# A4. Arboricultural Impact Assessment Technical Note

- 4.1.1 The proposed changes to the scheme design have resulted in additional tree constraints being identified within the proposed updates to the red line boundary. Therefore, the Arboricultural Impact Assessment (AIA) (Appendix 7.3 of Volume 6.3 of the 2018 ES (APP-071)) requires updating. This Addendum Technical Note highlights the amendments to the assessment of trees for removal prior to construction works, trees that require pruning, and trees that require barrier protection during the proposed works, as a result of the proposed design changes.
- 4.1.2 The contents of Appendix 7.3 of Volume 6.3 of the 2018 ES (APP-071) remain valid with the exception of the changes described in this Technical Note below.

## **Arboricultural Impact Assessment**

#### **Recommended Actions**

4.1.3 The construction of the scheme must be undertaken in accordance with the Tree Protection Plans contained within Appendix A of Appendix 7.3 of Volume 6.3 of the 2018 ES (APP-071) and the following recommendations in Table A4.1 to enable integration between with the scheme and the existing tree constraints on site.

Table A4.1 Recommended actions for existing trees

Tree reference	Species	Retention category	ТРО	CA	Recommended actions
G6	Ash / Sycamore	С	N	N	Retain - not in direct conflict with proposed scheme as a result of the proposed updates to the red line boundary.
G7	Ash / Sycamore	В	N	N	Retain - not in direct conflict with proposed scheme as a result of the proposed updates to the red line boundary.
G15	Mixed Ornamental	С	N	N	Fell section – remove the sections of this group which are in direct conflict with proposed scheme, protect retained sections with temporary barrier in accordance with BS5837.
H14	Native hedge	С	N	N	Fell section – remove the sections of this hedge which are in direct conflict with proposed scheme, protect retained sections with temporary barrier in accordance with BS5837. The section for felling will be reduced as a result of the proposed scheme updates.

Tree reference	Species	Retention category	ТРО	CA	Recommended actions
H15	Native hedge	С	N	N	Fell section – remove the sections of this hedge which are in direct conflict with proposed scheme, protect retained sections with temporary barrier in accordance with BS5837. The section for felling will be reduced as a result of the proposed scheme updates.
H17	Native hedge	С	N	N	Retain - not in direct conflict with proposed scheme as a result of the proposed updates to the red line boundary.
H38	Native hedge	С	N	N	Fell section – remove the sections of this hedge which are in direct conflict with proposed scheme, protect retained sections with temporary barrier in accordance with BS5837.
H39	Native hedge	С	N	N	Fell section – remove the sections of this hedge which are in direct conflict with proposed scheme, protect retained sections with temporary barrier in accordance with BS5837.
21	Sycamore	С	N	N	Fell – tree in direct conflict with proposed scheme.

