

BT-NG-020621-545-0234

Bramford to Twinstead Reinforcement

Volume 8: Examination Submissions

**Document 8.5.6: Extant Grid Supply Point Substation Consent
Approved Plans**

**Final Issue A
October 2023**

Planning Inspectorate Reference: EN020002

**The Infrastructure Planning (Examination Procedures) Rules 2010
Regulation 8(1)(k)**

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Appendix A Approved Plans for Application Reference 23/01488/VAR

1. Introduction

1.1 Purpose of This Document

1.1.1 This document responds to Question Reference MG1.0.4 of the Examining Authority's First Written Questions [**PD-005**], issued on 13 October 2023, which states: '*MG1.0.4 - Following discussions at OFH1, you submitted the document, Extant Grid Supply Point Substation Consents [REP1-037] into Examination at Deadline 1. Its Appendix E, the Decision Notice, refers to approved plans. For completeness, can these be submitted into the Examination?*'

1.1.2 As such, this document provides copies of the approved plans for the planning permission issued pursuant to Section 73 of the TCPA 1990 by Braintree District Council in respect to the GSP substation (Application Reference 23/01488/VAR).

1.2 The GSP Substation

1.2.1 The GSP substation is an essential element of the wider Bramford to Twinstead Reinforcement (the project).

1.2.2 In order to construct the project, three key stages must happen in sequential order:

- Firstly, the GSP west of Twinstead Tee must be constructed and operational. This is a technical necessity, required to replace distribution network capacity to the Distribution Network Operator (DNO).
- Only once the GSP is operational can the 25km stretch of existing 132kV line between Burstall Bridge and Twinstead Tee be removed.
- Once the existing 132kV line between Burstall Bridge and Twinstead Tee is removed, the new 400kV reinforcement between Bramford Substation and Twinstead Tee can be constructed.

1.2.3 Therefore, it is important that the GSP is delivered as early as feasible, to allow the subsequent works to commence should development consent be granted.

1.3 The Extant Permission

1.3.1 National Grid has obtained planning permission from Braintree District Council for the GSP substation under the Town and Country Planning Act 1990 (TCPA) (as well as an Environmental Impact Assessment (EIA) screening decision confirming it was not EIA development) in October 2022 (Application Reference: 22/01147/FUL) in advance of the application for development consent.

1.3.2 The planning application sought full planning permission for '*a new 400/132 kilovolt (kV) Grid Supply Point (GSP) substation including two supergrid transformers, associated buildings, equipment and switchgear, a single circuit cable sealing end compound, a new permanent vehicular access to the public highway, associated landscaping (including boundary fencing, an area for Biodiversity Net Gain, and landscape mounding) and drainage.*'

- 1.3.3 This permission was later varied by virtue of a minor material amendment application pursuant to Section 73 of the TCPA 1990 (Application Reference 23/01488/VAR), also from Braintree District Council. Planning permission granted under Section 73 of the TCPA 1990 takes effect as a new, independent permission to carry out the same development as previously permitted subject to new or amended conditions. As such, the Section 73 planning permission 23/01488/VAR is the extant planning permission for the GSP substation, which is subject to the pre-commencement conditions which have since been discharged.

1.4 Schedule of Approved Plans (Section 73 Permission: 23/01488/VAR)

- 1.4.1 The approved plans for the GSP substation planning permission are as follows:

- Consenting Plan TWIN4-JMS-DS-XX-DR0011
- Block Plan TWIN4-JMS-DS-XX-DR0012
- Finished Floor Levels Plan TWIN4-JMS-DS-XX-DR0013
- Planting Plan TWIN4-JMS-DS-XX-DR0015
- Finished Floor Levels Plan TWIN4-JMS-DS-XX-DR0016
- Proposed Site Sections Plan TWIN4-JMS-DS-XX-DR0017
- Site Layout Plan TWIN4-JMS-DS-XX-DR0018
- Proposed Access and Parking Arrangement Plan TWIN4-JMS-DS-XX-DR0019
- Proposed Floor Plan TWIN4-JMS-DS-XX-DR0020
- Access Details PDD21847-CIV-022 Rev. P02

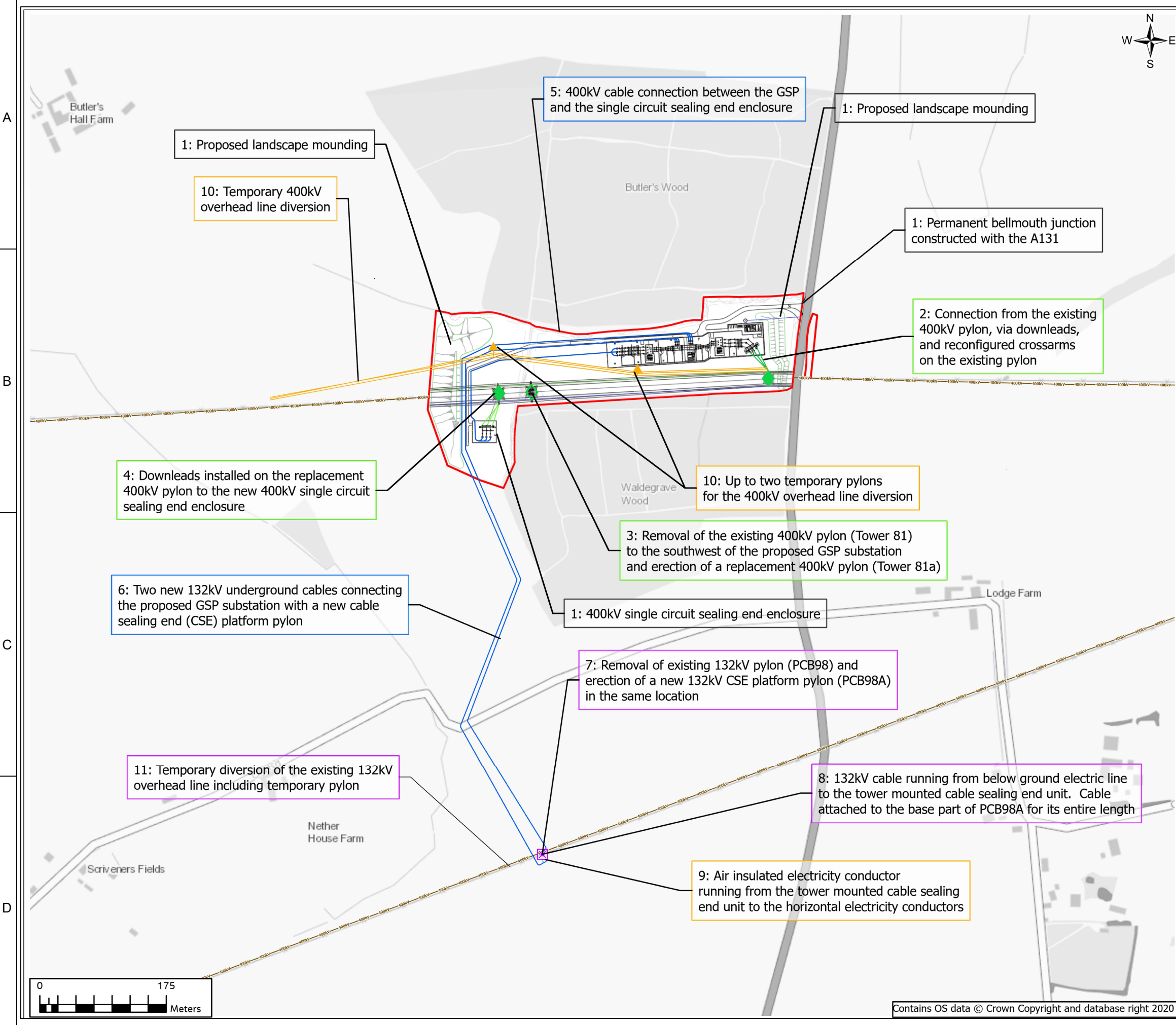
- 1.4.2 These plans are contained in the order shown above at Appendix A.

