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Francis Lane, Wrexham

Great Crested Newt Method Statement (Revision 1)

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Notice to readers:

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Reference to sections or particular paragraphs of this document taken out of context may lead to misrepresentation.

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Appendix 1 – Solar Panel Specification

1.0 Introduction

Background

- 1.1 All Ecology was commissioned by TGC Renewables Ltd to produce a method statement detailing the mitigation proposals with regard to Great Crested Newts for a potential solar farm development on an area of land to the south of Francis Lane, Wrexham. The site is approximately 9 ha in size, located immediately south of Francis Lane. The site comprises two arable fields surrounded and divided by species-poor hedgerows, some with mature trees. A single pond is also present on site. The site is surrounded by open fields of mainly arable farmland; areas of woodland and other semi-natural habitats are scarce in the vicinity of the site.
- 1.2 The site is the subject of a refused planning application (P/2015/0396) for a new solar farm, which would cover the majority of the two fields with arrays of freestanding solar panels. The solar panels would be arranged in south facing rows with a gap of approximately 5.7 m between the rows. The proposed panels would be 0.8 m in height at their lower edge and up to 3 m in height i.e. angled to maximise insolation (see Appendix 1 for the full specification) The proposals include the mounting of the panels on a ground based racking system, power inverter stations, transformer stations, security fencing and security cameras. A new access track would also be created, formed by the use of compacted stone over geotextile base layer.
- 1.3 During a previous Extended Phase I Habitat Survey carried out by Ecosulis in June 2014 a single pond was identified on site. This was subject to the Great Crested Newt Habitat Suitability Index (HSI) assessment and was rated as 'good' for its suitability to support Great Crested Newts. Given the presence of ponds both on site and in the surrounding area, as well as the existence of several records of Great Crested Newts within 2 km of the site, the nearest being 750 m from the site, it was concluded that there is high potential for this species to be present on site using the ponds and hedgerows. The arable fields do not provide optimal habitat but there is potential for newts to cross these in order to move between ponds and terrestrial habitat in the surrounding area. It was agreed with the County Ecologist and NRW that the presence of GCN could be assumed for the purposes of the planning application and subsequent licence application
- 1.4 This method statement has been produced to further advise TGC in light of the refusal of planning application P/2015/0396 and the associated comments from Natural Resources Wales. The method statement would form the basis of a European Protected Species Licence application to Natural Resources Wales with the aim of demonstrating that the proposed development could proceed using licensed mitigation measures and a dedicated amphibian compensation scheme, and would not be detrimental to the maintenance of the favourable conservation status of the affected Great Crested Newt population. Activities to be licensed are as follows:
 - Construction of vertical newt proof exclusion fencing.
 - Pit trapping and relocation of newts from terrestrial habitat to be affected by the works.
 - Destruction of sub-optimal newt habitat within working area.

- Hand searches.
- Pond maintenance/enhancement.
- Reinstatement/creation of terrestrial habitat on site and within an off site mitigation area to be provided in conjunction with the adjacent application site, Bryn Lane P/2015/0397.

Site Location



Red line: Application site boundary.

Blue Line: Great Crested Newt mitigation area.

2.0 Legislation and Status

2.1 As Great Crested Newts are listed on Schedule 5 of The Wildlife and Countryside Act (1981), they receive protection under Section 9 of this Act. The Act has been amended several times, most recently by the Countryside and Rights of Way Act 2000 which added 'or recklessly' to Section 9(4)(a) and (b). Thus, it is an offence to:

- intentionally kill, injure or take a Great Crested Newt
- possess or control any live or dead specimen or anything derived from a Great Crested Newt
- intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a Great Crested Newt
- intentionally or recklessly disturb a Great Crested Newt while it is occupying a structure which it uses for that purpose
- transport for sale or exchange, or offer for sale or exchange a live or dead Great Crested Newt or any part of a Great Crested Newt.

2.2 The Conservation of Habitats and Species Regulations 2010 make it an offence to:

- deliberately capture or kill a Great Crested Newt
- deliberately disturb a Great Crested Newt
- deliberately take or destroy the eggs of a Great Crested Newt
- damage or destroy a breeding site or resting place of a Great Crested Newt
- keep, transport, sell or exchange or offer for sale any Great Crested Newts or anything derived from this species.

2.3 The Great Crested Newt is a UK BAP Priority Species (JNCC, 2016).

3.0 Survey and Site Assessment

Pre-Existing Information on the Species at the Site

- 3.1 The results of a data search carried out as part of the Extended Phase I Habitat Survey of the site show that newts are present in the surrounding area and a HSI Assessment of the pond on the present site, as well as a pond on the adjacent application site, indicates that both are potentially suitable for Great Crested Newts. A number of ponds are also present in the surrounding area in close proximity to the site. This being the case it has been concluded that it is likely that this species is present on site although no detailed presence/absence surveys or population assessments have been carried out on site with NRW stating that any mitigation can be determined based on the assumption of known presence.

Status of the Species in the Local/Regional Area

- 3.2 The number of ponds known to have Great Crested Newts in Wales is estimated to be in the region of 500. Of these over 400 are known to occur in North East Wales including 200 in Wrexham. This species is therefore regarded as being distributed across the local and regional area and the population of Great Crested Newts within, and in the vicinity of, the Wrexham Industrial Estate, is considered to be of national importance, the current conservation status of which is considered to be on the decline (Wrexham County Borough, 2003).



Figure 1. Pond Location Plan

4.0 Impact Assessment

- 4.1 The pond on site, as well as the hedgerows, have been classed as optimal Great Crested Newt habitat. With the exception of a 2 m section of hedge to widen the site entrance, no loss of these habitats is proposed and works will only take place within the arable fields shortly after harvesting; this is not considered to be optimal habitat but may still be utilised by newts, particularly those moving through the site. These will be converted to grazing pasture and as such any impacts to newts are only likely to arise during the construction phase of the development if there is accidental damage to suitable habitats, or if individual newts stray into the working areas. The following impacts with respect to Great Crested Newts have been identified.

Pre and Mid-Development Impacts (Short Term Impacts)

Aquatic Habitat

- 4.2 No aquatic habitat is to be affected by the proposed development; accidental damage could occur from pollution or machinery but a Construction Environmental Management Plan, to be secured by condition, will be implemented to ensure these habitats are protected.

Terrestrial Habitat

- 4.3 There is to be a minimum of 25 years loss of the arable fields (9 ha) for both the solar farm and the temporary construction compound. Any Great Crested Newts present in these habitats will also be subject to disturbance and risk of harm, as well as reduced foraging, restrictions to dispersing/commuting.
- 4.4 Works are to take place in the vicinity of the pond, which could support Great Crested Newts, as well ponds in the surrounding landscape. Individuals of this species may seek refuge under stored materials or become trapped in open trenches resulting in injury or death.

