



Botley West Solar Farm

Environmental Statement

Volume 3

Appendix 9.2: Phase 1 Habitat Survey Report

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Glossary

Term	Meaning
The Applicant	SolarFive Ltd
The Project	Botley West Solar Farm

Abbreviations

Abbreviation	Meaning
BAP	Biodiversity Action Plan
ES	Environmental Statement
HPI	Habitats of Principal Importance
JNCC	Joint Nature Conservation Committee
NERC	Natural Environment and Rural Communities
PVDP	Photovolt Development Partners GmbH
SPI	Species of Principal Importance
WCA	Wildlife and Countryside Act 1981

Units

Unit	Description
%	Percentage
m	Metre
ha	Hectare

1 Introduction

1.1 Introduction

1.2 Overview

1.2.1 This Appendix of the Environmental Statement (ES) has been prepared by RPS on behalf of Photovolt Development Partners GmbH. (PVDP) for the Applicant, SolarFive Ltd. (SolarFive).

1.2.2 The purpose of this technical report is to present the methodology and results of the phase 1 habitat survey for the project. The results of this phase 1 habitat survey have been used to inform Chapter 9: Ecology and Nature Conservation in Volume 1 of the ES [EN010147/APP/6.3].

1.3 Site description

1.3.1 The Project site is located in rural Oxfordshire near to Blenheim Palace and the villages of Bladon, Woodstock, Cassington and Cumnor. It comprises approximately 1,400 ha of mainly arable land with over 90 km of hedgerow dividing fields. The River Evenlode runs through the centre of the site in a north-south orientation.

1.3.2 The wider landscape is rural in nature with blocks of woodland, including ancient woodland, other riparian systems (the Rivers Glyme and Cherwell are nearby) and large water bodies including the lakes within Blenheim Palace and Farmoor Reservoir.

2 Methodology

2.1 Phase 1 Habitat Survey

2.1.1 The methodology and habitat descriptions used have been based on the standard Joint Nature Conservation Committee (JNCC) Phase 1 Habitat Survey methodology 'Handbook for Phase 1 Habitat Survey' (JNCC, 2010).

2.1.2 An initial survey of the Project site was undertaken in 2022 (Arcus, 2022). This provided an initial baseline for much of the Project site area but was undertaken at a high level.

2.1.3 This was updated by RPS, as the Project site boundary changed during 2022 and 2023, as access allowed. The Phase 1 Habitat Survey was carried out on 13 May 2022, 27-28 July 2023 and 02-03 August 2023. This primarily covered the land in the north of the Project site.

2.1.4 More detailed habitat surveys of the remainder of the Project site were carried out between 18 July and 8 August 2024 and cable routes were surveyed in October 2024.

2.1.5 Habitats identified during the survey were described using the categories set out in the Phase 1 Handbook (JNCC, 2010).

2.1.6 Given the size of the Project site, it was divided up into different survey areas (Annex A) and each field was numbered (Annex A).

2.2 Evaluation

2.2.1 The conservation status of habitats and plant species was considered against various criteria:

- The Conservation of Habitats and Species Regulations 2017 (as amended);
- Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 as Species/Habitats of Principal Importance (SPI/HPI);
- Berkshire, Buckinghamshire and Oxfordshire Local Wildlife Sites Selection Criteria (TVERC & BMKERC undated);
- Oxfordshire Biodiversity Action Plan (BAP) habitat or species; and
- Oxford City BAP habitat or species (OCC 2015).

2.3 Limitations

Survey

2.3.1 It should be noted that whilst every effort has been made to provide a comprehensive description of the site, no investigation can ensure the complete characterisation and prediction of the natural environment.

Accurate Lifespan of Ecological Data

2.3.2 The majority of ecological data remain valid for only short periods due to the inherently transient nature of the subject. The survey results contained in this report are considered accurate for two years, assuming no significant considerable changes to the site conditions.

3 Results

3.1.1 The survey results are presented in the form of a map with the habitat types and boundary features marked (Annex B).

3.1.2 Descriptions of the habitat types and boundary features are detailed below. Habitat descriptions are defined by broad habitat types (JNCC, 2010).

3.1.3 The results are presented below initially to cover features across the Project site as a whole and then specific features within each survey area. The location of survey areas and field numbering is shown in Annex A.

3.2 Wider Site

G1 Standing Water

- 3.2.1 A total of 21 ponds were identified within the Project site. These ponds varied in size, with some displaying ephemeral character whilst others appeared to retain water throughout the year.
- 3.2.2 Dry ditches and man-made field drains occurred within, and adjacent to, arable fields and grasslands across the site, several of which were in association with hedges and woodland edges. Many ditches corresponded with lines of trees that were either planted or evolved from old hedgerows, and these are likely to dry up in the summer months.

G2 Running Water

- 3.2.3 There were several small streams around the wider site, often in association with arable fields or lines of trees.

J1.1 Arable

- 3.2.4 The great majority of the Project site consisted of active arable fields. In some cases these fields were bordered by c.4 m – c.6 m improved grassland buffers on all sides. Some arable field edges were bordered directly by hedgerows or fences. Crop species being grown included wheat *Triticum aestivum*, oilseed rape *Brassica napus*, broad bean *Vicia faba* and common millet *Panicum miliaceum*.
- 3.2.5 Arable field buffers across these areas varied in width and sward height. The majority of sward heights exceeded c.0.5 m. Buffers used as vehicle access tended not to exceed \leq c.0.2 m.
- 3.2.6 These grass buffers were dominated by false oat-grass *Arrhenatherum elatius* and perennial ryegrass *Lolium perenne*, with *Clematis sp.* frequent from adjacent hedgerows.
- 3.2.7 More occasional species included cock's-foot *Dactylis glomerata*, soft brome *Bromus hordeaceus*, hairy brome *Bromus ramosus*, red fescue *Festuca rubra*, timothy grass *Phleum pratense*, creeping bent *Agrostis stolonifera*, field bindweed *Convolvulus arvensis*, common ragwort *Senecio jacobaea* and common groundsel *Senecio vulgaris*.
- 3.2.8 Rare, but widespread species included barren brome *Bromus sterilis*, field brome *Bromus arvensis*, black grass *Alopecurus myosuroides*, alfalfa *Medicago sativa*, red bartsia *Odontites vernus*, creeping thistle *Cirsium arvense* and bristly ox-tongue *Helminthotheca echioides*.
- 3.2.9 Locally rare species within grass buffers included white campion *Silene latifolia*, wild mignonette *Reseda lutea*, wild liquorice *Astragalus glycyphyllos*, oxeye daisy *Leucanthemum vulgare*, lady's bedstraw *Galium verum*, greater knapweed *Centaurea scabiosa*, blue fleabane *Erigeron acer* and field scabious *Knautia arvensis*.

3.3 Areas 1-4

A2 Mixed Scrub

- 3.3.1 Numerous isolated patches of scrub occurred across the wider site in association with various grassland and deciduous woodland edge habitats. These consisted predominantly of bramble *Rubus fruticosus*, or mixed bramble and deciduous scrub including birch *Betula pendula*, ash *Fraxinus excelsior* and oak *Quercus robur*.

A3.1 Scattered Trees (Broadleaved)

- 3.3.2 A mature oak was located within Field 1.12.

B3 Poor calcareous Grassland (Set-aside with calcareous indicators)

- 3.3.3 A set-aside of unmanaged vegetation on stony ground was located to the south of Field 1.8. It extended northwards, transitioning into a narrow channel of taller growth dominated by false oat, field bindweed and common nettle *Urtica dioica*. The vegetated channel curved eastward through Field 1.5 expanding into a poor semi-improved grassland in the northeast of the field which held a small, broken channel of standing water along the centre. The stony ground to the south also had some low shrubby growth from species associated with the adjacent hedgerow.
- 3.3.4 11 spikes of pyramidal orchid *Anacamptis pyramidalis* were identified to the south-west of this area (located SP 45641 19739).
- 3.3.5 Grasses present in the set-aside included false oat, soft brome, cock's-foot, black grass, sweet vernal grass *Anthoxanthum odoratum*, Yorkshire fog *Holcus lanatus*, each occurring rarely.
- 3.3.6 Forbs present included occasional hop trefoil *Trifolium campestre* and red clover *Trifolium pratense*. Rarely occurring species included woolly thistle *Cirsium eriophorum*, dwarf thistle *Cirsium acaule*, blue fleabane, common knapweed *Centaurea nigra*, red bartsia, common mouse-ear chickweed *Cerastium fontanum*, perforate St John's-wort *Hypericum perforatum*, black medic *Medicago lupulina*, field pansy *Viola arvensis*, Yellow salsify *Tragopogon pratensis*, wild basil *Clinopodium vulgare*, goat's beard *Aruncus dioicus*, bird's-foot-trefoil *Lotus corniculatus*, dandelion *Taraxacum sp.*, fox-and-cubs *Pilosella aurantiaca*, selfheal *Prunella vulgaris*, cat's-ear *Hypochaeris radicata*, red bartsia, common ragwort, woolly thistle, dwarf thistle, blue fleabane, field pansy, wood avens *Geum urbanum*, white deadnettle *Lamium album*, field madder *Sherardia arvensis*, common mouse-ear chickweed, perforate St John's-wort and yellow salsify *Tragopogon pratensis*.

B4 Improved Grassland

- 3.3.7 Grassland buffers had been planted in several arable fields adjacent to crops. Species comprised a wildflower mix of Emorsgate EM3F, or similar. Cock's-foot, false oat and oxeye daisy, occurred frequently. Rarely occurring species included common knapweed, red clover, hedge bedstraw *Galium mollugo*,

sainfoin *Onobrychis viciifolia*, yarrow *Achillea millefolium*, common ragwort, self-heal, musk mallow *Malva moschata*, cleavers *Galium aparine*, great willowherb *Epilobium hirsutum*, perennial ryegrass, barren brome, soft brome, sweet vernal grass and crested dog's tail *Cynosurus cristatus*.

B6 Poor semi-improved grassland

- 3.3.8 Several retained, and less intensively managed grasslands occurred within Fields 1.5/1.8, 1.10, 1.11, and a fenced off access path immediately south-west of Sturdy's Castle Hotel. Frequent species across the grasslands included false oat grass, cock's-foot and field bindweed. Occasionally occurring species included hop trefoil and alsike clover *Trifolium hybridum*. Rarely occurring species included soft brome, common couch *Elytrigia repens*, black medic, red bartsia, field forget-me-not *Myosotis arvensis*, bird's-foot trefoil, woolly thistle, creeping thistle, spear thistle *Cirsium vulgare*, common ragwort, ribwort plantain *Plantago lanceolata* and red clover.

C3 Ephemeral/ Tall ruderal

- 3.3.9 A small section of arable ground within Field 1.13 had been left fallow and had subsequently been colonised by frontier species. Present species included common ragwort, common groundsel, London rocket *Sisymbrium irio*, spear thistle, hedge mustard *Sisymbrium officinale*, charlock *Sinapis arvensis*, scarlet pimpernel *Anagallis arvensis*, Persian speedwell *Veronica persica*, white clover *Trifolium repens*, creeping thistle and field bindweed.

J1.1 Rye-Clover Ley

- 3.3.10 A small, clover-dominated patch of planting was present in the south-western corner of Field 1.4. Red clover was abundant and perennial ryegrass frequent. Pineapple weed *Matricaria discoidea*, chicory *Cichorium intybus* and crimson clover *Trifolium incarnatum* occurred occasionally. Rarely occurring species included cock's-foot, sulphure clover *Trifolium ochroleucon*, garden radish *Raphanus sativus* and lacy phacelia *Phacelia tanacetifolia*.

J2 Hedgerows and Hedges with Trees

- 3.3.11 The majority of hedgerows in these areas were intact, and many were species rich. Mature and semi-mature trees were also present in many hedgerows. Ash and oak predominated semi-mature trees within these hedges.
- 3.3.12 Species present included field elm *Ulmus minor*, field maple *Acer campestre*, sycamore *Acer pseudoplatanus*, common hazel *Corylus avellana*, common hawthorn *Crataegus monogyna*, ash, oak, *Prunus sp.*, crack willow *Salix fragilis*, English elm *Ulmus procera*, common elder *Sambucus nigra*, blackthorn, damson *Prunus domestica spp.*, wayfaring tree *Viburnum lantana*, European horse chestnut *Aesculus hippocastanum*, holly *Ilex aquifolium*, crabapple *Malus sp.*, scots pine *Pinus sylvestris*, small-leaved lime *Tilia cordata*, alder *Alnus glutinosa*, and European Larch *Larix decidua*.
- 3.3.13 Clematis and bramble were frequent in hedgerows across this area, and sparse instances of English ivy *Hedera helix* and black bryony *Dioscorea*

communis were also noted. Some hedgerows had extensive ground flora, including indicator species such as bluebell *Hyacinthoides non-scripta*, and lords and ladies *Arum maculatum*.

- 3.3.14 Both defunct hedges, of similar species character to the intact, as well as species rich hedges in grasslands and arable fields across the site had sections removed for agricultural machinery and vehicle access.
- 3.3.15 Several species-poor hedgerows were located across the site, comprising blackthorn and damson, and were regularly managed. They contained intermittent mature trees comprising ash and oak.
- 3.3.16 Other species-poor hedgerows comprising common hawthorn, and common hawthorn with ivy, were located across the wider site in association with arable fields. These hedges were comparatively tall, indicating a lack of recent maintenance.

J2.5 Walls

- 3.3.17 A drystone wall was present around the north and west boundaries of Field 1.12. A semi-mature treeline ran along a portion of the wall comprising elm, hazel, elder, ash, small leaved lime and oak.

3.4 Areas 5-6

B4 Improved Grassland

- 3.4.1 A strip of regularly managed, improved grassland along the eastern and northern borders of Field 2.12. Species present included perennial ryegrass which was the dominant species here. White clover, dandelion and creeping buttercup *Ranunculus repens* occurred frequently.
- 3.4.2 Recently cut rye clover leys were located in Fields 2.5, 2.7 and 2.11 with a 20 m or so wide strip of improved grassland was present along the southern border. Birds foot trefoil, Yorkshire fog and creeping buttercup were abundant species here. Sorrel *Rumex acetosa*, tufted hair grass *Deschampsia cespitosa*, and cheatgrass *Bromus tectorum* occurred frequently. Occasional species included cow parsley *Anthriscus sylvestris*, autumnal hawkbit *Scorzoneroides autumnalis*, oxeye daisy and ragwort.

B6 Poor semi-improved Grassland

- 3.4.3 Field 2.8, previously classified as arable, had developed into grassland. Yorkshire fog, white clover, birds foot trefoil and creeping buttercup were abundant here. Sorrel, tufted hair grass and cheatgrass occurred frequently. Cow parsley, autumnal, hawkbit, oxeye daisy and ragwort were occasional species, with selfheal and teasel *Dipsacus fullonum* occurring rarely.

C3 Other Tall Herb and Fern - non ruderal

- 3.4.4 An area of tall ruderals was located on the south-eastern border of Field 2.13. Species present here included abundant creeping thistle, and frequent sorrel, common nettle and false-oat grass.

