenlandia densa</i>	
<i>Calamagrostis canescens</i>		<i>Hypericum elodes</i>		<i>Rumex palustris</i>		<i>Hippuris vulgaris</i>	
<i>Calamagrostis epigejos</i>		<i>Hypericum tetrapterum</i>		<i>Sagina procumbens</i>		<i>Hottonia palustris</i>	
<i>Calamagrostis purpurea</i>		<i>Hypericum undulatum</i>		<i>Sagittaria subulata</i>		<i>Isoetes echinospora</i>	
<i>Calamagrostis stricta</i>		<i>Impatiens capensis</i>		<i>Samolus valerandi</i>		<i>Isoetes lacustris</i>	
<i>Calamagrostis scotica</i>		<i>Impatiens glandulifera</i>		<i>Schoenoplectus lacustris</i>		<i>Lagarosiphon major</i>	
<i>Calla palustris</i>		<i>Impatiens noli-tangere</i>		<i>Schoenoplectus pungens</i>		<i>Littorella uniflora</i>	
<i>Caltha palustris</i>		<i>Iris pseudacorus</i>		<i>Schoenoplectus tabernaemontani</i>	x	<i>Lobelia dortmanna</i>	
<i>Cardamine amara</i>		<i>Isolepis setacea</i>		<i>Schoenoplectus triquetar</i>		<i>Ludwigia palustris</i>	
<i>Cardamine pratensis</i>		<i>Juncus acutiflorus</i>		<i>Schoenus ferrugineus</i>		<i>Myriophyllum alterniflorum</i>	
<i>Carex acuta</i>		<i>Juncus articulatus</i>		<i>Schoenus nigricans</i>		<i>Myriophyllum aquaticum</i>	
<i>Carex acutiformis</i>		<i>Juncus bufonius agg.</i>		<i>Scorzonera humilis</i>		<i>Myriophyllum spicatum</i>	
<i>Carex appropinquata</i>		<i>Juncus bulbosus</i>		<i>Scrophularia auriculata</i>		<i>Myriophyllum verticillatum</i>	
<i>Carex aquatilis</i>		<i>Juncus compressus</i>		<i>Scutellaria galericulata</i>		<i>Najas flexilis</i>	
<i>Carex curta</i>		<i>Juncus conglomeratus</i>		<i>Senecio aquaticus</i>		<i>Nitella sp.</i>	
<i>Carex diandra</i>		<i>Juncus effusus</i>		<i>Senecio fluviatilis</i>		<i>Oenanthe fluviatilis</i>	
<i>Carex disticha</i>		<i>Juncus foliosus</i>		<i>Senecio paludosus</i>		<i>Potamogeton acutifolius</i>	
<i>Carex echinata</i>		<i>Juncus inflexus</i>		<i>Sium latifolium</i>		<i>Potamogeton alpinus</i>	
<i>Carex elata</i>		<i>Juncus pygmaeus</i>		<i>Solanum dulcamara</i>		<i>Potamogeton berchtoldii</i>	
<i>Carex elongata</i>		<i>Juncus subnodulosus</i>		<i>Sonchus palustris</i>		<i>Potamogeton coloratus</i>	
<i>Carex flacca</i>		<i>Lathyrus palustris</i>		<i>Sparganium erectum</i>	x	<i>Potamogeton compressus</i>	
<i>Carex hostiana</i>		<i>Leersia oryzoides</i>		<i>Stachys palustris</i>		<i>Potamogeton crispus</i>	
<i>Carex laevigata</i>		<i>Liparis loeselii</i>		<i>Stellaria palustris</i>		<i>Potamogeton epihydrus</i>	
<i>Carex lasiocarpa</i>		<i>Lotus pedunculatus</i>		<i>Stellaria uliginosa</i>		<i>Potamogeton filiformis</i>	

