THE LANES

PENWORTHAM

Biodiversity Net Gain Assessment

August 2021

Taylor Wimpey

Homes England

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1.0   Introduction

1.1   Taylor Wimpey and Homes England are seeking to obtain planning permission, from South Ribble Borough Council (SRBC) for a residential-led mixed-use development on land to the east of Penwortham Way known as 'The Lanes, Penwortham'.

1.2   This document supports an outline planning application for the proposed development which covers approximately 51.86ha and comprises two application areas (A and B), hereafter referred to as the "site" within this report.

1.3   The site is bound by Penwortham Way to the west, existing residential development south of Kingsfold Drive to the north, agricultural fields and the West Coast mainline railway, in part, to the east and agricultural fields to the south. The site comprises predominantly agricultural land. The central grid reference of the site is SD 53329 25884.

1.4   This assessment has been produced to determine the impact of the proposed development on the biodiversity of the site and is based upon the outline application area of applications A and B. It is intended that the biodiversity net gain (BNG) assessment will be updated and refined for each reserved matters application, when more detail is available.

Biodiversity Net Gain (BNG)

1.5   Paragraph 174(d) of the revised NPPF (2021) states that "Planning polices and decisions should contribute to and enhance the natural and local environment by… minimising impacts on and providing net gains for biodiversity…" The Government 25-year Environment Plan states that government will "embed environmental net gain principle for development".

1.6   In July 2019, the government issued revised planning practice guidance (NPPG) with details on how planners can implement "net environmental gain" requirements when assessing development proposals, including new advice on protecting wildlife.

1.7   Revised guidance recently published by the government says that net gain in planning describes an approach to development that leaves the natural environment in a measurably better state than it was beforehand. Net gain is an umbrella term for both biodiversity net gain and wider environmental net gain. It states: "Planning conditions or obligations can, in appropriate circumstances, be used to require that a planning permission provides for works that will measurably increase biodiversity".

1.8   In terms of measuring net gain, the guidance states that using a metric is a pragmatic way to calculate the impact of a development and the net gain that can be achieved. It goes on to state that "tools such as the Defra biodiversity metric can be used to assess whether a biodiversity net gain outcome is expected to be achieved".

1.9   This report details the ecological surveys undertaken to establish a baseline position, and what the anticipated impacts are. In order to inform the biodiversity net gain assessment the Defra 3.0 metric has been used.

1.10   There is no current local policy in place in South Ribble Borough Council requiring a specific percentage of net gain, however the forthcoming Environment Bill includes a mandatory minimum of 10% net gain for most development sites. It is anticipated that the Environment Bill will receive royal assent Autumn 2021 and become mandatory once secondary legislation has been passed after this date. As discussed with Greater Manchester Ecology Unit during consultation in 2021 the aim of this assessment is therefore to achieve a 10% biodiversity net gain target.

2.0   Methods

2.1   The existing habitat information was gathered for the site by TEP in 2018, 2019 and 2021. Full details are provided within the following technical reports:

- Desk based assessment, TEP, June 2018 (ref. 6900.007);
- Hedgerow assessment report, TEP, July 2021 (ref. 6900.03.009);
- Phase 1 habitat survey report, TEP, July 2021 (ref. 6900.03.006); and
- Arboriculture survey report, TEP, August 2021 (ref. 6900.03.010).

Survey Methods

<u>Desk Based Assessment</u>

2.2   A search of existing information relating to protected species, habitats of conservation priority and designated sites was undertaken in June 2018. Sources included Lancashire Environment Records Network, Natural England and MAGIC Map websites. The search extended 2km from the site boundary for non-statutory designated sites, protected species and priority species and habitats. Information regarding statutory protected sites within the wider area (up to 10km) was also collected. Relevant local planning policies were also identified to inform the assessment.

<u>Phase 1 Habitat Survey</u>

2.3   A Phase 1 habitat survey was undertaken by TEP ecologists Lynsey Crellin (FISC Level 5), Val Gateley (FISC Level 5) and Lindsey Roberts (FISC Level 4) in April and May 2018. An updated Phase 1 habitat survey which also covered previously unsurveyed areas was undertaken in April 2021 by Damian Young (FISC Level 4). The survey was carried out in accordance with the Phase 1 Habitat Survey assessment methods (JNCC, 2010) and the Guidelines for Preliminary Ecological Appraisal (CIEEM, 2017). Habitat types were mapped and dominant vegetation species noted. Any invasive species were also recorded.

<u>Hedgerow Assessment</u>

2.4   The hedgerow assessment was carried out of the site by TEP ecologists Lynsey Crellin (FISC Level 5), Val Gateley (FISC Level 5) and Lindsey Roberts (FISC Level 4) in April and May 2018.   A further survey of previously unsurveyed hedgerows was undertaken in April 2021 by Damian Young (FISC Level 4).

2.5   Native hedgerows in the site were subject to a detailed sampling survey in accordance with the criteria set out in the Hedgerow Regulations (1997) in terms of wildlife and landscape criteria for determining "important" hedgerows. This entailed recording the number of woody species (as listed on Schedule 3 of the Hedgerow Regulations) within 30m sample sections as well as any features within 2m associated with the hedge. These features include the presence of any bank or wall, ditch, standard trees and ground flora species (as listed on Schedule 2 of the Hedgerow Regulations). Also, the number of connections with adjacent hedgerows was recorded. Hedgerow target notes were made on standard data recording forms. For each hedgerow this included a description of the hedge and detailed plant species list.

Condition Assessment

2.6 Condition assessment surveys of the habitats present pre-development were undertaken by a suitably experienced ecologist, Damian Young (FISC Level 4) in April 2021. The condition assessments were originally undertaken using the guidance presented in the Biodiversity Metric 2.0 - Technical Supplement[1]. Following release of Biodiversity Metric 3.0 in June 2021, a desk-based exercise, using existing field notes and photographic evidence, was undertaken to update the condition assessments based on the updated condition assessment criteria presented in the Biodiversity Metric 3.0 - Technical Supplement[2].

2.7 Due to the relatively simple nature of the habitats within the site, there are not considered to be any limitations with this translation to the Biodiversity Metric 3.0 condition assessment.

Arboriculture Survey

2.8 A survey of trees on the site was carried out by TEP arboriculturist Angus Blankenstein in May 2018. The survey was by means of inspection from ground level in accordance with BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations (Ref 7-20). The Standard provides a categorisation method to "identify the quality and value (in a non-fiscal sense) of the existing tree stock, to allow informed decisions to be made concerning which trees should be removed or retained in the event of development occurring". The method places trees and groups of trees into one of four quality categories and provides guidance on the integration and protection of trees during construction.

2.9 The presence of Tree Preservation Orders, Conservation Areas, Ancient Woodland and Veteran Trees has also been ascertained.

BNG Assessment

2.10 The Site has been assessed using the Natural England biodiversity metric (v3.0) in line with the user guide[3] and technical supplement provided.

2.11 The biodiversity metric (v3.0) is a tool designed to enable developers to measure the change in biodiversity across their site. It determines if there will be net gain, net loss or no net loss of biodiversity following completion of their development and any subsequent management regime.