- 3.4.5 A building with a hard standing yard on the north-eastern boundary of Field 2.16 was surrounded by tall ruderal habitat. Species included Yorkshire fog, tall ryegrass *Festuca arundinacea*, ragwort, sorrel occurring frequently. Occasional species included ribwort plantain, autumnal hawkbit, white clover.
- 3.4.6 A short perennial/ephemeral strip of vegetation c.15 m deep was located around the north, west, and south boundaries of Field 2.19. Species present included common poppy *Papaver rhoeas*, common nettle, dock *Rumex sp.*, creeping thistle, ragwort, black bindweed *Fallopia convolvulus*, knotgrass *Polygonum sp.*, scarlet pimpernel, cow parsley, bristly oxtongue, nipplewort *Lapsana communis*, charlock and autumnal hawkbit.
- 3.4.7 Areas of bracken *Pteridium aquilinum*, growth were associated with conifer plantations within Blenheim Wood and Worton Heath, and adjacent grasslands.

G2 Running Water

- 3.4.8 Rowel Brook, a tributary of the River Cherwell, flows northwest-southeast through a parcel of arable fields in the Bladon area.

J1.1 Rye-Clover Ley

- 3.4.9 Recently cut rye clover leys were located in Field 2.5, 2.7 and 2.11. Field 2.15, which was arable at the time of the previous survey, had also been planted as a clover ley. Abundant species present in these habitats included Yorkshire fog, white clover, ragwort, creeping thistle and creeping buttercup. Frequently occurring species included sorrel, tufted hair grass, creeping thistle, sorrel, ragwort, tall ryegrass and creeping buttercup. Occasional species included daisy *Bellis perennis*, autumnal hawkbit, oxeye daisy and cheatgrass.

3.5 Area 7

B4 Improved Grassland

- 3.5.1 Several fields to the north-west and south-east of this area were dominated by perennial ryegrass, with frequent white clover. Creeping buttercup, dandelion and broadleaf plantain *Plantago major* were occasional.

B6 Poor semi-improved Grassland

- 3.5.2 Field 2.31 was a grassland east of the River Evenlode and west of arable fields.

C3 Other Tall Herb and Fern - non ruderal

- 3.5.3 An area of tall ruderal surrounding the gate to the east of Field 2.27. Silver weed *Potentilla anserina* was abundant, with Yorkshire fog, creeping thistle and common nettle frequent. Autumnal hawkbit *Scorzoneroides autumnalis*, creeping cinquefoil *Potentilla reptans*, ragwort and sorrel were occasional species here.

- 3.5.4 Fields 2.30 and 2.28 had been re-colonised by ephemeral species including ragwort, nettle, oxeye daisy, dock, creeping thistle, speedwell species *Veronica sp.*, bristly oxtongue, redshank *Persicaria maculosa*, Yorkshire fog, scarlet pimpernel, linseed *Linum usitatissimum*, red dead nettle *Lamium purpureum*, knotgrass *Polygonum sp.*, wild oat *Avena fatua* and black bindweed.
- 3.5.5 Areas of bracken growth were associated with conifer plantations within Blenheim Wood and Worton Heath, and adjacent grasslands.

G2 Running Water

- 3.5.6 The River Evenlode, a tributary of the River Thames, flowed north-south through a parcel of arable fields between Hanborough Business Park and Blenheim Woods. The river runs south through arable fields and improved grassland, continuing beyond the southern border of the site boundary in area 15.
- 3.5.7 A dried distributary of the River Evenlode was located between Fields 2.32 and 2.34 with a dense grassland growing in the riverbed. Species present included ribbon grass *Phalaris arundinacea*, water mint *Mentha aquatica* occurring frequently and common nettle occurring occasionally.

3.6 Area 8

B4 Improved Grassland

- 3.6.1 A cluster of fields adjacent to Burleigh farm were in use as sheep grazing pasture. The swards were predominated by grasses including false oat grass, perennial ryegrass, cock's-foot, and Yorkshire fog. Creeping buttercup, cleavers and white clover also occurred frequently.

C3 Tall Ruderal/ Ephemeral

- 3.6.2 Fields 2.44 and 2.45 had been left fallow, and subsequently colonised by frontier species.
- 3.6.3 Square-stalked willowherb *Epilobium tetragonum* was dominant, with occasional cover of broadleaf plantain and bristly oxtongue. Perennial ryegrass and rough meadow grass *Poa trivialis* were occasional grasses. Black grass, soft brome, white clover, bird's-foot trefoil, marsh thistle *Cirsium palustre*, yellow oatgrass *Trisetum flavescens*, sunflower *Helianthus annuus* (self-seeded), oilseed (self-seeded), common ragwort, many-seeded goosefoot *Lipandra polysperma*, shepherd's purse *Capsella bursa-pastoris*, rosebay willowherb *Chamaenerion angustifolium*, Canada fleabane *Erigeron canadensis*, common orache *Atriplex patula* and lacy phacelia occurred rarely.
- 3.6.4 A small stand of common reed *Phragmites australis* was present on the east face of the central hedgerow dividing east and west Field 2.44.

J1.1 Rye-Clover Ley

- 3.6.5 A section along the southern border of Field 2.41 comprised white clover, red clover and bird's-foot trefoil.

J3.6 Buildings

- 3.6.6 Several buildings were associated with Burleigh Farm, comprising barns, outbuildings, brick-built houses, and sheds.

3.7 Area 9-15

A1.1.1 Broadleaved Woodland (Semi-natural)

- 3.7.1 Two areas of willow woodland in the south-east of Field 2.71 were dominated by crack willow *Salix fragilis* on the boundary of Areas 9 and 11. The more southerly was crack willow *Salix fragilis* but the woodland at the northern end of Area 11 also contained ash, blackthorn *Prunus spinosa* and oak.

A1.1.2 Broadleaved Woodland (Plantation)

- 3.7.2 A small, triangular parcel of woodland was located south of Purwell Farm and East of the river Evenlode. It was surrounded by arable fields and separated by fencing. A broad-leaved woodland plantation dominated by beech *Fagus sylvatica* and ash with some useful understorey and boundary shrubs particularly hawthorn. The plantation is used for game cover. In terms of ground cover the abundant common nettle.

A3.1 Line of Trees

- 3.7.3 Several lines of semi-mature and mature trees occurred across these areas with species including elm, oak, ash, hazel, small-leaved lime, field maple, hawthorn and elder, often with a bramble understorey. Several lines of trees south of Church Hanborough were backed by a stream.

B4 Improved Grassland

- 3.7.4 Several areas of managed, regularly mown grassland were associated with the Purwell Farm buildings.
- 3.7.5 Fields 2.68 and 2.72 were pastures separated by the River Evenlode, and adjacent to the railway line to the east. These grasslands were dominated by Yorkshire fog with substantial crested dog's-tail, perennial ryegrass and marsh foxtail *Alopecurus geniculatus* in a dried-out ditch in the eastern field. The coverage of forbs in these pastures was low, with spear thistle present at the northern end of the eastern field.
- 3.7.6 Alongside the River Evenlode here, and along the boundary of Area 10 and Area 11, welved thistle *Carduus crispus*, hogweed *Heracleum sphondylium*, common bulrush *Schoenoplectus lacustris*, common reed, corn sow-thistle *Sonchus arvensis*, marsh yellow cress *Rorippa palustris*, water-cress *Rorippa sp.*, and water speedwell sp., *Veronica sp.* were noted.

B6 Poor semi-improved Grassland

- 3.7.7 Several grasslands often associated with the River Evenlode.
- 3.7.8 Field 2.109 was a semi-natural grassland of different species compositions than much of its surroundings. It was dominated by smooth meadow grass *Poa pratensis* and Yorkshire fog.

C3 Tall Ruderal/ Ephemeral

- 3.7.9 Several fields had been left fallow in these areas. Square staked willow herb was dominant. Spiny sowthistle *Sonchus asper* and hairy willowherb *Epilobium hirsutum* were frequent species.

G2 Running Water

- 3.7.10 The banks of the River Evenlode were natural and vegetated through these areas. Some associated terrestrial species included hogweed, Russian comfrey *Symphytum x uplandicum*, walted thistle and wild turnip *Brassica rapa ssp. campestris*.

J1.1 Arable

- 3.7.11 Greater than 50% of fields surveyed in Areas 9-15 comprised arable land, several of which fields in area 9 directly bordered the River Evenlode.

J1.1 Rye-Clover Ley

- 3.7.12 Numerous fields had been planted as a mix of ryegrass sp. and clover sp..

J2.4 Hedgerows, species- rich

- 3.7.13 A species rich hedgerow was located on the western edge Field 2.86. Species noted included ash, oak, hawthorn and hazel *Corylus avellana*. Notable quantities of nettle were present here.
- 3.7.14 Hedgerows were located along Lower road on the western side of Area 9. These hedgerows comprised ash, blackthorn, elm *Ulmus sp.*, and hawthorn. Hogweed and nettle were noted here. Hedgerows demarcating fields within areas 9-15 were of similar character.

J2.4 Hedgerows, species- poor

- 3.7.15 Across the northern boundaries of Fields 2.74 and 2.81; and across the southern boundaries of Fields 2.74-2.76, many of the hedgerows were species poor with occasional ash trees, some large oak and occasionally dead standing timber of these species.
- 3.7.16 Two potentially ancient trackways were located along the eastern and southern borders of Field 2.95. The longer of the two formed the boundary between areas 13 and 14. The hedgerows along these tracks containing useful native shrubs such as dog rose *Rosa canina*, hazel and hawthorn. Abundant hogweed was noted as well as some chalk flora and grass such as red fescue.

J2.6 Ditch

- 3.7.17 An overgrown ditch to the east, was dominated by bur-reed *Sparganium sp.*, and common reed.

J3.6 Buildings

- 3.7.18 Several buildings were associated with Purwell Farm, comprising barns, outbuildings, brick-built houses and sheds.

3.8 Area 16

A3 Line of Trees

- 3.8.1 Lines of trees bordered fields surrounding Crawley Sewage Works. Species within these treelines included field maple, elder, elm, crab apple *Malus sylvestris*, hawthorn and goat willow *Salix caprea*.

A2 Mixed Scrub

- 3.8.2 Scrub bordered the southern border of Field 2.53 between grassland and a boundary line of trees. Species included common nettle, bramble and cow parsley.

B4 Improved Grassland

- 3.8.3 A grassland buffer had been planted along the northern and eastern edges of a wheat arable in Field 2.60. Species comprised a wildflower mix of Emorsgate EM3F, or similar. Common knapweed was abundant here. cock's-foot, false oat, alfalfa and oxeye daisy, occurred occasionally. Rarely occurring species included, red clover, hedge bedstraw, lady's bedstraw, yarrow, common ragwort, self-heal, musk mallow, perennial ryegrass, soft brome and great horsetail *Equisetum telmateia*.

B6 Poor semi-improved Grassland

- 3.8.4 A grassland in the south of Field 2.53 included occasional perennial ryegrass, bristly oxtongue, spiny sow thistle *Sonchus asper* and yellow oat-grass.
- 3.8.5 Rarely occurring species included alsike clover, white clover, borage *Borago officinalis*, square-stalked willowherb, many-seeded goosefoot, common mallow *Malva sylvestris*, scented mayweed *Matricaria chamomilla*, smooth tare *Vicia tetrasperma*, common ragwort and ribwort plantain.

C3 Tall Ruderal/ Ephemeral

- 3.8.6 A patch of ephemeral vegetation was located within the wheat planting to the north of Field 2.53. square-stalked willowherb and sun spurge *Euphorbia helioscopia* were abundant here. Round-leaved fluellen *Kickxia spuria*, many-seeded goosefoot, white clover and black medic occurred occasionally in localised patches. Common sowthistle *Sonchus oleraceus*, spiny sowthistle, broadleaf plantain, yellow oat grass, redshank, Persian speedwell, shepherd's

purse, cleavers, scarlet pimpernel, black nightshade *Solanum nigrum* and field penny-cress *Thlaspi arvense* occurred rarely.

3.8.7 Fields 2.55 and 2.56 had been colonised by frontier species from bare ground with some self-seeded wheat also present.

3.8.8 The southern edge of Field 2.60 was dominated by nettles and dock *Rumex obtusifolius*. There was also rarely occurring false oat grass, yellow oat grass, soft brome, creeping thistle and poppy *Pappaver rhoeas* in this area.

G1 Standing Water

3.8.9 A pond was located in the south-eastern corner of Field 2.60. The pond had steep, vegetated natural banks and appeared to retain at least some water across the year. Sapling trees were present around the pond edge including crack willow *Salix fragilis* and flag iris *Iris pseudacorus*, bramble and common reed. There appeared to be some submergent vegetation with less than 10% cover by emergent vegetation.

J1.1 Arable

3.8.10 A wheat parasite, confused canary-grass *Phalaris brachystachys*, was present within the arable field and grass buffer in the south-east corner of Field 2.53.

J2.3 Hedge with Trees - Species Poor

3.8.11 Species-poor hedges associated with fields adjacent to the Cassington Sewage Treatment Works consisted of field maple and blackthorn.

J2.6 Dry Ditch

3.8.12 A dry ditch ran north-south between the Cassington Sewage Treatment Works access road and the western edge of Field 2.57. The ditch held water for part of the year, but species here were indicative of dry conditions comprising terrestrial ruderals and sapling species associated with nearby hedges.

J3.6 Buildings

3.8.13 A large barn was located to the south-east entrance of Field 2.60. The roof and walls were box profile sheet metal.

3.9 Denmans Farm

J1.1 Arable

3.9.1 The majority of this area comprised arable fields, all of which had been recently tilled. Field 3.11, which was previously improved grassland, had also recently been tilled.

B4 Improved Grassland

3.9.2 Fields 3.4 was a relatively unmanaged grassland with a sward height predominantly greater than c0.5 m.

- 3.9.3 False oat and Yorkshire fog were abundant here, while rough meadow grass, smaller cat's tail *Phleum bertolonii*, perennial ryegrass and Timothy grass were occasional. Rarely occurring graminoids included hard rush *Juncus inflexus*, soft rush *Juncus effusus*, and marsh foxtail which was localised on western edge of the grassland.
- 3.9.4 Forbs present included occasional creeping buttercup, and rarely occurring field buttercup *Ranunculus acris*, dock, creeping thistle and great willowherb.
- 3.9.5 Fields 3.12 and 3.17 were continuous, comprising a regularly managed grassland and was dominated by Yorkshire fog. Other grasses present here included false oat, cock's-foot, meadow foxtail *Alopecurus pratensis*, rough meadow grass, perennial ryegrass, meadow barley *Hordeum brachyantherum* and soft rush occurred rarely.
- 3.9.6 The forbs present here were in low in diversity, with creeping buttercup *Ranunculus repens* and creeping thistle occasional. Common mouse-ear chickweed, nettle, dock, spear thistle, sorrel, marsh thistle and cow parsley occurred rarely.
- 3.9.7 A vegetated area to the west of Field 3.5 was located adjacent to a brick-built shed. This area was dominated by toad rush *Juncus bufonius* and square-stalked willowherb.

J2.4 Arable

- 3.9.8 Field 3.15 had been recently tilled, however there was a notable cover of scented mayweed across the tilled field body and margins. Round-leaved fluellen, and an individual sharp-leaved fluellen plant *Kickxia elatine* was noted by the surveyor (located SP 46728 05522).

