

Tween Bridge Solar Farm

Environmental Statement Appendix 7.12: Biodiversity Net Gain

Planning Act 2008
Infrastructure Planning (Applications: Prescribed Forms
and Procedure) Regulations 2009

APFP Regulation 5(2)(a)

Document Reference: 6.3.7.12

~~August 2025~~ June 2026

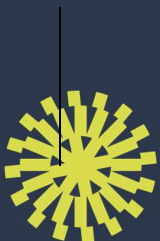
Revision ~~1~~2

Biodiversity Net Gain Report



Tween Bridge Solar Farm

June 2026~~August 2025~~



**Tyler
Grange**

TG Report No. 16413_R11c~~R11b~~_RR

Contents:

Summary

Section 1: Introduction, Legislation and Conservation Status 1

Section 2: Methodology 3

Section 3: Results 7

Appendices:

Appendix 1: Landscape Proposals

Figures:

Figure 1 : 16413_P13_Habitat Features_JS_RR



Section 1: Introduction, Legislation and Conservation Status

Introduction

- 1.1. Tyler Grange was commissioned to undertake ecological surveys in relation to 'The Scheme' of a renewable energy generating project; comprising ground-mounted solar photovoltaic ('PV') arrays, together with on-site energy storage and associated infrastructure. The Scheme is located on land to the east of the town of Thorne and to the west of the town of Crowle (the 'Order Limits').
- 1.2. This report details results from habitat and field surveys and a Biodiversity Net Gain (BNG) assessment. undertaken by Tyler Grange in August 2024 and June/July 2025 . The objectives of this report are to provide the results of the BNG assessment.
- 1.3. This report presents the detailed field survey methodology and should be read with reference to the **ES Chapter 7 Ecology and Nature Conservation [REP2-033]**. This report should also be read alongside **Appendix 7.1 Baseline Habitats Report [APP-072]** included within the **ES Chapter 7 Ecology and Nature Conservation [REP2-033]**.
- 1.4. Landscape plans are provided in Appendix 1, illustrating the proposed post-development habitats and their locations within the site.
- 1.5. This report has been updated following the Applicant's notice of intention to submit a request for changes to the application [PD-006] and subsequent Change Request Document [Document Reference 8.14 Revision 1]. The updates comprise the removal of parcels 1/A, 1/B, 1/C, 1/D, 2/B, 3/C, 3/D and 3/E from the extent of land subject to compulsory acquisition, temporary possession and works powers; the modification of Mitigation Parcel M1(A) to avoid registered common land/Countryside and Rights of Way Act 2000 access land parcels 1/E, 2/A, 3/A and 3/B; and an amendment to a proposed permissive path route through Mitigation Parcel M1(A) so that it would avoid encroaching upon parcel 2/A. The BNG assessment has been updated to reflect these changes and effect of these on the BNG conclusions reached in this report is negligible.



Legislation and Conservation Status

~~1.4.1.6.~~ It is not yet a mandatory requirement for NSIP applications to demonstrate a quantifiable biodiversity net gain (BNG) of at least 10% under the Environment Act 2021. However, the Applicant intends to provide evidence of the deliverability of measurable biodiversity gains, in accordance with NERC obligations and the Overarching National Policy Statement for Energy (EN-1) and National Policy Statement for Renewable Energy Infrastructure (EN-3).

~~1.5.1.7.~~ The DEFRA Statutory Biodiversity Metric Calculator has been utilised to provide evidence of achievable on-Site biodiversity gains, which is an established method to quantify biodiversity gains.



Section 2: Methodology

Survey Methodology 2022

- 2.1. Habitat surveys were undertaken by Avian Ecology Ltd. in 2022, and the full methodology and results are presented within **Appendix 7.1 Baseline Habitats Report [APP-072]** included within the **ES Chapter 7 Ecology and Nature Conservation [REP2-033]**, to be read alongside this report.

Survey Methodology 2024 and 2025

- 2.2. Following updates to the Order Limits a habitat survey was undertaken on areas not previously covered by Avian Ecology in August 2024 and June/July 2025 by Tyler Grange, with further detail in **Appendix 7.1 Baseline Habitats Report [APP-072]** included within the **ES Chapter 7 Ecology and Nature Conservation [REP2-033]**.

'Extended' Phase I Habitat Survey and UKHabs

- 2.3. The methods used during the habitat surveys broadly followed methods used in an 'extended' Phase I habitat survey¹ and entailed recording the main plant species and classifying and mapping habitat types with reference to the Habitat Definitions provided by the UK Habitat Classification Working Group².
- 2.4. Additionally, the habitats identified were evaluated for their potential to support legally protected and notable fauna species. Where access allowed, adjacent habitats were also considered in order to assess the Order Limits within the wider landscape and to provide information with which to assess possible impacts within the context of the Order Limits boundary.
- 2.5. All habitats were assessed utilising the relevant condition criteria for the relevant habitat type which included confirming 'pass' / 'fail' criteria in accordance with the Biodiversity Metric User Guide³.

Biodiversity Net Gain

- 2.6. The Statutory Biodiversity Metric operates by calculating the number of biodiversity units associated with a particular habitat type (both pre-and

¹ Joint Nature Conservation Committee (2010). Handbook for Phase 1 habitat survey - a technique for environmental audit. JNCC, Peterborough.

² UKHab Ltd. (2023). UK Habitat Classification Version 2.0 (at <https://www.ukhab.org>)

³ DEFRA (2025) Statutory biodiversity metric: user guide



post-development) – the ‘unit’ value associated with each habitat type is calculated based on the following parameters:

- Size (in hectares)/Length (in km);
- Distinctiveness (i.e. how rare/valuable a given habitat is);
- Condition (i.e. how well the recorded habitat fits [or will fit] the standardised description of that habitat); and
- Strategic significance (i.e. if the existing or proposed habitat is within an area formally adopted in the local plan for green infrastructure or biodiversity improvements).

2.7. When considering the creation of new habitats in the post-development, other factors are also considered when calculating the ‘unit’ value of a given habitat and these are:

- Time to reach the target condition of each habitat; and
- Difficulty category for the creation of a given habitat.

2.8. The UK Habitat Classification was used to identify habitat types. Note that the calculation is completed separately for non-linear and linear habitats. Habitat areas entered into The Statutory Biodiversity Metric in hectares were rounded to two decimal places.

Limitations and Assumptions

2.9. Although all habitats within the Order Limits have been surveyed, due to the timing of the original surveys prior to the implementation of BNG, not all habitats within the Order Limits were surveyed with detailed condition assessments for BNG, although notes on the habitat conditions was still made. To provide a robust and precautionary approach in line with best practice, where sufficient data was not available, higher condition scores for baseline habitats have been assumed. This ensures that the assessment does not underestimate baseline biodiversity value and avoids overestimating potential net gain.

2.10. The majority of hedgerows within the Order Limits contain some gaps and are subject to impacts from ongoing farming activities, which would result in them achieving poor or moderate condition within BNG. However as full condition assessments were not available for all hedgerows, as a precautionary approach, all hedgerows have been included as being of good



condition. This precautionary approach ensures that the baseline reflects the likely ecological function of the hedgerows while avoiding underestimation of their contribution to the Order Limits biodiversity value.

2.11. The Order Limits contains a large ditch network, comprising both large drainage ditches and smaller field ditches. The condition criteria⁴ for ditches states:

- The ditch is of good water quality, with clear water (low turbidity) indicating no obvious signs of pollution.
- A range of emergent, submerged and floating-leaved plants are present. As a guide >10 species of emergent, floating or submerged plants present in a 20 m ditch length.
- There is less than 10% cover of filamentous algae and or duckweed *Lemna* spp. (these are signs of eutrophication).
- A fringe of aquatic marginal vegetation is present along more than 75% of the ditch.
- Physical damage is evident along less than 5% of the ditch, with examples of damage including: excessive poaching, damage from machinery use or storage, or any other damaging management activities.
- Sufficient water levels are maintained - as a guide a minimum summer depth of approximately 50 cm in minor ditches and 1 m in main drains.
- Less than 10% of the ditch is heavily shaded.
- There is an absence of non-native plant and animal species

2.12. Based on available survey data, the majority of ditches would fail one or more of the condition criteria, which would result in them being of moderate condition, with many also failing at least 3 of the condition criteria, resulting in them achieving poor condition. The main reasons being due to poor water quality from agricultural run-off, low water levels, lack of emergent vegetation, lack of marginal vegetation and / or the presence of invasive species. However, to ensure the Order Limits is not undervalued within the BNG baseline, and adopting a precautionary approach, 25% of ditches have

⁴ DEFRA (2025) Statutory biodiversity metric condition assessments



been recorded as being in good condition, 50% in moderate condition, and 25% in poor condition. This approach ensures that the potential ecological value of the ditches in Order Limits is captured within the baseline. Further to this, all ditches are being retained and enhanced as part of the Scheme.

- 2.13. All ditches have been accounted for in the BNG calculations, but no River Morphology survey of the Stainforth and Keadby Canal has been completed. This is due to only a small section of the canal located within the Order Limits boundary, the fact the canal is being fully retained and buffered, with habitat creation and enhancement to take place in proximity. Therefore, there will be no change or impact to the canal itself. Furthermore, as BNG is not required for NSIPs, this detail is not needed as part of the assessment, which has focused within the boundaries of the Order Limits where potential impacts and changes to habitats are to take place.



Section 3: Results

- 3.1. The full extent of baseline habitats recorded across the site during all surveys is shown on Figure 1.

Survey Results 2022

- 3.2. Full habitat survey results from Avian Ecology Ltd are included in **ES Chapter 7 Ecology and Nature Conservation [REP2-033]. Appendix 7.1.** Surveys undertaken in 2022 recorded and mapped all habitat types within the Order Limits at that time.