Appendix A Approved Plans for Application Reference 23/01488/VAR



LEGEND

- SITE BOUNDARY
- SECTION 37 CONSENT
- PLANNING PERMISSION UNDER TCPA
- PERMITTED DEVELOPMENT UNDER GPDO
- PERMITTED DEVELOPMENT UNDER GPDO AND EXEMPT FROM SECTION 37
- PERMITTED DEVELOPMENT UNDER GPDO IN COMBINATION WITH THE EXEMPTION REGULATIONS
- EXISTING OVERHEAD LINES



1: Proposed landscape mounding

10: Temporary 400kV overhead line diversion

5: 400kV cable connection between the GSP and the single circuit sealing end enclosure

1: Proposed landscape mounding

1: Permanent bellmouth junction constructed with the A131

2: Connection from the existing 400kV pylon, via downloads, and reconfigured crossarms on the existing pylon

4: Downloads installed on the replacement 400kV pylon to the new 400kV single circuit sealing end enclosure

10: Up to two temporary pylons for the 400kV overhead line diversion

3: Removal of the existing 400kV pylon (Tower 81) to the southwest of the proposed GSP substation and erection of a replacement 400kV pylon (Tower 81a)

6: Two new 132kV underground cables connecting the proposed GSP substation with a new cable sealing end (CSE) platform pylon

1: 400kV single circuit sealing end enclosure

7: Removal of existing 132kV pylon (PCB98) and erection of a new 132kV CSE platform pylon (PCB98A) in the same location

11: Temporary diversion of the existing 132kV overhead line including temporary pylon

8: 132kV cable running from below ground electric line to the tower mounted cable sealing end unit. Cable attached to the base part of PCB98A for its entire length

9: Air insulated electricity conductor running from the tower mounted cable sealing end unit to the horizontal electricity conductors



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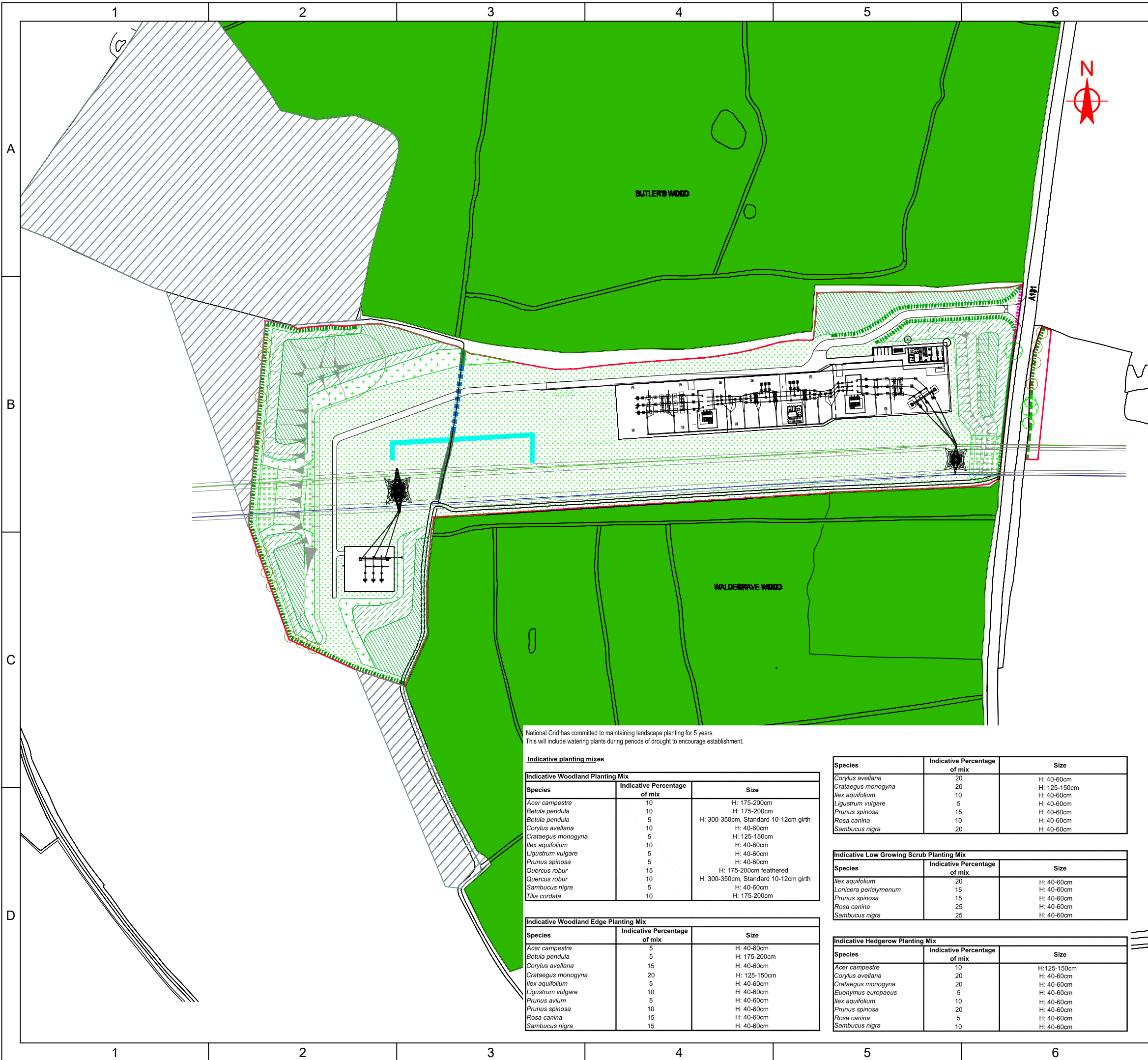
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FIRST ISSUE	A	SJM	TH	CMA	30.05.23
REV		DRAWN	CHK	APP.	DATE

