Appendix A UKHab Baseline Habitat Map

Manor Farm Cables: Laleham Substation Corridor, Biodiversity Net Gain Assessment

Juniper Energy Limited

11th September 2025

506250 506500

171000

170750

N

Ashview Close
Ashview Gardens
Fordbridge Road B377
Fitchead Close
Staines By-Pass A308
Ford Close
Kingston Road A308
Kingston Road B377
Kingston Road
Ashford Road B377
Staines Road West A308

g4 107
g4 801 521
w1f7 30
w1f7
g4
u1b6
g4 107 516
u1b
TN2
r2
g4 32
w1f7 516
g4 516 801
u1b6 800
g4 801 516
g4 516
u1b 804
g4 16
h3h
w1f
g4 108
h3h 517
u1f 839
u1e 612
h3d 517
u1b5
g4 106
h3d
TN5
w1g 31
u1 80
TN3
TN4
w1f7 31
u1b5

0 50 100
Metres

LEGEND

- 132kV Site Boundary
- Target Note
- Individual Tree

Primary Habitat Classification

Urban - Built-up Areas and Gardens
- u1e - Built Linear Feature

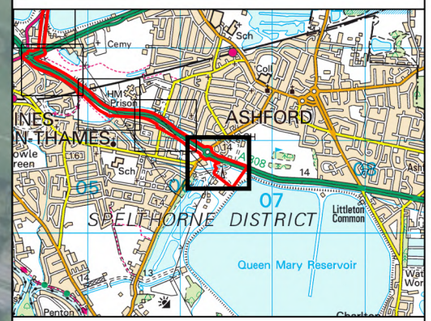
Grassland - Modified Grassland
- g4 - Modified Grassland

Heathland and Shrub - Dense Scrub
- h3d - Bramble Scrub
- h3h - Mixed Scrub

Rivers and Lakes - Rivers and Streams
- r2 - Rivers and Streams

Urban - Built-up Areas and Gardens
- u1 - Built-up Area and Garden
- u1b - Developed Land; Sealed Surface
- u1b5 - Building
- u1b6 - Other Developed Land
- u1f - Sparsely Vegetated Urban Land

Woodland and Forest - Broadleaved Mixed and Yew Woodland
- w1f - Lowland Mixed Deciduous Woodland
- w1f7 - Other Lowland Mixed Deciduous Woodland
- w1g - Other Woodland; Broadleaved



Secondary Codes:

10 - Scattered Scrub	214 - Fallen Dead Wood Abundant
11 - Hedgerow with Trees	215 - Standing Dead Wood Abundant
16 - Tall Forbs	510 - Bare Ground
30 - Semi-natural Woodland	516 - Active Management
31 - Secondary Woodland	517 - Recent Management
32 - Scattered Trees	512 - Unmanaged
33 - Line of Trees	523 - Non-native
80 - Open Mosaic Habitats on Previously Developed Land	612 - Fence
100 - Grazed	800 - Road
106 - Mown	801 - Road Verge or Island
107 - Mown and Collected	804 - Car Park
108 - Frequently Mown	807 - Pocket Park
116 - Flailed Hedgerow	817 - Industrial Building
200 - Tree	818 - Residential Building
201 - Young Trees - Planted	827 - Garden
203 - Mature Tree	828 - Vegetated Garden
	839 - Track

JUNIPER ENERGY LTD

SLR

MANOR FARM CABLES:
LALEHAM SUBSTATION CORRIDOR

PRELIMINARY ECOLOGICAL APPRAISAL

UK HABITAT BASELINE

FIGURE 1.1

Scale 1:2,000 @ A3

Date SEPTEMBER 2025

402.065673.00001.0020.0 UK Habitat Baseline

505750

506000

171250

Buxton Road
Ruggles-Brise Road
Adelaide Road
Townsend Road
Marlborough Road
Warwick Road
Fern Walk
Ferndale Road
Brookside Avenue
Hansworth Road
Woodthorpe Road
Staines By-Pass A308
Talbot Road
Wellington Road
Celia Crescent

w1f7 30
w1f7 30
g4 107
u1b
w1f7 30
w1f7
g4 801
521
g4 107
w1f7 30

N

0 50 100
Metres

LEGEND

132kV Site Boundary

Grassland - Modified Grassland

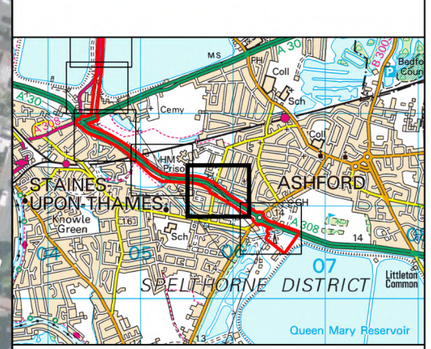
g4 - Modified Grassland

Urban - Built-up Areas and Gardens

u1b - Developed Land; Sealed Surface

Woodland and Forest - Broadleaved Mixed and Yew Woodland

w1f7 - Other Lowland Mixed Deciduous Woodland



Secondary Codes:

10 - Scattered Scrub
11 - Hedgerow with Trees
16 - Tall Forbs
30 - Semi-natural Woodland
31 - Secondary Woodland
32 - Scattered Trees
33 - Line of Trees
80 - Open Mosaic Habitats on Previously Developed Land
100 - Grazed
106 - Mown
107 - Mown and Collected
108 - Frequently Mown
116 - Flailed Hedgerow
200 - Tree
201 - Young Trees - Planted
203 - Mature Tree
214 - Fallen Dead Wood Abundant
215 - Standing Dead Wood Abundant
510 - Bare Ground
516 - Active Management
517 - Recent Management
512 - Unmanaged
523 - Non-native
612 - Fence
800 - Road
801 - Road Verge or Island
804 - Car Park
807 - Pocket Park
817 - Industrial Building
818 - Residential Building
827 - Garden
828 - Vegetated Garden
839 - Track

JUNIPER ENERGY LTD

SLR

MANOR FARM CABLES:
LALEHAM SUBSTATION CORRIDOR

PRELIMINARY ECOLOGICAL APPRAISAL

UK HABITAT BASELINE

FIGURE 1.2

Scale 1:2,000 @ A3

Date SEPTEMBER 2025

402.065673.00001.0020.0 UK Habitat Baseline

505000 505250 505500

171500

N

g4 107
2km
w1f7 30
w1f7 30
Shortwood Common
u1b6
w1f7 30
u1b6
w1f7 30
g4 801
521
g4 107
Staines By-Pass A308
w1f7 30
u1b
g4 107
w1f7 30
u1b
Boundary Road
Brookside Avenue
Kingston Crescent
Strode's Crescent
Fenton Avenue
Petersfield Road