Survey Results 2024 and 2025

- 3.3. The 2024 and 2025 surveys covered areas of the not previously included in the Order Limits boundary. These surveys also included high-level walkovers of the Order Limits to confirm that habitats had not significantly changed since the 2022 assessment. The 2022 surveys did not include a BNG assessment at the time, but the habitat survey results, including habitat descriptions and photographs, have been used alongside the 2024 and 2025 surveys to inform the current baseline habitat assessment.
- 3.4. The 2024 and 2025 surveys confirmed that there had been no significant change in the habitats recorded in 2022, and the results from the 2022 surveys are therefore still considered valid for the current assessment.

Habitats and Flora

- 3.5. The habitats present in the Order Limits are summarised below in **Table 2.2**, the location of habitats are shown on the Figure 1 - Habitats Features Condition assessment sheets are included on Appendix 2.



Table 2.2: Habitats and Flora

Habitat	Description and BNG Condition	Photograph
Arable Crops	Arable land is the dominant habitat within the Order Limits, with the majority of fields under cereal crops and smaller areas supporting non-cereal crops. Condition assessments are not required within BNG for cropland habitats.	



Modified Grassland

A small proportion of the Order Limits comprises modified grassland, primarily as pasture used for livestock and silage production, dominated by perennial rye-grass with other grass and herb species present. Field margins of modified grassland are present along arable edges, varying in width and species composition. This habitat has been assessed as Poor condition.



Tall Ruderal	Present along field boundaries and comprising species such as nettle and common thistle, with occasional grass and herb species including false-oat grass, bramble, hogweed and reed canary grass. This habitat has been assessed as Moderate condition.	
Scrub	Scrub habitats include mixed scrub with willow, bramble, blackthorn, hawthorn, elder, and dogrose, and bramble-dominated scrub with tall herbs. This habitat has been assessed as Moderate condition.	



Hedgerows	Hedgerows throughout the Order Limits vary between unmanaged and intensively managed, intact and defunct, and are typically species-poor and hawthorn-dominated, with occasional blackthorn, elder, ash, and other native species. Most hedgerows contain immature to mature trees. Assessed as good condition.	
Lines of Trees	Lines of trees are present throughout the Order Limits, comprising mature, semi-mature, and immature trees of various native and occasional non-native species, including oak, lime, hazel, ash, willow, and birch. Assessed as moderate condition.	



Lakes and Ponds	Ponds within the Order Limits vary from shallow pools to deep waterbodies, with some supporting common reed and marginal willow scrub while others lack marginal vegetation. Some ponds support waterfowl and fish. This habitat has been assessed as Moderate condition.	
Ditches and Watercourses	The Order Limits contains a network of wet and dry ditches with seasonal water level fluctuations, supporting aquatic and marginal vegetation including bramble scrub, reed canary grass, and common reed. Banks vary from shallow to steep, often with modified grassland margins. Larger watercourses include the River Torne and the Stainforth and Keadby Canal within or adjacent to the Order Limits. Assessed as good, moderate and poor condition as described above.	



Woodland

Woodland habitats within the Order Limits include wet woodland and deciduous woodland copses dominated by birch, oak, ash, poplar, and additional native tree species. Ground flora typically includes bramble and bracken. This habitat has been assessed as Moderate condition.



Strategic Significance

- 3.6. The Order Limits spans Council areas of Doncaster and North Lincolnshire. While neither has yet adopted its own Local Nature Recovery Strategy (LNRS), Doncaster falls within the developing South Yorkshire LNRS — currently led by the South Yorkshire Mayoral Combined Authority, with Doncaster Council as a supporting authority. North Lincolnshire lies within the Greater Lincolnshire LNRS area, which is also in preparation.
- 3.7. Importantly, the Order Limits is situated within or functionally linked to designated sites (SACs and SPAs). To ensure that the ecological significance of on-site habitats is properly recognised, the baseline assessment has recorded the Order Limits as “Location ecologically desirable but not yet referenced in a local strategy.”⁵. This classification recognises the potential for species movement and habitat support linking to adjacent designated sites, and ensures that the baseline reflects the contribution to broader ecological networks.

Proposed Habitats

- 3.8. The proposals, as shown within Appendix 2, have been used to calculate the proposed habitat areas. The rationale for target condition assessments is detailed within the metric 16413_M01a.
- 3.9. A species-rich grassland sward will be established beneath the solar panels and managed through grazing or appropriate mowing regimes. This grassland will be created prior to construction in those areas.
- 3.10. Although UKHab guidance indicates that recording vegetation beneath solar panels as U1B6 (Solar Panels with Vegetation), this was not applied as it would convert the habitat type to Developed Land Sealed Surface (u1b) – Developed Land (u1B6)⁶ within the Biodiversity Metric. This does not accurately reflect the proposed vegetated habitat under the panels, which is to comprise neutral grassland. On a precautionary basis this has been classified as achieving poor condition within the metric, although in reality some areas are likely to achieve a higher condition.

⁵ DEFRA (2025) Statutory biodiversity metric: user guide

⁶ UKHab Ltd. (2023). UK Habitat Classification Version 2.0 (at <https://www.ukhab.org>)



- 3.11. Buffers adjacent to the solar panels will consist of diverse neutral grassland, managed to maintain a varied sward height and species composition. This management regime will encourage structural heterogeneity within the sward, supporting a wide range of flora and fauna. The varied sward structure will provide important habitat niches and promote biodiversity within these buffer areas. Again this will be created prior to construction commencing in these areas.
- 3.12. Large areas of neutral grassland managed to at least moderate condition are to be created within the Order Limits and will form part of the bird mitigation strategy. These areas will be created prior to the majority of the Order Limit being constructed.
- 3.13. The proposals include the planting of new woodland areas comprising a range of native tree species. This woodland habitat is expected to establish well and achieve at least poor condition initially, with potential for improvement through ongoing management. The native species mix will provide valuable habitat for a variety of wildlife and contribute positively to the Order Limits ecological network.
- 3.14. Areas of hardstanding are also incorporated within the proposals. These are non-vegetated surfaces that do not require condition assessment under current BNG guidelines but contribute to the overall land use and Order Limits infrastructure.
- 3.15. The BNG metric has been updated in respect of Mitigation Parcel M1(A). The updates are precautionary and ensure that areas subject to existing rights of public access, described below, are still included within the BNG assessment.
- 3.16. Within Mitigation Parcel M1(A), the area of registered common land / Countryside and Rights of Way (CRoW) Act 2000 access land⁷ within parcels 1/E, 2A⁸, 3/A and 3/B, and the proposed permissive footpath through M1(A), all of which measures approximately 3.63ha, -has been recorded in the BNG metric as lost and then recreated as other neutral grassland in Poor condition. This land was previously recorded as other neutral grassland in Moderate condition and will be retained in practice and managed to achieve Moderate

⁷ By virtue of section 2 (1) of the Countryside and Rights of Way Act 2000, any person is entitled to enter and remain on any access land for the purposes of open-air recreation

⁸ A small area of land previously forming part of parcel 2A is now identified as parcel 2B in the Land Plans [Document Reference 2.2 Revision 3]. That land is not subject to compulsory acquisition, temporary possession or works powers. In addition, no benefit is assigned to that land for the purposes of the assessment contained in this report as it has never formed part of Mitigation Parcel M1(A) and no other habitat enhancement is proposed in respect of the land.



condition. However, this precautionary approach has been used whereby the grassland is classified as Poor condition within the BNG metric, to take into account ~~of~~ the potential effects of recreational pressure from the existence of public rights of access over the land.

3.17. The area of M1(A) outside of the CRoW access land and proposed permissive footpath route, comprising 6.81 ha, has been recorded as retained other neutral grassland in Moderate condition. Management will aim to maximise the importance of this grassland and achieve a higher condition where possible, although moderate condition has been used in the BNG metric as part of a precautionary approach. ~~The area of M1(A) comprising CRoW access land and the proposed permissive footpath within Mitigation Parcel M1(A), comprising 3.63 ha, has been recorded as lost and recreated as other neutral grassland in Poor condition, as set out above.~~

3.18. The permissive footpath through M1(A) will be fenced to prevent recreational impacts to the grassland in M1(A), such as from trampling and dog fouling, and will comprise a mown grass path.

3.19. Parcels 1/A, 1/B, 1/C, 1/D, 3/C, 3/D and 3/E, which total 0.0524 ha, are removed from the extent of land subject to compulsory acquisition, temporary possession or works powers. These parcels comprise small areas of drain and agricultural land. The existing areas of arable land within these parcels have been recorded in the BNG metric as retained. Approximately 100 m of ditch within the drains in these parcels has also been recorded as retained, rather than enhanced.

~~3.14.~~3.20. Details of habitat establishment and long-term management is provided through the **Outline Landscape Ecological Management Plan [REP2-033]** which has been prepared in line with this BNG assessment. The LEMP sets out the prescriptions for the establishment and maintenance of the habitats for 40 years. These management measures take into account biodiversity enhancement alongside specific species enhancements.

Trading rules

~~3.15.~~3.21. The trading rules for BNG have not been met in relation to loss of scrub as a broad habitat type, as scrub habitats are being lost without like-for-like replacement. However, woodland of the same distinctiveness as the required scrub habitat is being provided, which, while not the same broad habitat type, contributes positively to overall habitat quality. In addition, the scheme is delivering over a 10% net gain in biodiversity units.



BNG Conclusion

~~3.16.~~~~3.22.~~ As described within The Statutory Biodiversity Metric **16413_M01a** and summarised below in **Figure 4.1**, based on the habitats present that will be lost and those to be created, the development would result in a gain of 3724.93 habitat units, a gain of 345.56 hedgerow units, and a gain of 100.04 watercourse units. This is a percentage gain of 79.77% in habitat units, 178.57% in hedgerow units and 10.80% in watercourse units.