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[1] Ian Crosher , Susannah Gold , Max Heaver , Matt Heydon , Lauren Moore , Stephen Panks , Sarah Scott, Dave Stone & Nick White. 2019. The Biodiversity Metric 2.0: Auditing and accounting for biodiversity value: technical supplement (Beta version, July 2019). Natural England
[2] STEPHEN PANKS A, NICK WHITE A, AMANDA NEWSOME A, JACK POTTER A, MATT HEYDON A, EDWARD MAYHEW A, MARIA ALVAREZ A, TRUDY RUSSELL A, SARAH J. SCOTT B, MAX HEAVER C, SARAH H. SCOTT C, JO TREWEEK D, BILL BUTCHER E and DAVE STONE A 2021. Biodiversity metric 3.0: Auditing and accounting for biodiversity – Technical Supplement. Natural England.
[3] STEPHEN PANKS A, NICK WHITE A, AMANDA NEWSOME A, JACK POTTER A, MATT HEYDON A, EDWARD MAYHEW A, MARIA ALVAREZ A, TRUDY RUSSELL A, SARAH J. SCOTT B, MAX HEAVER C, SARAH H. SCOTT C, JO TREWEEK D, BILL BUTCHER E and DAVE STONE A 2021. Biodiversity metric 3.0: Auditing and accounting for biodiversity – User Guide. Natural England.

2.12   In order to calculate the change in biodiversity across the site a site survey is undertaken by a suitably qualified ecologist to determine the habitats present on site, their location, size, and condition. This information is then digitised and the resulting information fed into the biodiversity metric (v3.0).

2.13   The principles of biodiversity net gain as set out in the Biodiversity Net Gain Good Practice Guidelines[4] have been considered throughout this process as listed below:

- 1. Apply the mitigation hierarchy;
- 2. Avoid losing biodiversity that cannot be offset by gains elsewhere;
- 3. Be inclusive and equitable;
- 4. Address risks;
- 5. Make a measurable net gain contribution;
- 6. Achieve the best outcomes for biodiversity;
- 7. Be additional;
- 8. Create a net gain legacy;
- 9. Optimise sustainability;
- 10. Be transparent.

2.14   Phase 1 habitats were converted to UK Habitat classification code[5] with reference to the UK Hab conversions provided in the 'Technical Data' button in the calculation tool of the Natural England biodiversity metric (v3.0), the UK Habitat Classification - Habitat Definitions[6] and the UK Habitat Classification Field Key[7].

2.15   Strategic significance was determined through a thorough desktop review of local planning policy and other relevant documentation. The desk based assessment provides full details of local policy and legislation covering the site. This includes biodiversity policies and the policies map within South Ribble Borough Council Local Plan (adopted July 2015).

2.16   Post development calculations have been based on assessment of the POS Proposed Provision - Outline App (Drawing number: 755_102_Rev K) drawing and a briefing note providing the breakdown of POS standard typologies (POS Provision REV K) produced by Xanthe Quayle Associates.

Limitations

2.17   Access to a small number of remaining land parcels was not permitted. These areas, where possible, were viewed from adjacent land, footpaths and roads using binoculars. Review of aerial imagery was also undertaken in order to provide sufficient information to determine the habitat types present and to complete a broad habitat condition assessment for the majority of these habitat areas identified. Where habitat categorisation has not been possible (0.37ha), these areas are omitted from the BNG calculation.

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[4] CIEEM, IEMA & CIRIA (2019). Biodiversity Net Gain. Good Practice Principles for Development. A Practical Guide;
[5] UK Habitat Classification: ukhab – UK Habitat Classification (Accessed 12/04/21)
[6] Butcher, B., Carey, P., Edmonds, R., Norton, L. and Treweek, J. (2020). UK Habitat Classification - Habitat Definitions V1.1
[7] UK Hab Field Key V2.1 Sep2020 (Accessed 12/04/21)

2.18   The masterplan design principles include hedgerow replacement at a ratio of 1:1.5. The assessment of hedgerows that were accessible for survey (a small number were not) has resulted in more than 10% BNG for hedgerows within the site. Therefore it is anticipated that the 1:1.5 hedgerow replacement should be sufficient to achieve at least 10% BNG for all hedgerows across the site.

3.0   Baseline Conditions

Important Ecological Features

3.1   No statutory or non-statutory designated sites are located within the site.

3.2   The Ribble and Alt Estuaries Ramsar/ Special Protection Area/ Site of Special Scientific Interest (SSSI) and National Nature Reserve lies 6.79km to the west, while the Beeston Brook Pasture SSSI lies 5.77km to the east.

3.3   The closest locally designated site is Preston Junction Local Nature Reserve/ Biological Heritage Site which lies 850m to the north east of the site.

3.4   Hedgerows are the only priority habitat which are present within the site, although two parcels identified as traditional orchard habitat of principal importance under S41 of the NERC Act 2006, are adjacent to the site.

3.5   No irreplaceable habitats are present within or adjacent to the site.

3.6   In the absence of any designated sites or conservation areas within the site, strategic significance has been assessed as "low" for all baseline habitats within the site.

On-Site Baseline

3.7   The site predominantly comprises grazed agricultural grassland with some cropland, interspersed by a range of hedgerows as the predominant field boundary. Small areas of other habitats including tall ruderal, scrub and ponds are also present.

3.8   Table 1 provides a breakdown of the habitats present on the site as Phase 1 habitats and the conversion to UK Habitat Classification habitats. For the purposes of this assessment habitat parcel areas of the same type, condition and strategic significance have been combined. The UK Hab Drawing G6900.03.008 included in Appendix B illustrates the habitat baseline in UK Habitat Classification.

Table 1: On-Site Baseline Habitat Details

Phase 1 Habitat	UK Habitat Classification	Area (ha / km)	Condition Assessment Used	Associated condition	Comments
Arable	Cropland - cereal crops	4.59ha	N/A	N/A	Arable crops within the site. Condition is automatically "N/A - Agricultural" for this habitat type.
Amenity grassland	Grassland – Modified Grassland	0.55ha	Grassland - Low	Poor	Predominantly closely mown road verges of low species diversity. Generally pass criteria 3, 5 and 6 only, leading to Poor condition
Improved grassland	Grassland – Modified Grassland	39.39ha	Grassland - Low	Poor	Predominantly heavily cattle-grazed, rye-grass dominated agricultural grassland. Generally fails criteria 1, 2, 4 and 7, while passing 3 and 6. The pass/fail rate for criteria 5 is variable. Overall pass rate of 2 or 3 criteria per parcel and therefore classified as Poor condition.
Inundation vegetation	Grassland – Modified grassland	0.03ha	Grassland - Low	Moderate	Small area of inundated land comprising common duckweed, water starwort and floating sweet-grass within a heavily cattle-grazed field. Generally fails criteria 1, 2 and 4, while passing 3, 5, 6 and 7; therefore classified as Moderate condition.

