

**The Great Grid Upgrade**

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)**

**nationalgrid**

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

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# 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)**

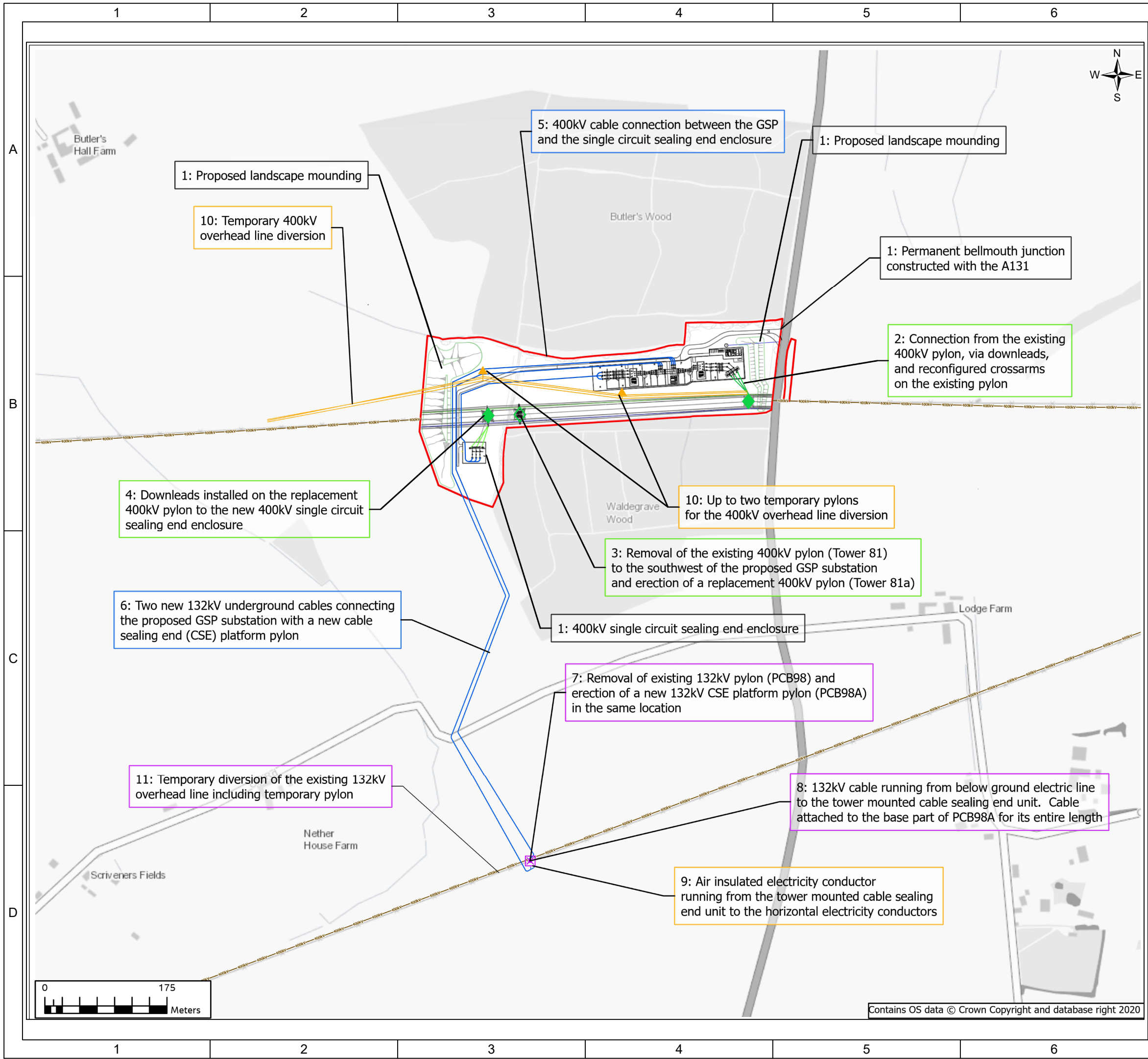
- 1.4.1 The approved plans for the GSP substation planning permission are as follows:

- 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**

Plotted: 30/05/2023 6:24 PM  
Attached Xrefs:



LEGEND

SITE BOUNDARY

SECTION 37 CONSENT

PLANNING PERMISSION UNDER TCPA

PERMITTED DEVELOPMENT UNDER GPDO

PERMITTED DEVELOPMENT UNDER GDPO AND EXEMPT FROM SECTION 37

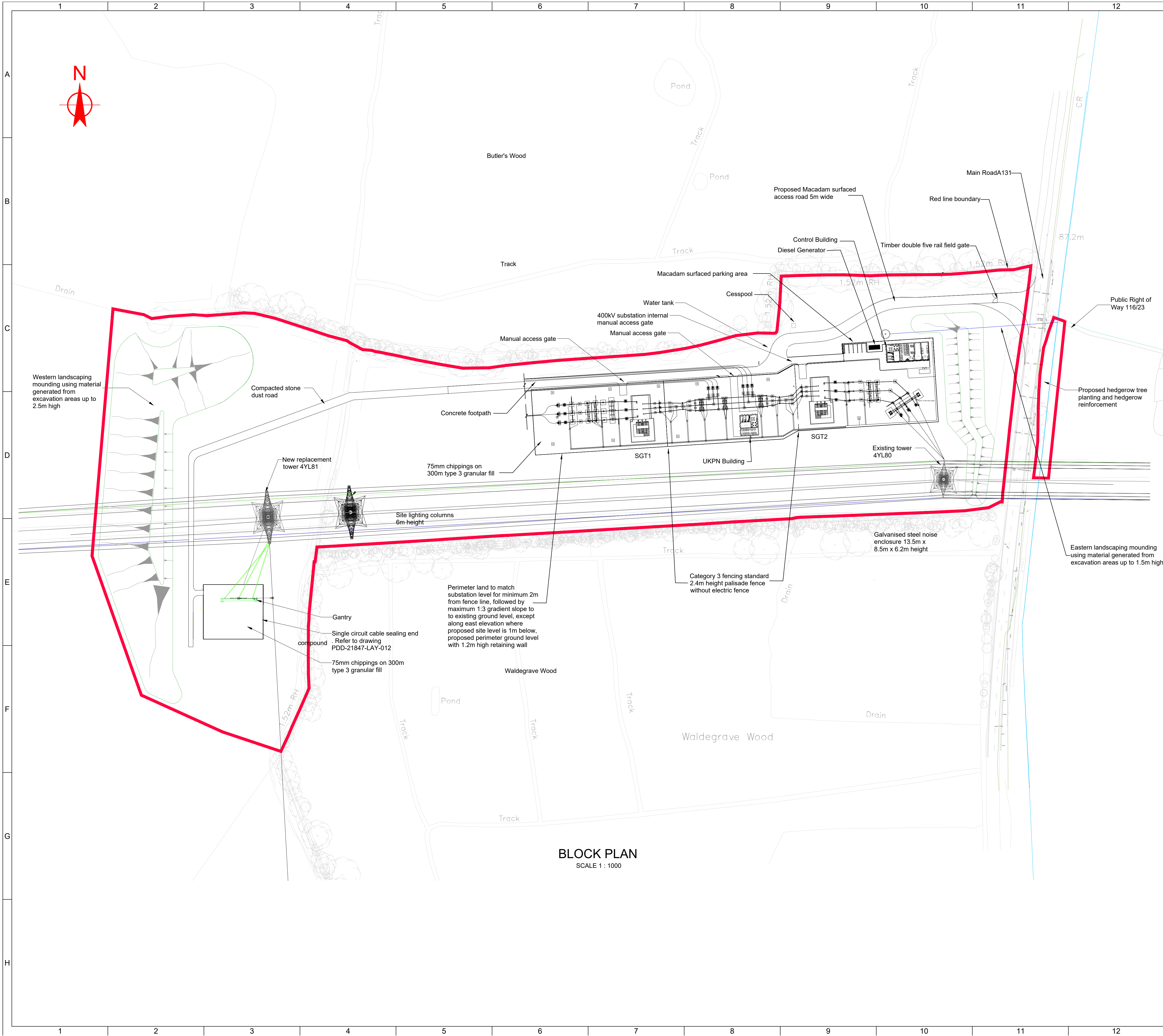
PERMITTED DEVELOPMENT UNDER GPDO IN COMBINATION WITH THE EXEMPTION REGULATIONS

EXISTING OVERHEAD LINES

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FIRST ISSUE							
A	SJM	TH	CMA	30.05.23			
REV	DRAWN	CHK	APP.	DATE			
<div><div>MURPHY</div><div>WORLD-CLASS INFRASTRUCTURE</div></div>		<div><div>nationalgrid</div></div>					
J. MURPHY & SONS LTD Hawks Green Lane, Cannock WS11 7LH		NATIONAL GRID PLC Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA					
Revision:	A	<div>This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose. We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.</div> <div>Contains OS data © Crown copyright and database rights (year)</div>					
Suitability:	S0						
Scale @ A3:	1:5000						
Sheets:	1 OF 1						
Internal Proj.Ref:	-	PROPOSED GSP SUBSTATION OFF THE A131					
Project:	-						