FINAL RESULTS		
Total net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	<i>Habitat units</i>	3724.93
	<i>Hedgerow units</i>	345.56
	<i>Watercourse units</i>	100.04
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	<i>Habitat units</i>	79.77%
	<i>Hedgerow units</i>	178.57%
	<i>Watercourse units</i>	10.80%
Trading rules satisfied?	No - Check Trading Summaries ▲	

Figure 4.1: Biodiversity Net Gain Assessment Results Summary, taken from The Statutory Biodiversity Metric.

~~3.17.~~~~3.23.~~ The BNG assessment for the Order Limits demonstrates that the proposed Scheme will deliver a measurable net gain in biodiversity across habitats, hedgerows, and watercourses.

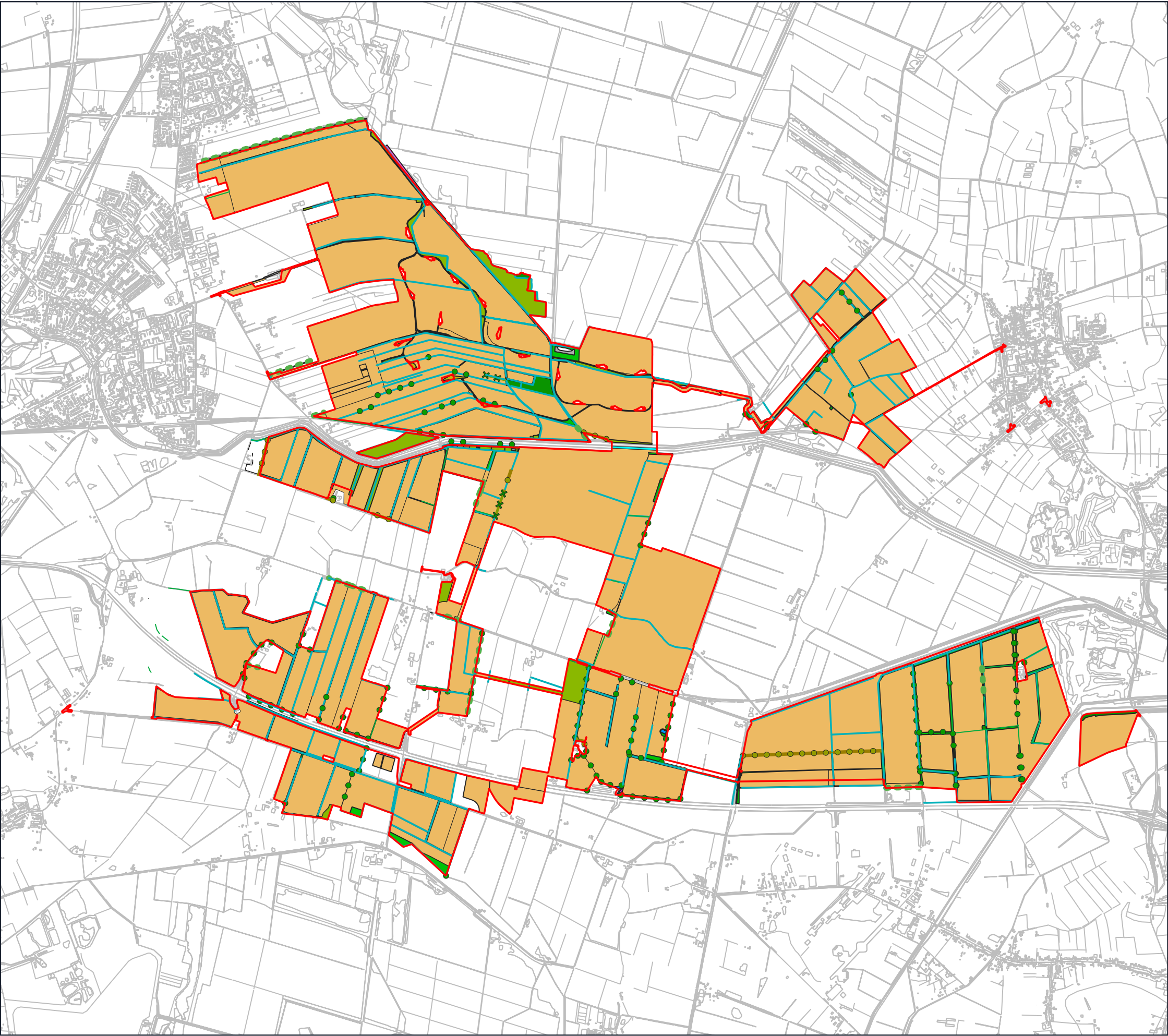
~~3.18.~~~~3.24.~~ The DEFRA Statutory Biodiversity Metric has demonstrated that the Scheme will achieve a net gain in biodiversity units exceeding 10% across the Order Limits, even when applying a precautionary baseline approach. This demonstrates the deliverability of measurable biodiversity improvements in line with the Applicant's commitments under the NERC Act and relevant national policy, despite the Scheme not being subject to mandatory BNG requirements.

~~3.19.~~~~3.25.~~ These outcomes will be secured and maintained over the long term through implementation of the **Outline Landscape Ecological Management Plan [Document Reference 7.6 Revision 4]** prepared for the Scheme and will be implemented for 40 years, which is for the lifetime of the Scheme, although only 30 years is required for BNG.



Figure 1 : 16413_P13_Habitat Features_JS_RR





Legend

Habitats

- Arable
- Reedbeds
- Bracken
- Modified Grassland
- Bramble Scrub
- Mixed Scrub
- Canal
- Ponds (see Pond Location Plan - Appendix 2)
- Buildings
- Developed Land; Sealed Surface
- Artificial Unvegetated, Unsealed Surface & Bare Ground
- Wet Woodland
- Other Woodland; Broadleaved
- Other Neutral Grassland

Linear Habitats

- Native Hedgerow
- Native Hedgerow with Trees
- Native Hedgerow with Trees and Ditch
- Non-native & Ornamental Hedgerow
- Ditches
- Line of Trees
- Line of Trees with Ditch



Project	Tween Bridge
Drawing Title	Habitat Features Plan
Scale	As Shown (Approximate)
Drawing No.	16413/P13a
Date	August 2025
Checked	JS/RR



Town House, 3rd Floor, 11-15 Dix's Field, Exeter, EX1 1QA
T: 01392 447 588 E: info@tylergrange.co.uk W: www.tylergrange.co.uk

Appendix 1: Landscape Proposals



Tween Bridge Solar Farm

Environmental Statement

Figure 6.4: Landscape and Visual Mitigation Strategy

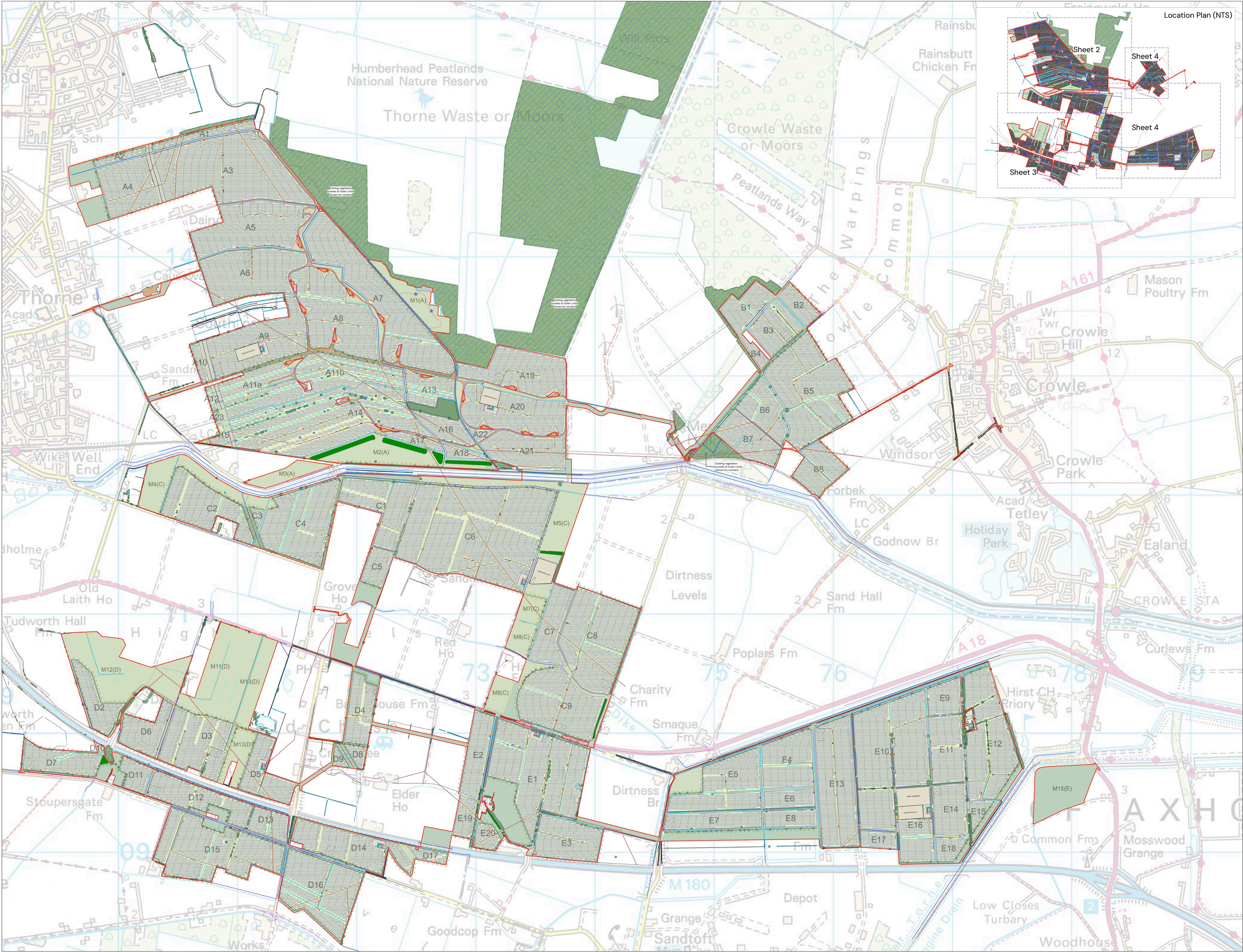
Planning Act 2008
Infrastructure Planning (Applications: Prescribed Forms
and Procedure) Regulations 2009