Phase 1 Habitat	UK Habitat Classification	Area (ha / km)	Condition Assessment Used	Associated condition	Comments
Poor semi-improved grassland	Grassland - other neutral grassland	5.60ha	Grassland - Med, High and V. High	Poor	Precautionary approach taken to categorisation of this habitat as "grassland - other neutral grassland", as higher numbers of species could be present at different times of year. Generally fails on criteria 1, 2 and 5, while passing 3 and 4; therefore classified as Poor condition.
Marsh/marshy grassland	Grassland - other neutral grassland	0.01ha	Grassland - Med, High and V. High	Poor	Precautionary approach taken to categorisation of this habitat as "grassland - other neutral grassland" as higher numbers of species could be present at different times of year. Generally fails on criteria 1, 2 and 5, while passing 3 and 4; therefore classified as Poor condition.
Tall ruderal	Grassland – Other neutral grassland (g316)	0.02ha	Grassland - Med, High and V. High	Poor	Small areas along field boundaries and ditches, predominantly comprising nettle, great willowherb and cow parsley. Fails on criteria 1, 2 and 5, passing only 3 and 4; therefore classified as Poor condition.
Dense/continuous and scattered scrub	Heathland and shrub - bramble scrub	0.14ha	Scrub	Poor	Small areas around field boundaries and some ponds, dominated by bramble with frequent willow species. Generally fails criteria 1, 2 and 5 and passes 3 and 4; therefore classified as Poor condition.

Phase 1 Habitat	UK Habitat Classification	Area (ha / km)	Condition Assessment Used	Associated condition	Comments
Standing water (ponds)	Lakes - ponds (non-priority habitat)	0.10ha	Ponds	Poor	Small areas of low quality standing water with low species diversity, poor water quality, shading and drying. Generally fail on criteria 1, 2, 8 and 9, while passing criteria 3, 5 and 6. Criteria 4 and 7 are unknown. Therefore classified as Poor condition as can only pass a maximum of 5 criteria even if 4 and 7 are passed.
Buildings	Urban - developed land/sealed surface	0.11ha	N/A	N/A - other	Houses and farm buildings within the site
Hard standing/ roads	Urban - developed land/sealed surface	0.28ha	N/A	N/A - other	Roads and other areas of hard standing within the site
Bare ground	Urban - vacant/ derelict land/bare ground	0.15ha	Urban	Poor	This habitat fails on criteria 1 and 2 and generally passes only criteria 3; therefore classified as Poor condition.
Gardens	Urban - vegetated garden	0.02ha	Urban	Poor	Only Poor condition possible as a choice within Metric 3.0

Phase 1 Habitat	UK Habitat Classification	Area (ha / km)	Condition Assessment Used	Associated condition	Comments
Not surveyed (assessed remotely)	Grassland - Modified grassland	0.89ha	Grassland - Low	Poor	Assumed same as Improved Grassland (UK Hab - Modified Grassland) in remainder of the site and therefore Poor condition
	Urban - Vegetated garden	0.05ha	Urban	Poor	Only Poor condition possible as a choice within Metric 3.0
	Habitat not identified	0.37ha	N/A	N/A	It was not possible to accurately ascertain the habitat of these areas during surveys or via satellite imagery and therefore these areas are not included within the metric.
Species-poor intact/defunct hedgerows	Native hedgerow	0.39km 1.42km 0.48km	Hedgerow	Good Moderate Poor	Predominantly hawthorn-rich hedgerows in a range of conditions following the criteria and scoring within the Hedgerow condition sheet.
Species-poor intact/defunct hedgerows with ditch	Native hedgerow with bank/ditch	0.13km	Hedgerow	Moderate	Hawthorn-rich hedgerow associated with a ditch. Failed on B1, B2 and C2, therefore Moderate condition
Species-poor intact/defunct hedgerows with trees	Native hedgerow with trees	0.23km 0.34km 0.47km	Hedgerow	Good Moderate Poor	Predominantly hawthorn-rich hedgerows with standard oaks in a range of conditions following the criteria and scoring within the Hedgerow condition sheet.

Phase 1 Habitat	UK Habitat Classification	Area (ha / km)	Condition Assessment Used	Associated condition	Comments
Species-rich intact/defunct hedgerows	Native species-rich hedgerow	0.31km 0.48km 0.12km	Hedgerow	Good Moderate Poor	Species-rich hedgerows with a minimum of four woody species in a range of conditions following the criteria and scoring within the Hedgerow condition sheet.
Species-rich intact/defunct hedgerow with trees	Native species-rich hedgerow with trees	0.85km 2.32km 0.8km	Hedgerow	Good Moderate Poor	Species-rich hedgerows with a minimum of four woody species and a range of standards including oaks in a range of conditions following the criteria and scoring within the Hedgerow condition sheet.
Species-rich intact/defunct hedgerow with trees and ditch	Native species-rich hedgerow with trees and bank/ditch	0.19km	Hedgerow	Moderate	Failed on C1 and C2, therefore Moderate condition.
Conifer hedgerow	Hedgerow Ornamental Non-native	0.06km	Hedgerow	Poor	Only Poor condition possible as a choice within Metric 3.0

4.0   Post-Development Habitats

On-Site Proposed Design

4.1   Details regarding post-development habitats are provided in the following documents, along with client team discussions and are displayed in Drawing G6900.03.010 included in Appendix B:

- POS Proposed Provision Plan by Xanthe Quayle Landscape Architects (ref: 755_101 Rev K); and
- POS Provision Briefing Note by Xanthe Quayle Landscape Architects (ref: Rev K).

4.2   While the vision for the site includes the retention of as much of the existing mature trees, hedges, and even previous field boundaries as is possible, the full extent and location of habitat loss or retention is not known at this stage for the outline planning application. Only a small part of the outline planning application area is currently confirmed to be retained and enhanced and therefore as a precautionary approach, the remainder of the site is assumed to be lost. Once detailed design is undertaken at reserved matters for the site, it is likely that more habitats will be identified for retention and enhancement which will likely result in higher net gain outputs from the metric calculations.

4.3   Table 2 below provides a breakdown of the habitats (translated from POS Proposed Provision Plan habitat type to UK Habitat Classification type) which will be created on site, and includes the breakdown of POS provision for each type of open space identified i.e. amenity greenspace, natural and semi-natural greenspace (including LAPs) and play (LEAPS).

4.4   As advised in the Biodiversity Metric 3.0 User Guide, houses and gardens are split between Urban - developed land/sealed surface and Urban - vegetated gardens on a 70:30 ratio. This same approach is applied to the school provision, with habitats split between Urban - developed land/sealed surface Grassland - Modified grassland on a 70:30 ratio.

Table 2: Proposed habitat creation on-site

POS Provision Habitat Type	UK Habitat Classification	Area (ha/km)	Target Condition	Comments
Housing and gardens	Urban - developed land/sealed surface	22.16ha	N/A	70% of residential areas shown on outline masterplan
Housing and gardens	Urban - vegetated garden	9.5ha	Poor	30% of residential areas shown on outline masterplan. Can only achieve Poor condition in the Metric.

POS Provision Habitat Type	UK Habitat Classification	Area (ha/km)	Target Condition	Comments
School provision	Urban - developed land/sealed surface	1.34ha	N/A	70% of school provision shown on outline masterplan
School provision	Grassland - modified grassland	0.57ha	Moderate	30% of school provision (to allow for playing fields) shown on outline masterplan. Could reasonably be expected to pass 4 of the 7 criteria to achieve Moderate condition under 30 year management plan.
Road infrastructure	Urban - developed land/sealed surface	2.92ha	N/A	Internal roads, pavements etc.
Allotments	Urban - allotments	0.13ha	Moderate	Could reasonably be expected to pass 2 of the 3 criteria to achieve Moderate condition under 30 year management plan.
Hard standing within LEAPs	Urban - developed land/sealed surface	0.06ha	N/A	70% of total LEAP area as stated in POS Provision Briefing Note REV K
Ornamental shrub planting	Urban - introduced shrub	0.31ha	Poor	Included in amenity greenspace (5%) and LEAPs (15%) as stated in POS Provision Briefing Note REV K. Can only achieve Poor condition in the Metric.