0 50 100
Metres

LEGEND

132kV Site Boundary
2 km Route Marker

Grassland - Modified Grassland

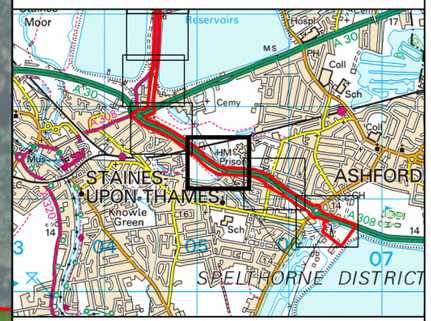
g4 - Modified Grassland

Urban - Built-up Areas and Gardens

u1b - Developed Land; Sealed Surface
u1b6 - Other Developed Land

Woodland and Forest - Broadleaved Mixed and Yew Woodland

w1f7 - Other Lowland Mixed Deciduous Woodland



Secondary Codes:

10 - Scattered Scrub
11 - Hedgerow with Trees
16 - Tall Forbs
30 - Semi-natural Woodland
31 - Secondary Woodland
32 - Scattered Trees
33 - Line of Trees
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200 - Tree
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517 - Recent Management
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800 - Road
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804 - Car Park
807 - Pocket Park
817 - Industrial Building
818 - Residential Building
827 - Garden
828 - Vegetated Garden
839 - Track

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MANOR FARM CABLES:
LALEHAM SUBSTATION CORRIDOR

PRELIMINARY ECOLOGICAL APPRAISAL

UK HABITAT BASELINE

FIGURE 1.3

Scale 1:2,000 @ A3

Date SEPTEMBER 2025

402.065673.00001.0020.0 UK Habitat Baseline

504500 504750

172000

171750

N

Staines By-Pass A30
Stanwell Moor Road A3044
Billet Road
Stanwell New Road
London Road A30
A30
Staines By-Pass A308
London Road A308
Sidney Road
Rosefield Road
Greenlands Road
Georgian Close
Leacroft Close
Leacroft
Silverdale Court
The Sidings
Shortwood Common
d Avenue

u1b
g3c 201
w1 33
g4 107 10
w2 523
g4
u1 827
g4 516
801
w1g
w1h5
30
u1e
g4 107
w1h5
g4 801
521
w1f7 30
w1f7
30
2km
g4 107
u1b6

0 50 100
Metres

LEGEND

132kV Site Boundary
2 km Route Marker

Primary Habitat Classification

Urban - Built-up Areas and Gardens
u1e - Built Linear Feature

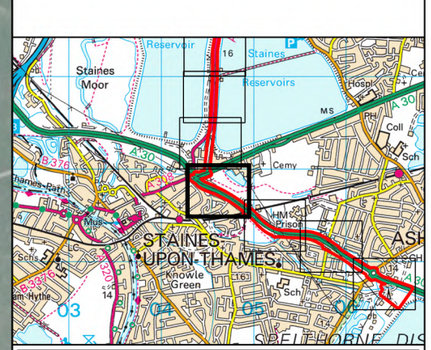
Woodland and Forest
w1 - Broadleaved Mixed and Yew Woodland
w2 - Coniferous Woodland

Grassland - Neutral Grassland
g3c - Other Neutral Grassland

Grassland - Modified Grassland
g4 - Modified Grassland

Urban - Built-up Areas and Gardens
u1 - Built-up Area and Garden
u1b - Developed Land; Sealed Surface
u1b6 - Other Developed Land

Woodland and Forest - Broadleaved Mixed and Yew Woodland
w1f7 - Other Lowland Mixed Deciduous Woodland
w1g - Other Woodland; Broadleaved
w1h5 - Other Woodland; Mixed; Mainly Broadleaved



Secondary Codes:

10 - Scattered Scrub	214 - Fallen Dead Wood Abundant
11 - Hedgerow with Trees	215 - Standing Dead Wood Abundant
16 - Tall Forbs	510 - Bare Ground
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	800 - Road
	801 - Road Verge or Island
100 - Grazed	804 - Car Park
106 - Mown	807 - Pocket Park
107 - Mown and Collected	817 - Industrial Building
108 - Frequently Mown	818 - Residential Building
116 - Flailed Hedgerow	827 - Garden
200 - Tree	828 - Vegetated Garden
201 - Young Trees - Planted	839 - Track
203 - Mature Tree	

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MANOR FARM CABLES:
LALEHAM SUBSTATION CORRIDOR

PRELIMINARY ECOLOGICAL APPRAISAL

UK HABITAT BASELINE

FIGURE 1.4

Scale 1:2,000 @ A3

Date SEPTEMBER 2025

402.065673.00001.0020.0 UK Habitat Baseline

504250 504500 504750

172500

172250

u1b 800

g4 107 801

g4 107

h3f

u1 827

u1b

Stanwell New Road

Stanwell Moor Road A3044

Midway Close

Dolphin Court North

Dolphin Court

Bremer Road

Billet Road

Farnell Road

London Road A30

0 50 100

Metres

N

LEGEND

132kV Site Boundary

Grassland - Modified Grassland

g4 - Modified Grassland

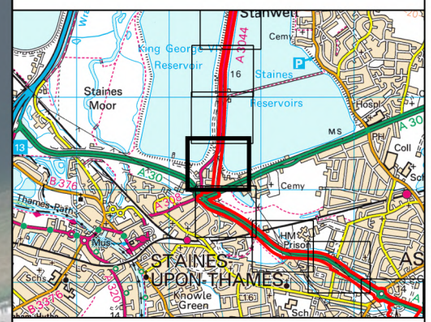
Heathland and Shrub - Dense Scrub

h3f - Hawthorn Scrub

Urban - Built-up Areas and Gardens

u1 - Built-up Area and Garden

u1b - Developed Land; Sealed Surface



Secondary Codes:

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11 - Hedgerow with Trees
16 - Tall Forbs
30 - Semi-natural Woodland
31 - Secondary Woodland
32 - Scattered Trees
33 - Line of Trees
80 - Open Mosaic Habitats on Previously Developed Land
100 - Grazed
106 - Mown
107 - Mown and Collected
108 - Frequently Mown
116 - Flailed Hedgerow
200 - Tree
201 - Young Trees - Planted
203 - Mature Tree
214 - Fallen Dead Wood Abundant
215 - Standing Dead Wood Abundant
510 - Bare Ground
516 - Active Management
517 - Recent Management
512 - Unmanaged
523 - Non-native
612 - Fence
800 - Road
801 - Road Verge or Island
804 - Car Park
807 - Pocket Park
817 - Industrial Building
818 - Residential Building
827 - Garden
828 - Vegetated Garden
839 - Track

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MANOR FARM CABLES:
LALEHAM SUBSTATION CORRIDOR

PRELIMINARY ECOLOGICAL APPRAISAL

UK HABITAT BASELINE

FIGURE 1.5

Scale 1:2,000 @ A3

Date SEPTEMBER 2025

402.065673.00001.0020.0 UK Habitat Baseline

504250 504500 504750

173000

172750

N

u1b 800

Stanwell Moor Road A3044

0 50 100

Metres

Secondary Codes:

10 - Scattered Scrub
11 - Hedgerow with Trees
16 - Tall Forbs
30 - Semi-natural Woodland
31 - Secondary Woodland
32 - Scattered Trees
33 - Line of Trees
80 - Open Mosaic Habitats on Previously Developed Land
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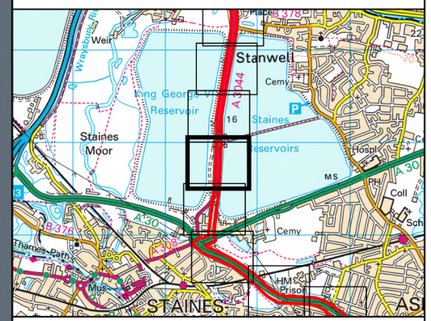
818 - Residential Building
827 - Garden
828 - Vegetated Garden
839 - Track

LEGEND

132kV Site Boundary

Urban - Built-up Areas and Gardens

u1b - Developed Land; Sealed Surface



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MANOR FARM CABLES:
LALEHAM SUBSTATION CORRIDOR

PRELIMINARY ECOLOGICAL APPRAISAL

UK HABITAT BASELINE

FIGURE 1.6

Scale 1:2,000 @ A3

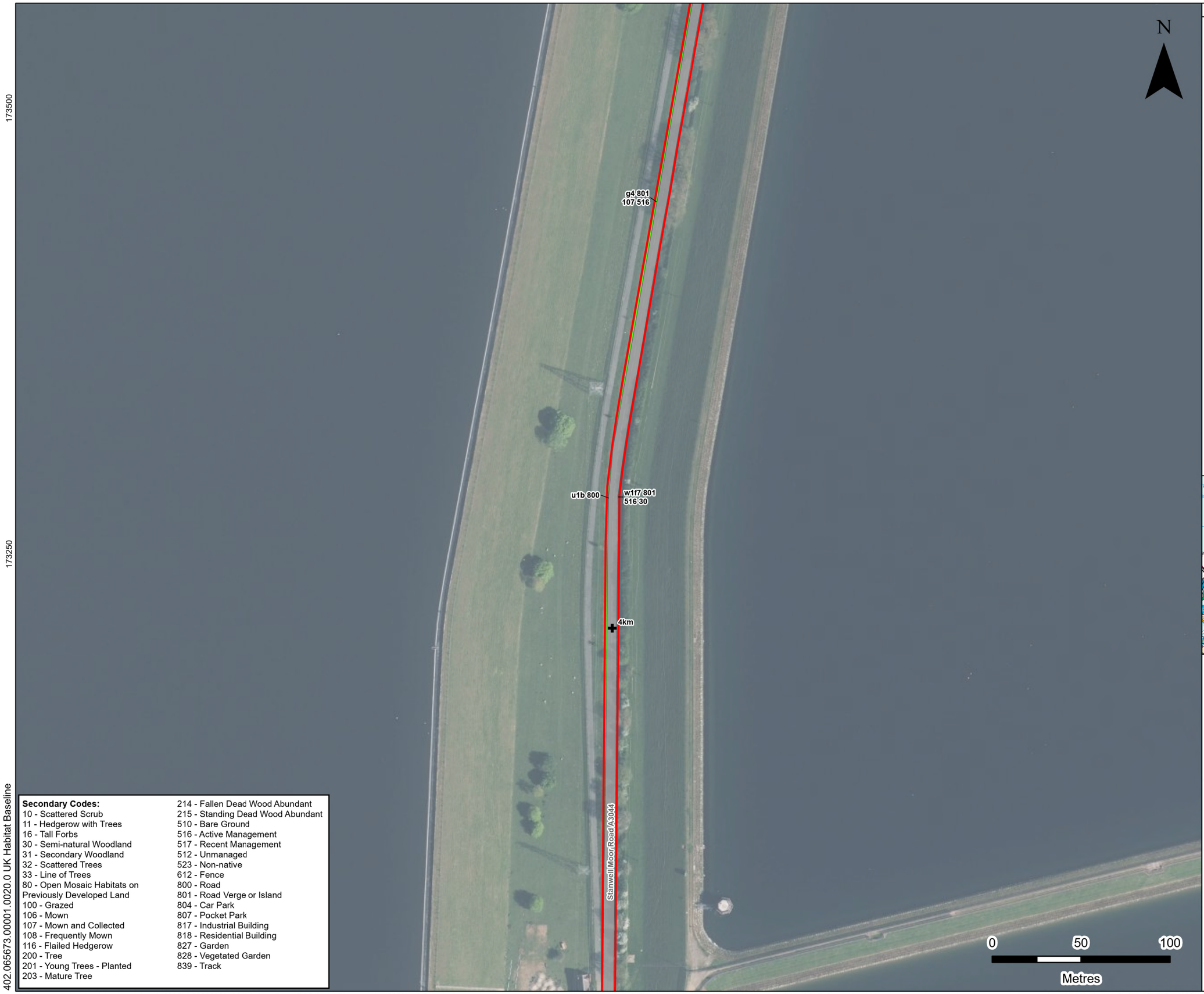
Date SEPTEMBER 2025

402.065673.00001.0020.0 UK Habitat Baseline

504250 504500 504750

173500

173250



N

LEGEND

132kV Site Boundary

2 km Route Marker

Grassland - Modified Grassland

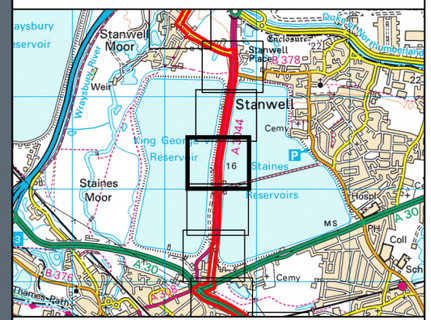
g4 - Modified Grassland

Urban - Built-up Areas and Gardens

u1b - Developed Land; Sealed Surface

Woodland and Forest - Broadleaved Mixed and Yew Woodland

w1f7 - Other Lowland Mixed Deciduous Woodland



Secondary Codes:

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30 - Semi-natural Woodland
31 - Secondary Woodland
32 - Scattered Trees
33 - Line of Trees
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100 - Grazed
106 - Mown
107 - Mown and Collected
108 - Frequently Mown
116 - Flailed Hedgerow
200 - Tree
201 - Young Trees - Planted
203 - Mature Tree
214 - Fallen Dead Wood Abundant
215 - Standing Dead Wood Abundant
510 - Bare Ground
516 - Active Management
517 - Recent Management
512 - Unmanaged
523 - Non-native
612 - Fence
800 - Road
801 - Road Verge or Island
804 - Car Park
807 - Pocket Park
817 - Industrial Building
818 - Residential Building
827 - Garden
828 - Vegetated Garden
839 - Track