APFP Regulation 5(2)(a)

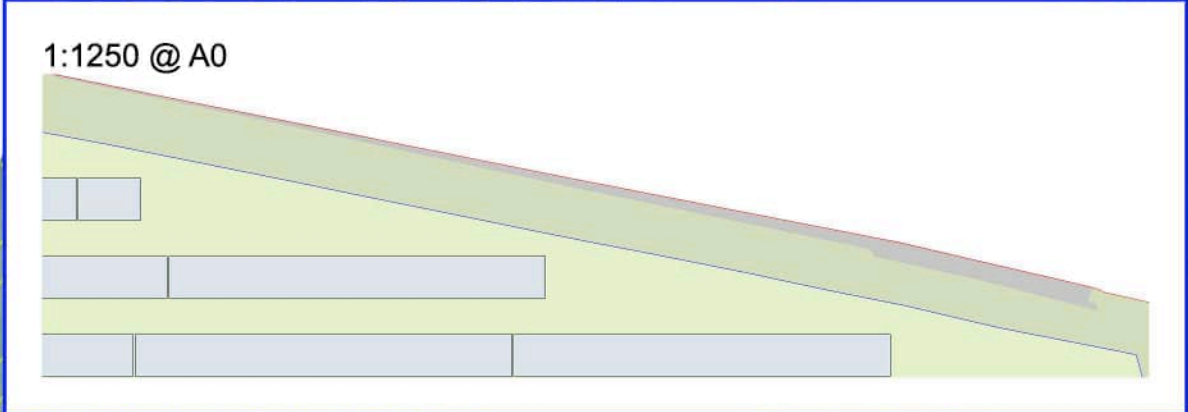
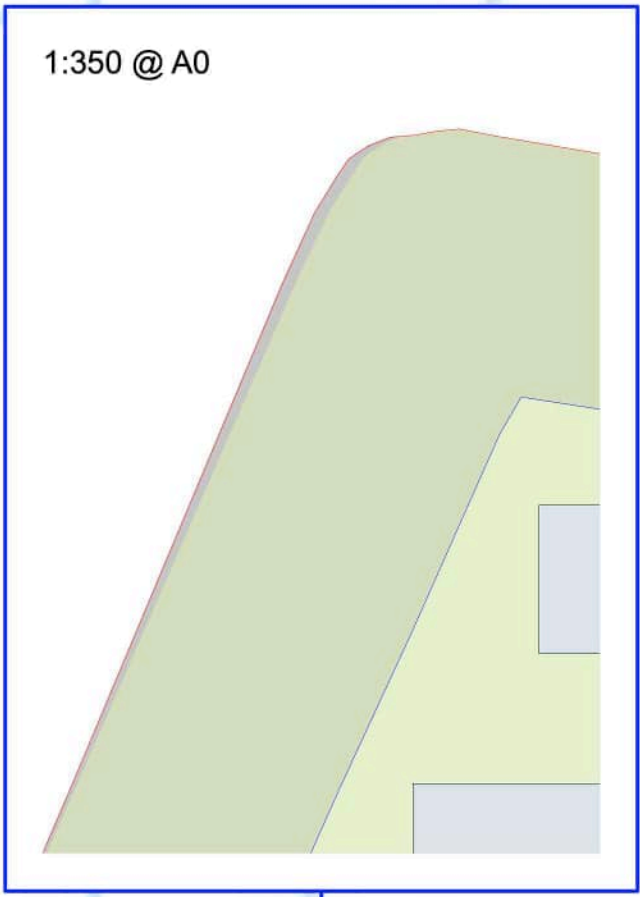
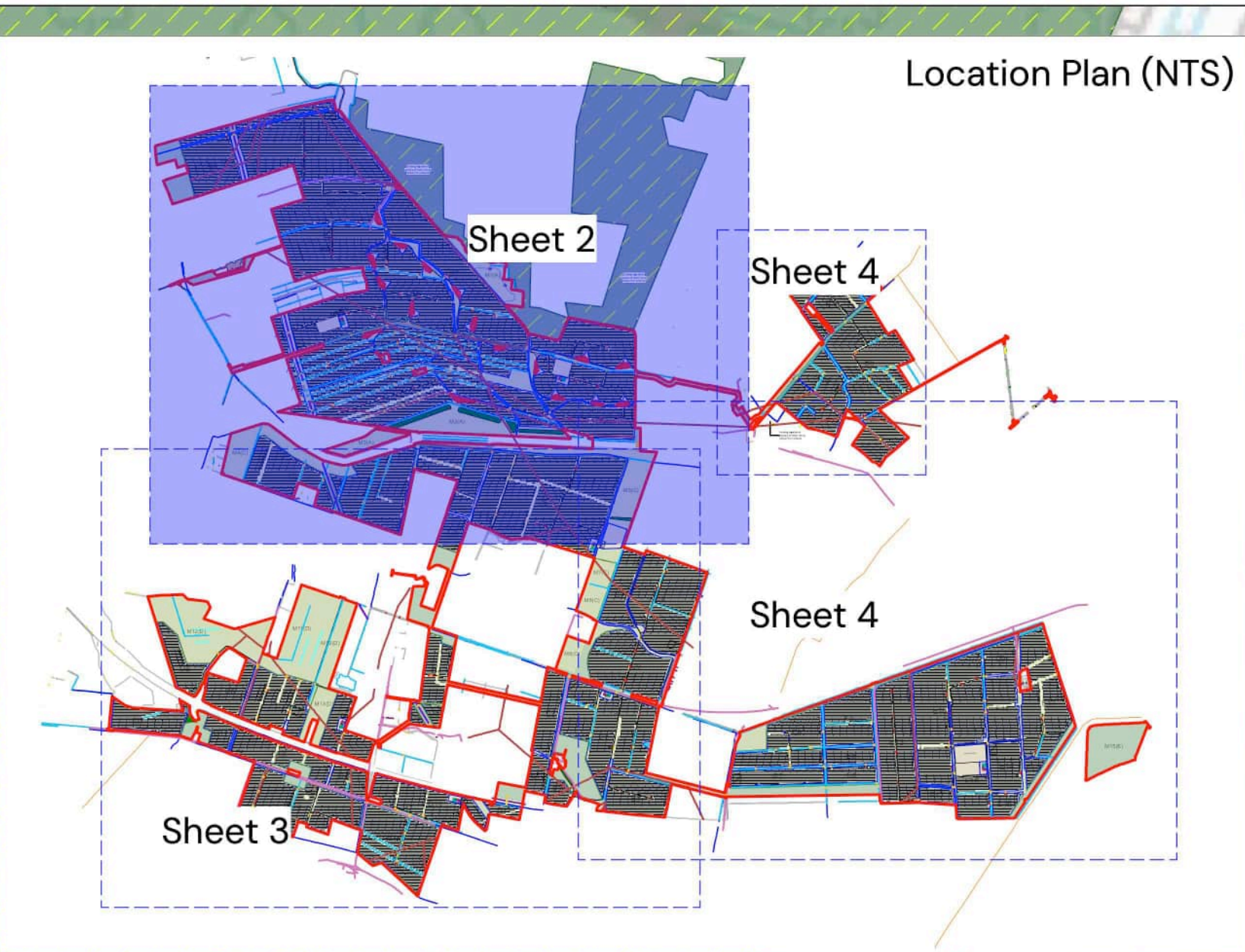
Document Reference: 6.4.6.4

June 2026

Revision 3



- LEGEND**
- Order Limits
 - Existing Vegetation with RPAs
 - Existing Vegetation outside Order Limits
 - Existing Vegetation to be Removed
 - Existing Public Right of Way Footpath
 - Existing Drain
 - Existing River/ IDB Drain
 - Existing Water Main
 - Existing Fuel Pipe
 - Existing High Voltage Cable
 - Existing Low Voltage Cable
 - Existing Wind Farm High Voltage Cable
 - Existing Telecom Cable
 - Existing Wind Farm Access Track
 - Proposed:**
 - Security Fence
 - Access Gate
 - Solar Arrays
 - Access Road
 - Hard Standing to BESS/Substation
 - Inverter Container
 - Switchgear
 - Spare Container
 - Construction Compound
 - Indicative Cable/ Drain Crossing
 - Existing Ground Conditions to be retained and made good following construction
 - Species-Rich Neutral Grassland Seed Mix
 - Species-Rich Neutral Grassland Seed Mix to Solar Compartment
 - Proposed Hedgerow Planting
 - Proposed Woodland Planting
 - Proposed Tree Planting
 - Indicative permissive footpath route with high level viewing huts - all routes to be fenced and secure. Fencing to be 1.2m high, wooden pole and wire fence
 - Proposed scrapes - shown indicatively, refer to ecology reports for further details
 - Special category - Common Land: not subject to compulsory acquisition, temporary possession or works powers



LEGEND

- Order Limits
- Existing Vegetation with RPAs
- Existing Vegetation outside Order Limits
- Existing Vegetation to be Removed
- Existing Public Right of Way Footpath
- Existing Drain
- Existing River/ IDB Drain
- Existing Water Main
- Existing Fuel Pipe
- Existing High Voltage Cable
- Existing Low Voltage Cable
- Existing Wind Farm High Voltage Cable
- Existing Telecom Cable
- Existing Wind Farm Access Track

Proposed:

- Security Fence
- Access Gate
- Solar Arrays
- Access Road
- Hard Standing to BESS/Substation
- Inverter Container
- Switchgear
- Spare Container
- Construction Compound
- Indicative Cable/ Drain Crossing
- Existing Ground Conditions to be retained and made good following construction
- Species-Rich Neutral Grassland Seed Mix
- Species-Rich Neutral Grassland Seed Mix to Solar Compartment
- Proposed Hedgerow Planting
- Proposed Woodland Planting
- Proposed Tree Planting
- Indicative permissive footpath route with high level viewing huts - all routes to be fenced and secure. Fencing to be 1.2m high, wooden pole and wire fence
- Proposed scrapes - shown indicatively, refer to ecology reports for further details
- Special category - Common Land: not subject to compulsory acquisition, temporary possession or works powers

Notes

1. The drawing is for illustrative purposes only

Figure 6.4 Landscape and Visual Mitigation Strategy

Tween Bridge Solar Farm

0 100 200 300 m

Coordinate System: British National Grid
Projection: Transverse Mercator
Datum: OSGB 1998

© Crown copyright and
data rights 2023.
Ordnance Survey KB200808122

Scale: 1:5000

Paper Size: A0

Sheet: 2 of 4

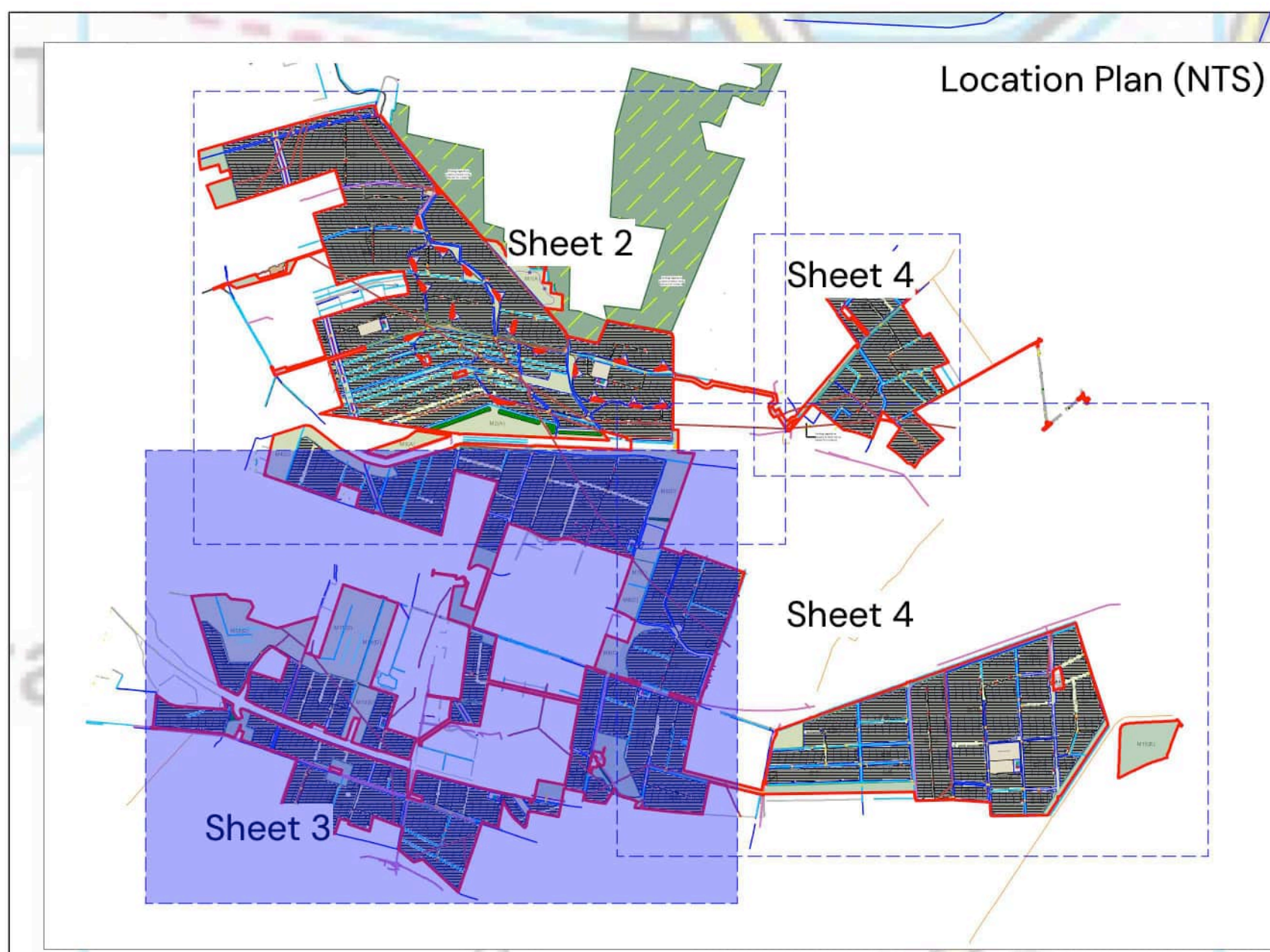
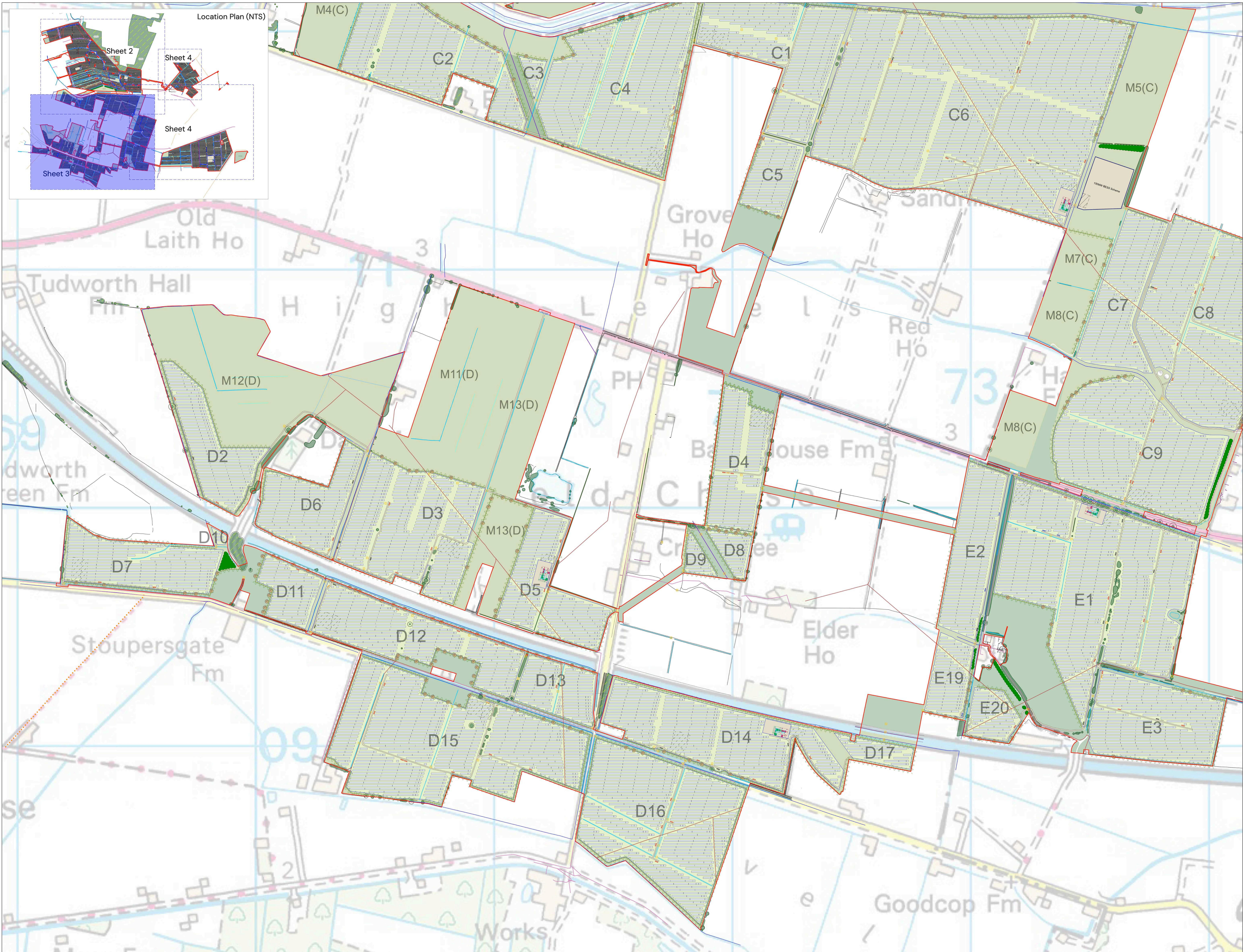
RWE