POS Provision Habitat Type	UK Habitat Classification	Area (ha/km)	Target Condition	Comments
Native shrub planting	Heathland and shrub - mixed scrub	1.91ha	Moderate	Included in amenity greenspace (10%), natural/semi-natural greenspace (15%) and LEAPS (5%) as stated in POS Provision Briefing Note REV K. Could reasonably be expected to pass 3 of the 5 criteria to achieve Moderate condition under 30 year management plan.
Ornamental woodland (as individual trees and tree groups)	Urban - urban tree	0.3ha	Moderate	Included in amenity greenspace (5%) and LEAPs (10%) as stated in POS Provision Briefing Note REV K. Could reasonably be expected to pass 3 of the 6 criteria to achieve Moderate condition under 30 year management plan.
Amenity grassland	Grassland - modified grassland	4.26ha	Moderate	Included in amenity greenspace (60%) and natural/semi-natural greenspace (5%) as stated in POS Provision Briefing Note REV K. 0.3ha also added to accommodate grassland beneath Urban Tree category (which is not included in metric area calculation). Could reasonably be expected to pass 4 of the 7 criteria to achieve Moderate condition under a 30 year management plan.

POS Provision Habitat Type	UK Habitat Classification	Area (ha/km)	Target Condition	Comments
Wildflower meadow (including swales)	Grassland - other neutral grassland	6.45ha	Good	Included in amenity greenspace (20%) and natural/semi-natural greenspace (60%) as stated in POS Provision Briefing Note REV K. The level of cut and fill required on the site will allow for soil inversion to create nutrient poor soils. In combination with a suitable seed mix of local provenance and detailed management prescriptions, these grasslands could reasonably be expected to pass all of the 5 criteria to achieve Good condition under a 30 year management plan.
Native woodland	Woodland and forest - other woodland; broadleaved	1.76ha	Moderate	Included in natural/semi-natural greenspace (20%) as stated in POS Provision Briefing Note REV K. Could reasonably be expected to score 29 to 32 out of 39 in woodland condition assessment to achieve Moderate condition under a 30 year management plan.
Pond	Ponds (non-Priority Habitat)	0.31	Good	With careful design and detailed management prescriptions, this pond could reasonably be expected to pass all of the 9 criteria to achieve Good condition under a 30 year management plan.
N/A	Native hedgerow	3.43km	Good	Hedgerow provision is not included in POS

POS Provision Habitat Type	UK Habitat Classification	Area (ha/km)	Target Condition	Comments
	Native hedgerow - associated with ditch or bank	0.19km	Good	Proposed Provision Plan. However a 1:1.5 ratio for replacement hedgerow planting will be implemented within the scheme.
	Native hedgerow with trees	1.56km	Good	The lengths stated here are the total length of all condition categories for each hedgerow type, surveyed within the outline application area, multiplied by 1.5.
	Native species-rich hedgerow	1.37km	Good	
	Native species-rich hedgerow with trees	5.96km	Good	All hedgerows could reasonably be expected to achieve Good condition (i.e. no more than 2 fails) under a 30 year management plan.
	Native species-rich hedgerow with trees - associated with bank or ditch	0.29km	Good	

4.5   The areas of the site which are currently known to be retained and enhanced are detailed in Table 3 below.

Table 3: Proposed habitat enhancement on-site

Proposed enhancement	Area (ha/km)	Target Condition	Comments
Modified grassland (0.1ha) and Other neutral grassland (0.17ha) in Poor condition will be enhanced to Wildflower meadow (Other neutral grassland)	0.18	Moderate	As this is an enhancement with no soil inversion proposed and using over seeding, green hay or similar to increase species diversity, this grassland could reasonably be expected to pass 3 or 4 of the 5 criteria to achieve Moderate condition under a 30 year management plan
Mixed scrub in Poor condition will be enhanced to Moderate condition	0.05	Moderate	With native shrub planting to increase diversity and suitable management, could reasonably be expected to pass 3 of the 5 criteria to achieve Moderate condition under 30 year management plan.
A pond (non-priority habitat) in Poor condition will be enhanced to Moderate condition	0.03	Moderate	A detailed enhancement plan and management prescriptions will enable this retained pond to reasonably be expected to pass 6 or 7 of the 9 criteria to achieve Moderate condition under a 30 year management plan.

4.6   The DEFRA Biodiversity Metric 3.0 does not account for habitat features such as bat and bird boxes. In addition to the habitat creation proposed above the development proposals will incorporate the following:

- Replacement tree planting at a ratio of 3:1.
- Enhancement of retained hedgerows (those in poor or moderate condition) and maintenance of those in good condition.
- Integration of bat and bird boxes into 20% of the new residential dwellings on the site, as well as additional boxes on retained trees, including three barn owl boxes.

- Provision of three insect hotels within landscaped areas in the development.

5.0   BNG Metric

5.1   A biodiversity assessment has been undertaken, using the DEFRA Biodiversity Metric 3.0 calculator to quantify the change in biodiversity units for the outline planning application area between the pre-development baseline and post-development remaining and created habitats.

5.2   The calculator considers the area (ha) or length (km), distinctiveness (Low, Medium, High) and condition (Poor, Moderate, High) of all habitats on site pre-development, and the area of each habitat to be retained, enhanced, and lost post-development, based on the POS Proposed Provision Plan (Rev K) and Briefing Note (Rev K) and client team discussions.

Summary of Biodiversity Impact

5.3   Detailed results of the assessment are provided in the DEFRA Biodiversity Metric 3.0 in Appendix A. The summary results, taken from the metric, are provided in Table 4.

Table 4: Summary of Biodiversity Metric Results

On-site baseline	Habitat units	114.86
	Hedgerow units	76.46
On-site post intervention	*Habitat units*	*117.23*
	Hedgerow units	*90.83*
On-site net % change	**Habitat units**	**2.07%**
	Hedgerow units	**18.80%**
Trading rules satisfied	Yes	

5.4   Based on the details available at this time of an outline planning application, the results indicate a net gain of 2.07% for habitats and a significant net gain of 18.8% for hedgerows. It is likely that when further detail is available at detailed design and reserved matters applications, an increase in net gain for habitats will be achieved. Should it not be possible to achieve 10% net gain on site during detailed design, a biodiversity offsetting strategy will be developed to provide the shortfall in biodiversity units which could include partnering with a landowner within the same authority area or financially offsetting through a net gain broker.

5.5   The significant net gain for hedgerows, based on 100% loss, provides confidence that 10% net gain will be achieved at reserved matters when further detail will be available on whether hedgerows can be retained and enhanced or not.

6.0   Implementation, Management and Monitoring

6.1   This BNG assessment has been undertaken for an outline planning application and as discussed in the previous sections, the specific detail of the landscape design and POS provision is currently unknown.