## **Conclusions**

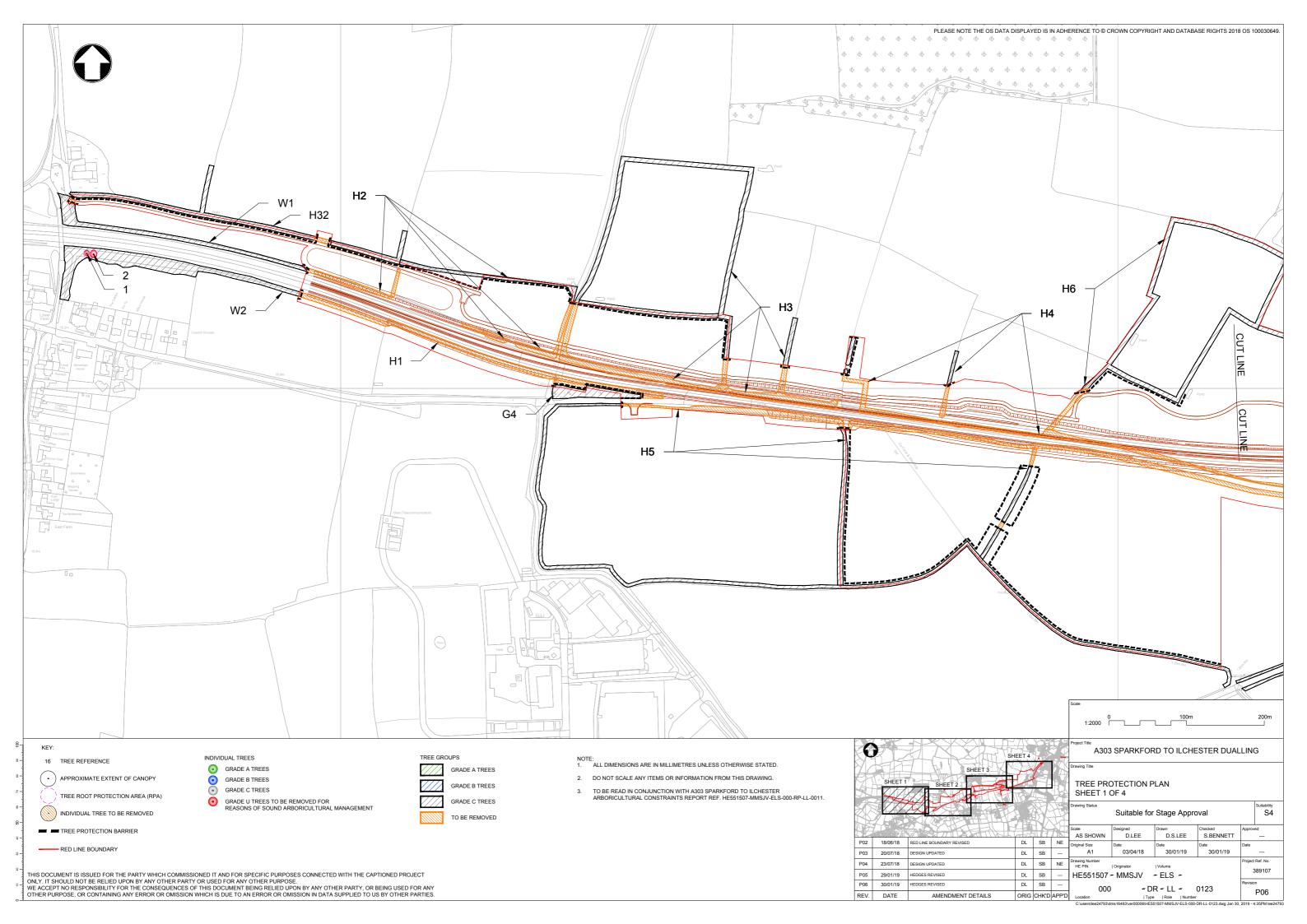
4.1.4 The proposed updates to the scheme design have resulted in an amendment to the number of trees being surveyed and requiring works. The updated conclusions are presented below.

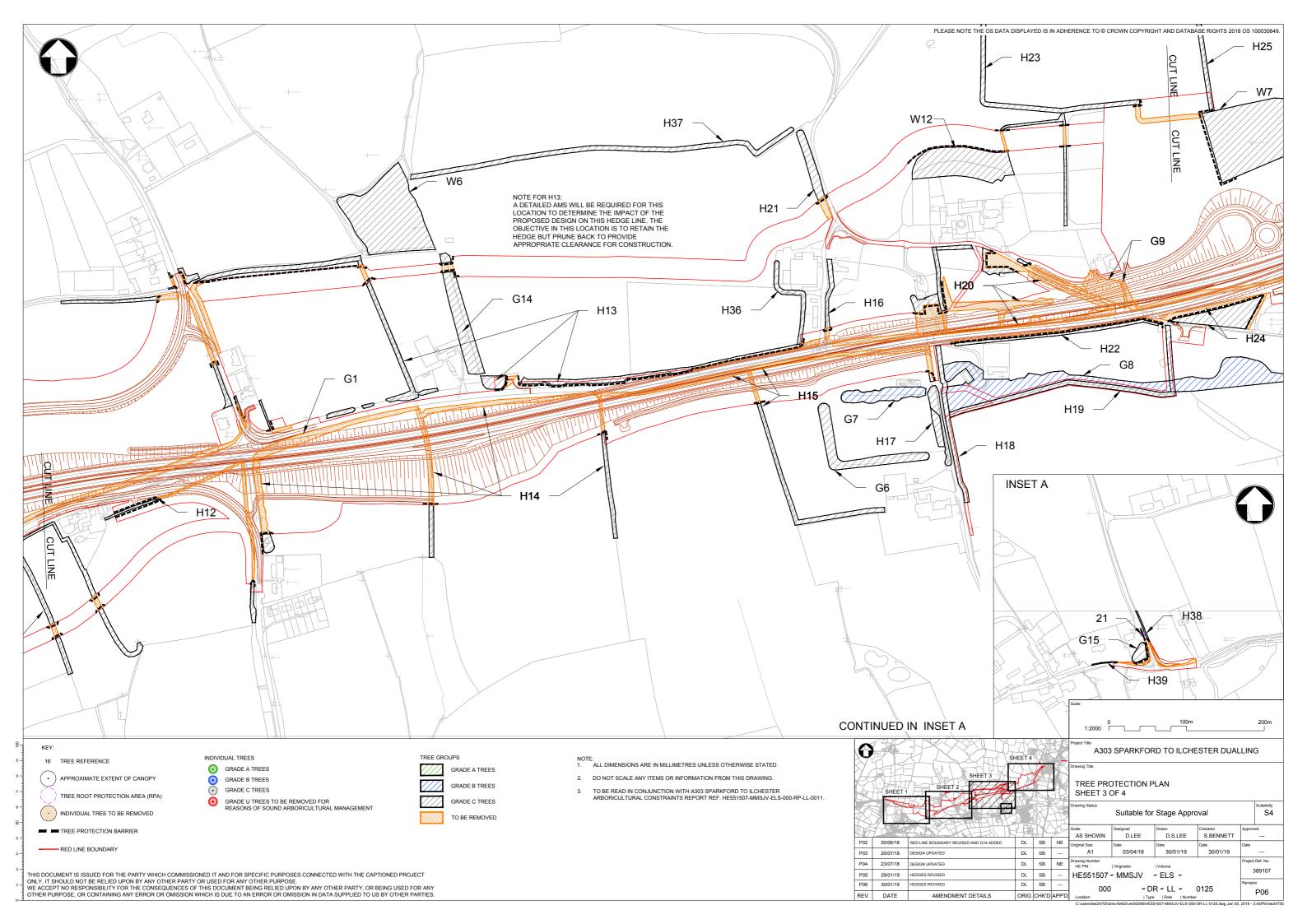
- Twenty-one individual trees, 39 hedges, 12 woodlands and 15 tree groups 4.1.5 have been surveyed as part of the scheme.
- 4.1.6 To facilitate construction of the entire scheme, the following tree works are required:
  - Removal of 14 individual trees: 1 Category A tree, 8 Category B trees, 2 Category C tree and 4 Category U trees.
  - Removal of 8 full hedgerows (Category C) and sections of 23 hedgerows (Category C).
  - Removal of 4 groups (Category C) and sections of 4 groups (Category C).
  - Removal of 1 woodland (Category C) and sections of 6 woodland areas (Category C).