MURPHY WORLD-CLASS INFRASTRUCTURE	nationalgrid
J. MURPHY & SONS LTD <small>Hawks Green Lane, Cannock WS11 7LH</small>	NATIONAL GRID PLC <small>Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA</small>

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Suitability:	S0	
Scale @ A3:	1:5000	
Sheets:	1 OF 1	
Internal Proj Ref:	-	Contains OS data © Crown copyright and database rights (year)

Project:	PROPOSED GSP SUBSTATION OFF THE A131
Scheme:	-
Site:	TWINSTEAD GREEN
Circuit:	-
Dwg Title:	ENVIRONMENTAL APPRAISAL ACCOMPANYING WORKS CONSENTING PLAN
Dwg No:	TWIN4-JMS-DS-XX-DR-X-0011
Purpose of Issue:	FOR PLANNING CONSENT
Client Dwg Number:	-



- SITE BOUNDARY
- EXISTING ANCIENT WOODLAND
- PROPOSED WOODLAND MIX
- PROPOSED WOODLAND EDGE MIX
- PROPOSED SCRUB MIX
- PROPOSED LOW GROWING SCRUB MIX
- PROPOSED SPECIES RICH GRASSLAND (EM2 - Standard General Purpose Meadow Mix or similar)
- PROPOSED HEDGEROW
- REINFORCED HEDGEROW
- EXISTING HEDGEROW RETAINED
- EXISTING HEDGEROW TO BE REMOVED
- PROPOSED HEDGEROW TREE
- HEDGEROW TREE RETAINED
- HARD SURFACING/ ACCESS ROAD
- PROPOSED GSP SUBSTATION
- RETAINED DITCH
- EXISTING DITCH TO BE REINSTATED
- PROPOSED DITCH
- PROPOSED DCO BIODIVERSITY NET GAIN FOR WIDER REINFORCEMENT PROJECT
- PROPOSED MOUNDING

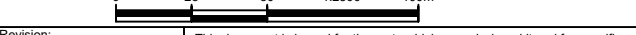
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FIRST ISSUE				
A	SJM	TH	CMA	30.06.23
REV	DRAWN	CHK	APP.	DATE

WORLD-CLASS INFRASTRUCTURE

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Scale @ A3: **1:2500**

Sheets: **1 OF 1**

Internal Proj.Ref: - Contains OS data © Crown copyright and database rights (year)

Project: **PROPOSED GSP SUBSTATION OFF THE A131**

Site: **TWINSTEAD GREEN**

Circuit: -

Dwg Title: **ENVIRONMENTAL PROPOSAL PLANTING PLAN**

Dwg No: **TWIN4-JMS-DS-XX-DR-X-0015**

Purpose of Issue: **PURPOSE OF ISSUE**

Client Dwg Number: -

National Grid has committed to maintaining landscape planting for 5 years. This will include watering plants during periods of drought to encourage establishment.