6.2   The detail of the implementation of habitat enhancement and creation actions will be delivered during reserved matters applications, when detailed design is confirmed and will include a detailed landscape planting schedule with specific species mixes and soil preparation methodology to ensure the target habitat and condition can be achieved.

6.3   A detailed 30 year management and monitoring plan will be produced for each reserved matters application and will include specific management prescriptions which aim to achieve the specific target condition for each habitat, based on the Biodiversity Metric 3.0 condition criteria. The plan will include the methods and reporting processes to be used for monitoring the success of habitat enhancement and creation along with options for remedial intervention where needed if a habitat is not achieving its targeted condition. Roles and responsibilities, along with financial and legal requirements will also be included.

APPENDIX A: Defra Biodiversity Metric 3.0 (provided as a separate document)

APPENDIX B: Associated Plans

UK Habitat Classification - Baseline Survey by TEP (ref: G6900.03.008);

Post-development Habitat Plan by TEP (ref: G6900.03.010); and

POS Calculations Briefing Note by Xanthe Quayle Landscape Architects (ref: Rev K).
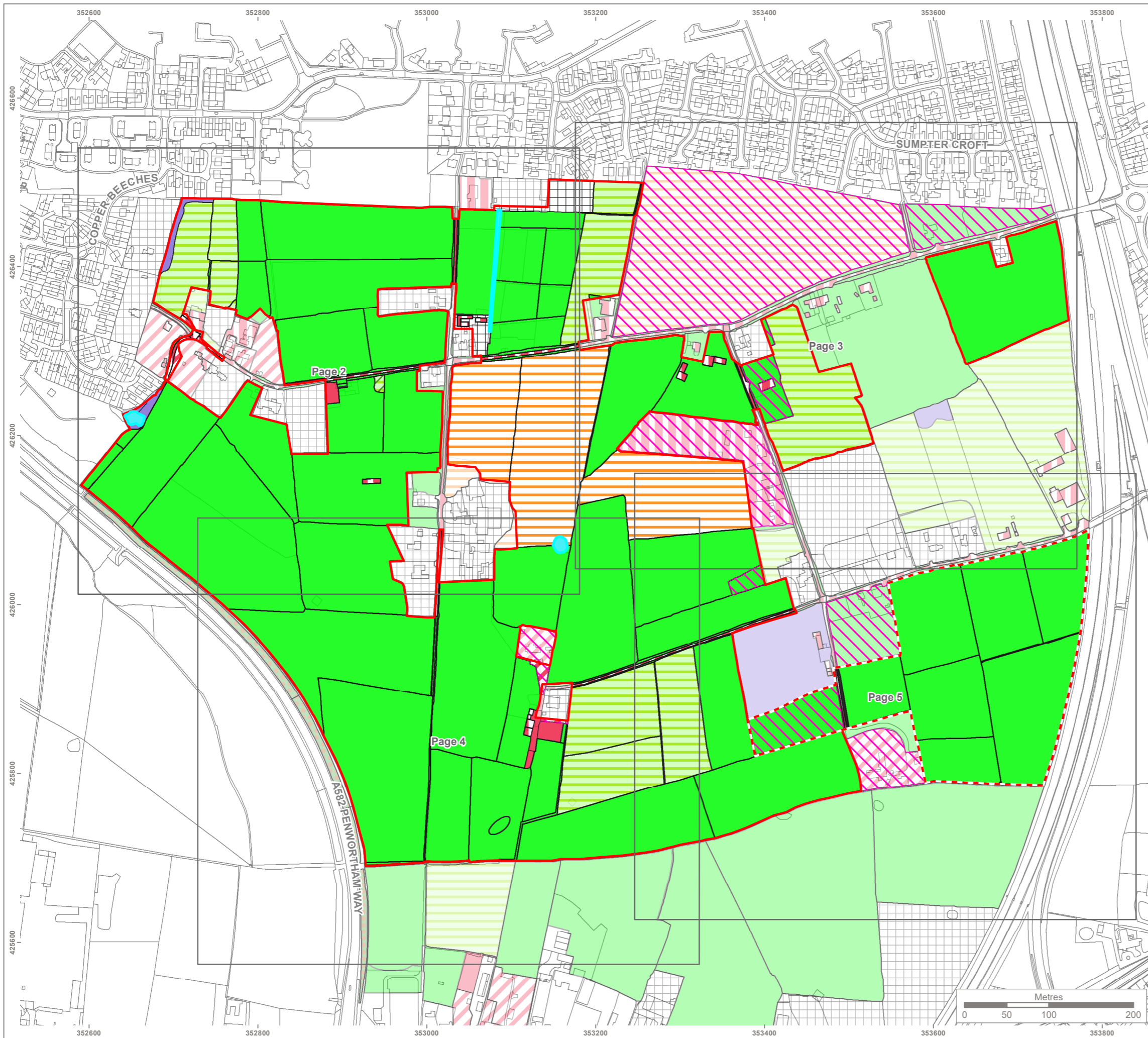
KEY

- Application A
- Cropland - cereal crops
- Grassland - modified grassland
- Grassland - other neutral grassland
- Grassland - other neutral grassland (g316)
- Heathland and shrub - mixed scrub
- Lakes - ponds (non-priority habitat)
- Not surveyed
- Urban - developed land/sealed surface
- Urban - vacant/derelict land/bare ground
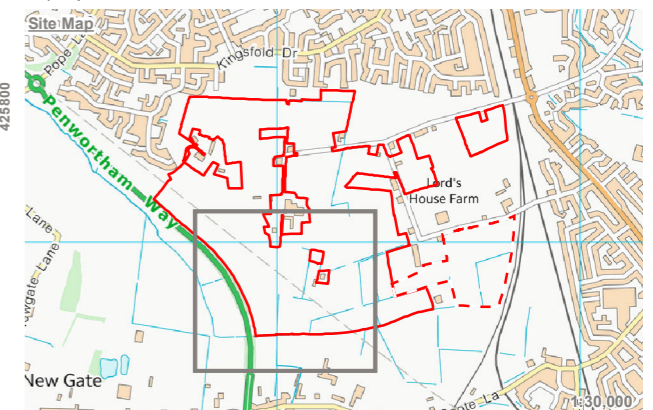- Urban - vegetated garden
- Woodland - other broadleaved woodland

Note:
The locations of habitats and habitat features are indicative.