Emergent Plants	D	Emergent Plants (cont'd)	D	Emergent Plants (cont'd)	D	Submerged Plants	D
<i>Carex limosa</i>		<i>Luzula luzuloides</i>		<i>Symphytum officinale</i>		<i>Potamogeton friesii</i>	
<i>Carex nigra</i>		<i>Luzula sylvatica</i>		<i>Teucrium scordium</i>		<i>Potamogeton gramineus</i>	
<i>Carex oedocarpa</i>		<i>Lychnis flos-cuculi</i>		<i>Thalictrum flavum</i>		<i>Potamogeton lucens</i>	
<i>Carex otrubae</i>		<i>Lycopus europaeus</i>		<i>Thelypteris palustris</i>		<i>Potamogeton nodosus</i>	
<i>Carex panicea</i>		<i>Lysimachia nummularia</i>		<i>Tofieldia pusilla</i>		<i>Potamogeton obtusifolius</i>	
<i>Carex paniculata</i>		<i>Lysimachia terrestris</i>		<i>Trichophorum cespitosum</i>		<i>Potamogeton pectinatus</i>	
<i>Carex pendula</i>		<i>Lysimachia thyrsiflora</i>		<i>Triglochin palustre</i>		<i>Potamogeton perfoliatus</i>	
<i>Carex pseudocyperus</i>		<i>Lysimachia vulgaris</i>		<i>Typha angustifolia</i>		<i>Potamogeton praelongus</i>	
<i>Carex pulicaris</i>		<i>Lythrum hyssopifolium</i>		<i>Typha latifolia</i>		<i>Potamogeton pusillus</i>	
<i>Carex riparia</i>		<i>Lythrum portula</i>		<i>Valeriana dioica</i>		<i>Potamogeton rutilus</i>	
<i>Carex rostrata</i>		<i>Lythrum salicaria</i>		<i>Vallisneria spiralis</i>		<i>Potamogeton trichoides</i>	
<i>Carex spicata</i>		<i>Mentha aquatica</i>		<i>Veronica anagallis-aquatica</i>		<i>Ranunculus aquatilis</i>	
<i>Carex vesicaria</i>		<i>Mentha pulegium</i>		<i>Veronica beccabunga</i>		<i>Ranunculus baudotii</i>	
<i>Carex viridula</i>		<i>Menyanthes trifoliata</i>		<i>Veronica catenata</i>		<i>Ranunculus circinatus</i>	
<i>Carex vulpina</i>		<i>Mimulus guttatus</i>		<i>Veronica scutellata</i>		<i>Ranunculus fluitans</i>	
<i>Carex sp.</i>		<i>Mimulus luteus</i>		<i>Veronica sp. (undet.)</i>		<i>Ranunculus peltatus</i>	
<i>Catabrosa aquatica</i>		<i>Minuartia stricta</i>		<i>Viola palustris</i>		<i>Ranunculus penicillatus</i>	
<i>Cicuta virosa</i>		<i>Molinia caerulea</i>		<i>Viola persicifolia</i>		<i>Ranunculus trichophyllum</i>	
<i>Cirsium dissectum</i>		<i>Montia fontana</i>		<i>Unknown exotic</i>		<i>Ranunculus tripartitus</i>	
<i>Cirsium palustre</i>		<i>Myosotis laxa</i>				<i>Ranunculus sp. (undet.)</i>	
<i>Cladium mariscus</i>		<i>Myosotis scorpioides</i>		Floating-leaved Plants		<i>Sagittaria latifolia</i>	
<i>Conium maculatum</i>		<i>Myosotis secunda</i>		<i>Azolla filiculoides</i>		<i>Sagittaria rigida</i>	
<i>Crassula helmsii</i>		<i>Myosotis stolonifera</i>		<i>Hydrocharis morsus-ranae</i>		<i>Sagittaria sagittifolia</i>	
<i>Crepis paludosa</i>		<i>Myosotis sp. (undet.)</i>		<i>Hydrocotyle ranunculoides</i>		<i>Sparganium angustifolium</i>	
<i>Cyperus fuscus</i>		<i>Myosoton aquaticum</i>		<i>Lemna gibba</i>		<i>Sparganium emersum</i>	
<i>Cyperus longus</i>		<i>Myrica gale</i>		<i>Lemna minor</i>		<i>Sparganium natans</i>	
<i>Dactylorhiza sp. (undet.)</i>		<i>Narthecium ossifragum</i>		<i>Lemna minuta</i>		<i>Sphagnum sp.</i>	
<i>Damasonium alisma</i>		<i>Oenanthe aquatica</i>		<i>Lemna trisulca</i>		<i>Stratiotes aloides</i>	
<i>Deschampsia cespitosa</i>		<i>Oenanthe crocata</i>		<i>Luronium natans</i>		<i>Subularia aquatica</i>	
<i>Drosera anglica</i>		<i>Oenanthe fistulosa</i>	x	<i>Menyanthes trifoliata</i>		<i>Tolypella sp.</i>	
<i>Drosera binata</i>		<i>Oenanthe fluviatilis</i>		<i>Nuphar advena</i>		<i>Utricularia australis</i>	
<i>Drosera capensis</i>		<i>Oenanthe lachenalii</i>		<i>Nuphar lutea</i>		<i>Utricularia intermedia</i>	
<i>Drosera intermedia</i>		<i>Oenanthe pimpinelloides</i>		<i>Nuphar pumila</i>		<i>Utricularia minor</i>	
<i>Drosera rotundifolia</i>		<i>Oenanthe silaifolia</i>		<i>Nymphaea alba</i>		<i>Utricularia vulgaris</i>	
<i>Dryopteris cristata</i>		<i>Osmunda regalis</i>		<i>Nymphaea sp. (exotic)</i>		<i>Vallisneria spiralis</i>	
<i>Eleocharis acicularis</i>		<i>Parnassia palustris</i>		<i>Nymphoides peltata</i>		<i>Zannichellia palustris</i>	
<i>Eleocharis austriaca</i>		<i>Pedicularis palustris</i>		<i>Persicaria amphibia</i>			
<i>Eleocharis multicaulis</i>		<i>Persicaria hydropiper</i>		<i>Potamogeton natans</i>			
<i>Eleocharis palustris</i>		<i>Persicaria maculosa</i>		<i>Potamogeton polygonifolius</i>			
<i>Eleocharis quinqueflora</i>		<i>Persicaria minor</i>		<i>Riccia fluitans</i>			
<i>Eleocharis uniglumis</i>		<i>Persicaria mitis</i>		<i>Ricciocarpus natans</i>			
<i>Epilobium alsinifolium</i>		<i>Petasites hybridus</i>		<i>Spirodela polyrhiza</i>			
<i>Epilobium anagallidifolium</i>		<i>Petasites japonicus</i>		<i>Wolffia arrhiza</i>			
<i>Epilobium brunnescens</i>		<i>Peucedanum palustre</i>					
<i>Epilobium ciliatum</i>		<i>Phalaris arundinacea</i>					

DOMIN VALUES: 1 – 3 individuals = 1, <10 individuals = 2, < 4% = 3, 4-10% = 4, 11-25% = 5, 26-33% = 6, 34-50% = 7, 51-75% = 8, 76-90% = 9, 91-100% = 10

[illegible]

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