J2.4 Hedgerows, species-rich

- 3.9.9 Fields within this area were separated by a network of hedgerows comprising elder, blackthorn, hawthorn, oak, field maple and ash.
- 3.9.10 Creeping cinquefoil and field horsetail *Equisetum arvense* were localised, but frequent at the base of hedgerows across this area.

J3.6 Buildings

- 3.9.11 Several buildings were associated with Denman's Farm, comprising barns, outbuildings, brick-built houses and sheds.

4 Evaluation

Habitats

- 4.1.1 The majority of the site comprises arable fields and various grassland types associated with hedgerows which predominantly comprised native, woody, species-rich compositions. As such these hedgerows qualify as HPis under Section 41 of the NERC Act.

4.1.2 An unmanaged set-aside with calcareous indicator species was located towards the north of the application boundary, as well as neutral grasslands across the wider site, in association with arable fields, had the potential to evolve into a more calcareous sward with appropriate management. It is possible that calcareous grassland species are still retained within the seed bank of the topsoil. However, they do not currently qualify as any BAP or HPI calcareous grassland.

4.1.3 There were several streams and larger rivers which flowed through the Project site. These included the River Evenlode and Rowel Brook, which qualify as HPIs.

Plant species

4.1.4 Bluebell, listed in Schedule 8 of the Wildlife and Countryside Act 1981 (WCA), an Oxford BAP and ancient woodland indicator species, was present in the understory of several hedgerows in association with woodland across the wider site.

4.1.5 Chicory is listed as vulnerable on the England Red List. It is also an Oxford BAP species. This species was locally rare in a clover ley in Field 1.4.

4.1.6 Corn mint, an Oxford BAP species, was identified rarely in an arable field margin in Field 3.2.

4.1.7 Dwarf spurge, an Oxford BAP species, was identified occasionally across the whole site in arable field margins.

4.1.8 Field scabious, an Oxford BAP species was rare, but widespread across Areas 1 - 4.

4.1.9 Sainfoin is listed as vulnerable on the England and Great Britain red lists. It is also an Oxford BAP species. This species was rare within wildflower planting in Fields 1.12 and 1.14.

4.1.10 11 spikes of pyramidal orchid were recorded within the calcareous set-aside in Field 1.8, and an individual spike within the southern grass buffer, in the south-east corner of Field 1.9.

5 Conclusion

5.1.1 The Project site contained a variety of habitats predominantly comprising arable fields surrounded by hedgerows. Other smaller areas of semi-improved, improved grasslands, standing and running water also occurred around the site.

5.1.2 There were also several habitats with the potential to develop into habitats of higher distinctiveness, including an unmanaged set-aside with calcareous indicator species.

5.1.3 Bluebell, listed in Schedule 8 of the WCA was recorded in several hedgerows associated with woodland across the wider site.

5.1.4 Several Oxford BAP plant species were recorded within the wider site. Many were locally restricted in their distribution.

- 5.1.5 The species-rich, native woody hedgerows on site qualify as HPis under Section 41 of the NERC Act 2006.
- 5.1.6 The ponds, rivers and streams within the site boundary also qualify as HPis under Section 41 of the NERC Act 2006.

6 References

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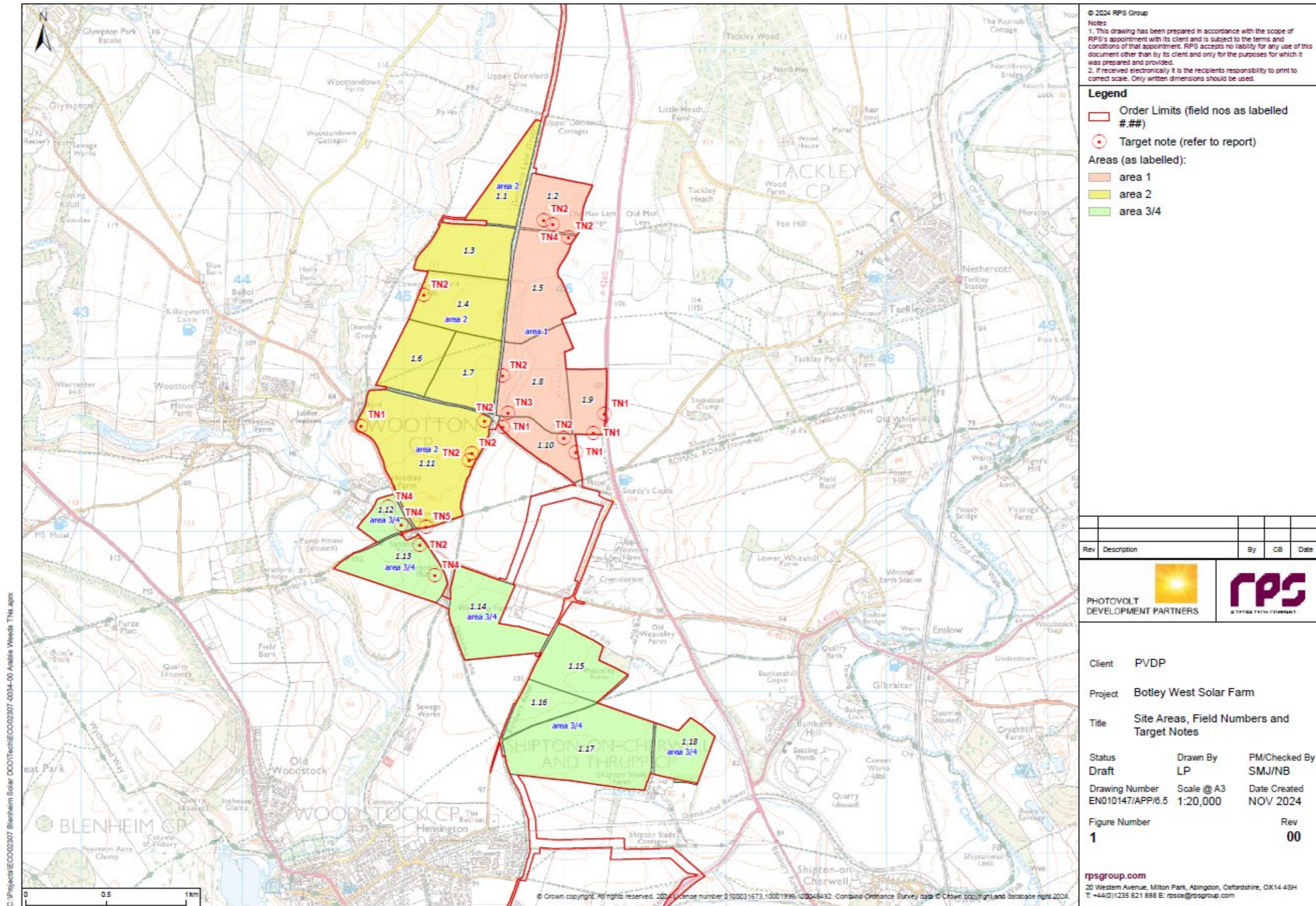
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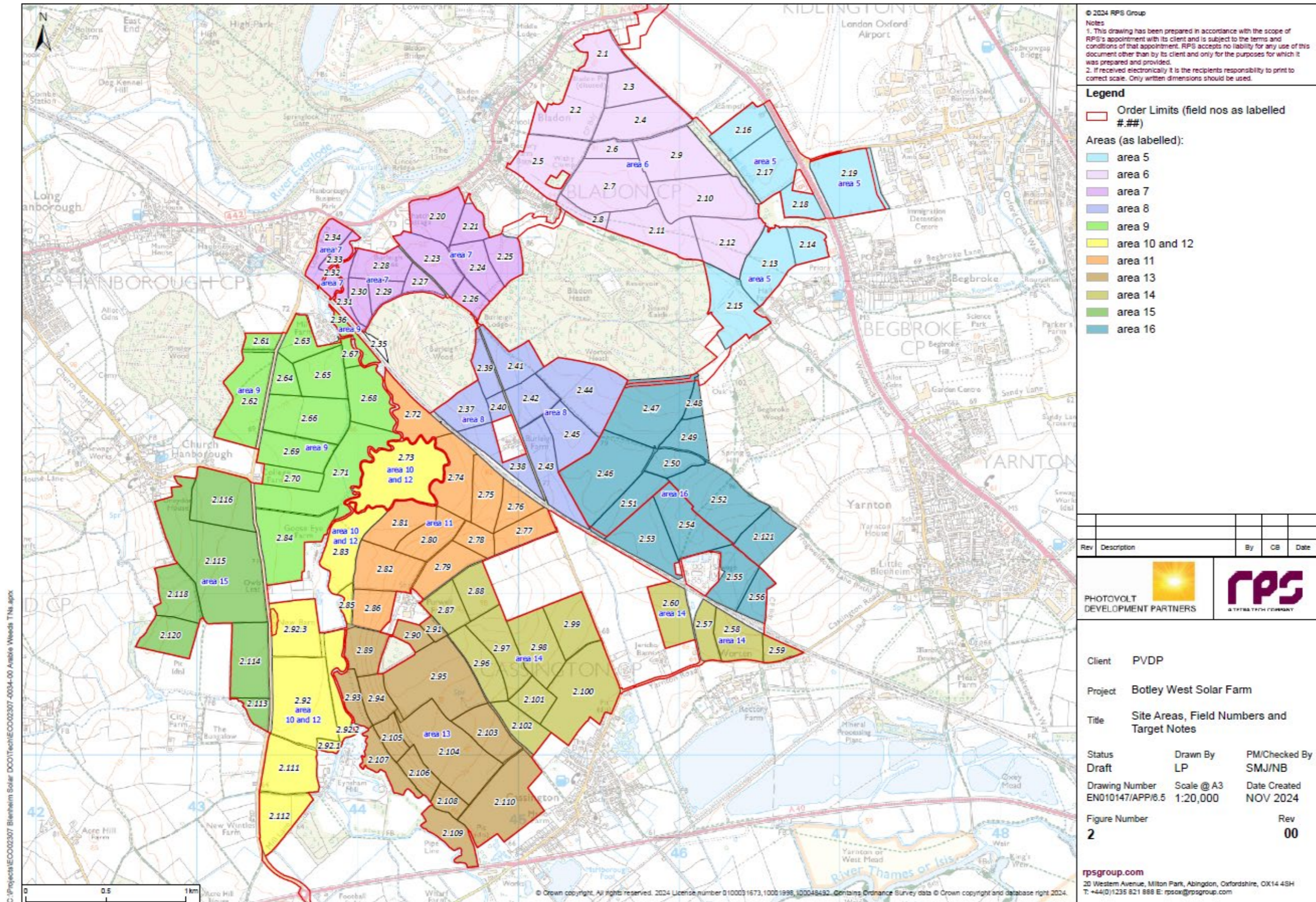
Annex A

Site Areas, Field Numbers and Target Notes

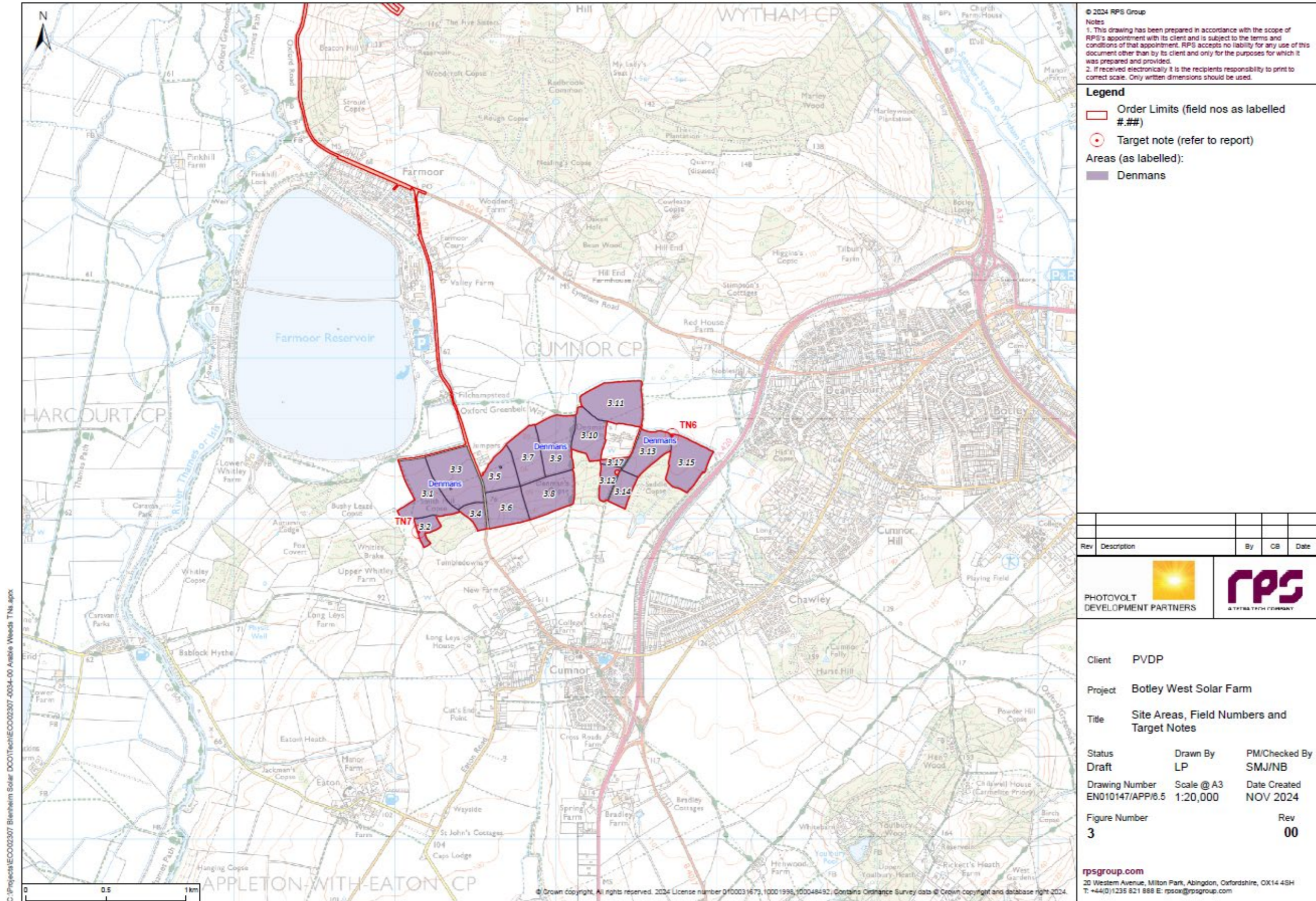
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Anx Figure 2 Site areas, field numbers and target notes (2 of 3).



Anx Figure 3 Site areas, field numbers and target notes (3 of 3).