Habitat Fragmentation

- 4.5 Habitat fragmentation and interruption of dispersal patterns would be temporary due to the use of exclusion fencing. The development will not introduce any permanent barriers to the movement of newts and the impact significance is considered to be low.

Long-term Impacts

Site Modification

- 4.6 The long-term use of the site as a whole will continue to provide suitable conditions for newts for a minimum of 25 years, after which the site will revert to purely agricultural use as is currently the case. New 5 m field margins of tall grassland are to be created and the long-term management of the hedgerows will improve the structure of the hedges and allow for a denser understory to develop, further enhancing the site for newts and other wildlife.
- 4.7 The 10 m buffer around Pond 1, which would be connected to a 40 m wide margin along the south edge of the site and 5 m margins around the entire site, would provide improved

terrestrial habitat. Livestock and security fencing will prevent sheep from grazing in these areas to allow marginal vegetation to develop and prevent poaching of the pond.

- 4.8 Approximately 3 ha of improved grassland not included in the solar farm application, but bordering the site and in the control of the applicant, would be managed for wildlife with the focus on Great Crested Newts. Two ponds would be created and new hibernacula introduced; the grassland and surrounding hedgerows would be managed as above.

Fragmentation/Isolation

- 4.9 There would be no permanent fragmentation or isolation as there will be only minor loss of habitats on site. All boundary habitats are to be enhanced as part of the scheme, which should improve connectivity around the site and into the surrounding area. No significant long-term negative impacts are predicted.

Post-development Interference Impacts

- 4.10 The long-term use of the site will remain agricultural and solar for 25 years before reverting to agricultural use. Any ongoing maintenance of the site would require infrequent visits to clean and maintain the panels and associated infrastructure as well as activities associated with sheep grazing. Cleaning would be carried out with the use of water only; detergents, which have the potential to pollute aquatic habitats through run-off, will not be used. The new access track and small built structures would not be barriers to newt movement. No post development interference impacts are predicted.

Predicted Scale of Impacts

- 4.11 At the site level, the impact on GCN without any mitigation works would be medium in magnitude. This is because although there would be a large area of habitat (arable) subject to significant disturbance during construction, the habitat is of relatively low value to GCN and will not be permanently lost. The 10m buffer zone protects the immediate terrestrial habitat around the pond and the 3 ha of new habitat in addition to the 5 m margins around the remainder of the site hedgerows, also protect key dispersal routes and refugia habitat.
- 4.12 At the 2 km level, the impact on the GCN population would be no greater than minor. Any population of newts in Pond 1 are likely to be part of a meta-population spread across a number of ponds in the surrounding area, none of which will be directly impacted by the scheme.
- 4.13 At the wider level the scheme is unlikely to result in any significant adverse impacts.

European Protected Species Licence

- 4.14 Great Crested Newts are legally protected under the Conservation of Habitats and Species Regulations 2010 (the Habitat Regulations). These Regulations protect Great Crest Newts against being captured, killed, injured or disturbed and protect their habitat (any breeding site or resting place) from being damaged or destroyed. Provision is made within the Habitats Directive for the derogation of this protection, providing certain conditions are met and this process is managed through a licensing process managed by NRW. To attain a licence for an otherwise unlawful activity the applicant must satisfy three tests, relating to the need for the

activity, the lack of any suitable alternative and the favourable conservation status (FCS) of the species.

- 4.15 The proposed development of the site for solar power has been identified as posing a risk of short-term disturbance and harm to Great Crested Newts during construction activities. Long-term impacts are all assessed to be minor but a derogation licence will be required to permit the construction of the development.

5.0 Mitigation Strategy

Summary of the Mitigation Strategy

- 5.1 There is one pond on site and optimal terrestrial habitat in the form of boundary hedgerows and pond margins. The main aims of the mitigation strategy on site are to reduce short-term impacts to newts with the use of exclusion fencing to prevent newts straying into the working areas, and the protection of terrestrial and aquatic habitats currently present on site. Drift fencing and pit traps will be used to capture newts from the working areas and prevent their return for the duration of the works. Newt proof access grids will be installed across the site entrances to allow unrestricted access by construction machinery whilst maintaining the integrity of the newt free areas.
- 5.2 Prior to commencement of any works on site, a site induction talk will be delivered to contractors by the appointed Ecological Clerk of Works outlining the purpose of the mitigation strategy, details of exclusion/protection zones, identification of species, and what to do in the event any individuals are discovered during the works.
- 5.3 Measures for the enhancement of the site for newts are also proposed in line with 'guidance on the location, size, design, and management of areas set aside for nature conservation/landscaping' set out in Wrexham County Borough Council Local Planning Guidance Note 29: Wrexham Industrial Estate (Wrexham County Borough Council, 2009), which the present site is in close proximity. This guidance states that development will permit development affecting less valued habitats only where appropriately designed on-site mitigation/compensation would enhance the nature conservation value of the site and/or the network of wildlife habitats of which it forms a part. In providing mitigation or compensation, an equivalent area of land must be provided unless it can be demonstrated that a smaller area of better quality would enhance the ecology of the site or the wider area.
- 5.4 The present scheme will achieve this by excluding newts from ponds and terrestrial habitats with fencing and pitfall traps, create/enhance habitats on parts of the site formerly of low value for newts, new places for hibernation, refuges, landscaped corridors designed to encourage nature conservation. All of these measures will be included in the mitigation/compensation scheme on site through the creation of 3 ha of optimal terrestrial habitat including two new ponds and hibernacula, enhancement of the existing pond, and new wildlife corridors by enhancing existing hedgerows, creating new field margins. The construction of a sustainable urban drainage system to prevent major changes in hydrology is not applicable in this instance.

Capture, Exclusion and Translocation

- 5.5 Exclusion and drift fencing will be installed when the NRW EPS licence is issued. The precise timing of this will be determined at a later date, if and when planning permission is granted. Although the site is large a decision has been taken to avoid separating the site into many smaller trapping compartments as it is envisaged that the majority of newts will be captured on the large exclusion fence that separates the terrestrial habitat where works are proposed, from any breeding ponds. This fence is in an optimal position for newt capture being within 50m of both the pond on site and in close proximity to other ponds in the surrounding area. Drift

fences will however be installed along internal field boundaries to form two compartments as well as around the pond to increase the efficiency of the trapping exercise.