0 50 100

Metres

JUNIPER ENERGY LTD

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MANOR FARM CABLES:
LALEHAM SUBSTATION CORRIDOR

PRELIMINARY ECOLOGICAL APPRAISAL

UK HABITAT BASELINE

FIGURE 1.7

Scale 1:2,000 @ A3

Date SEPTEMBER 2025

402.065673.00001.0020.0 UK Habitat Baseline

504500 504750 505000

174000

173750

N

u1b 800

g4 801
107 516

Stanwell Moor Road A3044

0 50 100
Metres

LEGEND

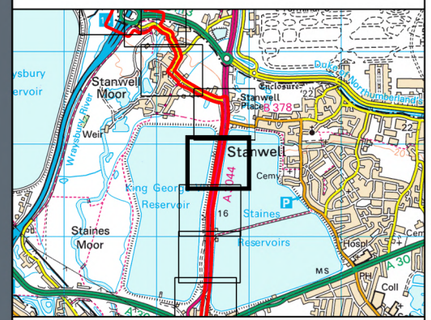
132kV Site Boundary

Grassland - Modified Grassland

g4 - Modified Grassland

Urban - Built-up Areas and Gardens

u1b - Developed Land; Sealed Surface



Secondary Codes:

10 - Scattered Scrub
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30 - Semi-natural Woodland
31 - Secondary Woodland
32 - Scattered Trees
33 - Line of Trees
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106 - Mown
107 - Mown and Collected
108 - Frequently Mown
116 - Flailed Hedgerow
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201 - Young Trees - Planted
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612 - Fence
800 - Road
801 - Road Verge or Island
804 - Car Park
807 - Pocket Park
817 - Industrial Building
818 - Residential Building
827 - Garden
828 - Vegetated Garden
839 - Track

JUNIPER ENERGY LTD

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MANOR FARM CABLES:
LALEHAM SUBSTATION CORRIDOR

PRELIMINARY ECOLOGICAL APPRAISAL

UK HABITAT BASELINE

FIGURE 1.8

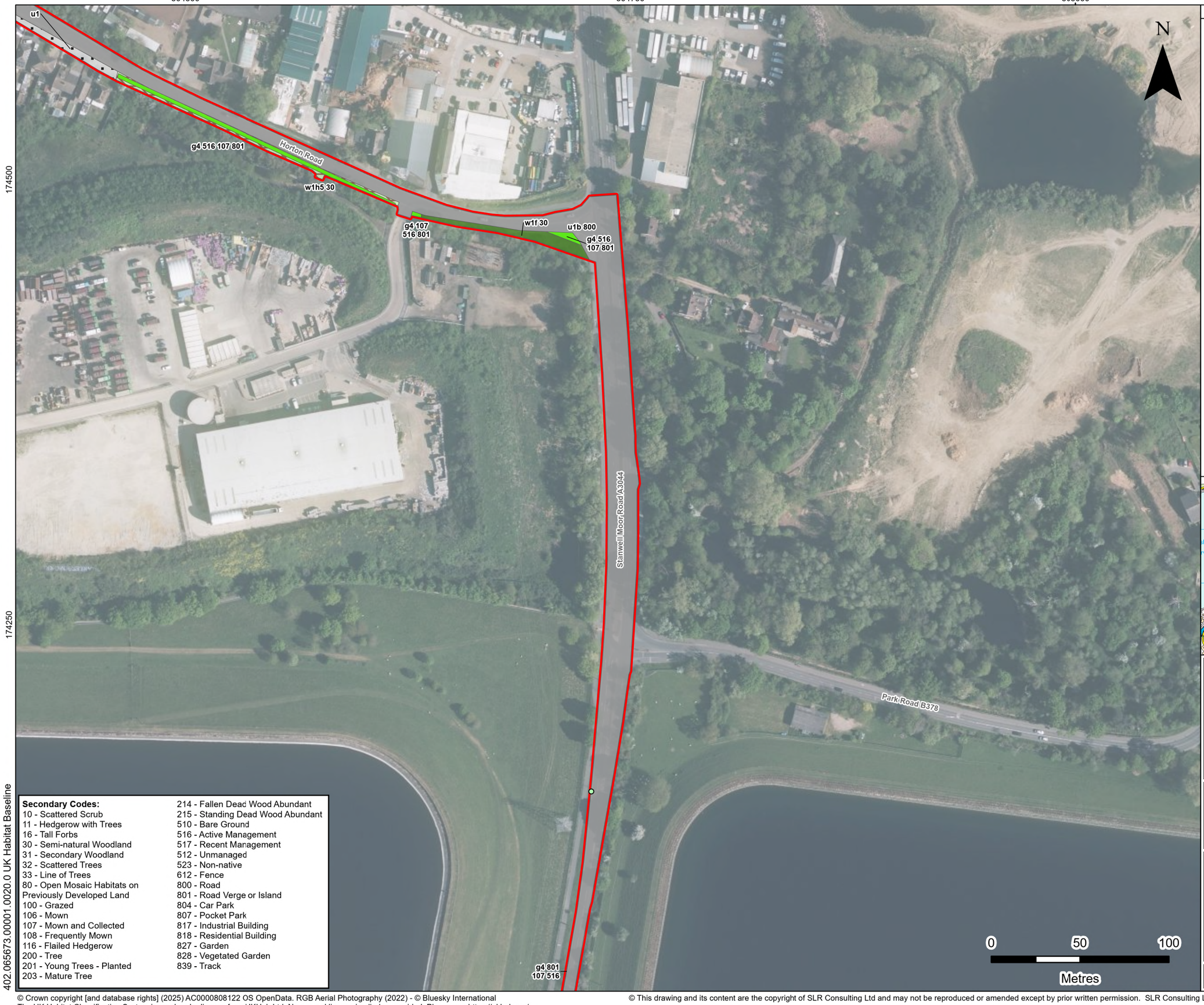
Scale 1:2,000 @ A3

Date SEPTEMBER 2025

402.065673.00001.0020.0 UK Habitat Baseline

504500 504750 505000

174500 174250



LEGEND

- 132kV Site Boundary
- Mature Tree

Grassland - Modified Grassland

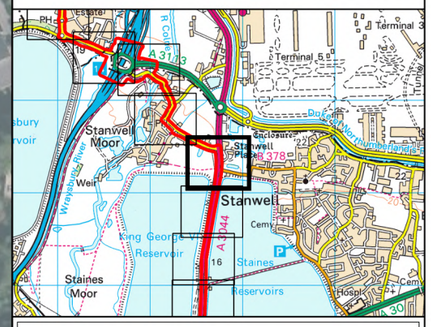
- g4 - Modified Grassland

Urban - Built-up Areas and Gardens

- u1 - Built-up Area and Garden
- u1b - Developed Land; Sealed Surface

Woodland and Forest - Broadleaved Mixed and Yew Woodland

- w1f - Lowland Mixed Deciduous Woodland
- w1h5 - Other Woodland; Mixed; Mainly Broadleaved



Secondary Codes:

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11 - Hedgerow with Trees	215 - Standing Dead Wood Abundant
16 - Tall Forbs	510 - Bare Ground
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32 - Scattered Trees	512 - Unmanaged
33 - Line of Trees	523 - Non-native
80 - Open Mosaic Habitats on Previously Developed Land	612 - Fence
100 - Grazed	800 - Road
106 - Mown	801 - Road Verge or Island
107 - Mown and Collected	804 - Car Park
108 - Frequently Mown	807 - Pocket Park
116 - Flailed Hedgerow	817 - Industrial Building
200 - Tree	818 - Residential Building
201 - Young Trees - Planted	827 - Garden
203 - Mature Tree	828 - Vegetated Garden
	839 - Track