Indicative planting mixes

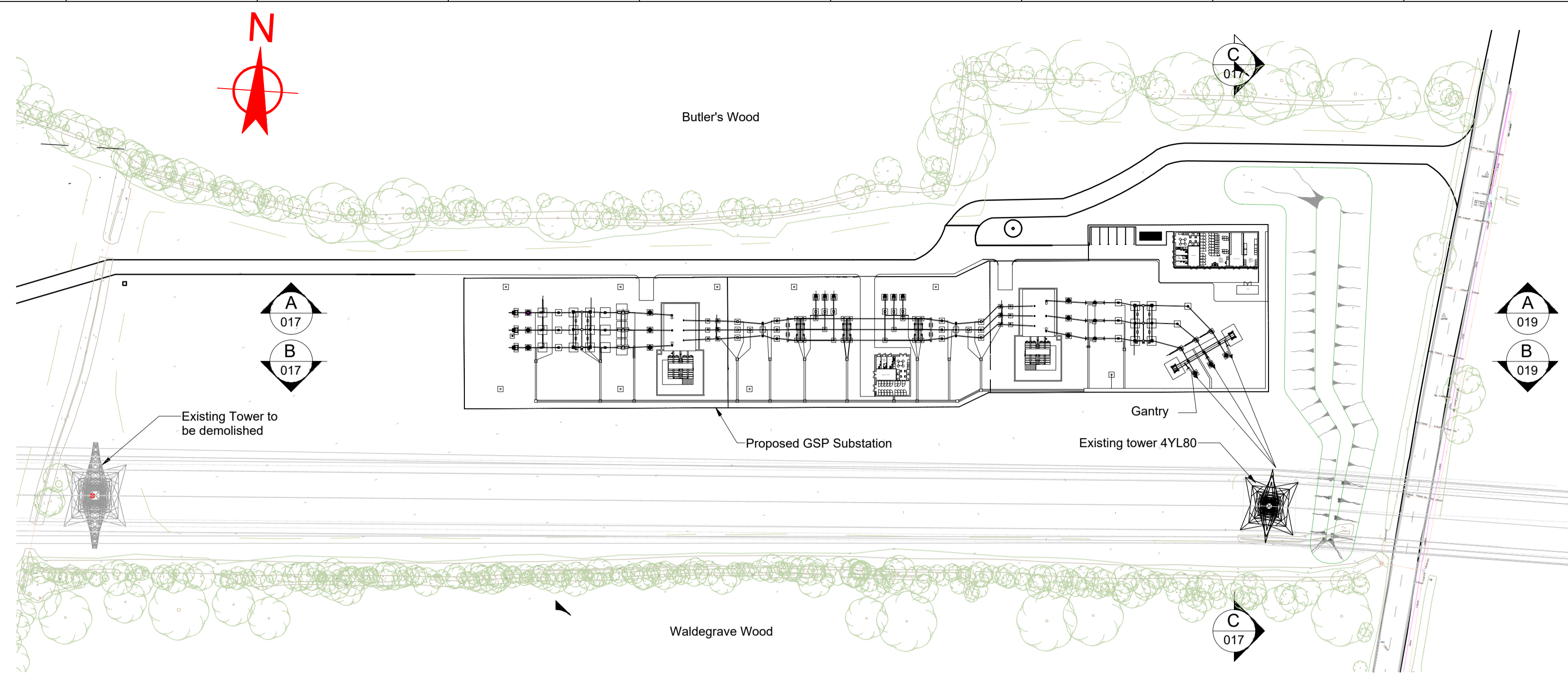
Indicative Woodland Planting Mix		
Species	Indicative Percentage of mix	Size
<i>Acer campestre</i>	10	H: 175-200cm
<i>Betula pendula</i>	10	H: 175-200cm
<i>Betula pendula</i>	5	H: 300-350cm, Standard 10-12cm girth
<i>Corylus avellana</i>	10	H: 40-60cm
<i>Crataegus monogyna</i>	5	H: 125-150cm
<i>Ilex aquifolium</i>	10	H: 40-60cm
<i>Ligustrum vulgare</i>	5	H: 40-60cm
<i>Prunus spinosa</i>	5	H: 40-60cm
<i>Quercus robur</i>	15	H: 175-200cm feathered
<i>Quercus robur</i>	10	H: 300-350cm, Standard 10-12cm girth
<i>Sambucus nigra</i>	5	H: 40-60cm
<i>Tilia cordata</i>	10	H: 175-200cm

Indicative Woodland Edge Planting Mix		
Species	Indicative Percentage of mix	Size
<i>Acer campestre</i>	5	H: 40-60cm
<i>Betula pendula</i>	5	H: 175-200cm
<i>Corylus avellana</i>	15	H: 40-60cm
<i>Crataegus monogyna</i>	20	H: 125-150cm
<i>Ilex aquifolium</i>	5	H: 40-60cm
<i>Ligustrum vulgare</i>	10	H: 40-60cm
<i>Prunus avium</i>	5	H: 40-60cm
<i>Prunus spinosa</i>	10	H: 40-60cm
<i>Rosa canina</i>	15	H: 40-60cm
<i>Sambucus nigra</i>	15	H: 40-60cm

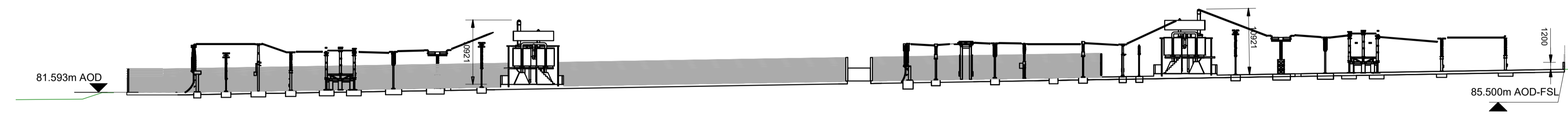
Species	Indicative Percentage of mix	Size
<i>Corylus avellana</i>	20	H: 40-60cm
<i>Crataegus monogyna</i>	20	H: 125-150cm
<i>Ilex aquifolium</i>	10	H: 40-60cm
<i>Ligustrum vulgare</i>	5	H: 40-60cm
<i>Prunus spinosa</i>	15	H: 40-60cm
<i>Rosa canina</i>	10	H: 40-60cm
<i>Sambucus nigra</i>	20	H: 40-60cm

Indicative Low Growing Scrub Planting Mix		
Species	Indicative Percentage of mix	Size
<i>Ilex aquifolium</i>	20	H: 40-60cm
<i>Lonicera periclymenum</i>	15	H: 40-60cm
<i>Prunus spinosa</i>	15	H: 40-60cm
<i>Rosa canina</i>	25	H: 40-60cm
<i>Sambucus nigra</i>	25	H: 40-60cm

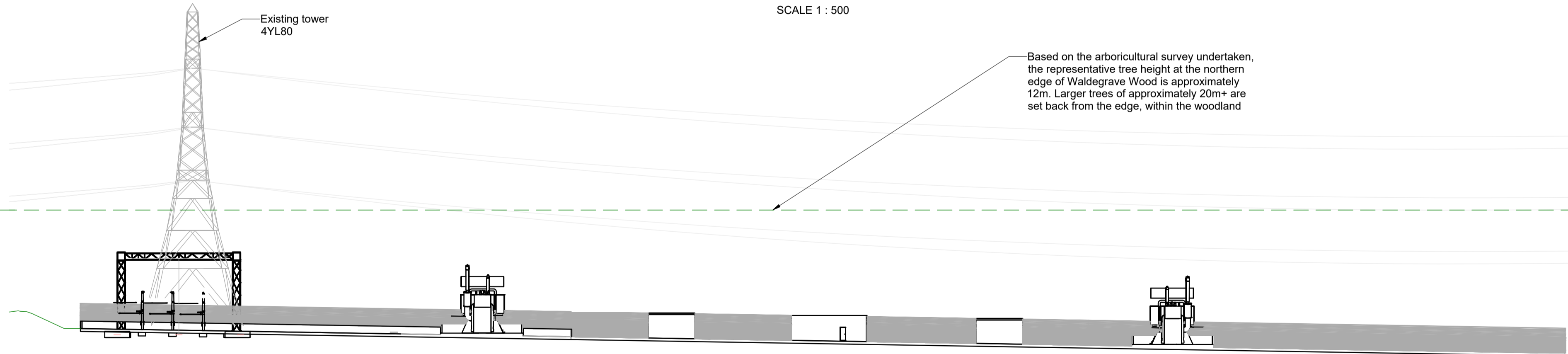
Indicative Hedgerow Planting Mix		
Species	Indicative Percentage of mix	Size
<i>Acer campestre</i>	10	H: 125-150cm
<i>Corylus avellana</i>	20	H: 40-60cm
<i>Crataegus monogyna</i>	20	H: 40-60cm
<i>Evonymus europaeus</i>	5	H: 40-60cm
<i>Ilex aquifolium</i>	10	H: 40-60cm
<i>Prunus spinosa</i>	20	H: 40-60cm
<i>Rosa canina</i>	5	H: 40-60cm
<i>Sambucus nigra</i>	10	H: 40-60cm