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Legend
 Order Limits (field nos as labelled #.#)
 Target note (refer to report)
Areas (as labelled):
 Denmans

Rev	Description	By	CB	Date

PHOTOVOLT DEVELOPMENT PARTNERS

Client PVDP
 Project Botley West Solar Farm
 Title Site Areas, Field Numbers and Target Notes
 Status **Draft** Drawn By LP PM/Checked By SMJ/NB
 Drawing Number EN010147/APP/6.5 Scale @ A3 1:20,000 Date Created NOV 2024
 Figure Number **3** Rev **00**

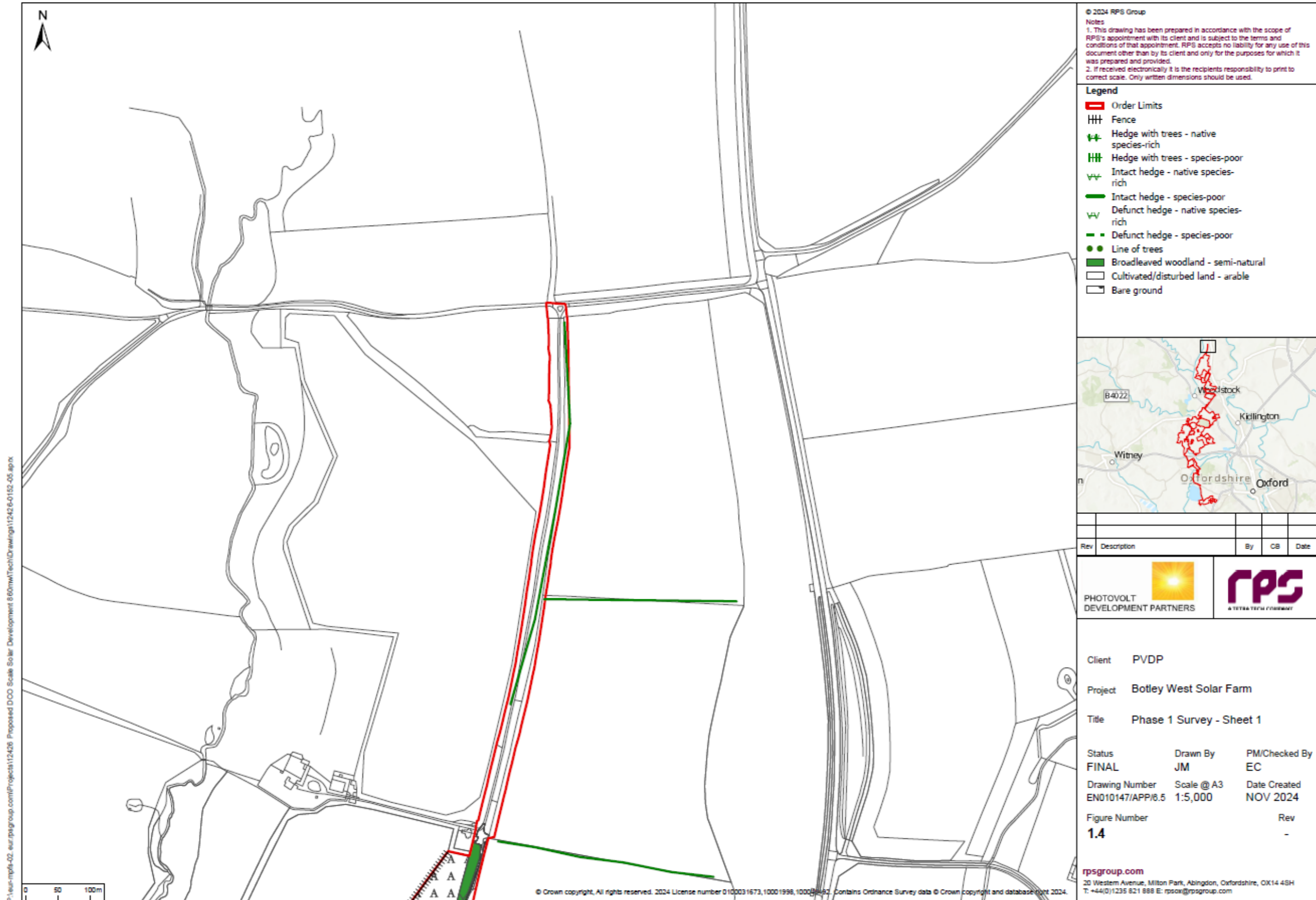
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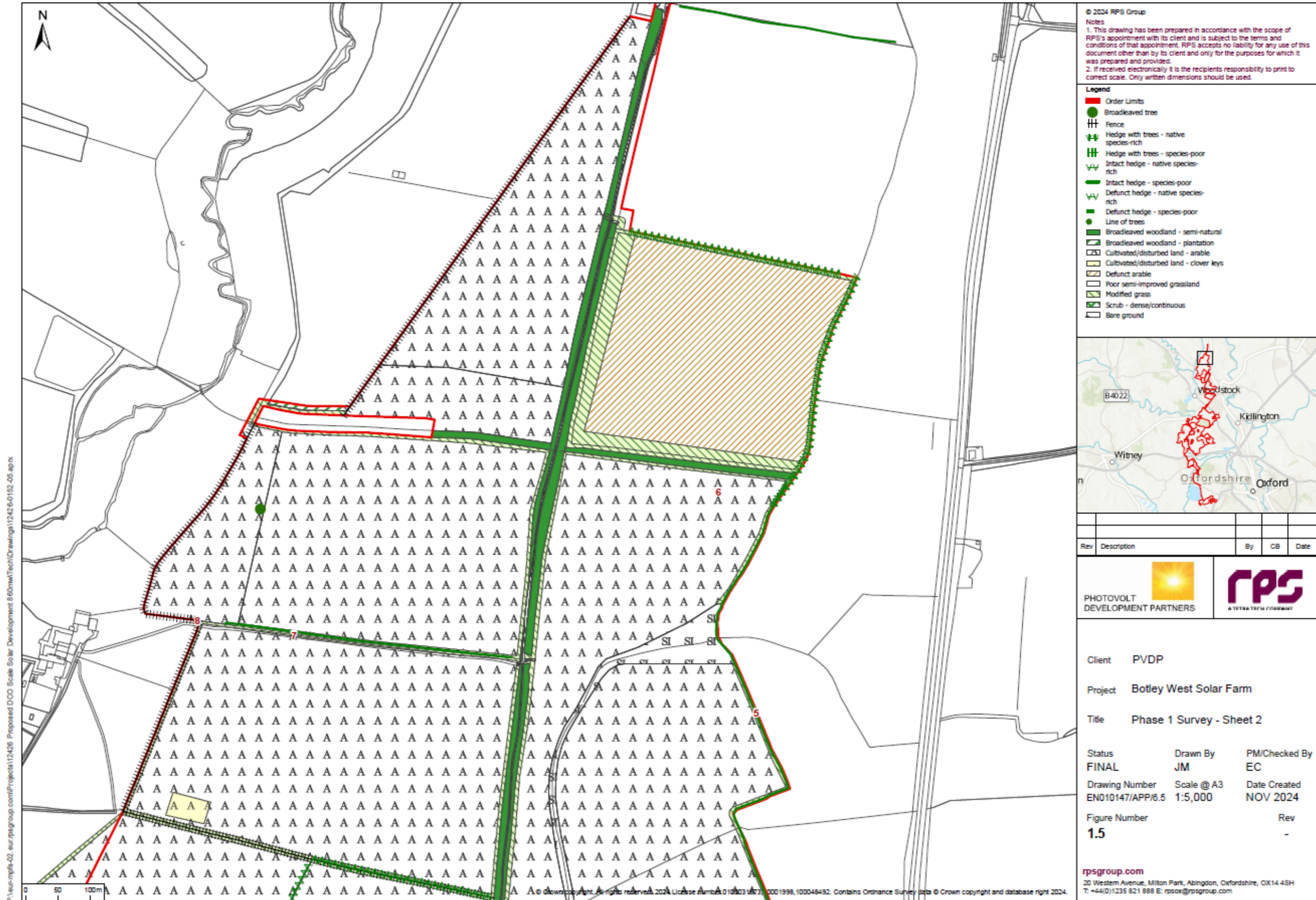
Annex B

Phase 1 Habitat Map

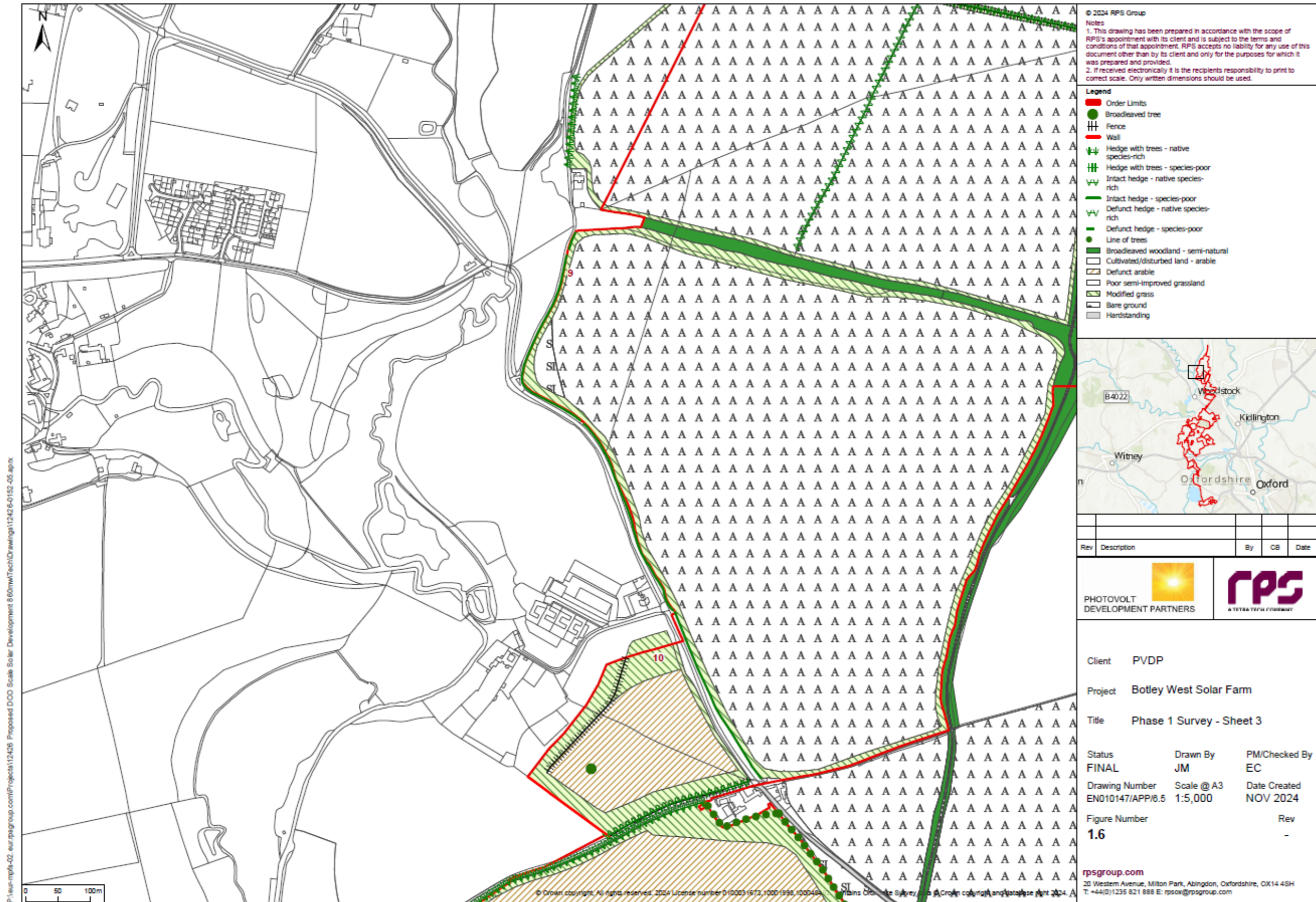
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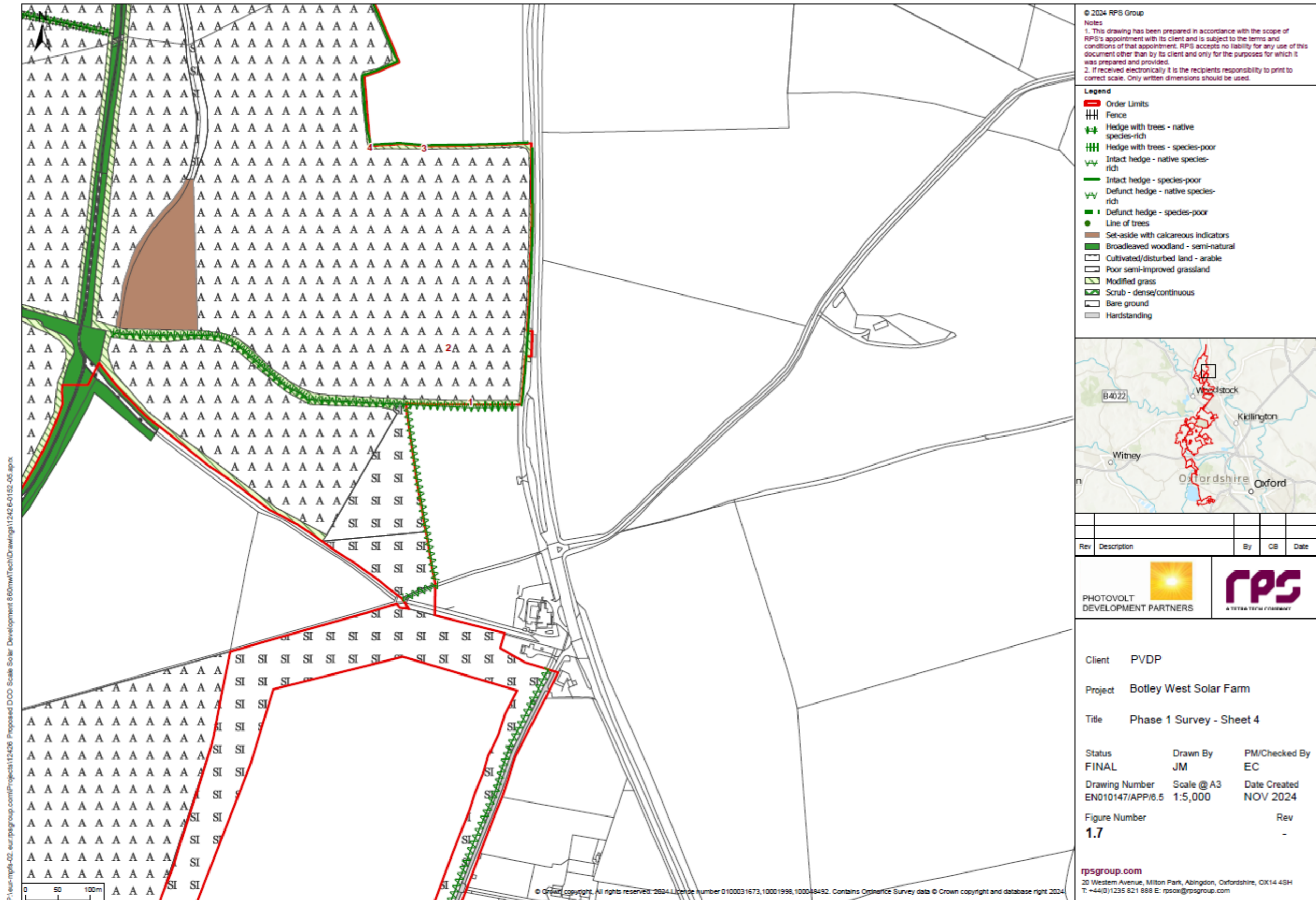
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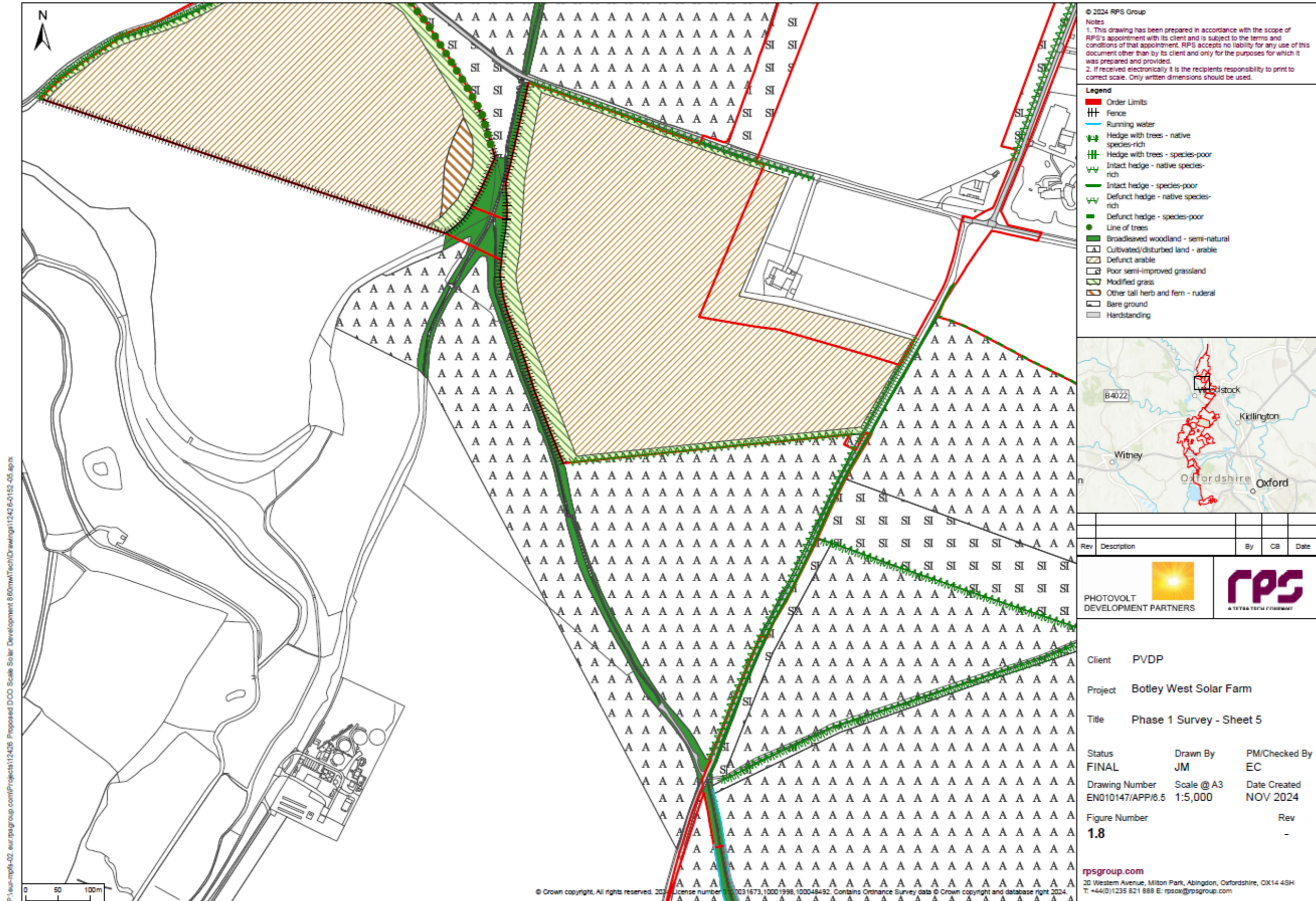
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Anx Figure 8 Phase 1 Survey (5 of 24).