- 5.6 Once the fencing is erected, pit traps will be installed along the inside edge of the exclusion fence, and both sides of the drift fences. Pit traps will then be checked in suitable weather conditions between mid February and the end of October for 30 days and thereafter until no Great Crested Newts are discovered for 5 consecutive days during suitable weather conditions. The habitat in the working area will be recently harvested arable and as such a destructive search is not proposed. Any potential refugia, such as logs, and the habitat around the pond will be search by hand by licensed ecologist.
- 5.7 Newt proof fencing will be installed to the following specification and pit traps and carpet refugia will be placed at alternate 5 m centres or 50 traps for every ha of the site, whichever is greater.



Specifications

Membrane to consist of 1000mm, 2000 gauge Hy-Tex Newt Barrier Heavy-Duty Flexible, reinforced, linear barrier. Triple coated, twin reinforced, impermeable, black polyethylene. Puncture resistant: 3700N. Tensile strength: md 34KN/m, cd 31KN/m. Elongation: md 25%, cd 20%, Weight: 365/m², UV Resistance: 400kLy.

High tensile wire will be inserted through the top of the fence and attached to the membrane.

- 5.8 Either a surveyor licensed to handle Great Crested Newts or their accredited agent will check pit traps daily. Any newts found will be relocated in a plastic bucket with a lid and air holes, to terrestrial habitat in the receptor areas and into suitable habitat with cover e.g. log pile.
- 5.9 Once the trapping exercise is complete, the drift fencing would be removed but the remainder of the fencing would be left in situ until the the construction works, and any habitat works are complete.

Receptor Site Selection

- 5.10 Newts found in pit traps and under refugia will be relocated to a hibernaculum within the Great Crested Newt Mitigation area. This location is in close proximity to other off site ponds and connects to the wider area. Newts will therefore only be moved a short distance reducing the likelihood of any transfer of disease or contamination.

Habitat Creation, Restoration and/or Enhancement

Aquatic Habitats

- 5.11 Two new ponds will be created in the Great Crested Newt mitigation area prior to any works on site. These will be constructed with surface areas of approximately 500m² which is at the lower

range of what is considered to be the optimal size of Great Crested Newt ponds (Oldham et al., 2000). These would be a minimum of 1 m deep at their deepest points, to provide well insulated areas from extremes in temperature. The pond edges would not be straight and there would be gently sloping banks to allow wildlife to get in and out. Shallow shelved areas would also be created to provide a diversity of conditions for flora and fauna.

- 5.12 The pond would be planted with native local plants and non-native plants, many of which are invasive, would be avoided. The deeper areas of the pond would be planted with submerged and oxygenating plants such as Common Water-crowfoot, Curled Pondweed, and Water Violet. Floating-leaved plants such as water-lilies and Broad-leaved Pondweed would also be planted here. In the marginal more shallow areas of the pond, marginal plants such as Brooklime, Water Mint, Marsh Marigold, Water Plantain, Yellow Iris, and rushes would be planted.
- 5.13 The pond would be allowed to fill, and animals colonise naturally. No attempt would be made to transfer animals to the pond as this can spread disease or other unintended animals or plant life.
- 5.14 The spoil would be retained on site and used to form uncompacted banks within which log and rubble will be incorporated at two locations around each pond to provide refugia and hibernacula.
- 5.15 Pond 1 will be enhanced for newts through the implementation of an appropriate management regime. It would be maintained to have about 50% open water and 50% marginal vegetation. If nutrient levels are high in the pond then marginal vegetation will increase rapidly. If this were the case then any excess vegetation would be removed in September when most animals have completed their lifecycle, but before animals, such as frogs, start to hibernate. Any removal of vegetation would only take place in one half of the pond, leaving the rest for the next year. Any collected sediment and vegetation would be left at the side of the pond for at least 24 hours to allow any trapped animals to crawl back in.
- 5.16 Any works on site, to the ponds in particular, will be subject to biosecurity measures as described in the Amphibian and Reptile Groups of the UK (ARG UK) Advice Note 4 – Amphibian Disease Precautions: A Guide for UK Fieldworkers (2008), the most important procedures being the disinfecting of all equipment and footwear prior to and after visits to the site.

Terrestrial Habitats

- 5.17 The areas of optimal habitat on site are confined to the boundary hedgerows and small area of marginal vegetation around the pond. The loss of habitat will be restricted to arable farmland which will be converted to grazing pasture. Small areas of this habitat would be lost to the new access track and sub stations, inverters etc. The following measures are to be implemented as part of the development:
 - Creation of 3 ha of terrestrial habitat adjacent to the south boundary of the site, creation of 5 m wide ungrazed field margins between hedges and security fencing, which will be seeded with a wildflower/grass mix of local provenance and allowed to develop. These will be maintained with a suitable mowing regime by carrying out a cut in late July onwards to allow plants to set seed. The arisings would be removed in order to reduce the nutrient levels in the soil and hopefully allow a higher botanical

diversity to develop. However, the cut will not be less than 20cm in order to allow tussocky grassland to develop, which will be of greater benefit to newts, and to avoid harming any newts that could be present at the time.

- Enhancement of existing hedgerows by laying/managing the hedgerows to encourage denser low down growth. Currently close-cropped sections of hedgerows will be allowed to develop, trimming only every three years or less if possible, and maintaining them at a minimum height of three metres.
- 10 m buffer around Pond 1 connecting directly into new field margins, which in turn connect to hedgerows into the wider area facilitating newt movement between ponds. Stock proof fencing to be erected around this to prevent grazing/poaching by livestock. Sufficient gap to be left to allow access by native wildlife such as Badgers.
- Provision of a log and rubble piles around Pond 1 and in the Great Crested Newt mitigation area to provide a potential refuges/hibernacula for amphibians.

Integration with Roads and other Hard Landscape

- 5.18 A new access track will be created along the east edges of each of the two fields to facilitate access for maintenance. These would be formed by the use of compacted stone over geotextile base layer. They would be contained almost entirely within the area from which newts will be excluded. The entrances to the site would be searched by hand prior to the laying of the track and the newt proof grid, which would be removed once construction is complete. No kerbs, drains or gully pots are proposed.
- 5.19 Either a surveyor licensed to handle Great Crested Newts or their accredited agent will check pit traps daily. Any newts found will be relocated in a plastic bucket with a lid and air holes, to terrestrial habitat in the receptor area and into suitable habitat with cover e.g. log pile.