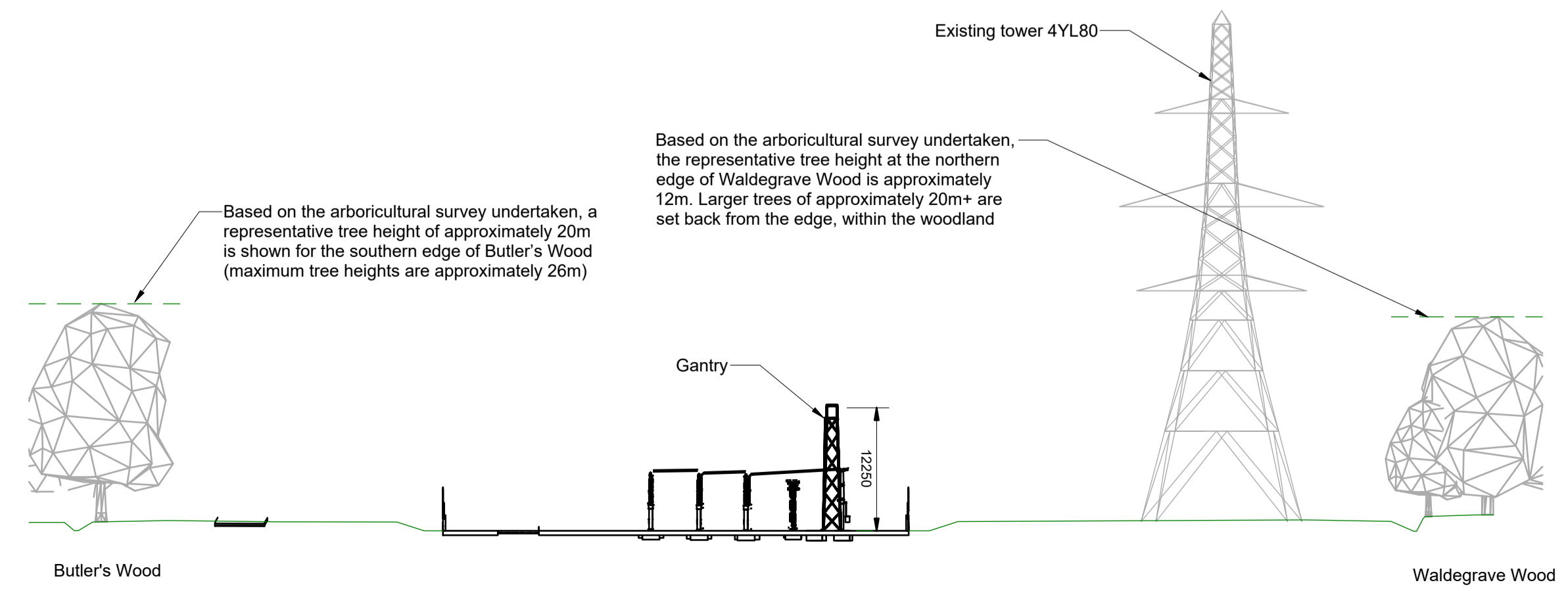
PLAN VIEW SHOWING SITE SECTION LOCATIONS
SCALE 1 : 1000



SITE LONG SECTION A-A
SCALE 1 : 500



SITE LONG SECTION B-B
SCALE 1 : 500



SITE CROSS SECTION C-C
SCALE 1 : 500

- NOTES:
1. All dimensions are in millimetres unless noted otherwise.
 2. All levels and chainages are in metres unless noted otherwise.