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Site Map

Genesis Centre, Birchwood Science Park, Warrington WA3 7BH
Tel 01925 844004   e-mail tep@tep.uk.com   www.tep.uk.com

Project
The Lanes, Penwortham

Title
UK Habitat Survey
The Lanes

Drawing Number
G6900.03.008.2

Sheet 2 of 5

Drawn	Checked	Approved	Scale	Date
CW	SA	ACP	1:2,000 @ A3	22/07/2021

Metres
0   20   40   80

KEY
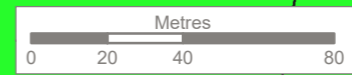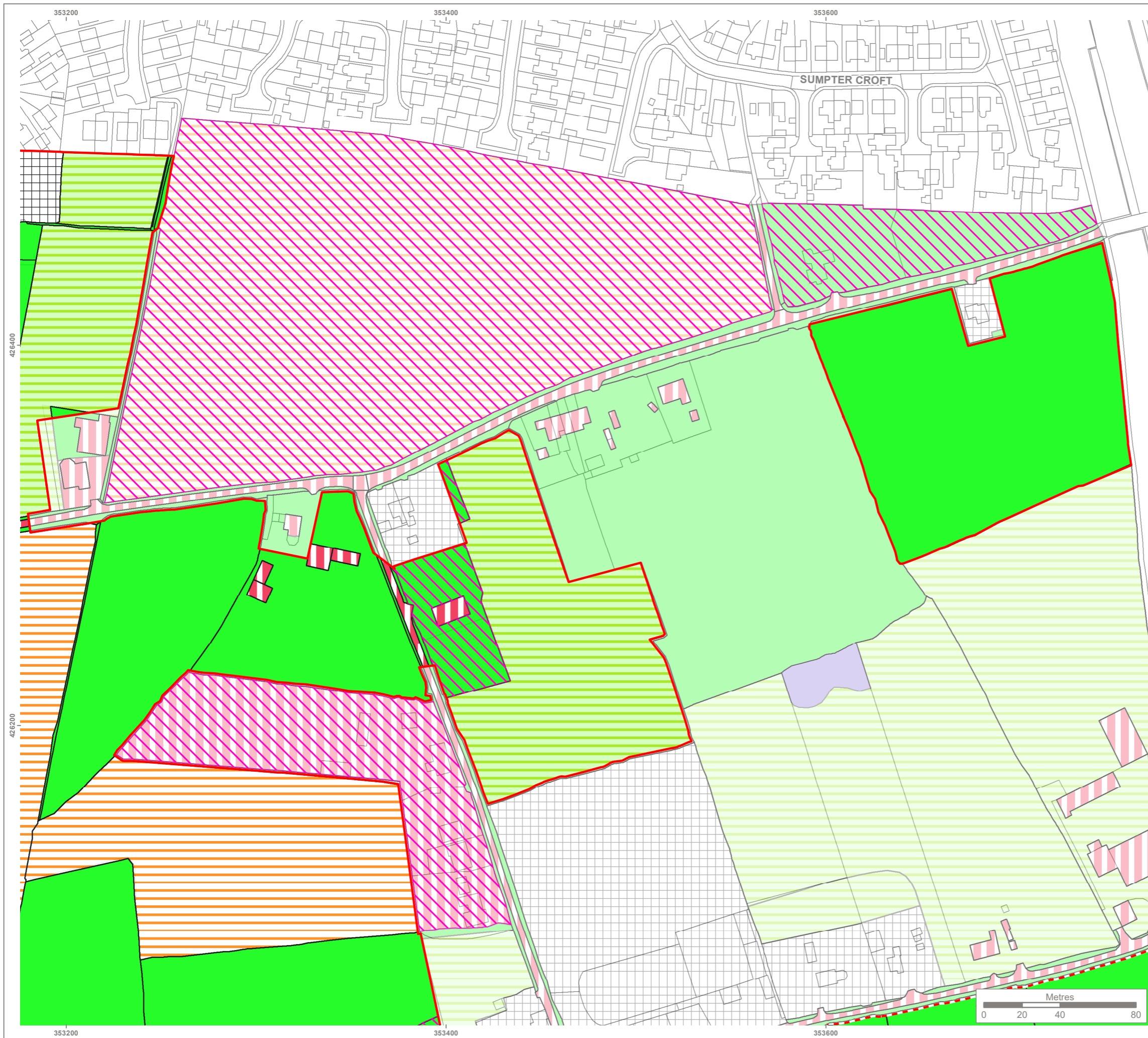
- Application A
- Application B
- Surveyed from aerial/outside land parcel
- Cropland - cereal crops
- Grassland - modified grassland
- Grassland - other neutral grassland
- Heathland and shrub - mixed scrub
- Not surveyed
- Urban - developed land/sealed surface

Note:
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Site Map

Rev	Description		Drawn	Approved	Date

THE ENVIRONMENT PARTNERSHIP
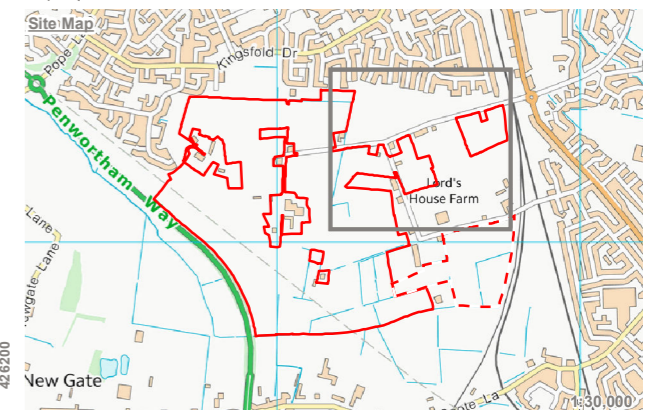
Genesis Centre, Birchwood Science Park, Warrington WA3 7BH
Tel 01925 844004   e-mail tep@tep.uk.com   www.tep.uk.com