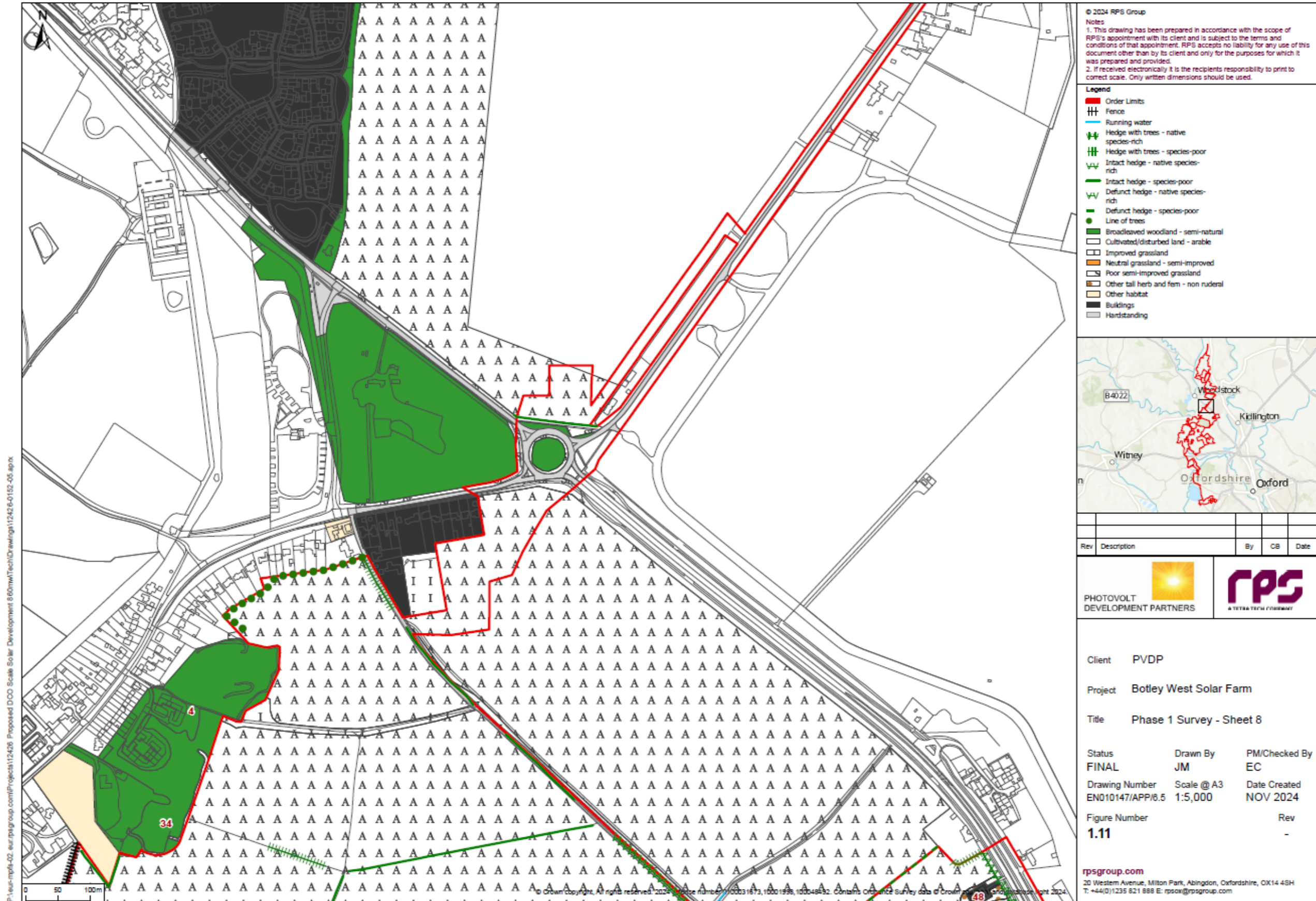
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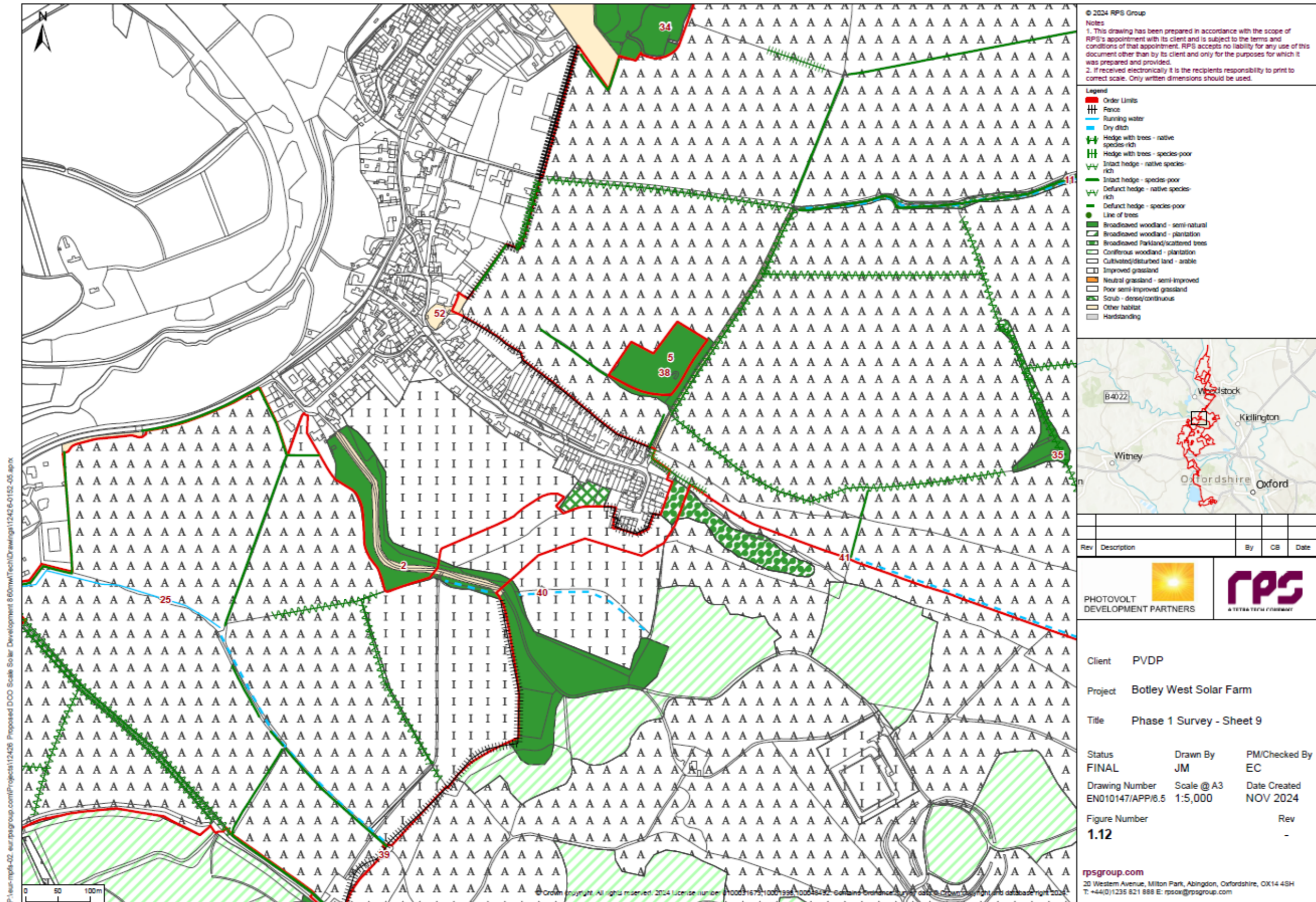
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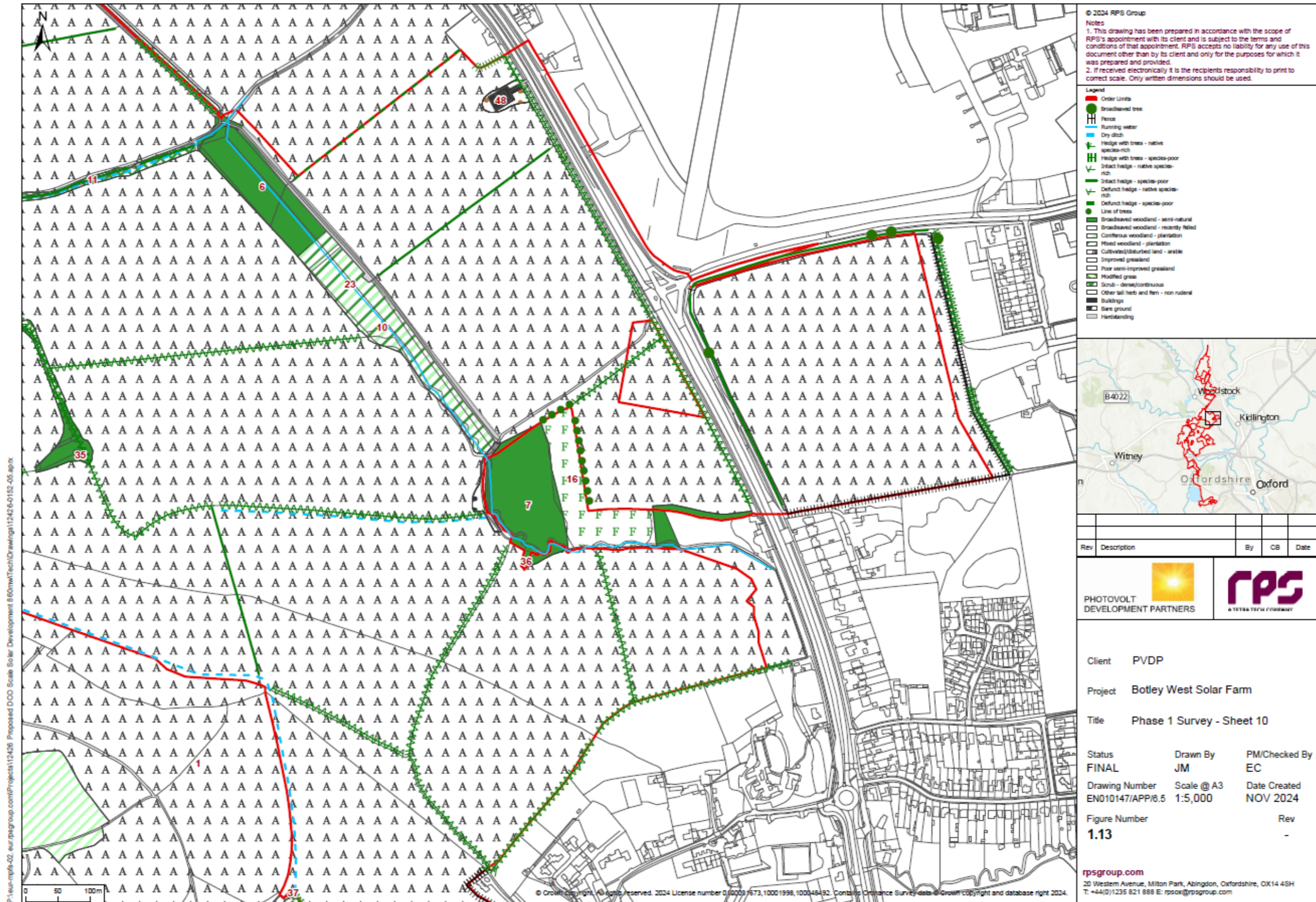
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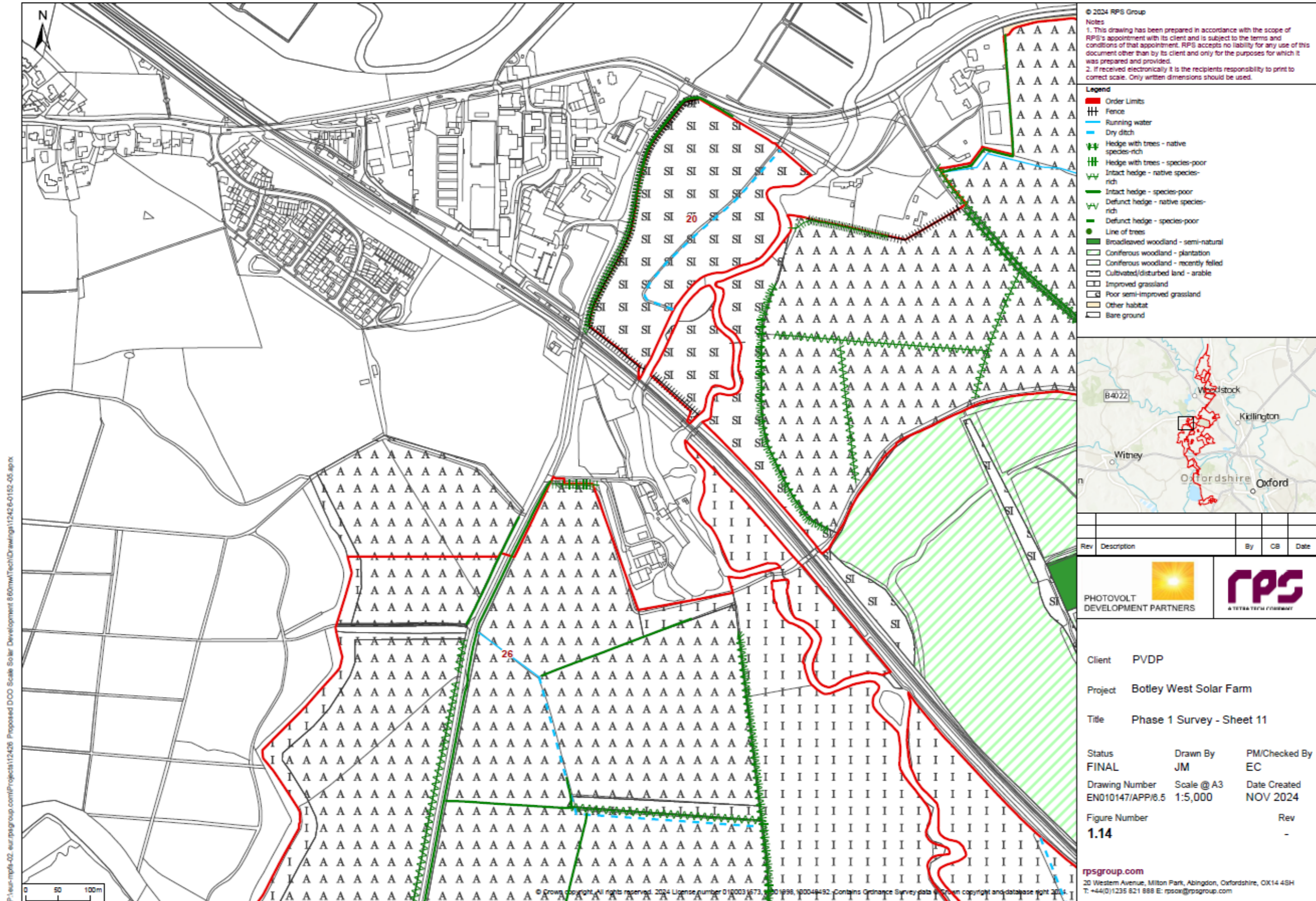
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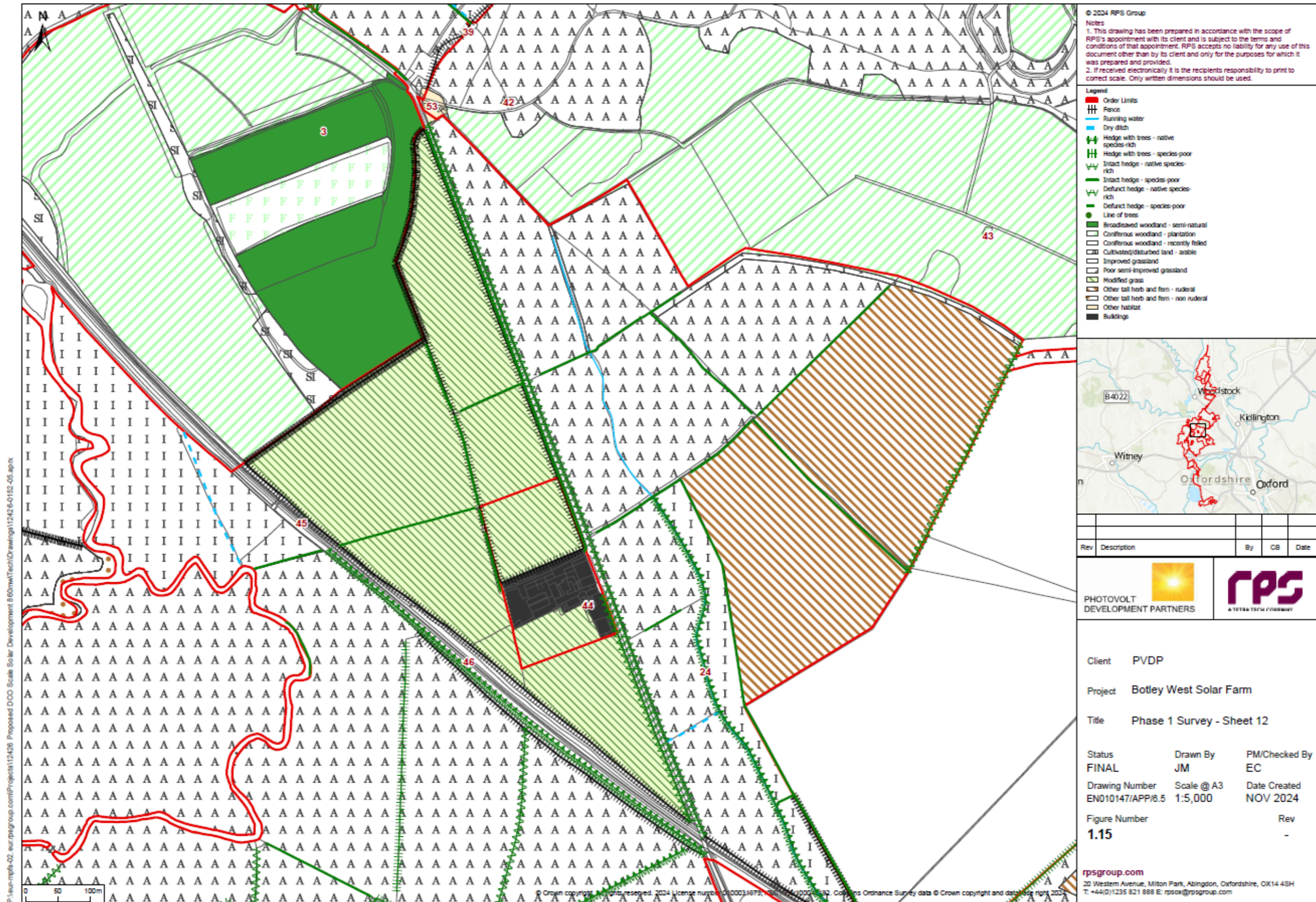