Page 30 Application Document Ref: 6.8

## **Trees Protection Plan**

4.1.7 The tree protection plan drawing Sheet 3 of Appendix 7.3 of Volume 6.3 of the 2018 ES (APP-071) has been updated to include the additional trees, as shown below.





## **Annex 6.1 Root Protection Areas**

4.1.8 The root protection areas for the additional trees are presented in Table A4.2 below.

Table A4.2 Root protection areas

Tree reference	Species	Stem diameter (mm)	RPA circle radius (m)	RPA (m²)
G15	Mixed			
H38	Native hedge	80av	1av	3av
H39	Native hedge	80av	1av	3av
21	Sycamore	280	3.4	35

# A5. Hedgerow Technical Report Technical Note

## 5.1 Introduction

- 5.1.1 The information contained within this Addendum Technical Note details the updates to the Appendix 8.3 Hedgerow Technical Report of Volume 6.3 of the 2018 ES (APP-076) as a result of the proposed changes to the scheme design described in Chapter 2 of the ES Addendum.
- 5.1.2 The baseline and the assessment assumptions and limitations reported in Appendix 8.3 of the 2018 ES (APP-076) remain valid and have therefore not been updates for this Addendum Technical Note.

## 5.2 **Methodology**

- 5.2.1 It was not possible to survey all hedgerows within the scheme red line boundary. This was due to limited or irregular land access. This includes hedgerow 60, which was not surveyed due to denied land access.
- 5.2.2 Due to the proposed changes to the scheme design, two additional hedgerows would be directly impacted by the scheme, which have not been subject to a full hedgerow assessment. However, species present within these hedgerows have been previously recorded during the extended Phase 1 habitat survey completed in March 2016 and November 2018 during a site visit. Therefore, this is not considered to be a substantial limitation.
- 5.2.3 These hedgerows will be re-assessed prior to construction.

## 5.3 **Results**

- 5.3.1 A total of 76 hedgerows recorded within the survey area were subject to further hedgerow assessments. Of these, 43 hedgerows were found to be species-rich, 30 species-poor, 2 species-poor defunct and 1 hedgerow was not surveyed due to access constraints. 2 additional hedgerows were subject to a lesser assessment, due to proposed changes to the scheme design at this late stage which would result in potential impacts. 1 identified hedgerow was found to be species-poor and 1 was species-rich, although it was not found to be 'important' under the Hedgerow Regulations. Detailed survey results, including species listed for all hedgerows are located with Appendix 8.3 of the 2018 ES (APP-076).
- 5.3.2 Of the 44 species-rich hedgerows, 28 qualified as 'important' under the *Hedgerow Regulations 1997* due to their wildlife and landscape value. Of these, 26 will be subject to impacts due to the scheme. All 'important' hedgerows and their reasons for classification are detailed in Table 3.1 of Appendix 8.3 of the 2018 ES (APP-076).