JUNIPER ENERGY LTD

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MANOR FARM CABLES:
LALEHAM SUBSTATION CORRIDOR

PRELIMINARY ECOLOGICAL APPRAISAL

UK HABITAT BASELINE

FIGURE 1.9

Scale 1:2,000 @ A3

Date SEPTEMBER 2025

402.065673.00001.0020.0 UK Habitat Baseline

504000

504250

175000

174750

w1h5 30

h2a6 116

u1

g4 107

Airport Way/A3113

Minerva Close

Silverbeck Way

Leylands Lane

g4 107 801

Vine Close

u1 828 818

Colne Reach

u1b6 804

6km

g4 107 807

Meadow View

Hithermoor Road

Sheffield Close

Thornbank Close

Horton Road

r2

u1b 800

u1b

u1b

u1 827

u1

w1h5 g4 516 107 801

Benen Stock Road

Mountsfield Close

0 50 100

Metres

N

LEGEND

132kV Site Boundary

2 km Route Marker

Primary Habitat Classification

Heathland and Shrub - Hedgerows

h2a6 - Other Native Hedgerow

Grassland - Modified Grassland

g4 - Modified Grassland

Rivers and Lakes - Rivers and Streams

r2 - Rivers and Streams

Urban - Built-up Areas and Gardens

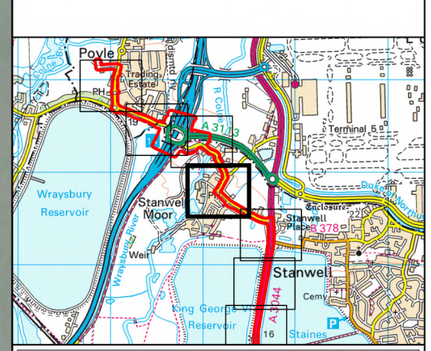
u1 - Built-up Area and Garden

u1b - Developed Land; Sealed Surface

u1b6 - Other Developed Land

Woodland and Forest - Broadleaved Mixed and Yew Woodland

w1h5 - Other Woodland; Mixed; Mainly Broadleaved



Secondary Codes:

10 - Scattered Scrub
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30 - Semi-natural Woodland
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107 - Mown and Collected
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800 - Road
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804 - Car Park
807 - Pocket Park
817 - Industrial Building
818 - Residential Building
827 - Garden
828 - Vegetated Garden
839 - Track

JUNIPER ENERGY LTD

SLR

MANOR FARM CABLES:
LALEHAM SUBSTATION CORRIDOR

PRELIMINARY ECOLOGICAL APPRAISAL

UK HABITAT BASELINE

FIGURE 1.10

Scale 1:2,000 @ A3

Date SEPTEMBER 2025

402.065673.00001.0020.0 UK Habitat Baseline

503750 504000 504250

175500

175250

402.065673.00001.0020.0 UK Habitat Baseline

N

Horton Road A3113

M25

Airport Way A3113

Horton Road

Leylands Lane

Flintlock Close

TN1

w1f 30 521 214 215

u1 827

u1b6 804

g4 100

w1h5 30

0 50 100

Metres

LEGEND

132kV Site Boundary

Target Note

Mature Tree

Primary Habitat Classification

Heathland and Shrub - Hedgerows

h2b - Non-native and Ornamental Hedgerow

Grassland - Modified Grassland

g4 - Modified Grassland

Heathland and Shrub - Dense Scrub

h3h - Mixed Scrub

Rivers and Lakes - Rivers and Streams

r2b - Other Rivers and Streams

Urban - Built-up Areas and Gardens

u1 - Built-up Area and Garden

u1b - Developed Land; Sealed Surface

u1b6 - Other Developed Land

Woodland and Forest - Broadleaved Mixed and Yew Woodland

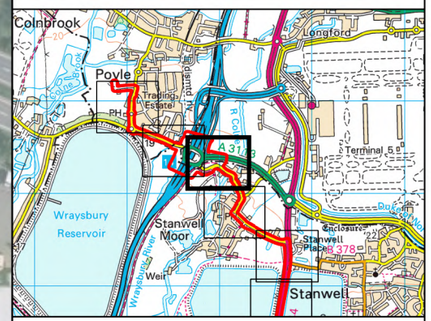
w1c - Lowland Beech and Yew Woodland

w1f - Lowland Mixed Deciduous Woodland

w1f7 - Other Lowland Mixed Deciduous Woodland

w1g - Other Woodland; Broadleaved

w1h5 - Other Woodland; Mixed; Mainly Broadleaved



Secondary Codes:

10 - Scattered Scrub
11 - Hedgerow with Trees
16 - Tall Forbs
30 - Semi-natural Woodland
31 - Secondary Woodland
32 - Scattered Trees
33 - Line of Trees
80 - Open Mosaic Habitats on Previously Developed Land
100 - Grazed
106 - Mown
107 - Mown and Collected
108 - Frequently Mown
116 - Flailed Hedgerow
200 - Tree
201 - Young Trees - Planted
203 - Mature Tree
214 - Fallen Dead Wood Abundant
215 - Standing Dead Wood Abundant
510 - Bare Ground
516 - Active Management
517 - Recent Management
512 - Unmanaged
523 - Non-native
612 - Fence
800 - Road
801 - Road Verge or Island
804 - Car Park
807 - Pocket Park
817 - Industrial Building
818 - Residential Building
827 - Garden
828 - Vegetated Garden
839 - Track