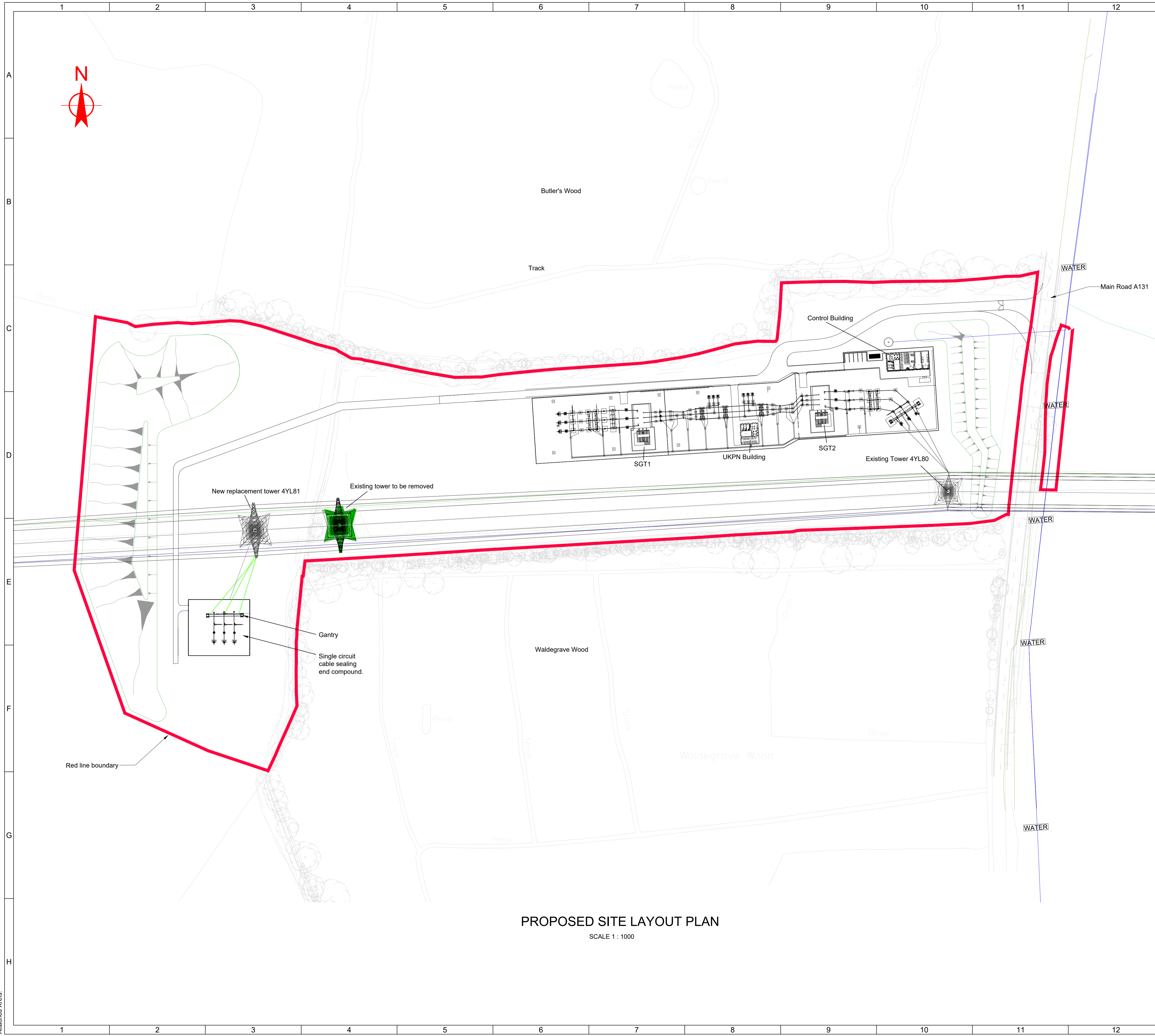
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J. MURPHY & SONS LTD Hawks Green Lane, Cranbrook WS11 7LH		NATIONAL GRID PLC Warwick Technology Park, Gatfolds Hill, Warwick, CV34 6DA	
Project: PROPOSED GRID SUPPLY POINT SUBSTATION, OFF THE A131 BETWEEN BUTLERS' & WALDEGRAVE WOODS			
Scheme: -			
Site: TWINSTEAD GREEN			
Circuit: -			
Revision:	A	Dwg Title:	PROPOSED PROPOSED SITE SECTIONS
Suitability:	S0		
Scale @ A1:	AS SHOWN	Dwg No.:	TWIN4-JMS-DS-XX-DR-X-0017
Sheets:	1 OF 1	Purpose of Issue:	FOR PLANNING CONSENT
Internal Proj Ref:	-	Client Dwg Number:	-



NOTES:
 1. All dimensions are in millimetres unless noted otherwise.
 2. All levels and chainages are in metres unless noted otherwise.

REV	A	SJM	TH	CMA	24/06/23
		DRAWN	CHECKED	APPROVED	DATE



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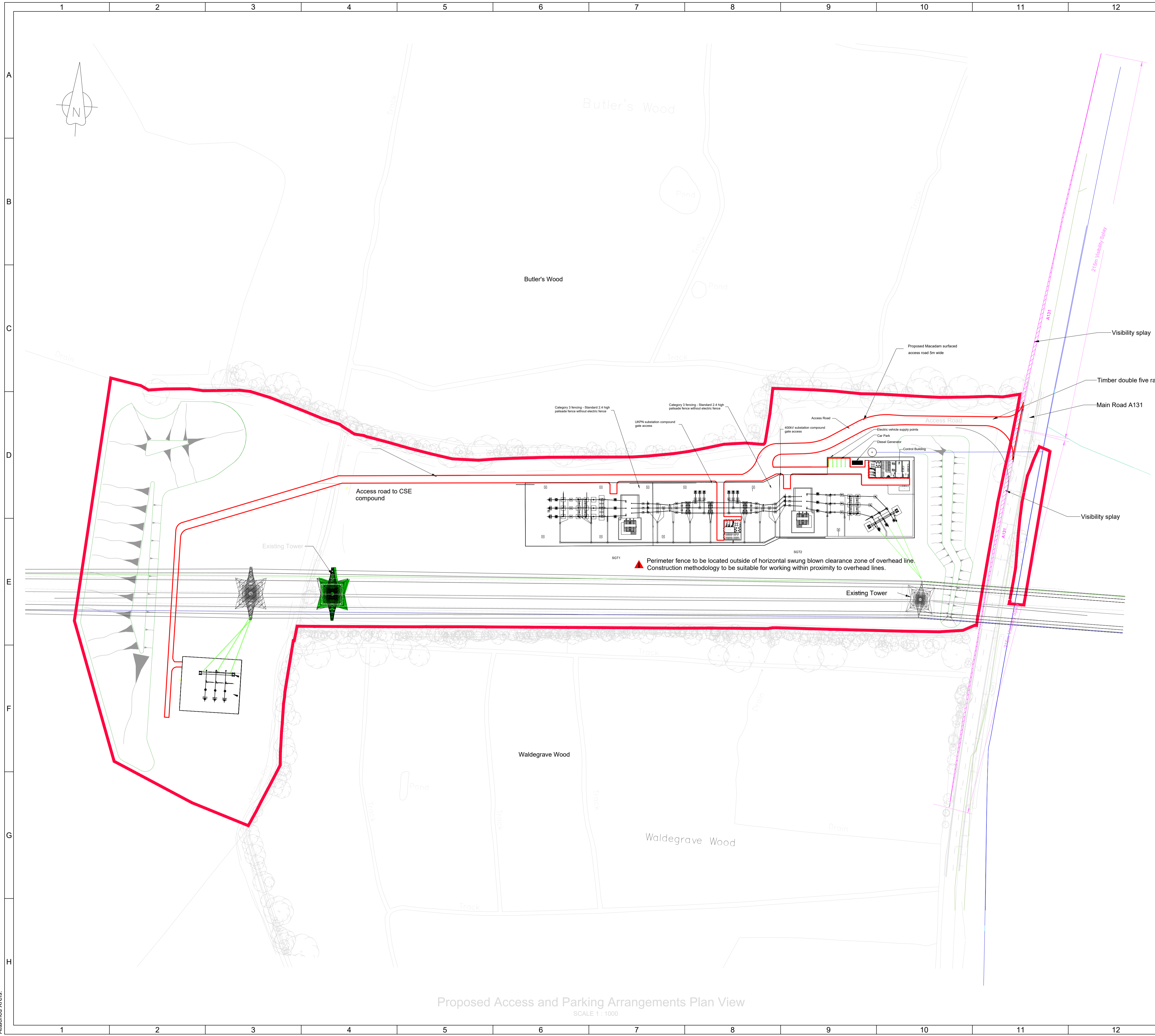