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:	-						



Plotted: 31/05/2023 11:13 AM  
Attached Xrefs:



BLOCK PLAN  
SCALE 1 : 1000

NOTES:

1. All dimensions are in millimetres unless noted otherwise.
2. All levels and chainages are in metres unless noted otherwise.
3. Existing information shown in the background of this drawing is based on Jacobs topographical survey drawing JG21049 Topo2D 01-08 RevP01.

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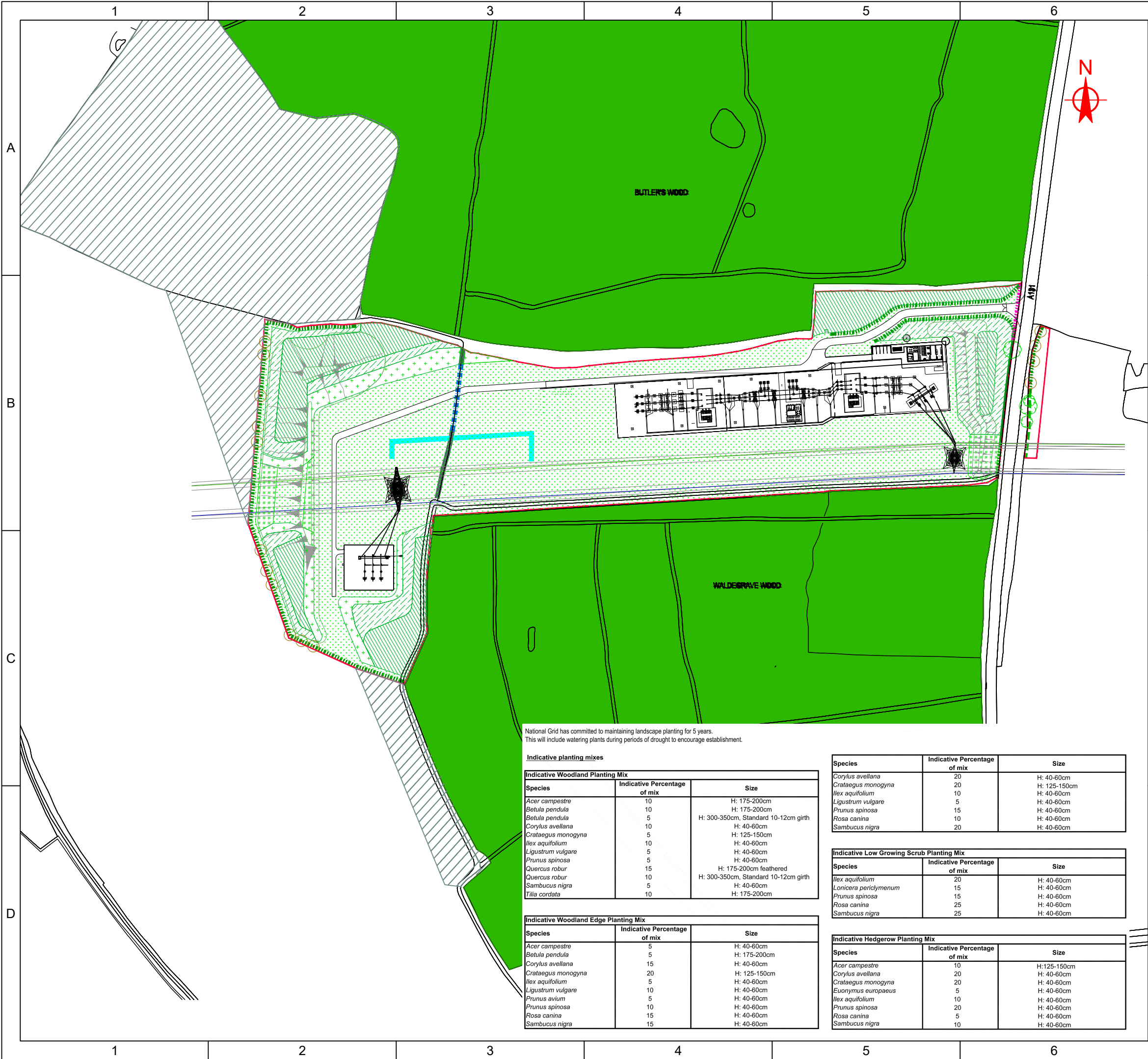
<div><div>MURPHY</div><div>WORLD-CLASS INFRASTRUCTURE</div></div>		nationalgrid	
J. MURPHY & SONS LTD Hawks Green Lane, Cannock WS11 7LH		NATIONAL GRID PLC Warwick Technology Park, Galloway Hill, Warwick, CV34 6DA	
Project: PROPOSED GRID SUPPLY BETWEEN BUTLER'S & WALDEGRAVE WOODS			
Scheme: -			
Site: TWINSTEAD GREEN			
Circuit: -			
Revision: A		PLANNING BLOCK PLAN	
Suitability: S0			
Scale @ A1: 1:1000		Dwg No: TWIN4-JMS-DS-XX-DR-X-0012	
Sheets: 1 OF 1		Purpose of Issue: FOR PLANNING CONSENT	
Internal Proj.Ref: -		Client Dwg Number: -	