Document Ref: 6.4.6.4 APPP Ref: 5(2)(a) Revision: 3

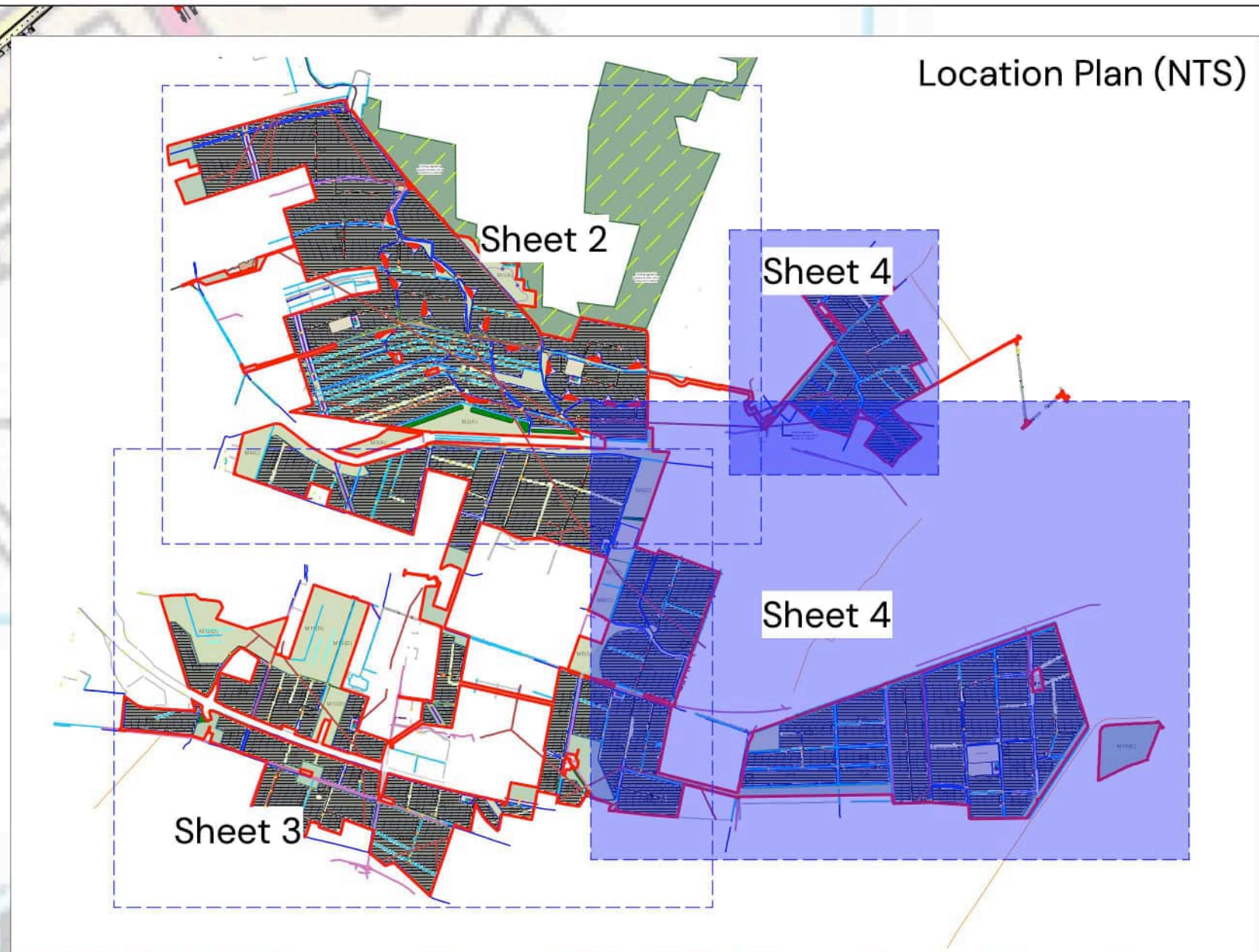
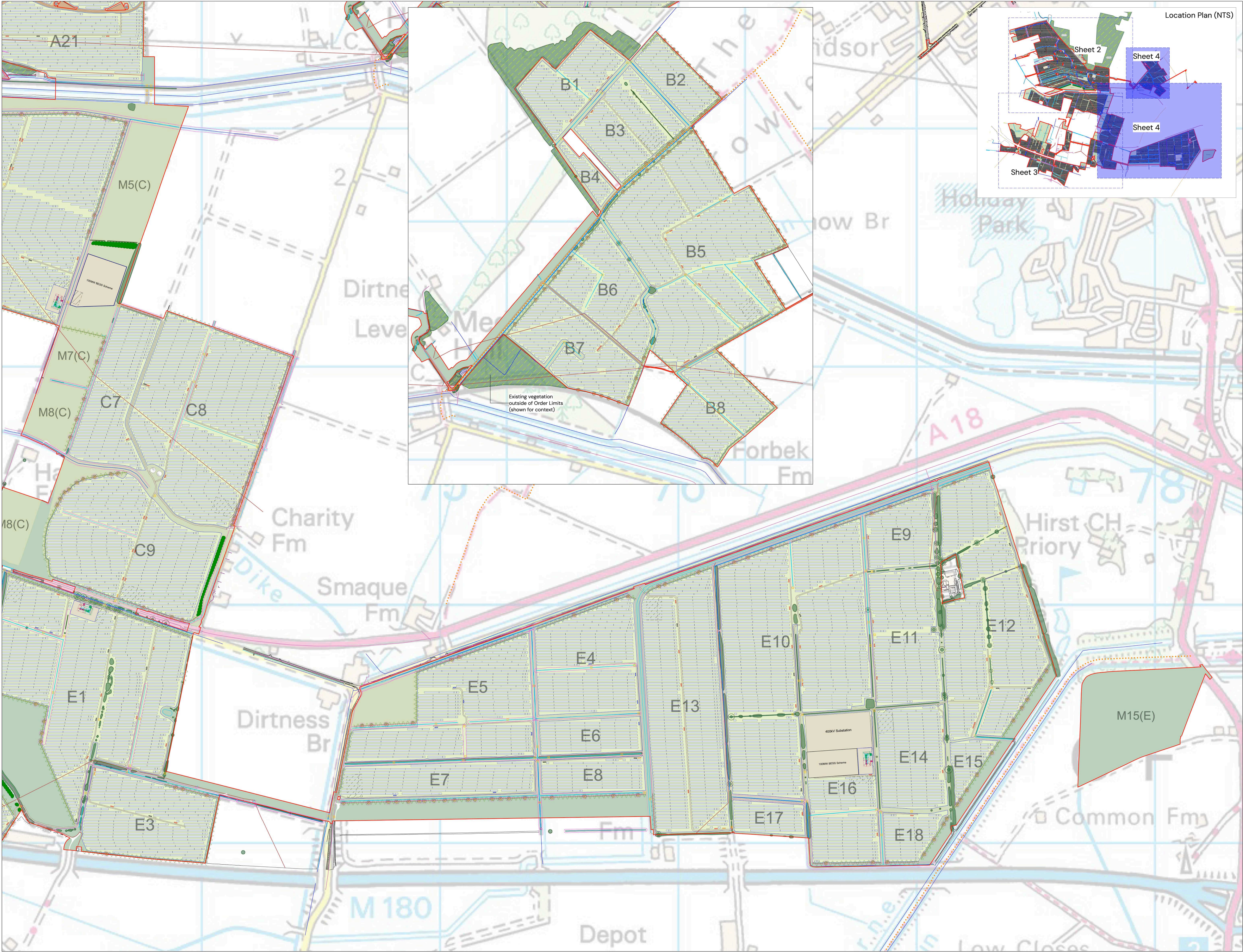
PINS Number: EN010148 Drawing Status: Final

Drawn: LAB Checked: HS Approved: KC Date: 03/06/2026

File: W:\Champs\ASD\201\PPS\3461 Tween Bridge Solar Farm\EN\LPD\3461_35F Landscape Strategy



- LEGEND**
- Order Limits
 - Existing Vegetation with RPAs
 - Existing Vegetation outside Order Limits
 - Existing Vegetation to be Removed
 - Existing Public Right of Way Footpath
 - Existing Drain
 - Existing River/ IDB Drain
 - Existing Water Main
 - Existing Fuel Pipe
 - Existing High Voltage Cable
 - Existing Low Voltage Cable
 - Existing Wind Farm High Voltage Cable
 - Existing Telecom Cable
 - Existing Wind Farm Access Track
 - Proposed:**
 - Security Fence
 - Access Gate
 - Solar Arrays
 - Access Road
 - Hard Standing to BESS/Substation
 - Inverter Container
 - Switchgear
 - Spare Container
 - Construction Compound
 - Indicative Cable/ Drain Crossing
 - Existing Ground Conditions to be retained and made good following construction
 - Species-Rich Neutral Grassland Seed Mix
 - Species-Rich Neutral Grassland Seed Mix to Solar Compartment
 - Proposed Hedgerow Planting
 - Proposed Woodland Planting
 - Proposed Tree Planting
 - Indicative permissive footpath route with high level viewing huts - all routes to be fenced and secure. Fencing to be 1.2m high, wooden pole and wire fence
 - Proposed scrapes - shown indicatively, refer to ecology reports for further details
 - Special category - Common Land: not subject to compulsory acquisition, temporary possession or works powers



LEGEND

- Order Limits
- Existing Vegetation with RPAs
- Existing Vegetation outside Order Limits
- Existing Vegetation to be Removed
- Existing Public Right of Way Footpath
- Existing Drain
- Existing River/ IDB Drain
- Existing Water Main
- Existing Fuel Pipe
- Existing High Voltage Cable
- Existing Low Voltage Cable
- Existing Wind Farm High Voltage Cable
- Existing Telecom Cable
- Existing Wind Farm Access Track

Proposed:

- Security Fence
- Access Gate
- Solar Arrays
- Access Road
- Hard Standing to BESS/Substation
- Inverter Container
- Switchgear
- Spare Container
- Construction Compound
- Indicative Cable/ Drain Crossing
- Existing Ground Conditions to be retained and made good following construction
- Species-Rich Neutral Grassland Seed Mix
- Species-Rich Neutral Grassland Seed Mix to Solar Compartment
- Proposed Hedgerow Planting
- Proposed Woodland Planting
- Proposed Tree Planting
- Indicative permissive footpath route with high level viewing huts - all routes to be fenced and secure. Fencing to be 1.2m high, wooden pole and wire fence
- Proposed scrapes - shown indicatively, refer to ecology reports for further details
- Special category - Common Land: not subject to compulsory acquisition, temporary possession or works powers

Notes

1. The drawing is for illustrative purposes only

Figure 6.4 Landscape and Visual Mitigation Strategy

Tween Bridge Solar Farm

0 100 200 300 m

Coordinate System: British National Grid
Projection: Transverse Mercator
Datum: OSGB 1998
Scale: 1:5000
Paper Size: A0
Sheet: 4 of 4

RWE

Document Ref: 6.4.6.4
PINS Number: EN010148
Drawn: LAB
Checked: HS
Approved: KC
Date: 03/06/2026