Post-development Site Safeguard

Habitat Management and Maintenance

- 5.20 Newt proof exclusion fencing will be inspected on a weekly basis from March to October inclusive and on a monthly basis from November to February inclusive as long as it is in place. Any minor repairs will be carried out immediately, more significant repairs will be undertaken within 48 hrs of damage being identified.
- 5.21 The existing pond, new ponds and new terrestrial habitat will in the long-term be subject to a management plan secured by planning condition that is based on the following principles:

Item	Detail	Frequency	Number of Operations /yr
Aquatic habitat	Inspection and carry out remedial works e.g. removal of introduced sp., silt, vegetation clearance to maintain areas of open water	Once per yr as required (September only)	1
Terrestrial habitat	Inspection	Once per year	1
Improved grassland	Grazing	Year round	-
Species rich grassland margins	Mowing	Once per yr (August)	1

Hedgerows and trees	Inspection	Once per yr	1
Hedgerows and trees	Pruning/removal of limbs etc.	Once per yr as required (winter only)	1
Fish monitoring	Check for presence, remove as required	Once per yr	1

Population Monitoring

- 5.22 In order for monitoring of the population to take place and the success of the mitigation and enhancement strategy be evaluated, the Great Crested Newt population should be monitored. The minimum requirement for this as specified in the Mitigation Guidelines, is a Great Crested Newt Population Size Class Assessment (6 visits) for two years post development for populations of high importance but low impacts. With no baseline data and a 25 year management plan the value of any results of these surveys is low and following strategy is proposed. A Population Size Class Assessment will be carried out in the first available survey window once planning permission has been granted or works have been completed. A second survey would take place in Year 2, Year 6 and Year 10.

Care and Vigilance During Works

- 5.23 Other species of amphibians, as well as Great Crested Newts could still be found on site. Any contractors on site will therefore be advised to carry out all work with care and vigilance for these species. The ECoW will give full details during the site induction talk but in summary if amphibians are found during works, then with the contractor wearing gloves, they would be moved out of harm's way into the boundary hedgerows. This will provide them with temporary protection before they relocate of their own accord. Should any Great Crested Newts be found in the exclusion areas during works, then works in that area will cease and a licensed Ecologist consulted before works continue.

Mechanism for Ensuring Delivery

- 5.24 Upon completion of the works a report will be produced detailing and confirming the works carried out. Species of amphibians or other animal species captured/discovered during the works will be recorded in the following way:
- Location captured
 - Species
 - Sex
 - Estimate of age
 - Date of capture
 - Weather conditions and temperature on day of capture.
- 5.25 A long-term management plan will be produced and secured by a suitable planning condition formalising the ecological enhancement measures and maintenance of the site, including the habitats to be created that will be suitable for newts detailed above. This management plan would be reviewed after 10 years and depending on the results of the monitoring surveys, revised in agreement with Wrexham County Borough Council and NRW if necessary. The

updated management plan would cover the remaining lifespan of the solar farm, which would be up to 15 years with the Great Crested Newt habitat secured in perpetuity.

- 5.26 The solar farm's owner/operator would be responsible for the delivery of all actions included in management plan. The habitat management would be the subject of a legal contract between the landowner and solar farm owner/operator.

Work Schedule

- 5.27 A detailed timetable of works will be produced at a later date once it is confirmed that project will proceed. The exclusion and trapping exercise can only take place from mid-February to the end of October but once this is complete, the works on site may take place at any time although these would be expected to begin as soon as the trapping is complete, for a duration of up to four months.

6.0 Licensing

The Three Tests

The Need

- 6.1 The need for the scheme is the delivery of renewable energy to the National Grid. The UK Government has targeted to achieve 15% of its energy generated by renewable sources by 2020. In 2013, renewable generation accounted for approximately 5% of total energy generation.
- 6.2 Wrexham County Borough Council has recognised the need to increase renewable energy generation and cut carbon emissions in line with UK Government policy. The Council has acknowledged that the new Local Development Plan should play a part in “promoting renewable methods of energy production” and should “support the development of renewable energy” (LDP Topic Paper 9; Climate Change and Energy, March 2014).

No Suitable Alternative

- 6.3 Preparation of the 2013-2028 LDP is undergoing but the plan is not due to be completed, approved or adopted until 2018. As a result, there are no formal policies or allocated sites for renewable energy generation within the Wrexham CBC area.
- 6.4 The “Do Nothing” scenario would pose no adverse impacts to Great Crested Newts but would not help to meet the need for renewable energy generation.
- 6.5 The proposed scheme is considered to be highly suitable in its proposed location and the site has been identified as economically viable and technically feasible. Suitable sites for solar power schemes are often difficult to identify due to the requirements relating to generating capacity, grid connections, construction access and availability of land. Therefore, the site offers a relatively rare but suitable opportunity to deliver renewable energy.

No Impact on Favourable Conservation Status

- 6.6 The proposed solar array development has been identified as posing a significant risk of disturbing, injuring and killing Great Crested Newts during construction activities. However, as a result of the habitat protection and enhancement measures included within the design of the scheme, i.e. the new ponds, improved terrestrial habitat 10 m pond buffer, 5 m boundary corridors and associated conservation management measures, there will be no significant long-term impacts on the Great Crested Newt population. Therefore, the proposed scheme of capture and exclusion is adequate in mitigating the risk posed by construction activities, by removing and excluding Great Crested Newts from the working area until all construction activities have been completed. The proposed monitoring should show this strategy to be successful in ensuring no short-term impacts on the species and therefore no impact on Favourable Conservation Status.

7.0 Conclusion

- 7.1 Pending the production of a detailed timetable of the works, the present mitigation and compensation strategy demonstrates that the proposed solar farm can be constructed and operated without harming individual newts, and that the loss of terrestrial habitat would be mostly temporary with only small areas of sub-optimal habitat lost for 25 years to the new access track and built structures. The proposed enhancements to the site, which include pond maintenance and the creation of corridors of optimal habitat around the site, are expected to increase the value of the site to newts (as well as other wildlife), hopefully thereby improving the current conservation status of this species and ensuring that the favourable conservation status of the Great Crested Newt population is restored.