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Attached Xrefs:



- 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

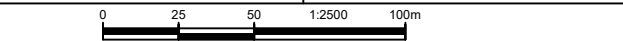
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WORLD-CLASS INFRASTRUCTURE

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Scale @ A3:	1:2500	
Sheets:	1 OF 1	Contains OS data © Crown copyright and database rights (year)
Internal Proj.Ref:	-	

Project:	PROPOSED GSP SUBSTATION OFF THE A131
Scheme:	-

Site:	TWINSTEAD GREEN
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Circuit:	-
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Dwg Title:	ENVIRONMENTAL PROPOSAL PLANTING PLAN
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Dwg No:	TWIN4-JMS-DS-XX-DR-X-0015
Purpose of Issue:	PURPOSE OF ISSUE

Client Dwg Number:	-
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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
Acer campestre	10	H: 175-200cm
Betula pendula	10	H: 175-200cm
Betula pendula	5	H: 300-350cm, Standard 10-12cm girth
Corylus avellana	10	H: 40-60cm
Crataegus monogyna	5	H: 125-150cm
Ilex aquifolium	10	H: 40-60cm
Ligustrum vulgare	5	H: 40-60cm
Prunus spinosa	5	H: 40-60cm
Quercus robur	15	H: 175-200cm feathered
Quercus robur	10	H: 300-350cm, Standard 10-12cm girth
Sambucus nigra	5	H: 40-60cm
Tilia cordata	10	H: 175-200cm

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

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

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

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

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Attached Xrefs:



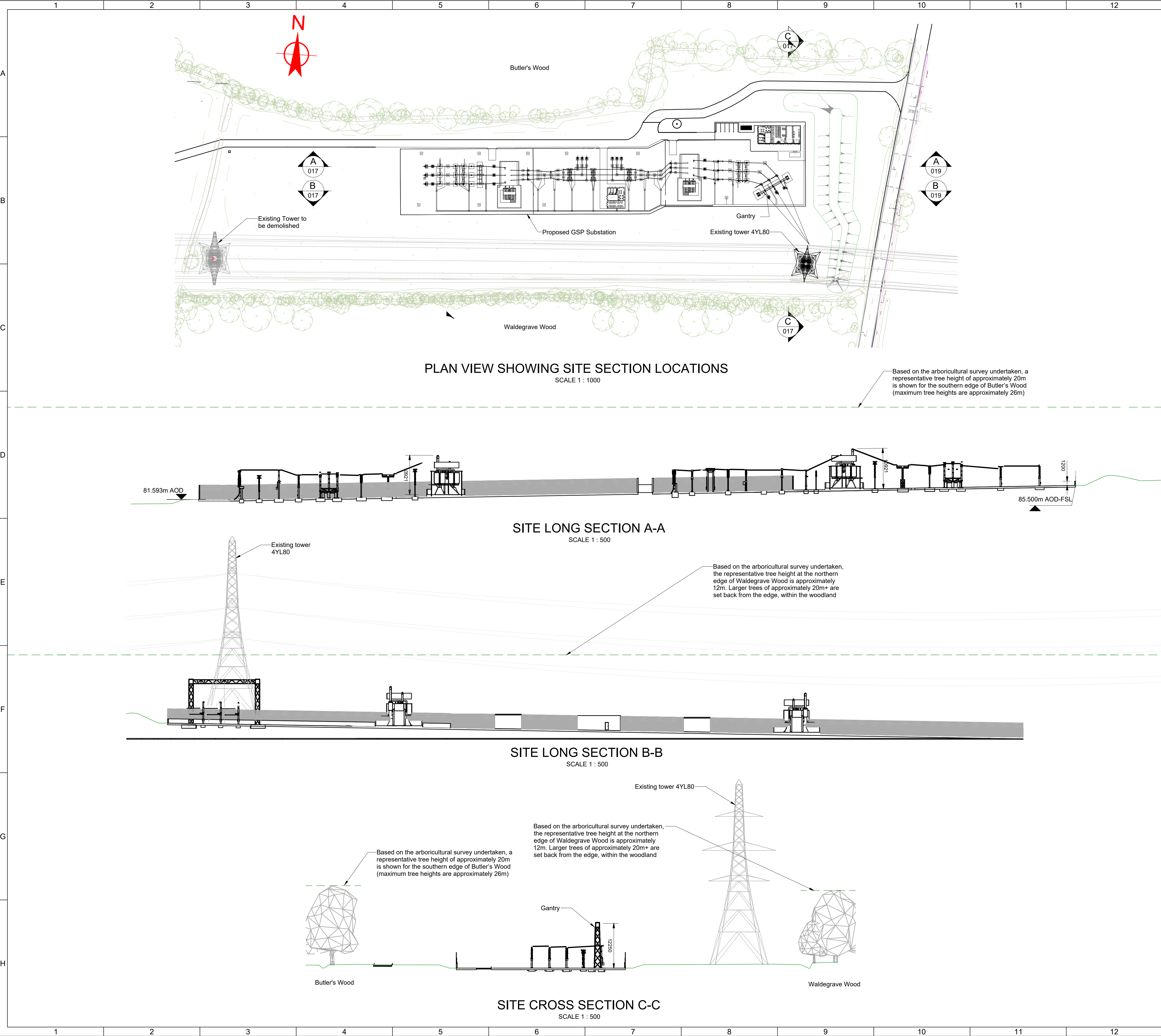
NOTES:  
1. All dimensions are in millimetres unless noted otherwise.  
2. All levels and chainages are in metres unless noted otherwise.

Abbreviations Legend:  
SA - Surge Arrestors  
CB - Circuit Breakers  
CT - Current Transformers  
DIS/ESW - Disconnector integral Earth Switch  
CVT - Current Voltage Transformers  
ESW - Earth Switches  
CSE - Cable Sealing Ends  
ESW - Earth Switches  
HAM - High Accuracy Metering unit  
WVT - Wound Voltage Transformer  
SGT - SuperGrid Transformer

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Project: PROPOSED GRID SUPPLY POINT SUBSTATION, OFF THE A131 BETWEEN BUTLER'S & WALDEGRAVE WOODS				
Scheme: -				
Site: TWINSTEAD GREEN				
Circuit: -				
Revision: A		Dwg Title: PLANNING FINISHED FLOOR LEVELS SECTIONS		
Suitability: S0		Dwg No: TWIN4-JMS-DS-XX-DR-X-0016		
Scale @ A1: 1:200		Purpose of Issue: FOR PLANNING CONSENT		
Sheets: 1 OF 1		Client Dwg Number: -		
Internal Prog Ref: -		Client Dwg Number: -		



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**NOTES:**

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2. All levels and chainages are in metres unless noted otherwise.