## 5.4 **Potential Impacts**

#### Construction

5.4.1 In total, approximately 10.58 kilometres of hedgerows would require removal. Of this, approximately 2.8 kilometres would be a permanent loss and 7.78 kilometres would be a temporary loss, which would be reinstated following construction. Where species poor and defunct hedgerows are subject to temporary loss, these would be reinstated with species rich hedgerows. The likely linear metres loss of each hedgerow habitat is detailed within Table A5.1below.

Table A5.1: Total length of hedgerows to be removed

Habitat	Permanent Loss (linear m)	Temporary Loss (linear m)
Species rich hedge with trees	838.04	2,209.37
Species rich hedge	824.57	3,244.62
Species poor hedge with trees	195.27	380.84
Species poor hedge	951.26	1,483.51
Defunct hedge	0	454.23

- 5.4.2 Of the 10.58 kilometres of hedgerow likely to require removal, approximately 7 kilometres is species-rich, with 4.58 kilometres 'important' under the *Hedgerow Regulations 1997*. The total length of important hedgerows which would be removed has been calculated in Table 4.2 below.
- 5.4.3 In addition, 3.9 kilometres of hedgerow surround site compounds or temporary storage areas. These hedgerows could be subject to possible disturbance during construction, due to construction dust or material storage within root protection areas. This potential for disturbance will be avoided during construction, as detailed within section 5 of Appendix 8.3 of the 2018 ES (APP-076), and as such no impacts are anticipated on these hedgerows.

#### Operation

5.4.4 A total of 1.8 kilometres of species-poor hedgerow would be replaced with species rich hedgerow, improving the quality of the hedgerow species diversity.

# 5.5 Mitigation and enhancement recommendations

#### **Further Surveys**

- 5.5.1 Updated hedgerow surveys are required for hedges 6 and 60.
- 5.5.2 As a result of the proposed changes to the scheme design, a summary of hedgerow loss and proposed replanting is outlined in Table A5.2.

Table A5.2Summary of Hedgerow loss and proposed replanting (Linear metres)

Habitat	Total Loss (linear metres)	Proposed Replanting (linear m)
Hedgerow	6,935.47	5,562.81
Hedgerow with trees	3,615.71	4,896.05
Total	10,551.18	10,458.86

## 5.6 **Conclusion**

- 5.6.1 Approximately 10.58 kilometres of hedgerows would require removal as part of the scheme. Of this, 2.8 kilometres would be a permanent loss and 7.78 kilometres would be temporary loss; 4.58 kilometres of 'important' hedgerows would require removal, of which 1.1 kilometres would be permanently lost. However, 1.8 kilometres of species-poor hedgerow would be reinstated with a species-rich composition.
- 5.6.2 A total of 7.28 kilometres of species-rich hedgerows would be replanted following construction of the scheme and no connectivity would be severed.

# A6. Bat Technical Report Technical Note

## 6.1 Introduction

- 6.1.1 The information contained within this Addendum Technical Note details the updates to the Appendix 8.4 Bat Technical Report of the 2018 ES (APP-077) as a result of the proposed changes to the scheme design described in Chapter 2 of the ES Addendum.
- 6.1.2 The baseline and the assessment assumptions and limitations reported in Appendix 8.4 of the 2018 ES (APP-077) remain valid and have therefore not been updates for this Technical Note.

## 6.2 Potential impacts

## Confirmed and potential roosts

6.2.1 As a result of the proposed changes to the scheme design, Table 4.3 of Appendix 8.4 of the 2018 ES (APP-077), outlining roosts with the potential to be impacted by construction works is to be amended. These changes are presented below in Table A6.1.

Table A6.1Roosts with the potential to be impacted by construction works

Roost Location	Description of roost	Distance from proposed Scheme (m)	Activity with the potential to impact roost	Likely outcome of impacts of the proposed Scheme.
WS75059 Tree F008	Active Myotis sp. Suspected maternity roost	28	Increased disturbance from light, noise and vibration from works within temporary works area.	Temporary impact from disturbance, which may cause permanent abandonment.

# 6.3 **Summary of impacts**

6.3.1 Table 4.5 of Appendix 8.4 of the 2018 ES (APP-077) provides a summary of the potential impacts on bats as a result of construction of the scheme. Due to the proposed changes to scheme design, the following information detailed in Table A6.2, which was contained within Table 4.5 of Appendix 8.4 of the 2018 ES (APP-077) is now to be removed.