8.0 References

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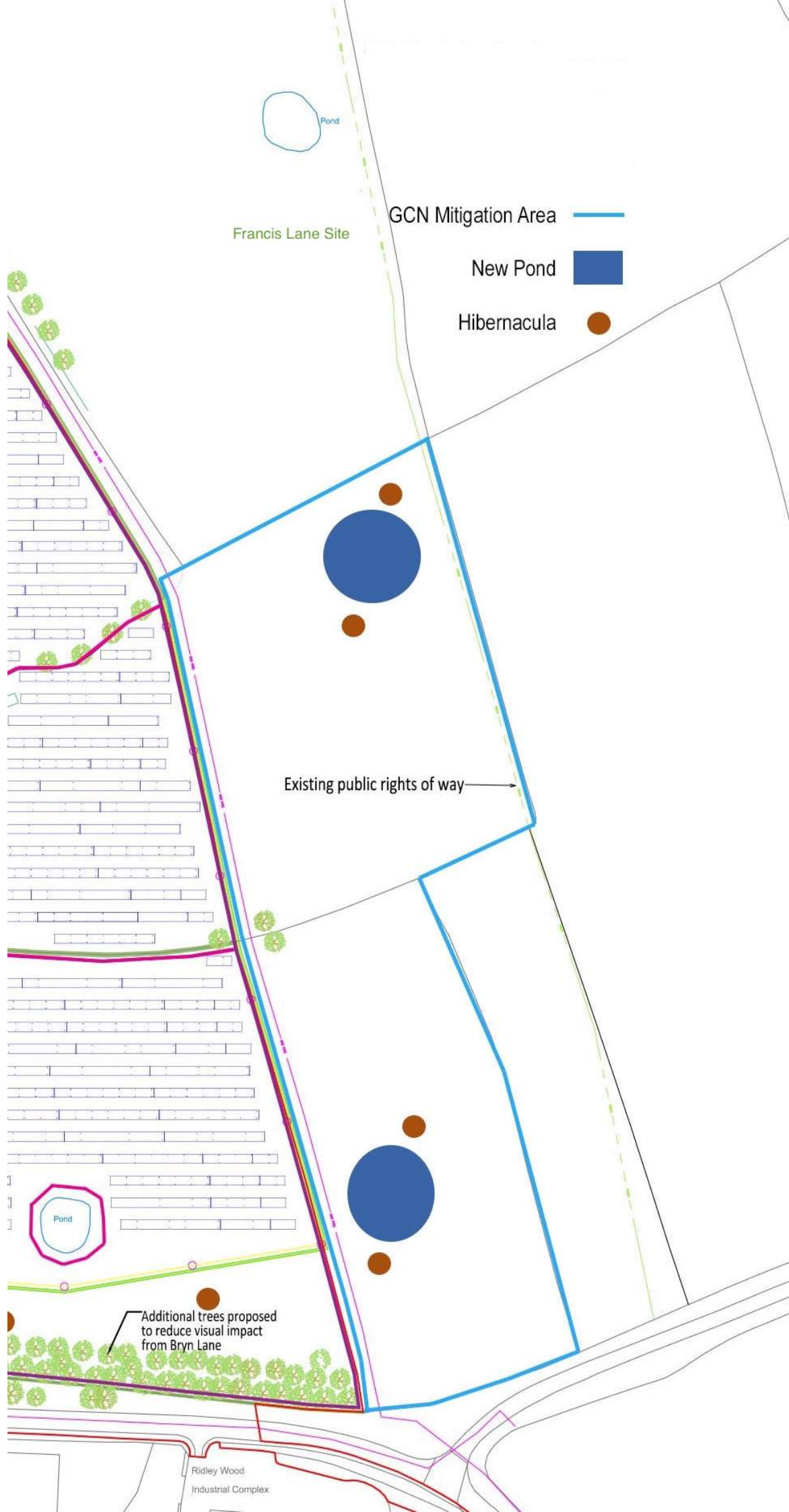
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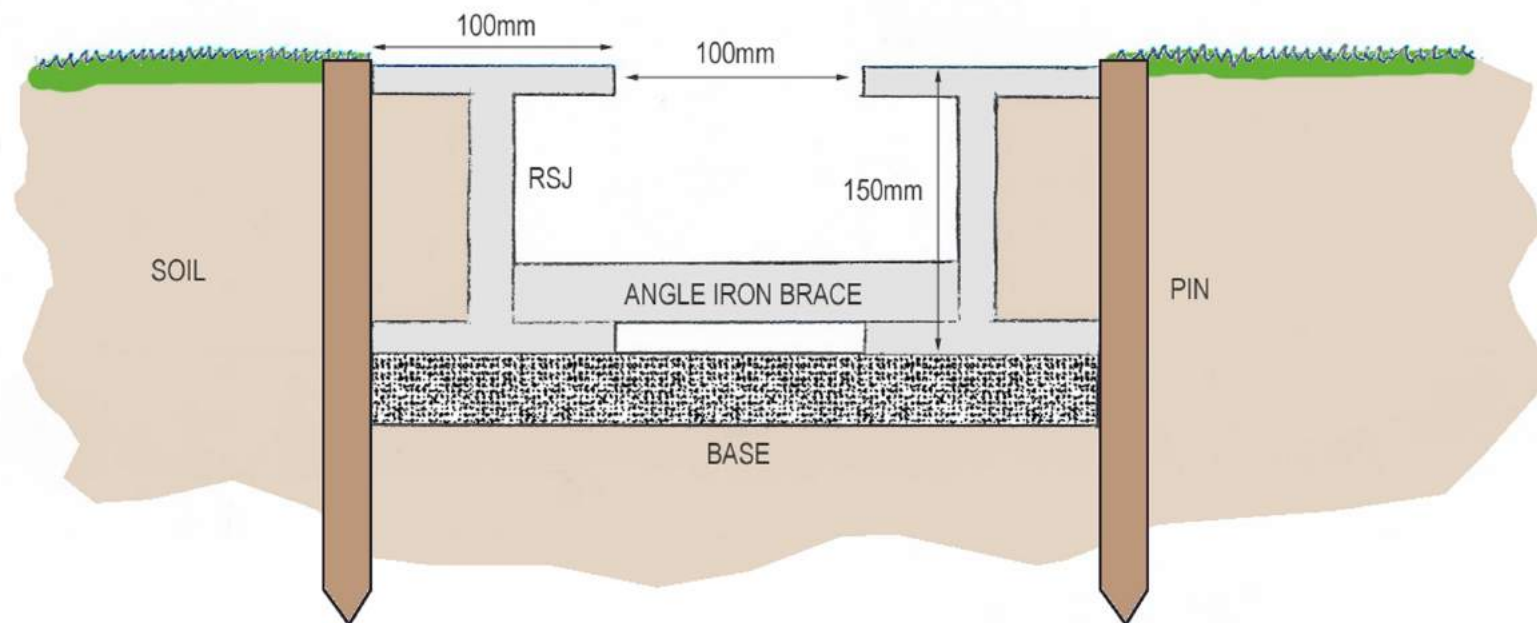
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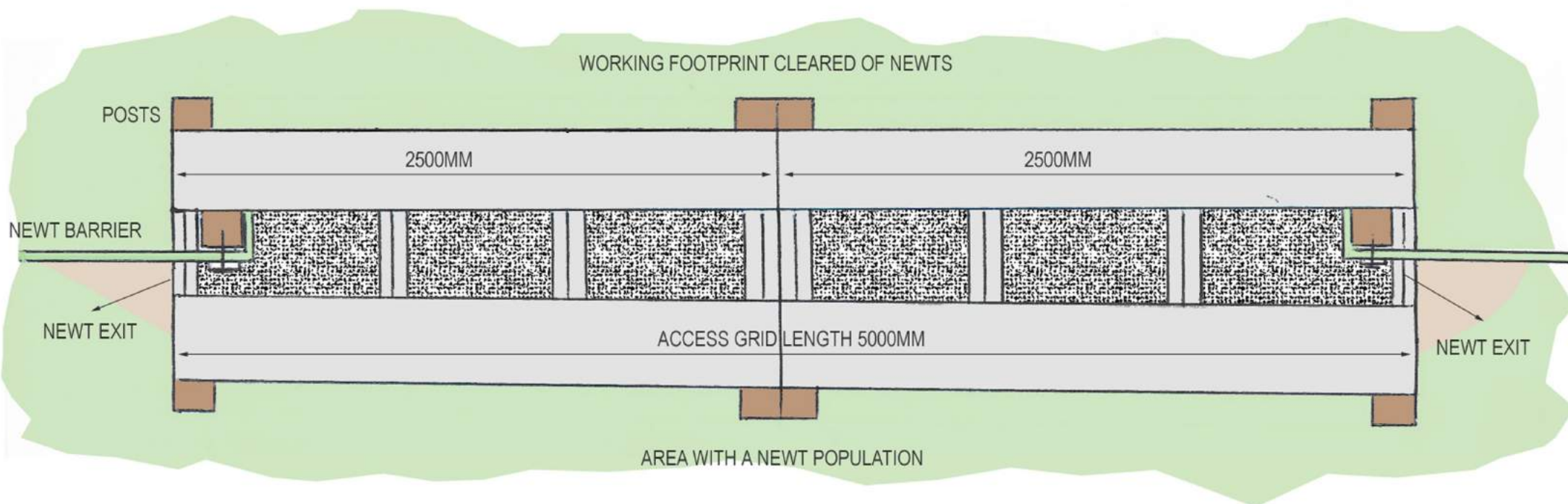
9.0 Plans