Project
The Lanes, Penwortham

Title
UK Habitat Survey
The Lanes

Drawing Number
G6900.03.008.3

Sheet 3 of 5

Drawn	Checked	Approved	Scale	Date
CW	SA	ACP	1:2,000 @ A3	22/07/2021

Metres
0   20   40   80

SUMPTER CROFT
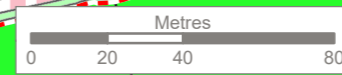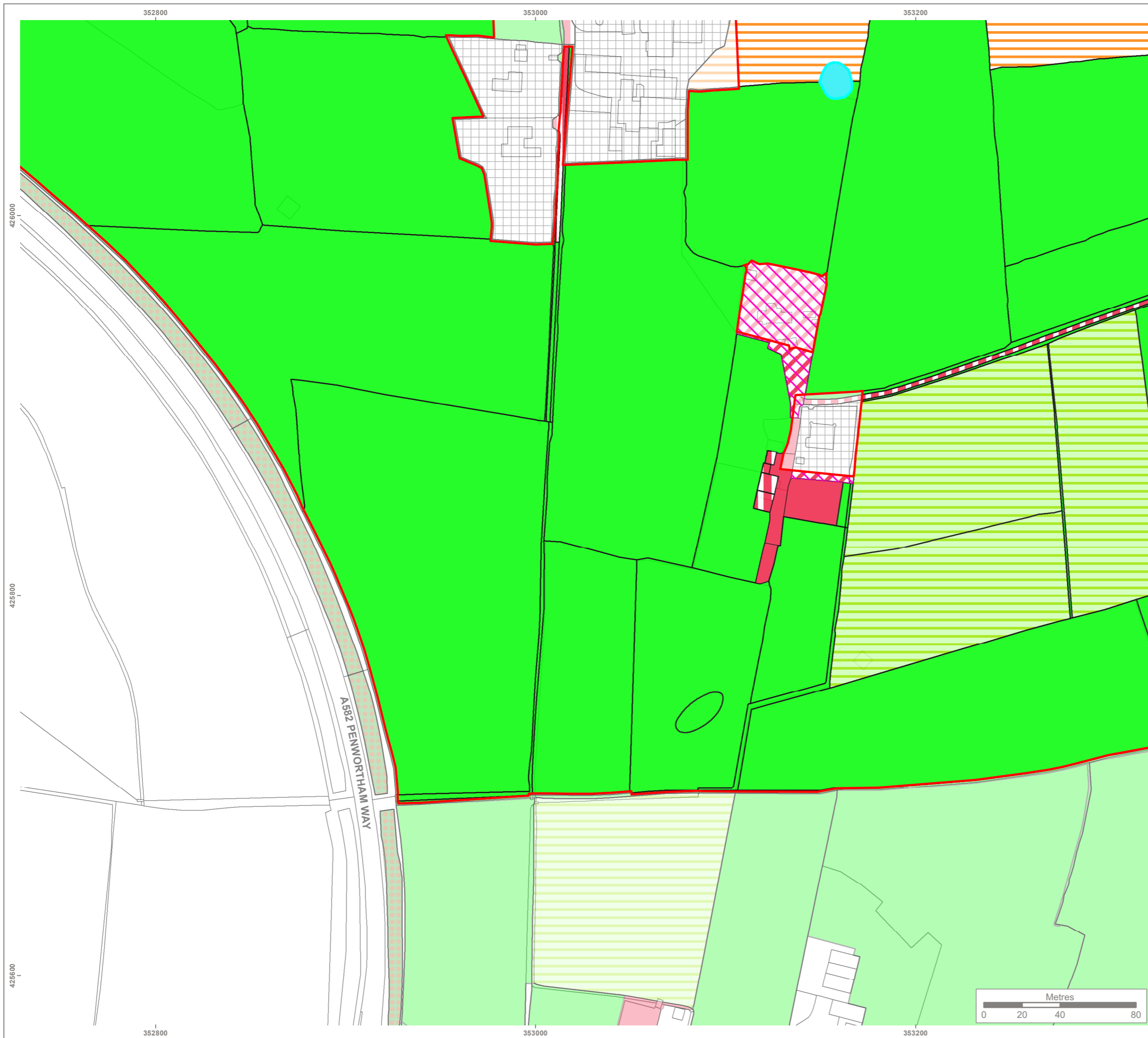
KEY

- Application A
- Surveyed from aerial/outside land parcel
- Cropland - cereal crops
- Grassland - modified grassland
- Grassland - other neutral grassland
- Lakes - ponds (non-priority habitat)
- Not surveyed
- Urban - developed land/sealed surface
- Urban - vacant/derelict land/bare ground
- Urban - vegetated garden
- Woodland - other broadleaved woodland

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Site Map

Rev	Description			Drawn	Approved	Date

THE ENVIRONMENT PARTNERSHIP

Genesis Centre, Birchwood Science Park, Warrington WA3 7BH
Tel 01925 844004   e-mail tep@tep.uk.com   www.tep.uk.com

Project
The Lanes, Penwortham

Title
UK Habitat Survey
The Lanes

Drawing Number			
G6900.03.008.4			Sheet 4 of 5

Drawn	Checked	Approved	Scale	Date
CW	SA	ACP	1:2,000 @ A3	22/07/2021
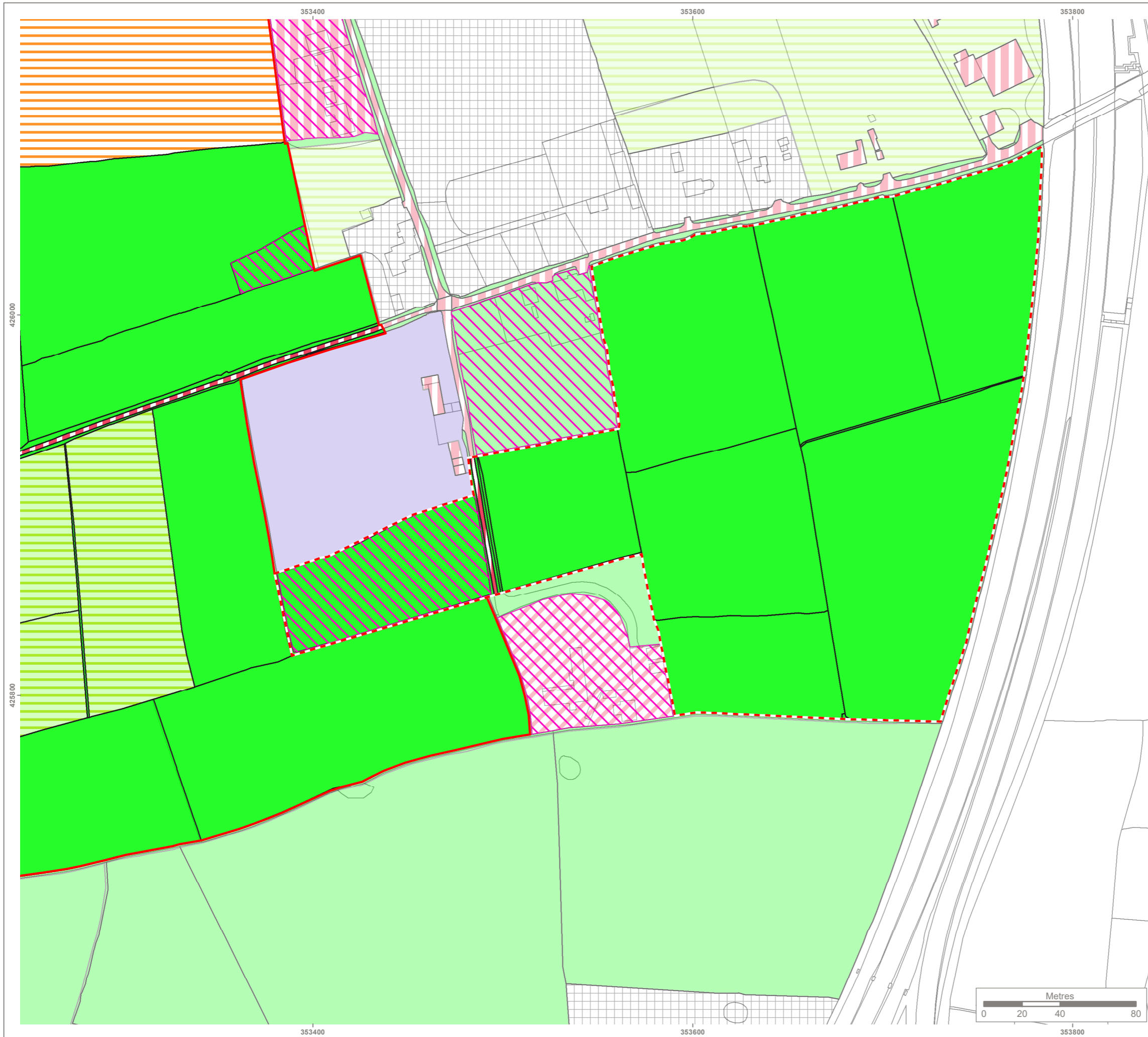
A582 PENWORTHAM WAY