J. MURPHY & SONS LTD
 Hawks Green Lane, Cannock WS11 7LH
 NATIONAL GRID PLC
 Warwick Technology Park, Gatfolds Hill, Warwick, CV34 6DA

Project:	GRID SUPPLY POINT SUBSTATION, OFF THE A131 BETWEEN BUTLER'S & WALDEGRAVE WOODS				
Scheme:	-				
Site:	TWINSTEAD GREEN				
Circuit:	-				
Revision:	A	Dwg Title:	PLANNING PROPOSED SITE LAYOUT PLAN		
Suitability:	S0	Scale @ A1:	1:1000		
Scale @ A1:	1:1000	Sheet:	1 OF 1		
Sheet:	1 OF 1	Dwg No.:	TWIN4-JMS-DS-XX-DR-X-0018		
Internal Proj Ref:	-	Purpose of Issue:	FOR PLANNING CONSENT		
		Client Dwg Number:	-		

PROPOSED SITE LAYOUT PLAN
 SCALE 1 : 1000

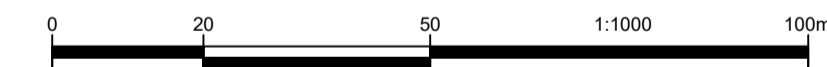
Plotted: 31/05/2023 1:55 PM
 Attached Xrefs:



NOTES:
 1. All dimensions are in millimetres unless noted otherwise.
 2. All levels and chainages are in metres unless noted otherwise.

▲ Perimeter fence to be located outside of horizontal swung blown clearance zone of overhead line.
 Construction methodology to be suitable for working within proximity to overhead lines.

REV	DRAWN	CHECKED	APPROVED	DATE
A	SJM	TH	CMA	30.06.23



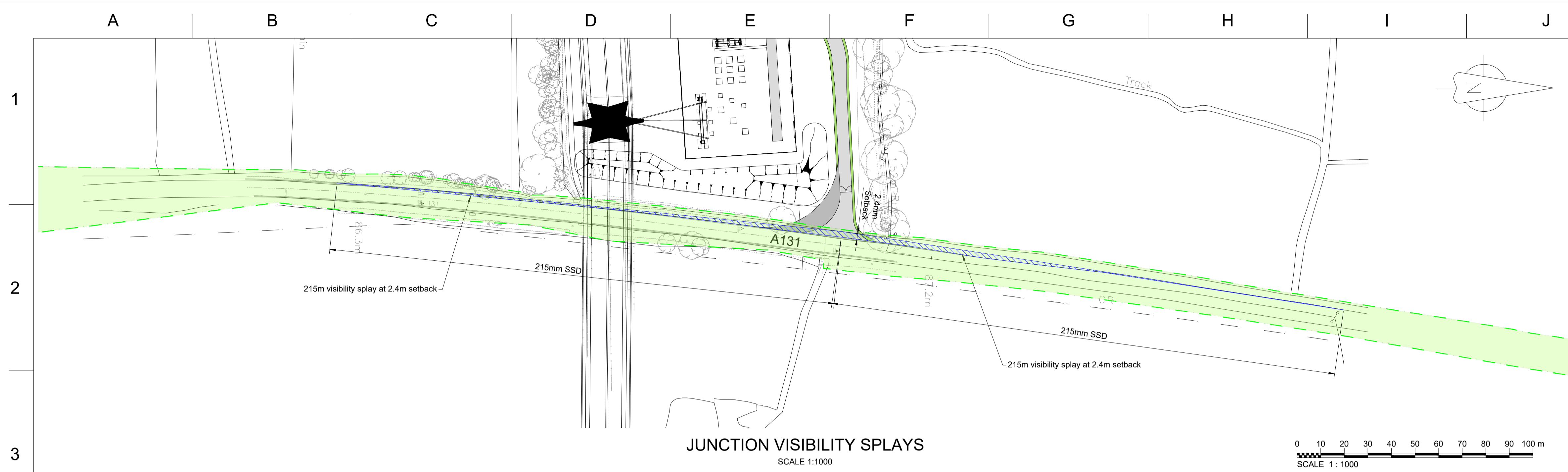
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Project: GRID SUPPLY POINT SUBSTATION, OFF THE A131 BETWEEN BUTLER'S & WALDEGRAVE WOODS			
Scheme: -			
Site: TWINSTEAD GREEN			
Circuit: -			
Revision:	A	Dwg Title:	PLANNING PROPOSED ACCESS AND PARKING ARRANGEMENTS
Suitability:	S0	Dwg No.:	TWIN4-JMS-DS-XX-DR-X-0019
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Sheets:	1 OF 1	Client Dwg Number:	-
Internal Proj Ref:	-		