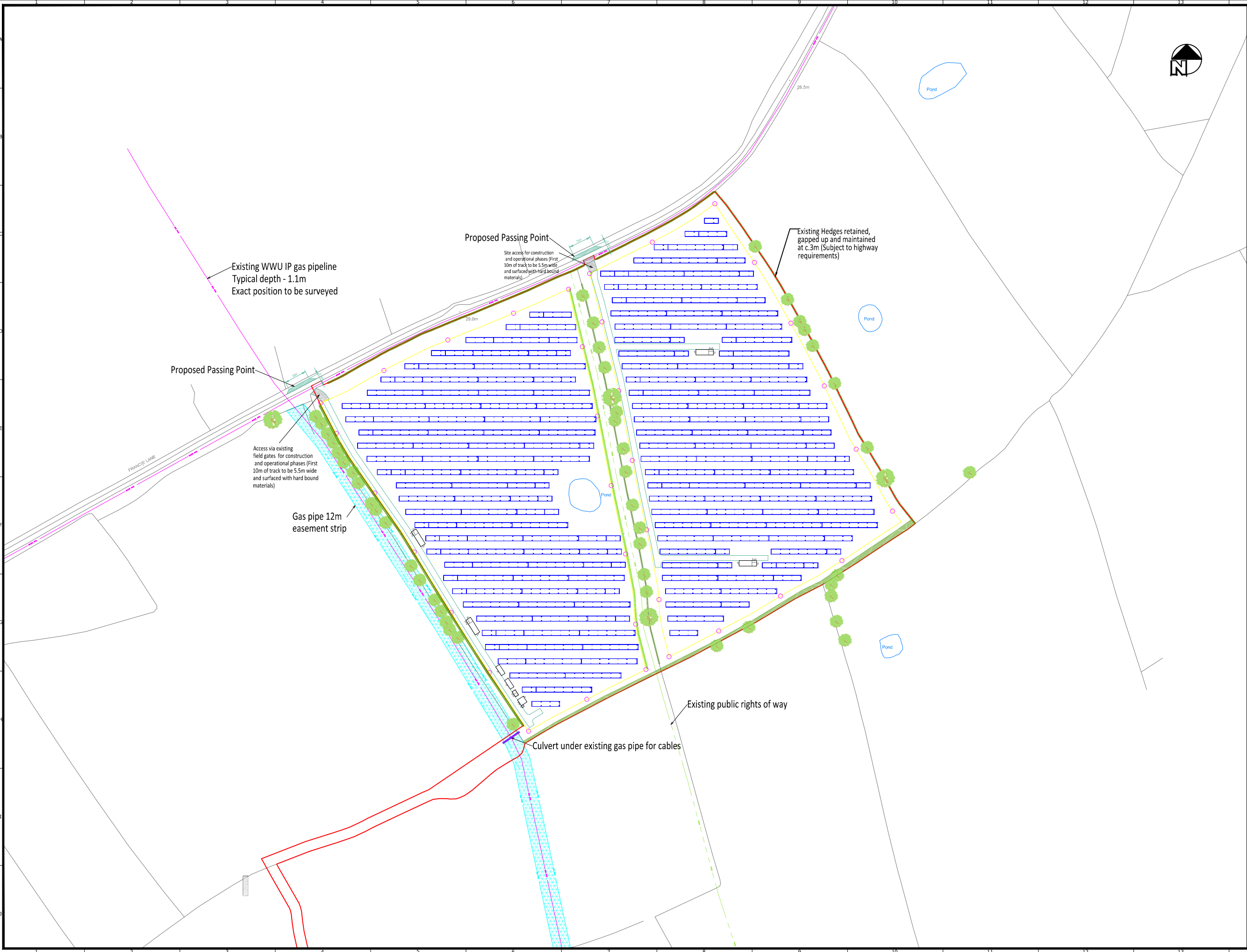


NEWT GRID CROSS SECTION VIEW



NEWT GRID PLAN VIEW





TGC-SITE-DESIGN

GENERAL NOTES

A. DO NOT SCALE FROM THIS DRAWING

B. ALL DIMENSIONS ARE IN METERS UNLESS NOTED OTHERWISE.

System Info:

Module Rating:

280Wp

320Wp

System Size*:

3.83MWp

4.38MWp

Area Bounded by Fence:

7.8ha

Area of Site:

10.2ha

*Precise module rating cannot be specified at this stage and will be selected based on market availability post consent. Site capacity above shows system size based on typical low and high panel rating specification being used. Range of panel ratings are achieved with the same physical panel dimensions given above.