Metres
0   20   40   80

KEY

- ▭ Application A
- ▭ Application B (dashed)
- ▨ Surveyed from aerial/outside land parcel
- ▨ Cropland - cereal crops
- ▧ Grassland - modified grassland
- ▧ Grassland - other neutral grassland
- ▧ Heathland and shrub - mixed scrub
- ▦ Not surveyed
- ▨ Urban - developed land/sealed surface
- ▨ Urban - vegetated garden

Note:

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Site Map
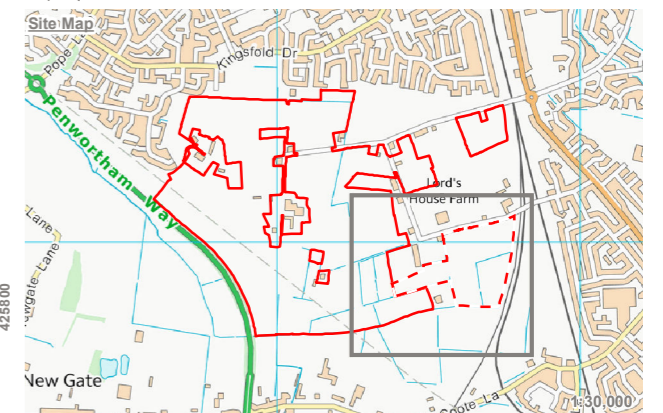
Genesis Centre, Birchwood Science Park, Warrington WA3 7BH
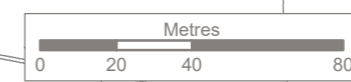Tel 01925 844004   e-mail tep@tep.uk.com   www.tep.uk.com

Project
The Lanes, Penwortham

Title
UK Habitat Survey
The Lanes

Drawing Number				
G6900.03.008.5			Sheet 5 of 5	

Drawn	Checked	Approved	Scale	Date
CW	SA	ACP	1:2,000 @ A3	22/07/2021

Rev	Description	Drawn	Approved	Date

THE ENVIRONMENT PARTNERSHIP

Metres
0   20   40   80

KEY

- ▭ Application A
- ▭ Application B (dashed red)
- ▨ Habitats for proposed enhancement

Proposed Development

- Allotment
- Amenity green space
- Local area for play (LAP)
- Local equipped area for play (LEAP)
- Natural/semi-natural space
- Pond
- Residential
- Road infrastructure
- School site

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Based on drawing 755-102 Rev K received from the client.
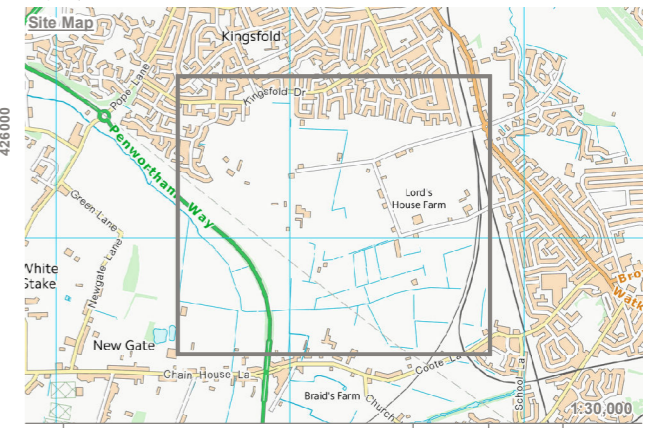
Site Map

1:30,000

Rev	Description	Drawn	Approved	Date

Project
The Lanes, Penwortham

Title
Post Development
The Lanes

Drawing Number
G6900.03.010

Drawn	Checked	Approved	Scale	Date
CW	SA	ACP	1:4,500 @ A3	29/07/2021

Metres
0   75   150   300
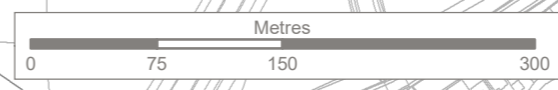
Briefing Note

Penwortham
POS Provision REV K

Ref: 755 Penwortham
Date: 26ᵗʰ July 2021
Subject: UPDATED MASTERPLAN (Dated 210726) – POS Provision Targets & Actual
(5plus drawing - *05745_MP_P_XX_Illustrative Masterplan Complete*)
- Masterplan calculations based on **1,350 dwellings** or **3,132 people** (based on household occupancy of 2.32 (South Ribble PPG17)
- Outline application calculations based on **1,100 dwellings** or **2,552 people** (based on household occupancy of 2.32 (South Ribble PPG17) s
- Requirement as set out in Planning Policy Teams Open Space & Playing Pitch Requirements dated 30/8/18

REF:	POS Typology	Contribution required/ dwelling	Masterplan	Outline
1	**Amenity Greenspace**	0.003192/dwelling	so 4.31 target **Total 10.15 ha** (of which 0.40ha in Pylon Corridor & 0.99ha in flood management area & 1.578 ha in SUDS (0.588 swale) & 0.05ha is allotment) Equals: 0.007518/dwelling	so 3.51ha target **Total ha 6.35** (of which 0.40 in Pylon Corridor & 0.99ha in flood management & 1.55 ha in SUDS (0.56 swale) & 0.05ha is allotment) Equals: 0.005772/dwelling
2	**Equipped Play Areas**	0.000192/dwelling	so 0.26ha target **0.34 ha** Equals: 0.000252/dwelling	so 0.21ha target **0.3ha** Equals: 0.000273/dwelling
3	**Parks & Gardens**	**N/A** (not looking for on-site provision as within 1000m of Central Parks)	**N/A**	**N/A**
4	**Natural/semi-natural**	Due to proximity and low quality/value of Golden Way NSN South looking for contribution (Quantity standard is 1.98ha/1000 pop) 0.004594/dwelling	so 6.20ha target **11.74ha** (of which 0.865ha in Pylon Corridor & 1.323 ha is SUDS) Equals: 0.00869/dwelling	so 5.05ha target **9.44ha** (of which 0.865ha in Pylon Corridor & 1.30ha is SUDS) & 0.08ha is allotment) Equals: 0.00858/dwelling
5	**Ponds**		Existing retained: 0.0270ha Proposed: 0.310ha	Existing retained: 0.0270ha Proposed: 0.310ha

TOTAL PROVISION:

10.77ha (target) 8.77ha (target)
22.23ha (actual) **16.09ha (actual)**

POS standard typologies the following breakdowns are suggested on the next page:

Xanthe Quayle
Landscape Architects

POS standard typologies the following breakdowns are suggested:

Amenity greenspace

- Ornamental shrub planting (including hedges) 5%

- Native shrub planting (including hedges) 10%

- Ornamental Woodland (Including Individual trees, tree groups and orchards) 5%

- Amenity grassland 60%

- Wildflower meadow (including swales so should it be better described as rough grassland??) 20%

Natural & Semi natural (Including LAPs)

- Native shrub planting 15%

- Native Woodland 20%

- Amenity grassland (allowance for maintained margin to roadways and relating to LAPs) 5%

- Wildflower meadow 60%

Play (LEAPs)

- Hard surfacing 70%

- Native shrub planting (including hedges) 5%

- Ornamental shrub planting (including hedges) 15%

- Ornamental Woodland (Including Individual trees, tree groups and orchards) 10%

Playing Fields

- N/A

TEP | **THE ENVIRONMENT PARTNERSHIP**