Table A6.2 Predicted nature conservation effects during construction of the scheme

Activity	Impact	Magnitude of impact in absence of mitigation	Recommended mitigation and enhancements	Magnitude of impact where mitigation and enhancements incorporated	Residual effect where mitigation and enhancements incorporated
Construction and use of temporary compound and storage areas	Disturbance to potential Myotis sp. maternity roost in tree F008 at WS75059.	Major Adverse	Implement a buffer zone of a minimum of 10m around the tree line that the tree is located within. No works or lighting shall be permitted in this area, with all lighting required to be directed away from the roost.  Retention and protection of the treeline the roost located within.	Minor adverse	Slight to Moderate Adverse

## 6.4 Conclusion

6.4.1 The majority of roosts identified belonged to small numbers of common bats, however, 1 tree roost was recorded as being used by 38 *Myotis sp.* individuals. This tree is located approximately 28 metres outside the red line boundary of the scheme. Therefore, with mitigation measures in place, as described in section 5 of Appendix 8.4 of the 2018 ES (APP-077), it is unlikely that the scheme would have a significant impact on this roost.

# A7. Reptile Technical Report Technical Note

## 7.1 Introduction

- 7.1.1 The information contained within this Addendum Technical Note details the updates to Appendix 8.7 Reptile Technical Report of the 2018 ES (APP-080) as a result of the proposed changes to the scheme design described in Chapter 2 of the ES Addendum.
- 7.1.2 The baseline and the assessment assumptions and limitations reported in Appendix 8.7 of the 2018 ES (APP-080) remain valid and have therefore not been updated for this addendum Technical Note.

## 7.2 Potential impacts

#### Construction

7.2.1 The construction works would temporarily result in the acquisition of medium quality reptile habitat for temporary storage areas or site compound areas. As a result of the proposed changes to the scheme design, amendments to Table 4.1 of Appendix 8.7 of the 2018 (APP-080) are required as habitat loss through temporary acquisition has changed. These amendments are detailed in Table A7.1below.

Table A7.1 Summary of temporary habitat acquisition (Ha) during the scheme construction

Survey area	Total area of habitat surveyed (Ha)	Habitat type	Reptile habitat quality	Habitat loss through temporary acquisition (Ha)	Percentage habitat loss at the site (%)
B6, B7, B8	0.64	Poor semi- improved grassland	Medium	0.42	66
C18, C19	2.3	Broad leaved woodland	Medium	1.36	59
C26	1	Poor semi- improved grassland	Medium	0.35	35
D10, D11, D13, D14, D15	0.9	Road verge: poor semi- improved grassland	Medium	0.86	96
D16, D17	0.06	Poor semi- improved grassland	Medium	0.03	53

Planning Inspectorate Scheme Ref: TR010036

#### **Areas D16, D17**

- 7.2.2 There would be an 53% temporary acquisition of suitable reptile habitat associated with the construction of the scheme, in this survey area which is a reduction from the 84% previously reported.
- 7.2.3 A low population of slow worms, which are of medium conservation importance, has been recorded in this survey area.
- 7.2.4 The removal of habitat during construction has the potential to cause harm or injury to individual reptiles. This area has little or no connectivity to other suitable reptile habitat, as it has the A303 to the north and is surrounded by arable or grazed fields. A capture and translocation programme would be the only effective means of depleting the populations within these areas.
- 7.2.5 By using the mitigation mentioned above (methodology detailed in section 5 of Appendix 8.7 of the 2018 (APP-080)), it is anticipated that the effects from construction would be Slight Adverse.