Legend:

Existing Services

Inverter Cabin

33kV Substation

Switchgear Housing

Comms Building

4m CCTV Poles

Site Boundary

80 PV Modules

40 PV Modules

20 PV Modules

Fence

Track

Public Rights of Way

Gas Easement Area

New/Enhanced Landscaping

Existing Landscaping

Rev	Details
A8	Amended PROW and Hedging
A9	Eastern Entrance changed to double gate
B1	Site compound drawings created
B2	Existing and proposed landscaping added
C1	Proposed Passing places added as advised by the council
C2	Access tracks widened

0m

100m

TGC

renewables

Designed by TGC Renewables

Project Title

226-01-PV Francis Lane

Drawing Title

Site Design

Drawing Path

Drawn

SC

Checked

JJ

Approved

RA

Scale

1:2500

Paper Size

A3

Status

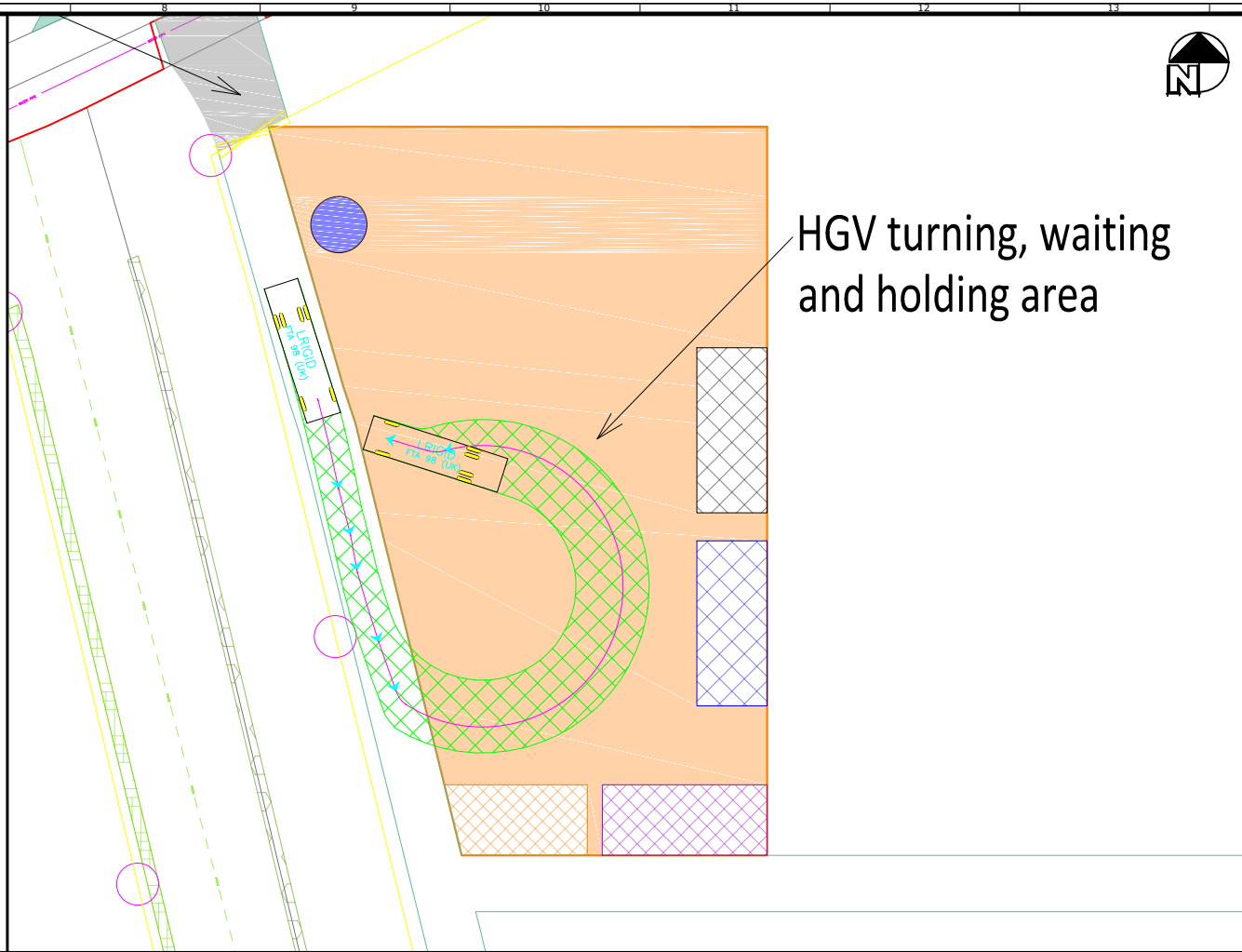
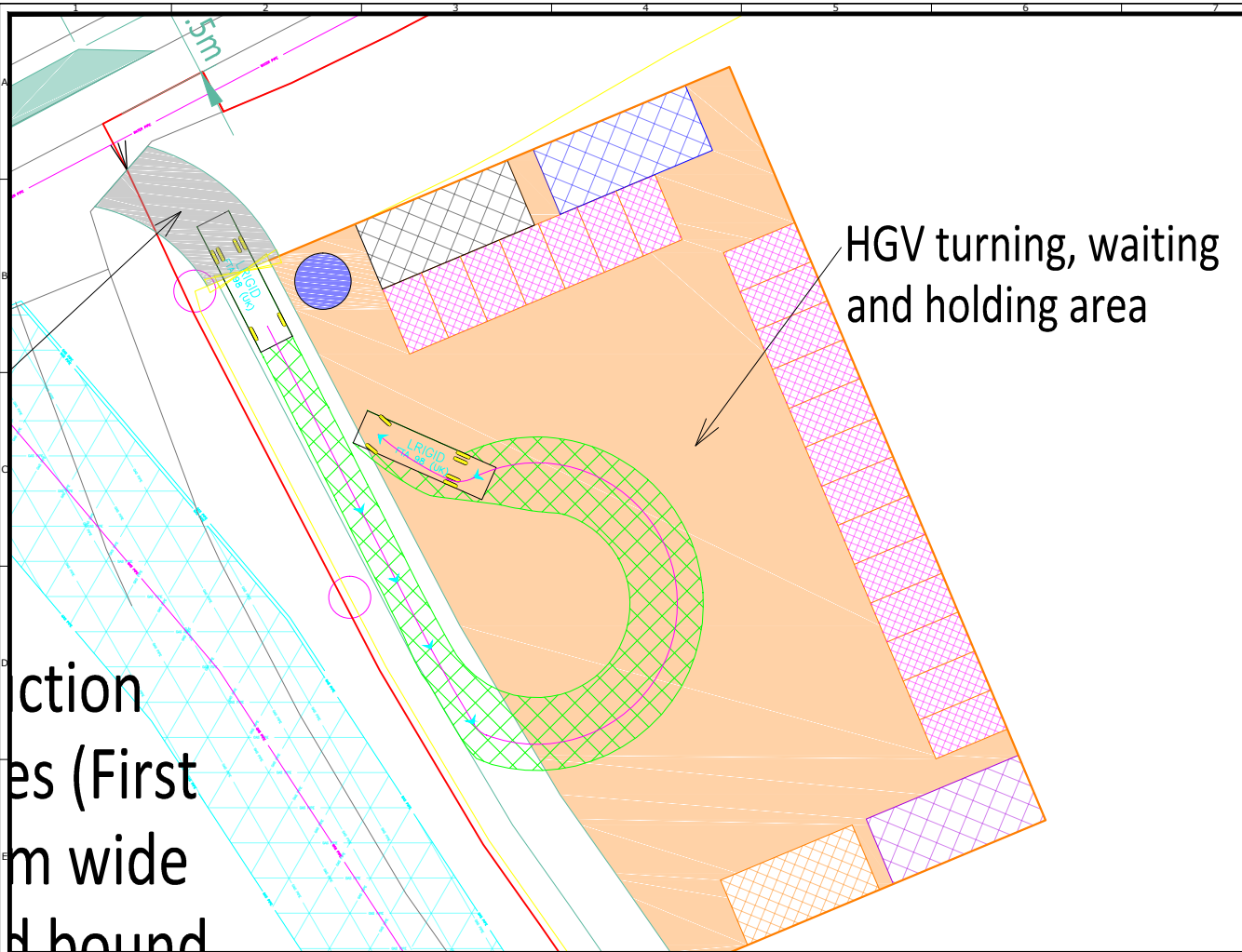
Draft