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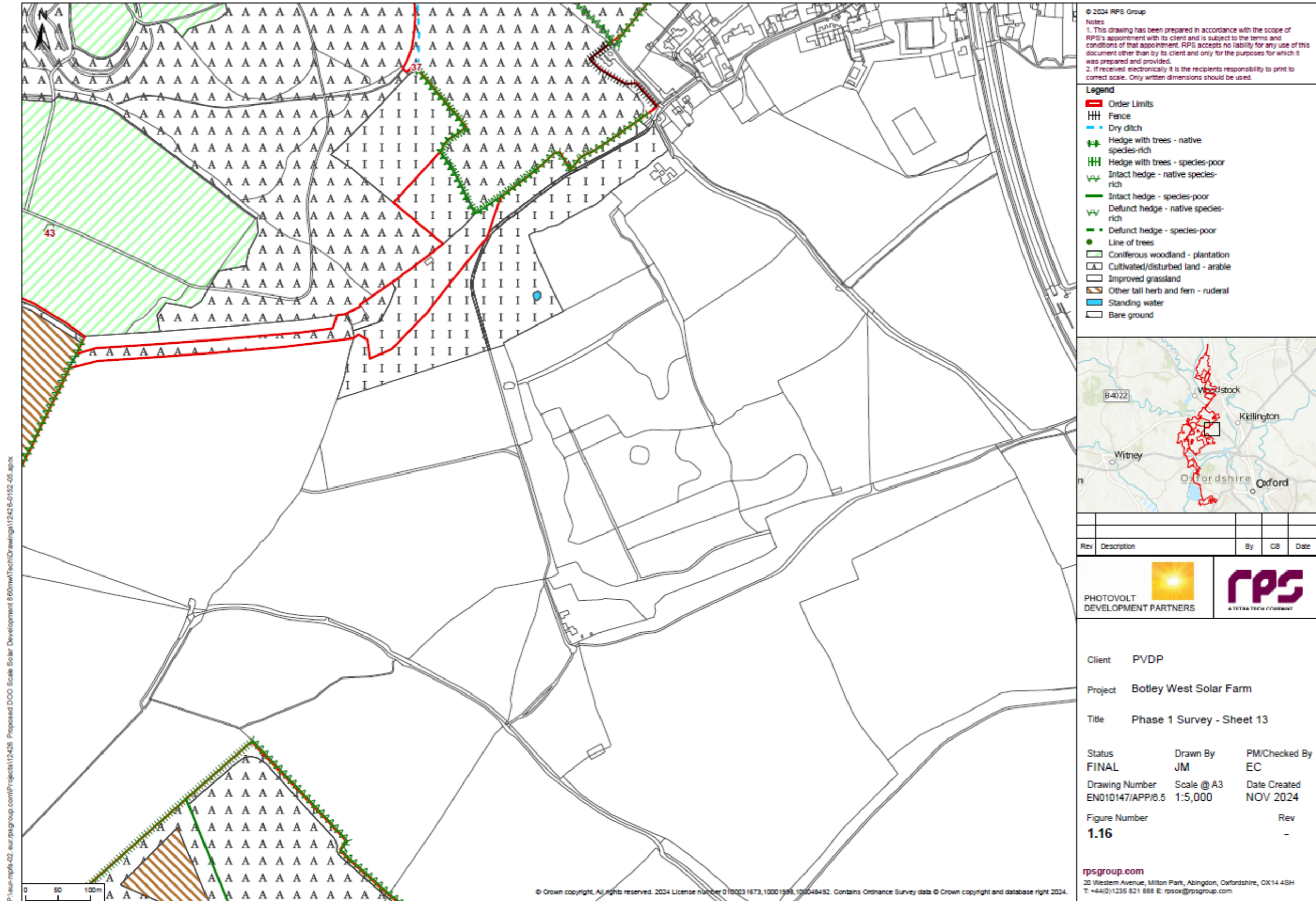
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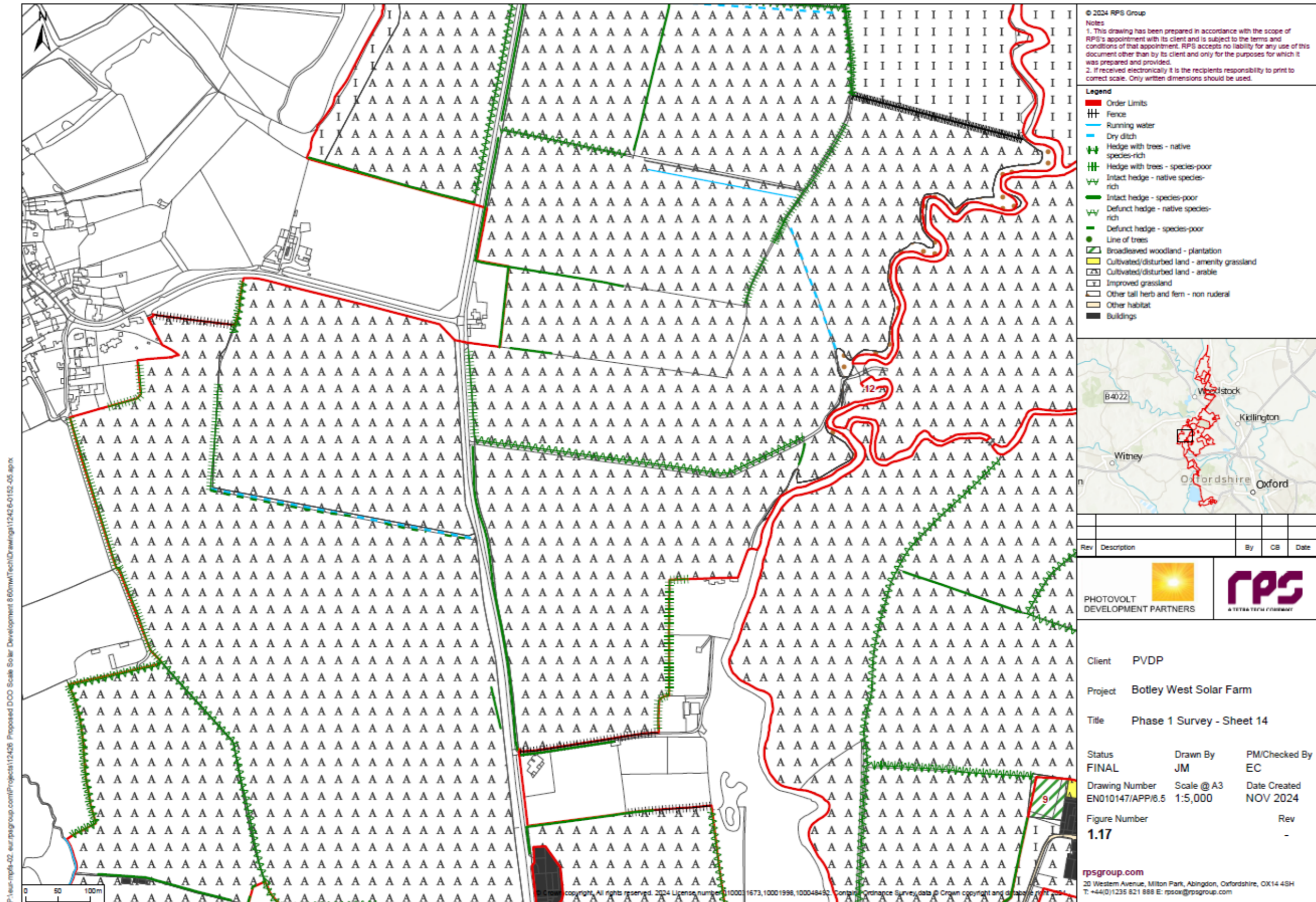
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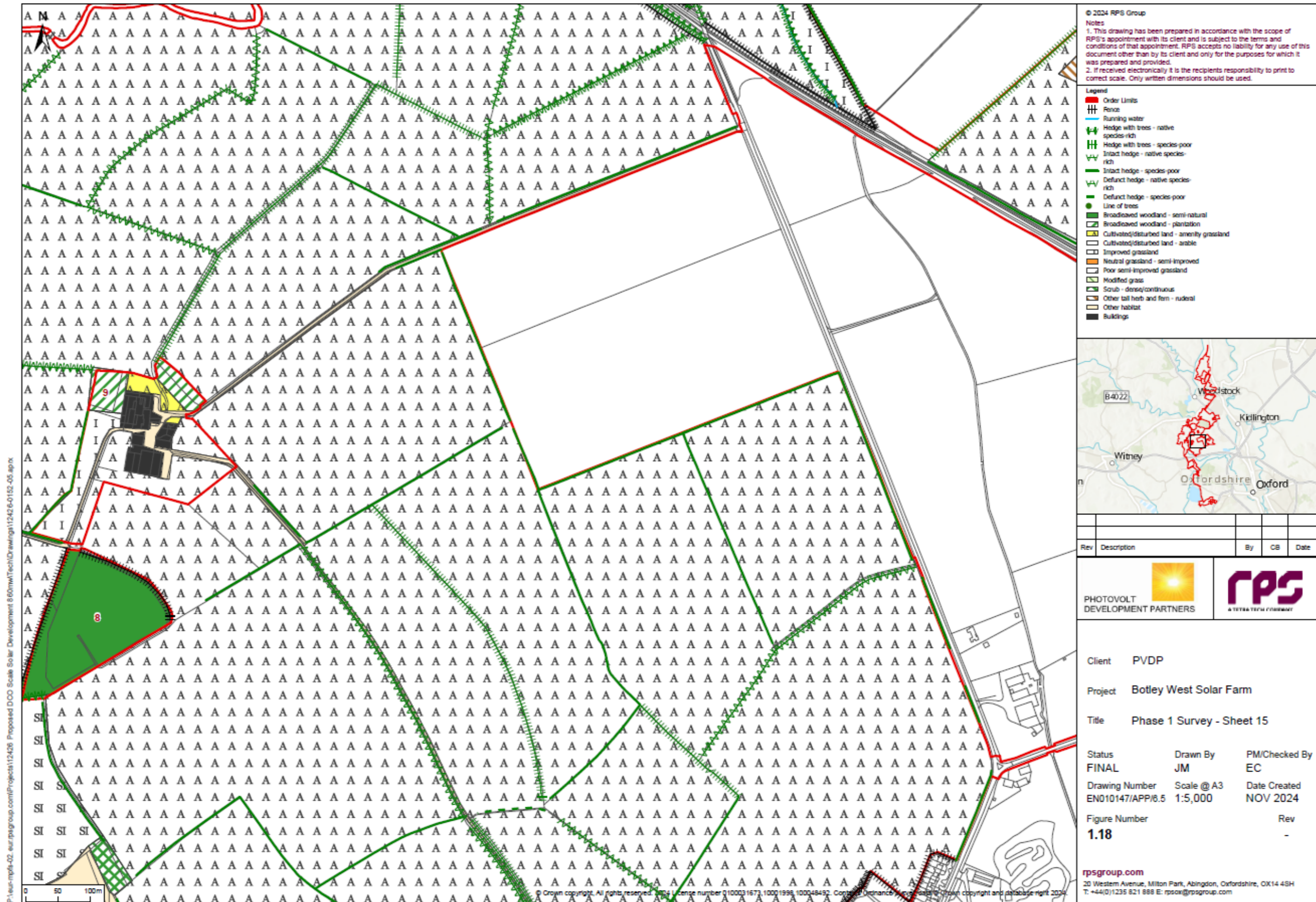
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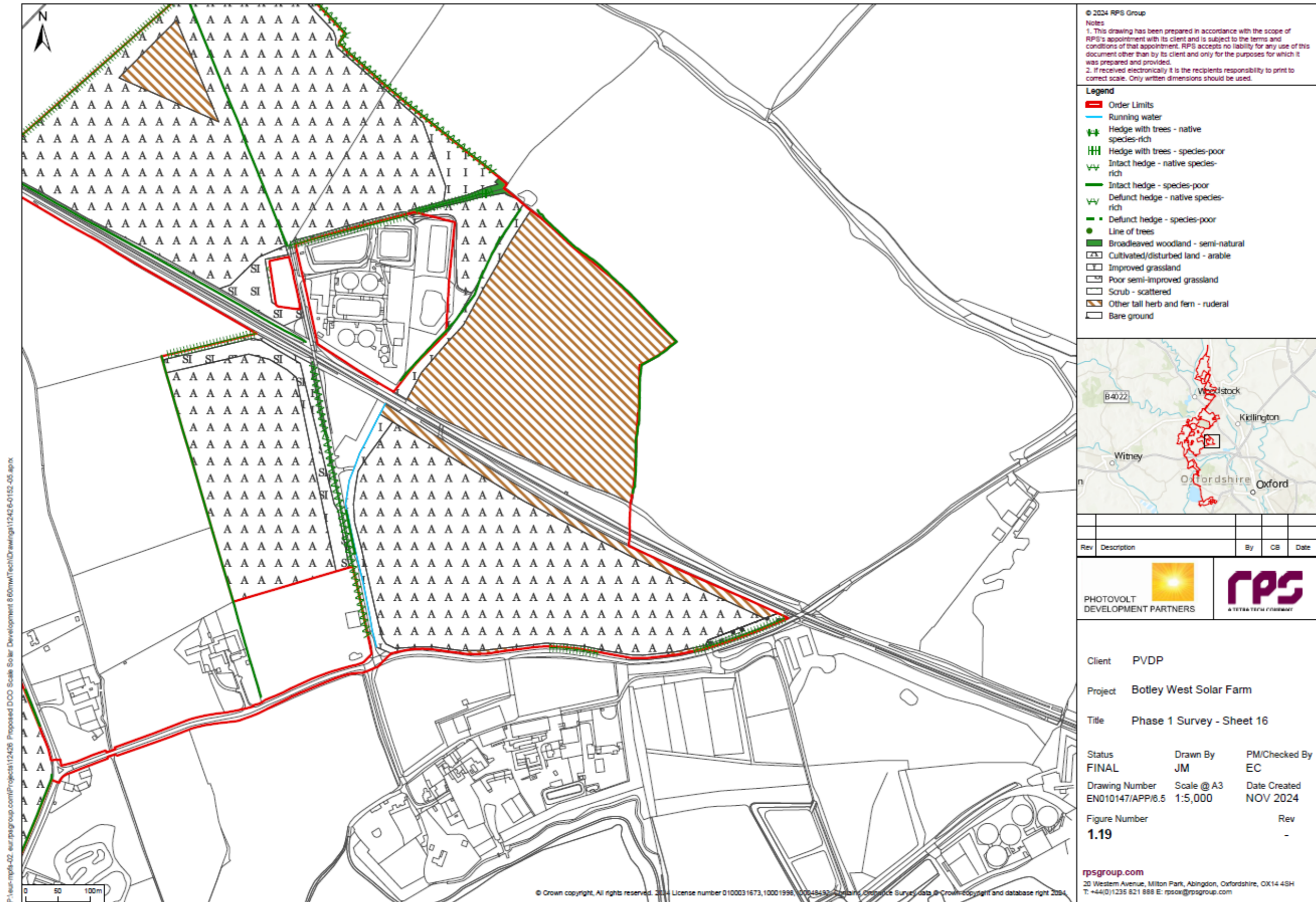