Planning Inspectorate Scheme Ref: TR010036

# A8. Agriculture Impact Assessment Baseline Report Technical Note

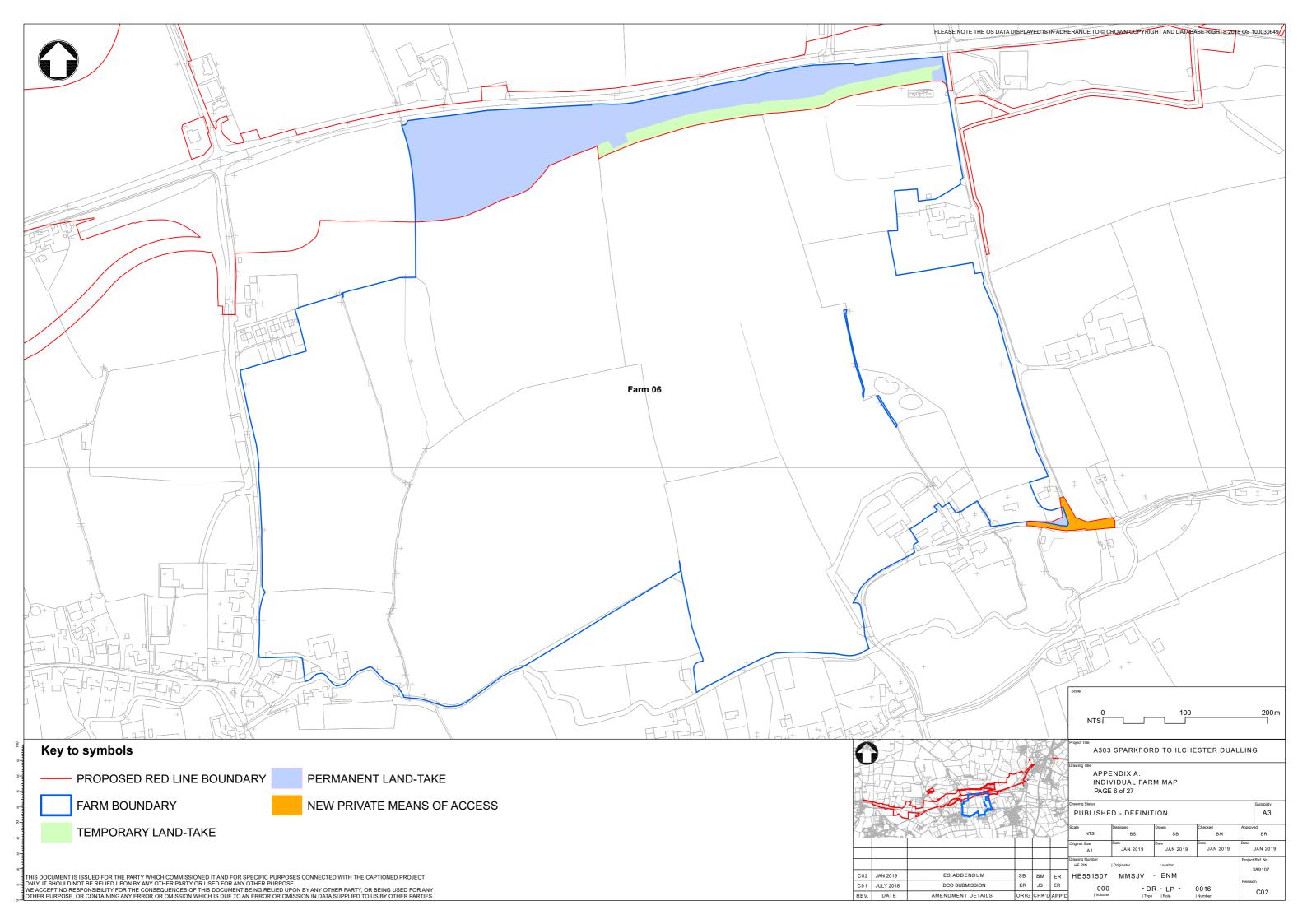
## 8.1 Introduction

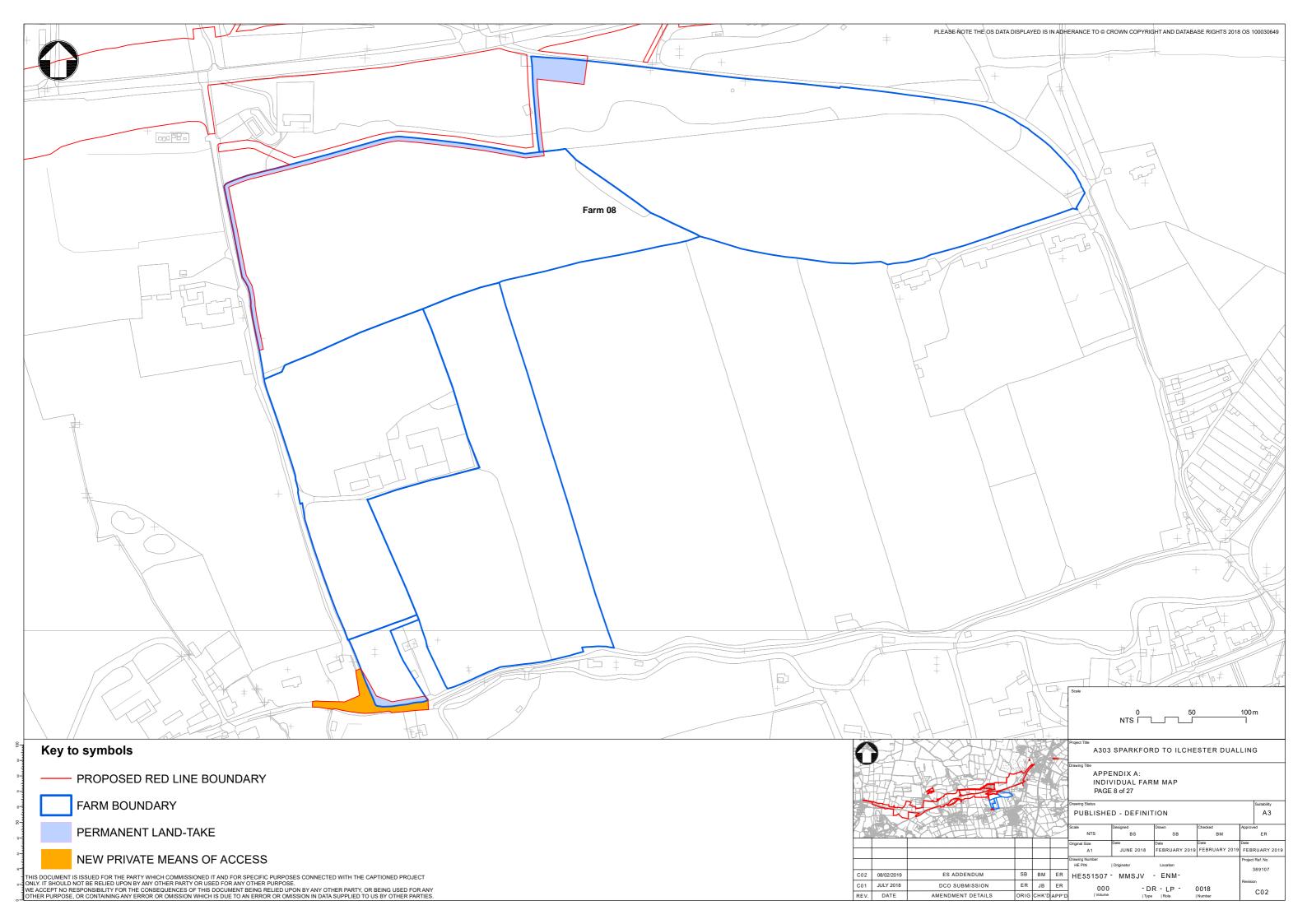
- 8.1.1 The information contained within this Addendum Technical Note details the updates to the Appendix 12.4 Agriculture Impact Assessment Baseline Report of Volume 6.3 of the 2018 ES (APP-096) as a result of the proposed changes to the scheme design described in Chapter 2 of the ES Addendum.
- 8.1.2 The baseline and the assessment assumptions and limitations reported in Appendix 12.4 of the 2018 ES (APP-096) remain valid and have therefore not been updated for this Technical Note.