APFP Reg: 5(2)(a)
Drawing Status: Final
Revision: 3

© Crown copyright and database rights 2023.
Ordnance Survey KB2008080122

File: W:\Drawing\ASD\2021\PS1-1847-Tween Bridge Solar Farm\EN\LP15-1847_05F Landscape Strategy

Appendix 2: 16313_C01_Condition Assessments



[illegible]

G	Woodland regeneration	All three classes present in woodland ⁸ ; trees 4 - 7 cm Diameter at Breast Height (DBH), saplings and seedlings or advanced coppice regrowth.	One or two classes only present in woodland ⁸ .	No classes or coppice regrowth present in woodland ⁸ .	2											
H	Tree health	Tree mortality 10% or less, no pests or diseases and no crown dieback ⁹ .	11% to 25% tree mortality and or crown dieback or low-risk pest or disease present ⁹ .	Greater than 25% tree mortality and or any high-risk pest or disease present ⁹ .	3											
I	Vegetation and ground flora	Recognisable NVC plant community ¹⁰ at ground layer present, strongly characterised by ancient woodland flora specialists.	Recognisable woodland NVC plant community ¹⁰ at ground layer present.	No recognisable woodland NVC plant community ¹⁰ at ground layer present.	2											
J	Woodland vertical structure	Three or more storeys across all survey plots, or a complex woodland ¹¹ .	Two storeys across all survey plots ¹¹ .	One or less storey across all survey plots ¹¹ .	2											
K	Veteran trees	Two or more veteran trees ¹² per hectare.	One veteran tree ¹² per hectare.	No veteran trees ¹² present in woodland.	2											
L	Amount of deadwood	50% of all survey plots within the woodland parcel have deadwood, such as standing and fallen deadwood, large dead branches and or stems, branch stubs and stumps, or an abundance of small cavities ¹³ .	Between 25% and 50% of all survey plots within the woodland parcel have deadwood, such as standing and fallen deadwood, large dead branches and or stems, stubs and stumps, or an abundance of small cavities ¹³ .	Less than 25% of all survey plots within the woodland parcel have deadwood, such as standing and fallen deadwood, large dead branches and or stems, stubs and stumps, or an abundance of small cavities ¹³ .	2											
M	Woodland disturbance	No nutrient enrichment or damaged ground evident ¹⁴ .	Less than 1 hectare in total of nutrient enrichment across woodland area, and or less than 20% of woodland area has damaged ground ¹⁴ .	1 hectare or more of nutrient enrichment, and or 20% or more of woodland area has damaged ground ¹⁴ .	2											
Total Score (out of a possible 39)					27											
Condition Assessment Result		Condition Assessment Score		Result Achieved												
Total score >32 (33 to 39)		Good (3)														
Total score 26 to 32		Moderate (2)		Moder												
Total score <26 (13 to 25)		Poor (1)														
Suggested enhancement interventions to improve condition score																

Condition Sheet: DITCH Habitat Type												
Habitat Type												
Watercourses - Ditches												
Habitat Description												
See the Statutory Biodiversity Metric User Guide.												
On-site or off-site, site name and location			Survey date and Surveyor name									
Limitations (if applicable)			Survey reference (if relating to a wider survey)									
			Habitat parcel reference									
			Grid reference									
Condition Assessment Criteria			1	2	3							
			Criterion passed (Yes or No)									
A	The ditch is of good water quality, with clear water (low turbidity) indicating no obvious signs of pollution.		Yes	No	No							
B	A range of emergent, submerged and floating-leaved plants are present. As a guide >10 species of emergent, floating or submerged plants present in a 20 m ditch length.		Yes	Yes	No							
C	There is less than 10% cover of filamentous algae and or duckweed <i>Lemna</i> spp. (these are signs of eutrophication).		Yes	Yes	Yes							
D	A fringe of aquatic marginal vegetation is present along more than 75% of the ditch.		Yes	Yes	Yes							
E	Physical damage is evident along less than 5% of the ditch, with examples of damage including: excessive poaching, damage from machinery use or storage, or any other damaging management activities.		Yes	Yes	Yes							
F	Sufficient water levels are maintained - as a guide a minimum summer depth of approximately 50 cm in minor ditches and 1 m in main drains.		Yes	Yes	Yes							
G	Less than 10% of the ditch is heavily shaded.		Yes	No	No							
H	There is an absence of non-native plant and animal species ¹ .		Yes	Yes	No							
Number of criteria passed			8	6	4							

Condition Assessment Result (out of 8 criteria)	Condition Assessment Score	Score Achieved ×/√										
Passes 8 criteria	Good (3)	Good										
Passes 6 or 7 criteria	Moderate (2)		Moderate									
Passes 5 or fewer criteria	Poor (1)			Poor								
Suggested enhancement interventions to improve condition score												
Footnotes												

Condition Sheet: GRASSLAND Habitat Type (low distinctiveness)												
UK Habitat Classification (UKHab) Habitat Type												
Grassland - Modified grassland												
Habitat Description												
See 16413_R11_BNG Report												
ukhab – UK Habitat Classification On-site or off-site, site name and location See 16413_R11_BNG Report Survey date and Surveyor name See 16413_R11_BNG Report Survey reference (if relating to a wider survey) See 16413_R11_BNG Report												
Limitations (if applicable) See 16413_R11_BNG Report Habitat parcel reference Grid reference 10												
Condition Assessment Criteria 10 Criterion passed (Yes or No) Notes (such as justification)												
A There are 6-8 vascular plant species per m² present, including at least 2 forbs (these may include those listed in Footnote 1). Note - this criterion is essential for achieving Moderate or Good condition. Where the vascular plant species present are characteristic of medium, high or very high distinctiveness grassland, or there are 9 or more of these characteristic species per m² (excluding those listed in Footnote 1), please review the full UKHab description to assess whether the grassland should instead be classified as a higher distinctiveness grassland. Where a grassland is classed as medium, high, or very high distinctiveness, please use the relevant condition sheet. Yes												
B Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for vertebrates and invertebrates to live and breed. No												
C Any scrub present accounts for less than 20% of the total grassland area. (Some scattered scrub such as bramble <i>Rubus fruticosus</i> agg. may be present). Note - patches of scrub with continuous (more than 90%) cover should be classified as the relevant scrub habitat type. Yes												
D Physical damage is evident in less than 5% of total grassland area. Examples of physical damage include excessive poaching, damage from machinery use or storage, erosion caused by high levels of access, or any other damaging management activities. No												
E Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens)². Yes												
F Cover of bracken <i>Pteridium aquilinum</i> is less than 20%. Yes												
G There is an absence of invasive non-native plant species³ (as listed on Schedule 9 of WCA⁴). Yes												
Essential criterion achieved (Yes or No) Yes												
Number of criteria passed 5												
Condition Assessment Result (out of 7 criteria) Condition Assessment Score Score Achieved x/√												

Passes 6 or 7 criteria including passing essential criterion A	Good (3)												
Passes 4 or 5 criteria including passing essential criterion A	Moderate (2)	Moderate											
Passes 3 or fewer criteria; OR Passes 4 - 6 criteria (excluding criterion A)	Poor (1)												
Suggested enhancement interventions to improve condition score													
Footnotes													
Footnote 1 – Creeping thistle <i>Cirsium arvense</i> , spear thistle <i>Cirsium vulgare</i> , curled dock <i>Rumex crispus</i> , broad-leaved dock <i>Rumex obtusifolius</i> , common nettle <i>Urtica dioica</i> , creeping buttercup <i>Ranunculus repens</i> , greater plantain <i>Plantago major</i> , white clover <i>Trifolium repens</i> and cow parsley <i>Anthriscus sylvestris</i> . Footnote 2 – For example, this could include small, scattered areas of bare ground allowing establishment of new species, or localised patches where not exceeding 10% cover. Footnote 3 – Assess this for each distinct habitat parcel. If the distribution of invasive non-native species varies across the habitat, split into parcels accordingly, applying a buffer zone around the invasive non-native species with a size relative to its risk of spread into adjacent habitat, using professional judgement. Footnote 4 – Wildlife and Countryside Act 1981 (as amended).													

Condition Sheet: GRASSLAND Habitat Type (medium, high and very high distinctiveness)												
UK Habitat Classification (UKHab) Habitat Types												
Grassland - Lowland calcareous grassland Grassland - Lowland dry acid grassland Grassland - Lowland meadows Grassland - Other lowland acid grassland Grassland - Other neutral grassland Grassland - Tall herb communities (H6430) [Not to be confused with the Tall forbs secondary code – see UKHab guidance for details.] Grassland - Upland acid grassland Grassland - Upland calcareous grassland Grassland - Upland hay meadows Sparsely vegetated land - Calaminarian grassland												
Habitat Description												
See 16413_R11_BNG Report												
ukhab – UK Habitat Classification												
On-site or off-site, site name and location	See 16413_R11_BNG Report	Survey date and Surveyor name	See 16413_R11_BNG Report									
		Survey reference (if relating to a wider survey)	See 16413_R11_BNG Report									
Limitations (if applicable)	See 16413_R11_BNG Report	Habitat parcel reference										
Condition Assessment Criteria		Grid reference										
		9										
		Criterion passed (Yes or No)										
A	The parcel represents a good example of its habitat type, with a consistently high proportion of characteristic indicator species present relevant to the specific habitat type (and relative to Footnote 3 suboptimal species which may be listed in the UKHab description). ¹ Note - this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.	No										
B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	Yes										
C	Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens ² .	Yes										
D	Cover of bracken <i>Pteridium aquilinum</i> is less than 20% and cover of scrub (including bramble <i>Rubus fruticosus</i> agg.) is less than 5%.	Yes										
E	Combined cover of species indicative of suboptimal condition ³ and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area. If any invasive non-native plant species ⁴ (as listed on Schedule 9 of WCA ⁵) are present, this criterion is automatically failed.	Yes										
Additional Criterion - must be assessed for all non-acid grassland types												