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MANOR FARM CABLES:
LALEHAM SUBSTATION CORRIDOR

PRELIMINARY ECOLOGICAL APPRAISAL

UK HABITAT BASELINE

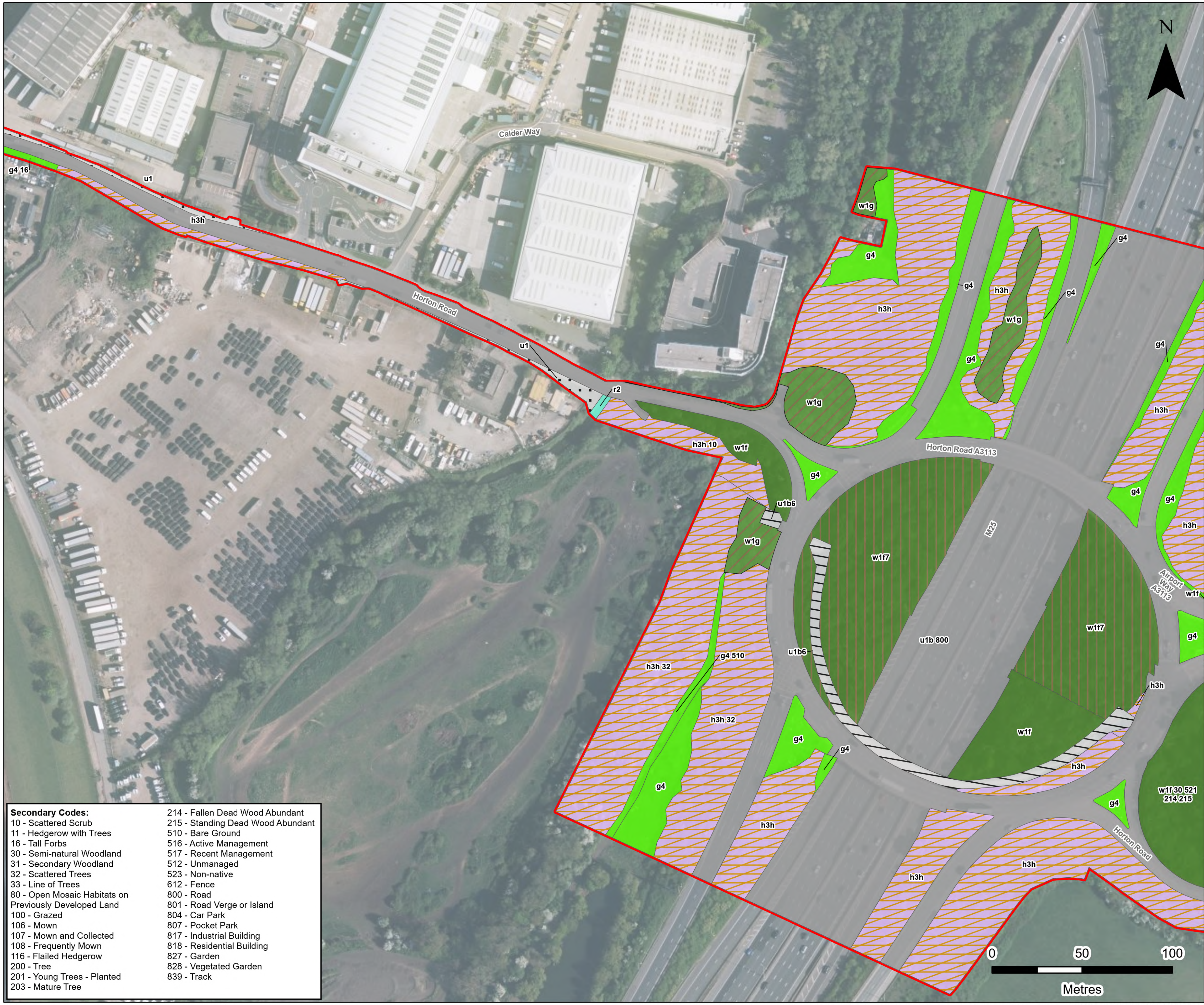
FIGURE 1.11

Scale 1:2,000 @ A3

Date SEPTEMBER 2025

503250 503500 503750

175500



LEGEND

- 132kV Site Boundary

Grassland - Modified Grassland
- g4 - Modified Grassland

Heathland and Shrub - Dense Scrub
- h3h - Mixed Scrub

Rivers and Lakes - Rivers and Streams
- r2 - Rivers and Streams

Urban - Built-up Areas and Gardens
- u1 - Built-up Area and Garden
- u1b - Developed Land; Sealed Surface
- u1b6 - Other Developed Land

Woodland and Forest - Broadleaved Mixed and Yew Woodland
- w1f - Lowland Mixed Deciduous Woodland
- w1f7 - Other Lowland Mixed Deciduous Woodland
- w1g - Other Woodland; Broadleaved

Secondary Codes:

10 - Scattered Scrub	214 - Fallen Dead Wood Abundant
11 - Hedgerow with Trees	215 - Standing Dead Wood Abundant
16 - Tall Forbs	510 - Bare Ground
30 - Semi-natural Woodland	516 - Active Management
31 - Secondary Woodland	517 - Recent Management
32 - Scattered Trees	512 - Unmanaged
33 - Line of Trees	523 - Non-native
80 - Open Mosaic Habitats on Previously Developed Land	612 - Fence
100 - Grazed	800 - Road
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MANOR FARM CABLES:
LALEHAM SUBSTATION CORRIDOR

PRELIMINARY ECOLOGICAL APPRAISAL

UK HABITAT BASELINE

FIGURE 1.12

Scale 1:2,000 @ A3

Date SEPTEMBER 2025

402.065673.00001.0020.0 UK Habitat Baseline

502750 503000 503250

176000

N

u1 817 h2b 516 g4 100 w1 33 w1g h2b 8km u1b 800 w1g g4 h3h 32 g4 u1b 804 u1 w1f 30 u1 g4 32 516 u1 w1 33 w1 33 g4 16

Arkwright Road Prescott Road Poyle Road Blackthorne Road Augustine Close Horton Road anwell Road

0 50 100 Metres

LEGEND

- 132kV Site Boundary
- 2 km Route Marker

Primary Habitat Classification

Heathland and Shrub - Hedgerows

- h2b - Non-native and Ornamental Hedgerow

Woodland and Forest

- w1 - Broadleaved Mixed and Yew Woodland

Grassland - Modified Grassland

- g4 - Modified Grassland

Heathland and Shrub - Dense Scrub

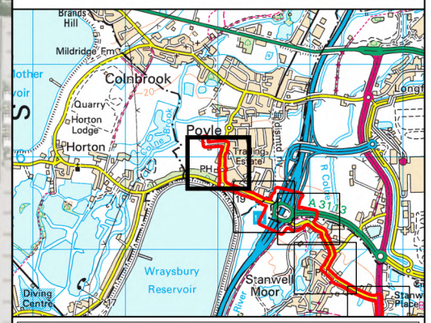
- h3h - Mixed Scrub

Urban - Built-up Areas and Gardens

- u1 - Built-up Area and Garden
- u1b - Developed Land; Sealed Surface

Woodland and Forest - Broadleaved Mixed and Yew Woodland

- w1f - Lowland Mixed Deciduous Woodland
- w1g - Other Woodland; Broadleaved



Secondary Codes:

10 - Scattered Scrub
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MANOR FARM CABLES:
LALEHAM SUBSTATION CORRIDOR

PRELIMINARY ECOLOGICAL APPRAISAL

UK HABITAT BASELINE

FIGURE 1.13

Scale 1:2,000 @ A3

Date SEPTEMBER 2025

402.065673.00001.0020.0 UK Habitat Baseline

Appendix B River Condition Assessment Report

Manor Farm Cables: Laleham Substation Corridor, Biodiversity Net Gain Assessment

Juniper Energy Limited

11th September 2025

River Condition Assessment Report

Manor Farm Cables: Laleham Substation Corridor

Juniper Energy Limited

Prepared by:

SLR Consulting Limited

3rd Floor, Summit House, 12 Red Lion Square,
London, WC1R 4QH

SLR Project No.: 402.065673.00001

11 September 2025

Revision: 01

Revision Record

Revision	Date	Prepared By	Checked By	Authorised By
01	11 September 2025	Katherine Jones	Jacob Ball	Andrea Wilcockson

Basis of Report

This document has been prepared by SLR Consulting Limited (SLR) with reasonable skill, care and diligence, and taking account of the timescales and resources devoted to it by agreement with Juniper Energy Limited (the Client) as part or all of the services it has been appointed by the Client to carry out. It is subject to the terms and conditions of that appointment.