Date

04/11/2015

Rev

C2



TGC-SITE-DESIGN

GENERAL NOTES

A. DO NOT SCALE FROM THIS DRAWING

B. ALL DIMENSIONS ARE IN METERS UNLESS NOTED OTHERWISE.

System Info:

Module Rating:	280Wp	320Wp
System Size*:	3.83MWp	4.38MWp
Area Bounded by Fence:	7.8ha	
Area of Site:	10.2ha	

*Precise module rating cannot be specified at this stage and will be selected based on market availability post consent. Site capacity above shows system size based on typical low and high panel rating specification being used. Range of panel ratings are achieved with the same physical panel dimensions given above.

Legend:

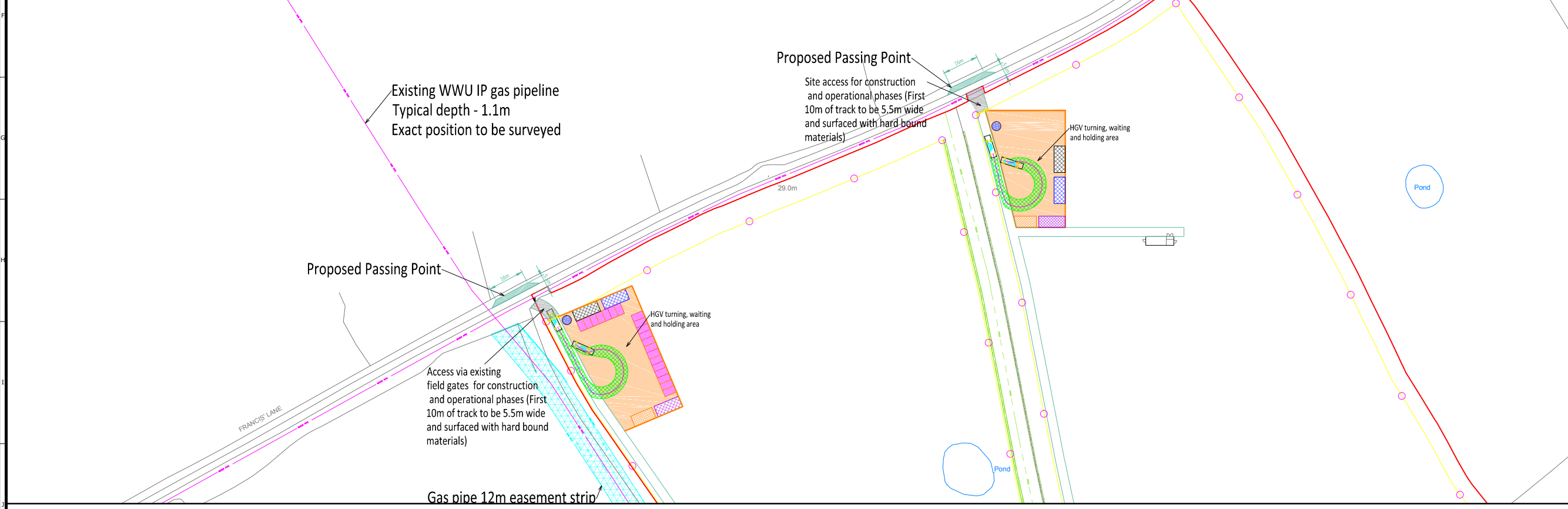
- Existing Services
- Inverter Cabin
- 33kV Substation
- Switchgear Housing
- Comms Building
- 4m CCTV Poles
- Site Boundary
- Fence
- Track
- Public Rights of Way
- Gas Easement Area
- New/Enhanced Landscaping
- Existing Landscaping
- Temporary Construction Area
- Storage Area
- Waste Management Area
- Site office
- Construction Compound building
- Parking
- Wheel wash Location

Temporary Construction Compound - Western Entrance

Scale 1:500

Temporary Construction Compound - Eastern Entrance

Scale 1:500



Plan View showing proposed locations of Temporary Construction Compounds

Scale 1:2500

Rev Details

A8	Amended PROM and Hedging
A9	Eastern Entrance changed to double gate
B1	Temporary Construction compounds added
C1	2 spaces added to the Western construction compound
C2	Access tracks widened

TGC renewables

Designed by TGC Renewables

Project Title

226-01-PV Francis Lane

Drawing Title

Visibility Splay - Eastern Entrance

Drawing Path

Drawn	SC	Checked	JJ	Approved	RA
Scale	1:2500	Paper Size	A3	Status	Draft
Date	4/11/2015 2:52 PM	Rev	C2		

10.0 Appendices

Appendix 1 – Solar Panel Specification



				Project	TGC Solar Farm	Drawing Title	Solar Farm 2V, 40 Module Racking	Purpose of issue	Planning Drawing					TGC RENEWABLES LTD TGC HOUSE DUCKMOOR ROAD BRISTOL BS3 2BJ			
IMAGERY ADDED	TM RA	17/07/13	R2					Designed AR	Drawn AR	Checked SR	Approved SR	Date 02/07/2012					
										Suitability							
Revision Details	By Check	Date	Suffix					Scale @ A3 NOT TO SCALE						Drawing Number 2V Racking System	Rev Rev 2	www.tgcrenewables.com	