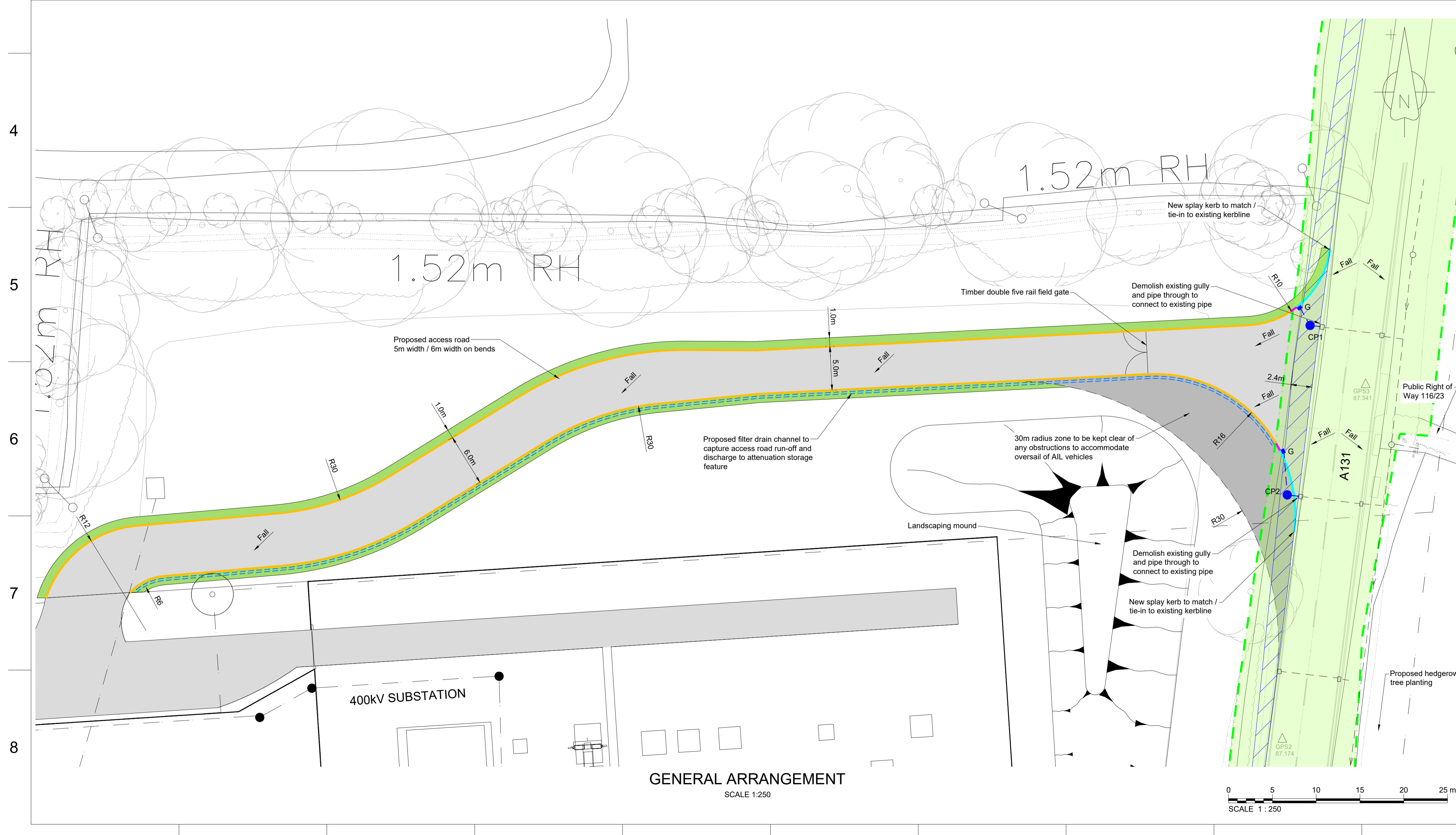
Proposed Access and Parking Arrangements Plan View
 SCALE 1 : 1000

Printed: 31/05/2023 3:55 PM
 Attached Xrefs:



- NOTES**
- All dimensions are in millimetres unless otherwise stated.
 - All co-ordinates are in metres and relate to OSGB36.
 - All levels are in metres above Ordnance Datum unless otherwise noted.
 - Existing underground services shown on this drawing are per Atkins Utility Search Report Ref. 95987.
 - The highway boundary shown has been supplied by Essex County Council.

- LEGEND**
- Proposed access road (flexible pavement)
 - Abnormal Invariable Load (AIL) oversail zone (Type 1 material)
 - Proposed 1.0m wide verge
 - Visibility Envelope: 215m x 2.4m setback (Design Speed 100kph)
 - Splay kerb (125mm upstand)
 - Bullnose kerb (flush)
 - Transition kerb
 - New gully and Ø150mm pipe connection to catchpit
 - New Ø1050mm catchpit (approx. 0.8m deep + 0.3m sump)
 - Existing surface water sewer
 - Existing gully
 - Proposed filter drain ditch (approx. 0.5m wide, 1.0m deep)
 - Highway Boundary



REFERENCE

SUBSTATION MINIMUM ELECTRICAL CLEARANCES IN ACCORDANCE WITH NGTS 2.1

NOMINAL SYSTEM VOLTAGE (rms)	400kV	33kV
PHASE TO EARTH CLEARANCE (PE)	2.8m	0.5m
PHASE TO PHASE CLEARANCE (PP)	3.6m	0.43m
DESIGN CLEARANCE FOR SAFETY (HORIZONTAL) DSH	4.6m	2.3m
DESIGN CLEARANCE FOR SAFETY (VERTICAL) DS	5.5m	3.2m
INSULATION HEIGHT (PEDESTRIAN ACCESS)	2.4m	2.4m
SAFETY DISTANCE - SD (FROM NGC SAFETY RULES)	3.1m	0.8m

JACOBS
FOR APPLICATION SUBMISSION

Rev	Description	Cr'd	Ch'kd	App'd	Date
P01	PLANNING APPLICATION SUBMISSION	JU	CD	JE	04/07/22
P02	HIGHWAY BOUNDARY ADDED	JU	RB	JE	05/07/22

nationalgrid

Master Scheme No: 21847 Sub-Scheme No: XX Site: TWINSTEAD

Scheme Name: TWINSTEAD SUBSTATION 4.3 / TCPA

Document Title: PROPOSED SITE ACCESS GENERAL ARRANGEMENT

Created by:	Date:	Checked by:	Date:	Approved by:	Date:
JU	05/07/22	RB	05/07/22	JE	05/07/22

National Grid Drawing Number: PDD-21847-CIV-022

Originator Drawing Number: B31000F9-JAC-ZZ-XX-DR-C-0022

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Warwick Technology Park,
Gallows Hill, Warwick.
CV34 6DA United Kingdom

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No. 4031152
nationalgrid.com