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Table of Contents

Appendices

1.0 Introduction

SLR Consulting Limited (SLR) was commissioned by Juniper Energy Limited (the client), to undertake a suite of River Condition Assessments (RCA's) in relation to a 8.4km cable route on land between Manor Farm, Slough and National Grid (NG) Land at Laleham, Surrey.

This report refers to the section of the cable from the approved Manor Farm Data Centre, Berkshire (centroid approximately NGR TQ 02935 76236) (planning ref: P/10076/013) to Laleham Substation, Surrey (centroid approximately NGR TQ 06448 70547), (hereafter refer to as "the Proposed Development").

1.1 Site Description

The Proposed Development generally follows the highway network, running from the proposed data centre/Battery Energy Storage Site (BESS), following the highway network bordered by an industrial estate, crossing the M25 motorway at junction 14, again following the highway network along minor roads before passing between Staines and King George VI reservoirs. It then runs southwards along the A308 and A3044 before entering the Laleham substation site.

Dominant habitat types along the route are sealed surfaces and hardstanding, modified grassland (verges and central reservation). Adjacent habitats include areas of woodland, hedgerows, scrub and mature trees. Various watercourses are crossed by the route, though all but one (the Wraysbury River at Horton Road) will be crossed using no-dig engineering techniques.

1.2 Details of the Proposed Development

It is proposed that the application seek permission for the installation of underground and overground electrical connection and communication cables extending between land at Manor Farm, Poyle Road, Slough and the Laleham Substation, with temporary construction compounds, and associated infrastructure and works.

The land at Manor Farm will support a data centre and BESS. The data centre/BESS site is located approximately 6.5km from Laleham substation linearly. The length of the cable route is approximately 8.4km. The cabling from the substation will provide the power required for the data centre to operate and a connection to the national grid for the BESS.

The cable installation works for the Laleham corridor will involve the following:

- The excavation of a temporary trench to accommodate the cabling infrastructure consisting of up to two 132 kV dual circuits, together with associated communications cabling – unless:
    - A trenchless solution is proposed, e.g. under the M25 J14 or under a watercourse; or
    - Open cut watercourse.
- Each 132 kV circuit will consist of two cables per phase, with each strand located in a separate duct (for reference this means six ducts incl. communications);
- The construction trench will be up to 1m wide and up to 3m deep, the depth is expected to vary due to existing buried services (specially designed trenchless solutions such as the M25 Junction 14 crossings may result in an increase in the installation depth).
- The construction trench will be infilled once the required cabling components have been laid; and

- At intervals along the grid connection route, it is necessary to install a junction box where lengths of the cable can be joined together. Each junction box would be below ground level and would measure c.500mm x 300mm.

The route between the substation and the data centre/BESS site is predominantly urban in nature, thereby limiting the potential available route options. As a result, a significant length of this route is along public highway.

The route between the substation and the data centre/BESS site is predominantly urban in nature, thereby limiting the potential available route options. As a result, a significant length of this route is along public highway.

It is intended that the cable laying operation will be undertaken on a phased basis with an identified section being excavated and reinstated prior to moving on to a new section. Typically, a linear trench section of approximately 25m will be excavated, with the cabling being laid and the trench being reinstated prior to progressing with further excavation works.

For areas of verge and unmade ground, the excavation and reinstatement will be carried out using existing excavated materials where possible. If the original ‘turf’ is unable to be re-laid or is of a poor quality, then new topsoil and grass seed will be used. Digging will be undertaken using mechanical aids except where trees or other obstructions exist when sensitive installation technique such as hand digging, vacuum excavation or horizontal directional drilling will be employed.

When installing cables within hard surfaced areas (such as roadway, footpaths or cycleways), these sections will be open cut using a floor saw and/or a mechanical pecker to break up the top surface. No percussive piling is proposed for the project.

Mechanical means would then be used to remove the subsurface and associated materials to the correct depths. Once the cable is installed, the original surface would then be reinstated to the relevant specifications for the type of surface in agreement with the council.

Machinery and materials will be kept at temporary laydown areas, the location of which will be agreed as part of a Construction Management Plan (CMP). Machinery may also be temporarily stored overnight at the location of the previous day’s completed cable trench. In this instance, the machinery would be located behind secure fencing.

All construction methodology details will be agreed with the local authorities through the submission of a CMP.

1.3 Purpose of this Report

This report is provided to outline the findings and results of RCAs for those rivers included within the proposed development area. The findings from the RCAs are used to support the baseline Biodiversity Net Gain assessment of the habitats within the proposed development area. This shall allow an accurate assessment of the Biodiversity Unit value for the development thus satisfying the BNG assessment and providing the minimum requirements for a planning application.

1.4 Evidence of Technical Competence

Laura Lyons, who lead field surveys, is a Senior Field Ecologist at SLR with over six years of experience within ecological consultancy. Laura has a bachelor’s degree in Environmental Science and a master’s degree in Applied Ecology and is a Qualifying member of CIEEM. Laura is RCA trained and experienced with cartographer and MoRPh river assessments producing multiple assessments of this type previously. Laura is also experienced within protected species surveys and habitat surveys such as UKHabs and Phase 1.

Katherine Jones, who wrote this report, is a Senior Field Ecologist with over three years experience within professional consultancy. Katherine has a bachelor's degree in Ecology and is a qualifying member of CIEEM. Katherine has undergone RCA training and is experienced with cartographer and MoRPh river assessments.

Eva Booth, who assisted with field surveys, is a Graduate Ecologist who joined SLR in June 2025, just before graduating from her BSc Wildlife Conservation degree from Bangor University. During this degree, she gained experience in intertidal surveys, point count surveys, mammal ethograms, nocturnal surveys and reptile surveys. She also gained competence in RStudio and ArcGIS Pro.

Jacob Ball, BSc, MSc, qualifying member of CIEEM, who undertook first review of this report, is a Senior Ecologist at SLR. Jacob has over seven years' experience in ecological consultancy and conservation during which time he has undertaken numerous Biodiversity Net Gain assessments and assessments of this type.

Dr Andrea Wilcockson, BSc, MSc, PhD, CEnv, MCIEEM, who undertook final approvals for this report, is a Technical Director with SLR's Ecology & Biodiversity team who has over twenty-one years' experience in ecological consultancy. Andrea has led on medium to large scale development projects including for site re-development and has reviewed numerous Ecological Impact Assessments and Preliminary Ecological Appraisal. She has undertaken projects involving the assessment of Biodiversity Impact including watercourses, No Net Loss and Biodiversity Net Gain since 2013.

2.0 Methodology

An RCA survey was used to assess the type and condition of watercourse. The RCA survey involved a field survey element, referred to as the Modular River Physical (MoRPh)[1] Survey, and a desk study element[2].

Following the completion of the MoRPh survey and the desk study element, the collected data was uploaded into the **Cartographer** platform (www.cartographer.io), to calculate the preliminary and final condition score for the watercourse.

The RCA is being conducted to identify the baseline condition of the watercourse, which will in turn provide the information to assess the level of impact that is likely to occur as a result of the proposed development. This assessment can also be used to identify opportunities for enhancement relating to the Biodiversity Net Gain (BNG) calculations expected to be conducted for the project.