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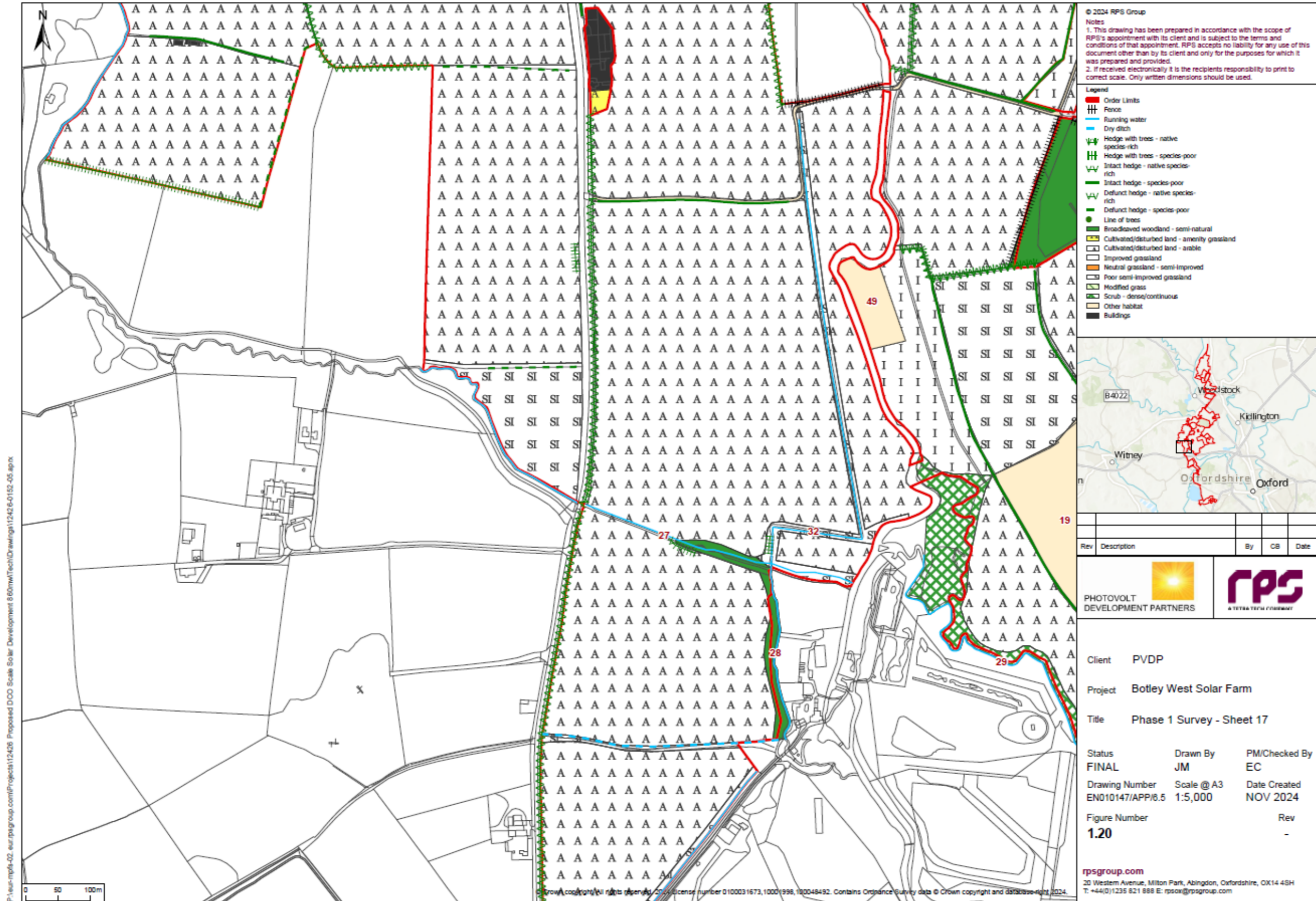
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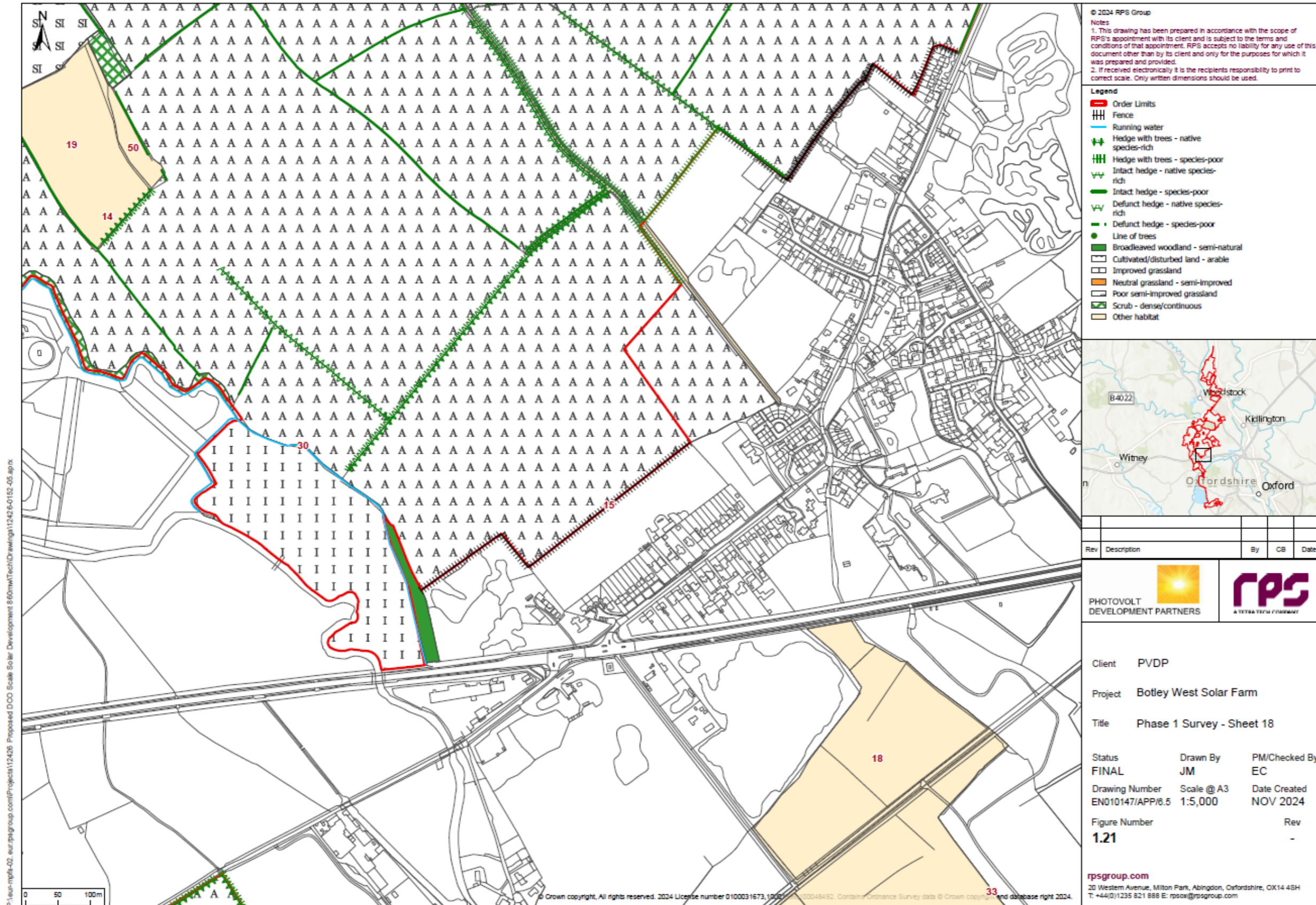
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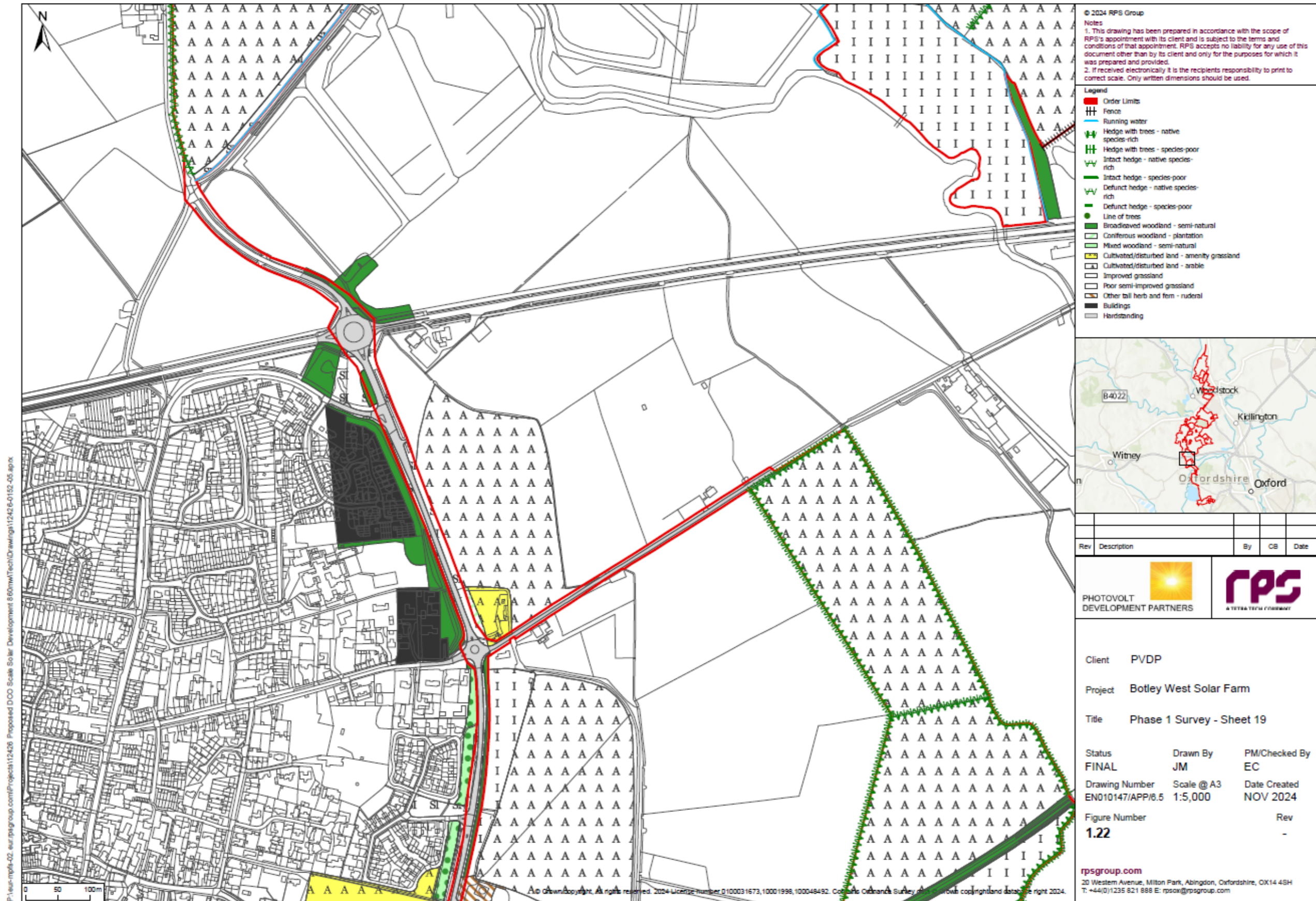