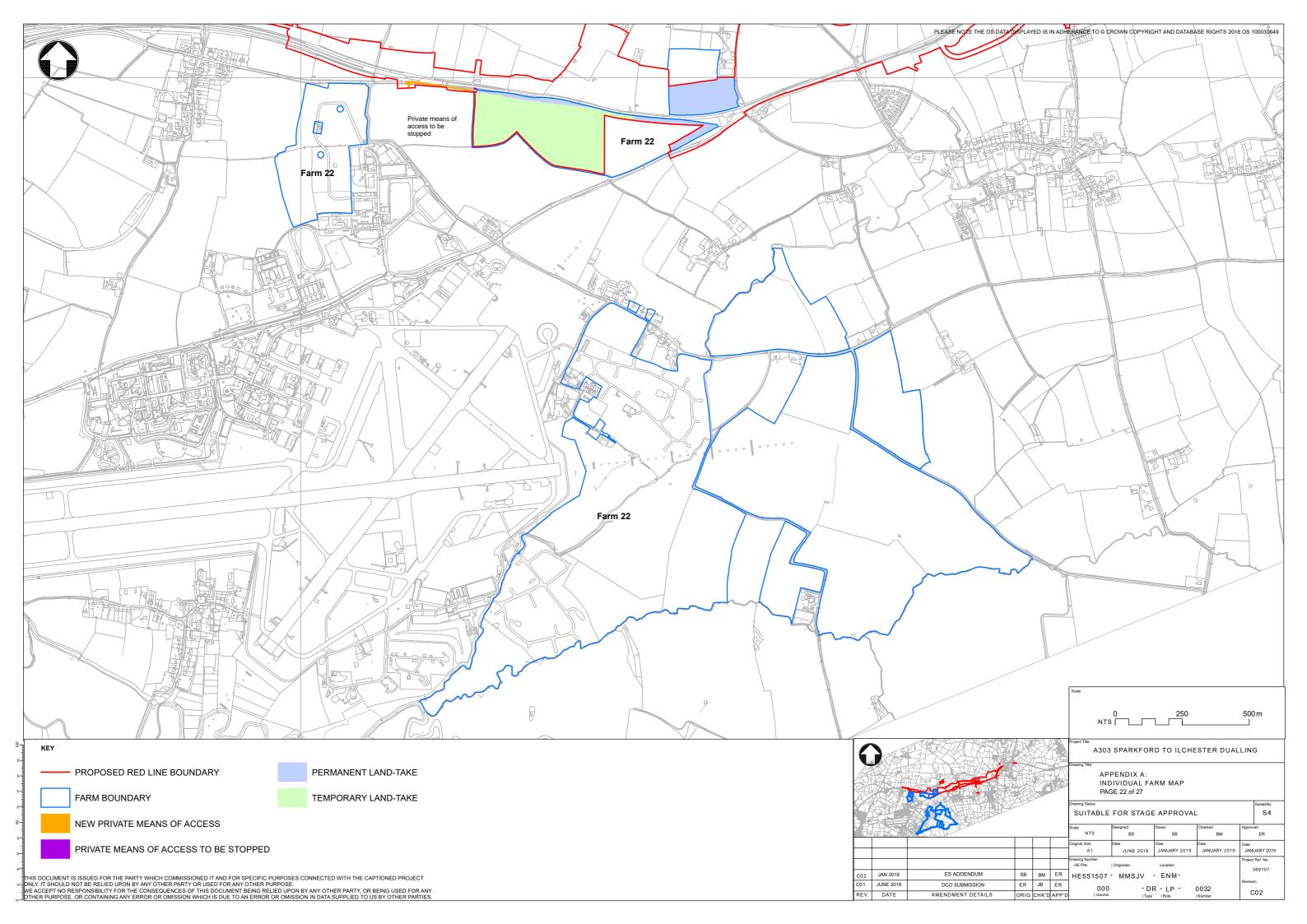
## 8.2 Individual Farm Drawings

8.2.1 The area of permanent and temporary land take has changed for Farm 06, 08 and 22. The revised drawings can be seen below.

Planning Inspectorate Scheme Ref: TR010036







# A9. People and Communities Supplementary Information Technical Note

## 9.1 Introduction

- 9.1.1 The information contained within this Addendum Technical Note details the updates to Appendix 12.3 People and Communities Supplementary Information of Volume 6.3 of the 2018 ES (APP-095) as a result of the proposed changes to the scheme design described in Chapter 2 of the 2018 ES Addendum.
- 9.1.2 The contents within Appendix 12.3 of the 2018 ES (APP-095) remain valid with the exception of Table A.4 Assessment of impacts on individual farms (of Appendix 12.3 of the 2018 ES (APP-095)), which has been updated below in Table A9.1.

Table A9.1 Assessment of impact on individual farms

Farm ID	Farm area	Land take	Severance	Husbandry specific	Value	Magnitude of impact	Significance of effect
06	>50ha	land-take.	be temporarily severed. One access point would be stopped up and 2 new access points provided	7.81ha of land used for arable production and as pasture temporarily acquired, which represents 11.57 % of the farm. This would reduce to 3.53ha following construction, representing 5.23% of the farm.	Low	Moderate (reducing to minor following construction): Between 10 and 24% of farm temporarily impacted, and 1 to 9% permanently impacted. The farm is likely to be able to continue with some changes to existing management techniques.	Slight Adverse
08	>50ha	0.03ha temporary land-take. 0.31ha permanent land-take.	be temporarily severed in 2. A new access point would be provided permanently.	0.34ha of land used as pasture temporarily acquired, which represents 1.8% of the farm. This would reduce to 0.31ha following construction, representing 1.5% of the farm.	Medium	Minor: Between 1 and 9% of farm temporarily and permanently impacted. Slight changes to existing management techniques would be required.	Slight Adverse
22	>50ha	10.01ha temporary land- take. 4.41ha permanent land-take.	No severance of field parcels. Two access points would be stopped up and new access points provided.	14.42ha of land used as pasture and arable land temporarily acquired, which represents 6.88% of the total farm area. This would reduce to 4.41ha following construction, representing 2.1% of the farm.	Low	Minor: Between 1 and 9% of farm temporarily and permanently impacted. Slight changes to existing management techniques would be required.	Slight Adverse