2.1 Field Survey –MoRPh Assessment

The MoRPh field surveys were conducted between the 23rd and 25th June 2025. The surveys accounted for at least 20% of the total watercourse length within the development area which ensures a comprehensive representation of the watercourses condition. The width of each watercourse was measured, which was used to identify the length of each MoRPh module and thereafter the length of each sub-reach, in line with the MoRPh guidance as detailed below in Table 2-1.

Table 2-1: Determining Module Length Based on River Width

River Width (m)	Module Length (m)
<5m	10
5 to < 10	20
10 to < 20	30
20 to < 30	40
Large and navigable rivers and canals	50

A total of five modules are surveyed contiguously to complete a MoRPh sub-reach. Each survey module identifies all visible features relating to both channel bank faces, the channel bed, surface water flow and an extended survey area of 10m of the bank top on both sides of the channel.

The following equipment, but not limited to, was used to carry out the RCA survey as detailed above:

- GPS Device: For recording location of surveys points;
- Measuring Tape: For recording bank measurements (e.g. bank height); and

[1] Modular River Survey (2019). *The MoRPh Survey: Field Guide.* Available at: https://modularriversurvey.org/professional-help/ [Accessed: 20/11/2024]

[2] Modular River Survey (2022). *The MoRPh Survey: Technical Reference Manual 2022.* Available at: https://modularriversurvey.org/

- Binoculars: Used to observe riparian vegetation and distant features, providing supplemental data in areas with restricted access or views.

2.2 Desk Study – River Type and Condition Assessment

The desk study was completed on 12th August 2025, using the Cartographer online platform[3] , Google Earth and information from Environmental Agency's Catchment Data Explorer[4] and River Levels UK[5] to inform the RCA.

The study classified the watercourse into one of thirteen river types using 32 condition indicators extracted from the MoRPh field survey data[6]. These indicators are divided into positive and negative categories[7] which ultimately determine the final condition score of the watercourse. A full list of condition indicators is provided in Appendix A.

RCA Terminology:

- ***Reach:*** *a section of river along which boundary conditions are sufficiently uniform that the river maintains a near consistent internal set of process–form interactions. The upstream point of this area is referred to as the Upper Reach, and the downstream the Lower Reach. This is shown on Figure 1.*
- ***MoRPh Sub-reach:*** *a short river reach with a length equal to five MoRPh modules (approximately ten channel widths in length). In this case, the sub-reach comprised 50m.*
- ***Preliminary Condition Score****: Calculated by summing the positive and negative indicator scores for each sub-reach.*
- ***Final Condition Score****: Based on the preliminary score and river type, ranging from 1 (Poor) to 5 (Good). The final score is adjusted based on the river's shape and ecological connectivity to the floodplain.*

2.3 Limitations

The field surveys were conducting during a period of low levels of rainfall and water levels, ensuring that all aspects of the river channel bed were visible. There were occurrences of inaccessibility in some areas of the field assessments for watercourses including:

There was limited access to all the locations by the presence of fencing and land ownership. Due to this the watercourses WC2 and WC5, is not a representative where most 'impacted' and 'natural' were selected. Resulting in bias characteristics, however this does not impact river type.

It was not possible to see both banks faces and channel bed at sub-reach 1 of the River Ash (WC1), Horton Road Drain (WC3), and Wraysbury River (WC5) due to the dense vegetation,

[3] Available at: https://cartographer.io/

[4] Available at: https://environment.data.gov.uk/catchment-planning

[5] Available at: https://riverlevels.uk/levels

[6] A.M. Gurnell, J. England, S.J. Scott, L.J. Shuker (2024) *A GUIDE TO ASSESSING RIVER CONDITION Part of the Rivers and Streams Component of the Biodiversity Net Gain Metric.* Available at: https://modularriversurvey.org/professional-help/ [Accessed: 20/11/2024]

[7] Each indicator is assigned a score between 0 and +4 (for positive indicators) or 0 and -4 (for negative indicators). The Preliminary Condition Score for each sub-reach is calculated by averaging the scores of the positive and negative indicators. This score is then translated into a Final Condition Score ranging from 1 (Poor) to 5 (Good) based on the river type and other factors, such as the "shape" factor, which assesses the degree of hydrological or ecological connection to the floodplain. If the river is too deep relative to its width, the score is downgraded. to reflect reduced connectivity.

primarily with scrub and shrubs. The proposed design is expected to avoid any impacts on these rivers, furthermore, while full assessments of the banks and channel bed could not be made, sub-samples were possible to inform the likely characteristics of those modules that could not be sampled. As such this was not seen as a true limitation.

3.0 Results

A total of five streams/rivers located within the Manor Farm cable route - Laleham Substation project area were subject to an RCA. The final results of the RCA (field and desk-based combined) are summarised in Table 3-1 below, with full details provided in Appendix B. results are displayed in order from the south of the cable route to the north. The results of the RCA are also illustrated in Drawing 1.

The preliminary scores were further refined through the River Type classification, with final condition classifications adjusted for factors such as over-deepening - either downgraded if over-deepening was present or maintained if not. All watercourses were categorised to be of the same River Type, Type K, a straight/sinuous alluvial watercourse that has an average sediment size of silt and the coarsest sediment size of sand.

Two watercourses (WC2 & WC5) were assessed as being of Fairly Poor condition, one watercourse (WC3) was assessed as being of Poor condition and two watercourses (WC1 & WC4) were assessed as being of Moderate condition.

Table 3-1: River Condition Assessment Summary

Watercourse ID	Watercourse Name	Average Preliminary Condition Score	Final Condition Score	River Type	Average River Shape Score	Final Condition Score After Over-Deepening Conclusion
WC1	River Ash	0.317	Moderate	K	4.364	Moderate
WC2	Stanwell Moor Ditch	-0.126	Fairly Poor	K	4.485	Fairly Poor
WC3	Horton Road Drain	-1.117	Poor	K	2.250	Poor
WC4	River Colne	0.836	Moderate	K	4.621	Moderate
WC5	Wraysbury River	0.008	Fairly Poor	K	5.972	Fairly Poor

4.0 Conclusion

A total of five watercourses located within the proposed cable route project Site area meet the criteria for an RCA to inform BNG calculations. The MoRPh field surveys were conducted across the Site between the 23rd and 25th June 2025, whilst the River Type and Condition Classification desk assessments were conducted on the 12th August 2025.

The field surveys provided a comprehensive evaluation of each watercourse, highlighting both positive indicators related to natural features and negative scores related to human-induced pressures. These findings contributed to the preliminary condition score for each watercourse. The results indicated that all watercourses on site are of 'Poor', 'Fairly Poor' or 'Moderate' condition. No watercourses were found to show signs of over deepening allowing conditions to be maintained.

In conclusion, the MoRPh surveys were conducted in accordance with the specified scope of works, providing detailed and accurate assessments of the physical and ecological conditions of the watercourses. The surveys met the scope by delivering the required baseline data for BNG calculations, consistent with the specified methodology and guidelines.