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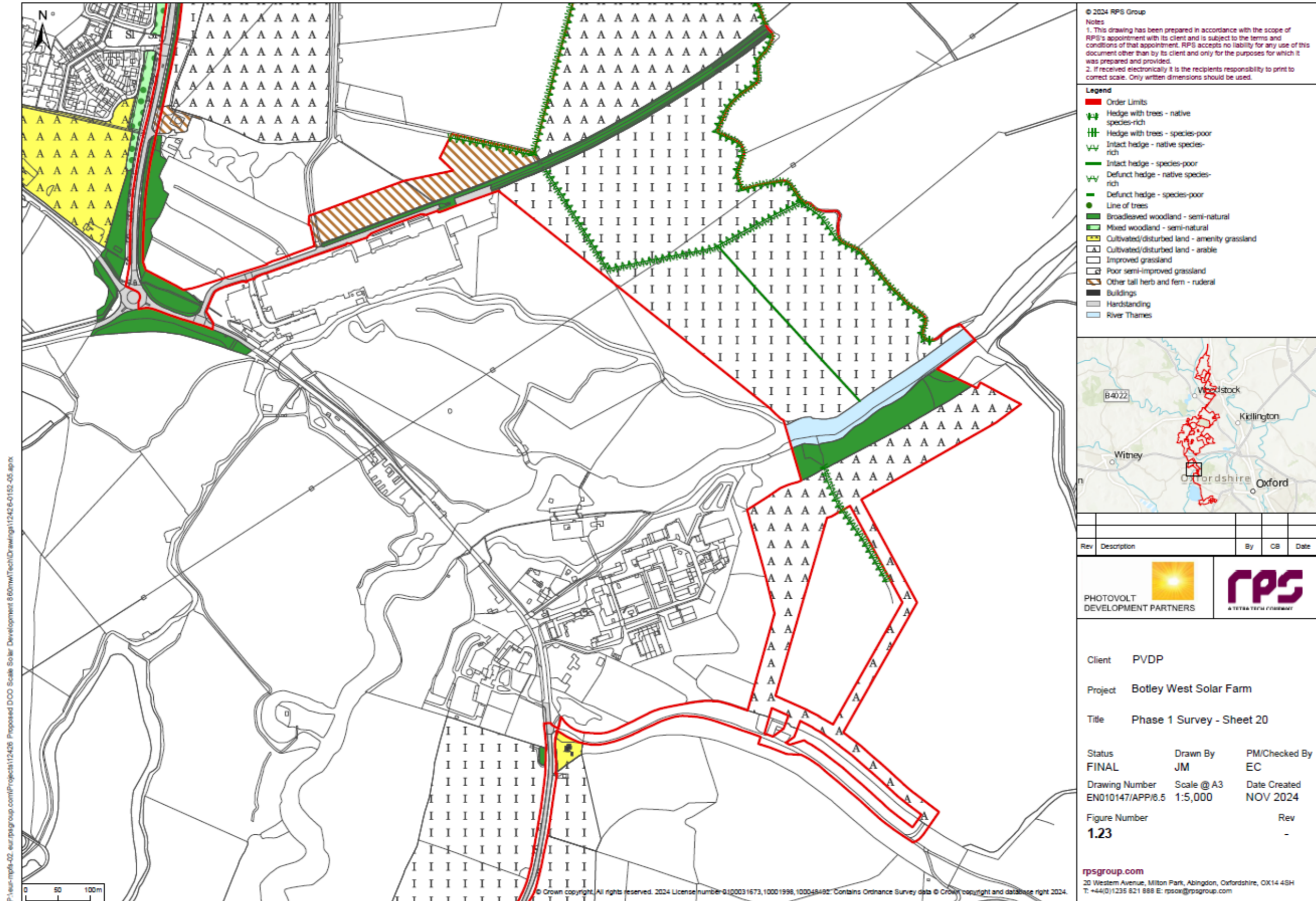
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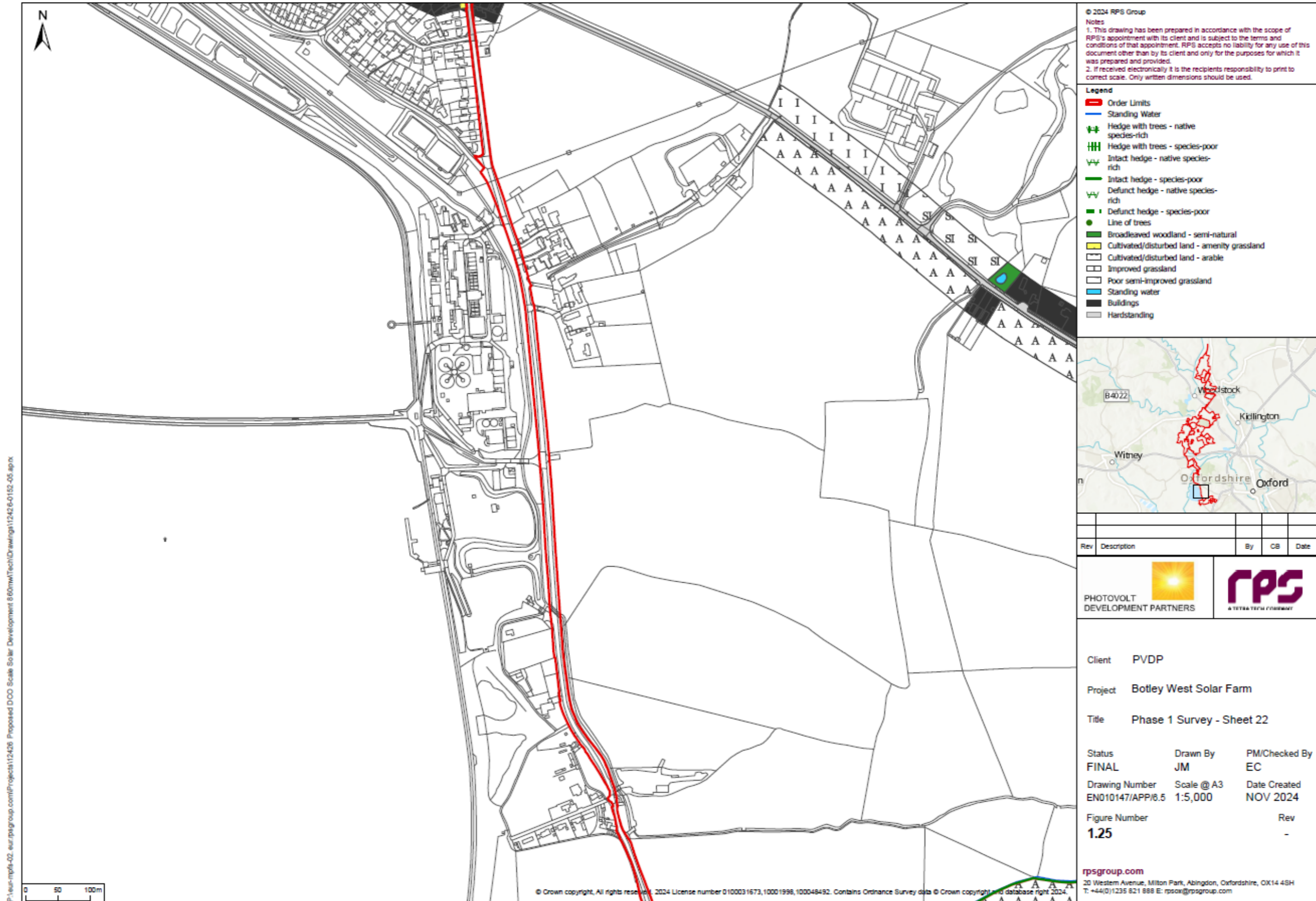
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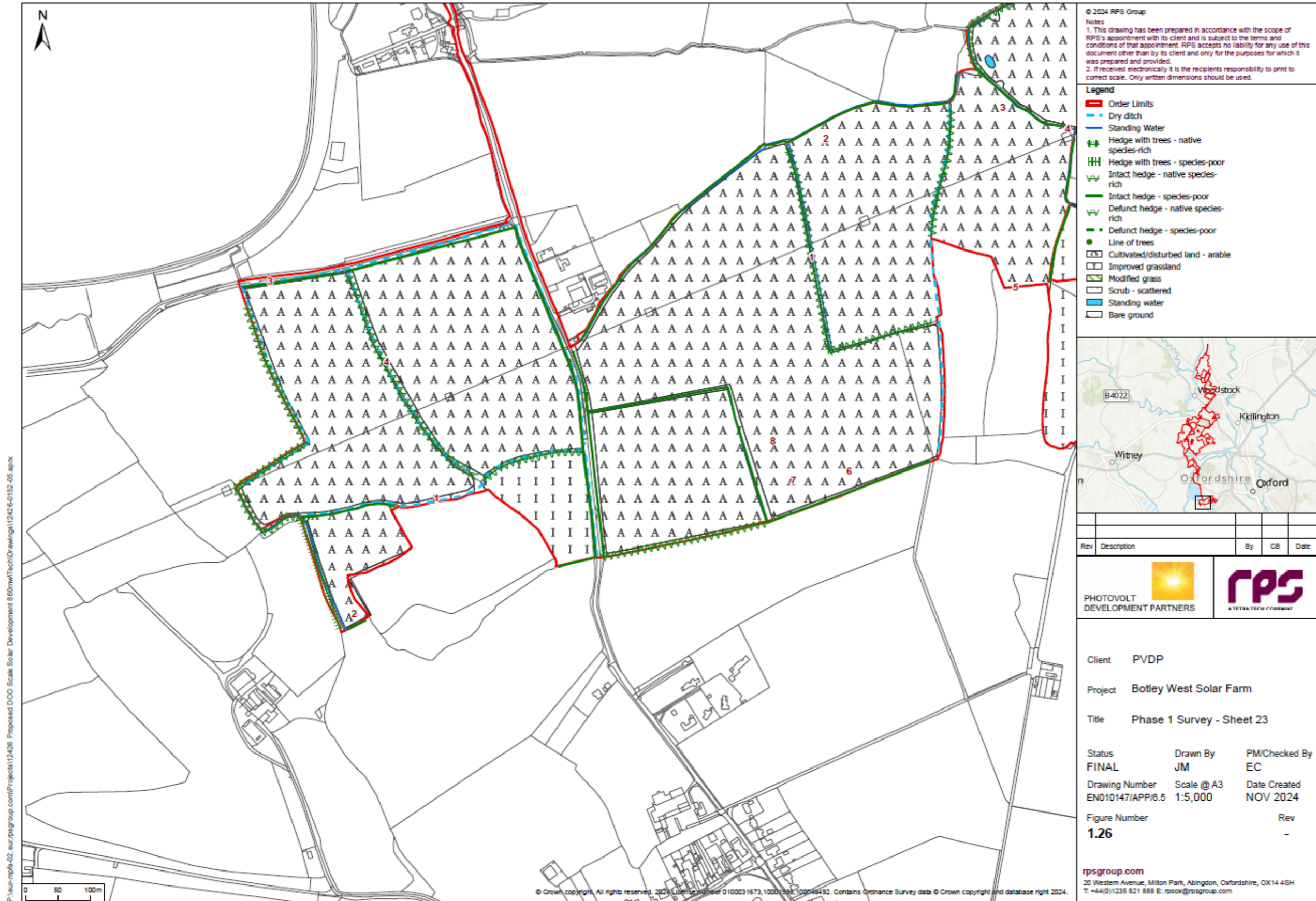
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Anx Figure 26 Phase 1 Survey (23 of 24).



Anx Figure 27 Phase 1 Survey (24 of 24).