F	There are 10 or more vascular plant species per m ² present, including forbs that are characteristic of the habitat type (species referenced in Footnote 3 and 5 cannot contribute towards this count). Note - this criterion is essential for achieving Good condition for non-acid grassland types only.	No										
Essential criterion for Good condition achieved (for non-acid grassland) (Yes or No)		No										
Number of criteria passed		4										
Condition Assessment Result	Condition Assessment Score	Score Achieved x/√										
Acid grassland types (Result out of 5 criteria)												
Passes 5 criteria	Good (3)											
Passes 3 or 4 criteria	Moderate (2)											
Passes 2 or fewer criteria	Poor (1)											
Non-acid grassland types (Result out of 6 criteria)												
Passes 5 or 6 criteria, including essential criterion A and additional criterion F.	Good (3)											
Passes 3 - 5 criteria, including essential criterion A.	Moderate (2)	Moderate										
Passes 2 or fewer criteria; OR Passes 3 or 4 criteria excluding criterion A and F.	Poor (1)											
Suggested enhancement interventions to improve condition score												
Notes												
Footnote 1 - Professional judgement should be used alongside the UKHab description.												
Footnote 2 – For example, this could include small, scattered areas of bare ground allowing for plant colonisation, or localised patches not exceeding 5% cover.												
Footnote 3 - Species indicative of suboptimal condition for this habitat type include: creeping thistle <i>Cirsium arvense</i> , spear thistle <i>Cirsium vulgare</i> , curled dock <i>Rumex crispus</i> , broad-leaved dock <i>Rumex obtusifolius</i> , common nettle <i>Urtica dioica</i> , creeping buttercup <i>Ranunculus repens</i> , greater plantain <i>Plantago major</i> , white clover <i>Trifolium repens</i> and cow parsley <i>Anthriscus sylvestris</i> . There may be additional relevant species local to the region and or site.												
Footnote 4 – Assess this for each distinct habitat parcel. If the distribution of invasive non-native species varies across the habitat, split into parcels accordingly, applying a buffer zone around the invasive non-native species with a size relative to its risk of spread into adjacent habitat, by applying professional judgement.												
Footnote 5 – Wildlife and Countryside Act 1981 (as amended).												

Condition sheet: HEDGEROW Habitat Types

Habitat Type

Native hedgerow
Native hedgerow - associated with bank or ditch
Native hedgerow with trees
Native hedgerow with trees - associated with bank or ditch
Species-rich native hedgerow
Species-rich native hedgerow - associated with bank or ditch
Species-rich native hedgerow with trees
Species-rich native hedgerow with trees - associated with bank or ditch

Habitat Description

See 16413 R11 BNG Report

ukhab – UK Habitat Classification

On-site or off-site, site name and location	See 16413_R11_BNG Report	Survey date and Surveyor name	See 16413_R11_BNG Report
Limitations (if applicable)	See 16413_R11_BNG Report	Survey reference (if relating to a wider survey)	See 16413_R11_BNG Report

Condition Assessment Details

A series of ten attributes, representing key physical characteristics are used for this assessment. Each attribute is assigned to one of five functional groups (A – E) and the condition of a hedgerow is assessed according to the number of attributes from these functional groups which pass or fail the 'favourable condition' criteria.

This assessment is based on the Hedgerow Survey Handbook¹ and Favourable Conservation Status document². For further clarification please refer to the Hedgerow Survey Handbook.

Best practice would be to record the species, age, spacing and other key information about all trees present along a hedgerow within the 'Habitat Description' box, as well as other key features of the hedgerow.

Hedgerow favourable condition attributes

Attributes and functional groupings (A, B, C, D and E)	Criteria - the minimum requirements for 'favourable condition'	Criteria description	Habitat parcel reference									
			1, 2, 3, 4 6									
			Grid reference									

[illegible]

[illegible]

Condition Assessment Result (out of 5 criteria)	Condition Assessment Score	Score Achieved */✓										
Passes 5 criteria	Good (3)											
Passes 3 or 4 criteria	Moderate (2)	Moder										
Passes 2 or fewer criteria	Poor (1)											
Suggested enhancement interventions to improve condition score												
Footnotes												

[illegible]

1	The pond surface is no more than 50% shaded by adjacent trees and scrub.	Yes												
	Number of criteria passed		6											
Condition Assessment Result		Condition Assessment Score	Score Achieved x/√											
Results for woodland ponds which require assessment of 7 core criteria														
Passes 7 criteria		Good (3)												
Passes 5 or 6 criteria		Moderate (2)	Moderat											
Passes 4 or fewer criteria		Poor (1)												
Results for non-woodland ponds which require assessment of 9 criteria														
Passes 9 criteria		Good (3)												
Passes 6 to 8 criteria		Moderate (2)	Moderat											
Passes 5 or fewer criteria		Poor (1)												
Suggested enhancement interventions to improve condition score														
Footnote 1 - A woodland pond will be surrounded on all sides by woodland habitat. Footnote 2 – This excludes natural dams such as those created by Eurasian beaver <i>Castor fiber</i>. Footnote 3 - Any species included on the Water Framework Directive (WFD) UKTAG GB High Impact Species List should be absent: WFD UKTAG (2021) <i>Classification of aquatic alien species according to their level of impact</i> [online]. Available from:														

Passes 2 or fewer criteria	Poor (1)												
Suggested enhancement interventions to improve condition score													

Condition Sheet: WETLAND Habitat Type															
Habitat Types															
Grassland - Floodplain wetland mosaic and CFGM - See the Statutory Biodiversity Metric User Guide. Wetland - Blanket bog Wetland - Depression on peat substrates (H7150) Wetland - Fens (upland and lowland) Wetland - Lowland raised bog Wetland - Oceanic valley mire [1] (D2.1) Wetland - Purple moor grass and rush pastures Wetland - Reedbeds Wetland - Transition mires and quaking bogs (H7140)															
Habitat Description															
For Oceanic valley mires - see EUNIS See the Statutory Biodiversity Metric User Guide for Floodplain wetland mosaic (FWM) and coastal and floodplain grazing marsh (CFGM). For CFGM also see the below: Coastal and floodplain grazing marsh UK BAP Priority Habitat description Priority Habitat Inventory (England) - data.gov.uk															
All other wetland habitats - see UK Habitat Classification (UKHab):															
UKHab															
On-site or off-site, site name and location				Survey date and Surveyor name											
				Survey reference (if relating to a wider survey)											
Limitations (if applicable)				Habitat parcel reference											
				7											
				Grid reference											
Condition Assessment Criteria														Notes (such as justification)	
				Criterion passed (Yes or No)											
Core Criteria - must be assessed for all wetland habitat types :															
A	The water table is at, or near the surface throughout the year - this could be open water or saturation of soil at the surface. There is no artificial drainage, unless specifically to maintain water levels as specified above. Note - this criterion is essential for achieving Good condition.			No											
B	The parcel represents a good example of its specific habitat type - the appearance and composition of the vegetation closely matches its UKHab description, with vascular and non-vascular characteristic indicator species consistently present. ¹			Yes											
C	The water supplies (groundwater, surface water and or rainwater) to the wetland are of good water quality, with clear water (low turbidity) indicating no obvious signs of pollution.			No											
D	Cover of scrub and scattered trees are less than 10%.			Yes											
E	Cover of bare ground is less than 5%.			Yes											
F	There is an absence of invasive non-native plant species ² (as listed on Schedule 9 of WCA ³) and species indicative of suboptimal condition ⁴ make up less than 5% of ground cover.			Yes											
Additional Criterion - must be assessed for Fen and Purple moor grass and rush pasture habitats only:															

G	No more than 25% of the habitat area has a continuous cover of litter (such as dead vegetation) preventing regeneration.														
Additional Criterion - must be assessed for Bog habitats only:															
H	Sphagnum moss <i>Sphagnum</i> spp. and cottongrasses <i>Eriophorum</i> spp. are at least Frequent ⁵ . Cover of ericaceous dwarf shrubs ⁶ is less than 75%.														
Additional Criterion - must be assessed for Reedbed habitats only:															
I	The reedbed has a diverse structure with between 60% and 80% reeds <i>Phragmites australis</i> . Other areas may include open water (at least 10%), species-rich fen and or wet woodland.	Yes													
Additional Criterion - must be assessed for Floodplain wetland mosaic and CFGM only:															
J	All ditches recorded within the habitat achieve Good condition as assessed using the Ditch condition sheet.														
Essential criterion achieved (required for Good condition) Yes or No:		No													
Number of criteria passed		5													
Condition Assessment Result		Condition Assessment Score		Score Achieved ×/✓											
Results for habitats requiring assessment of 6 criteria (Depression on peat substrates (H7150) and Oceanic valley mire [1] (D2.1)):															
•Passes 5 or 6 core criteria, including criterion A.		Good (3)													
•Passes 3 or 4 core criteria; OR •Passes 5 core criteria but fails criterion A.		Moderate (2)													
•Passes 2 or fewer core criteria.		Poor (1)													
Results for habitats requiring assessment of 7 criteria - core criteria and additional criterion specified for habitat type - all habitat types except Depression on peat substrates (H7150) and Oceanic valley mire [1] (D2.1):															
•Passes 5 or 6 core criteria including criterion A; AND •Passes additional criterion G, H, I or J (choose the one specified for the habitat type).		Good (3)													
•Passes 4 or 5 of 7 criteria; OR •Passes 6 of 7 criteria but fails criterion A or additional criterion G, H, I or J (choose the one specified for the habitat type).		Moderate (2)		Moderate											
•Passes 3 or fewer criteria.		Poor (1)													
Suggested enhancement interventions to improve condition score															



Step into our world

www.tylergrange.co.uk



**Tyler
Grange**

Landscape | Ecology | **Arboriculture**