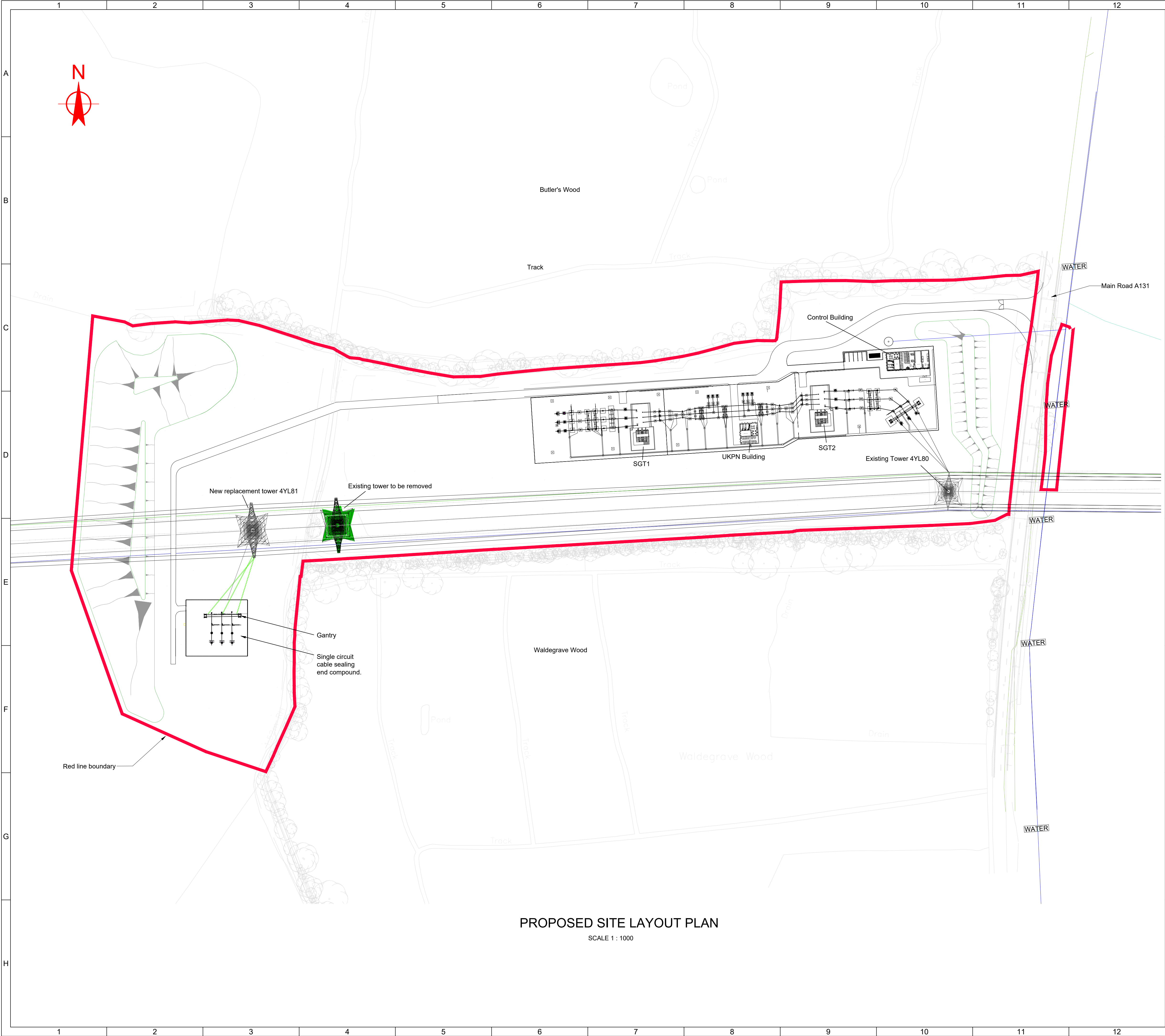
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J. MURPHY & SONS LTD Hawks Green Lane, Cannock WS11 7JH		NATIONAL GRID PLC Warwick Technology Park, Galloway Hill, Warwick, CV34 6DA	
Project: PROPOSED GRID SUPPLY POINT SUBSTATION, OFF THE A131 BETWEEN BUTLER'S & WALDEGRAVE WOODS			
Scheme: -			
Site: TWINSTEAD GREEN			
Circuit: -			
Revision: A	Dwg Title: 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: -		





PROPOSED SITE LAYOUT PLAN  
SCALE 1 : 1000

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

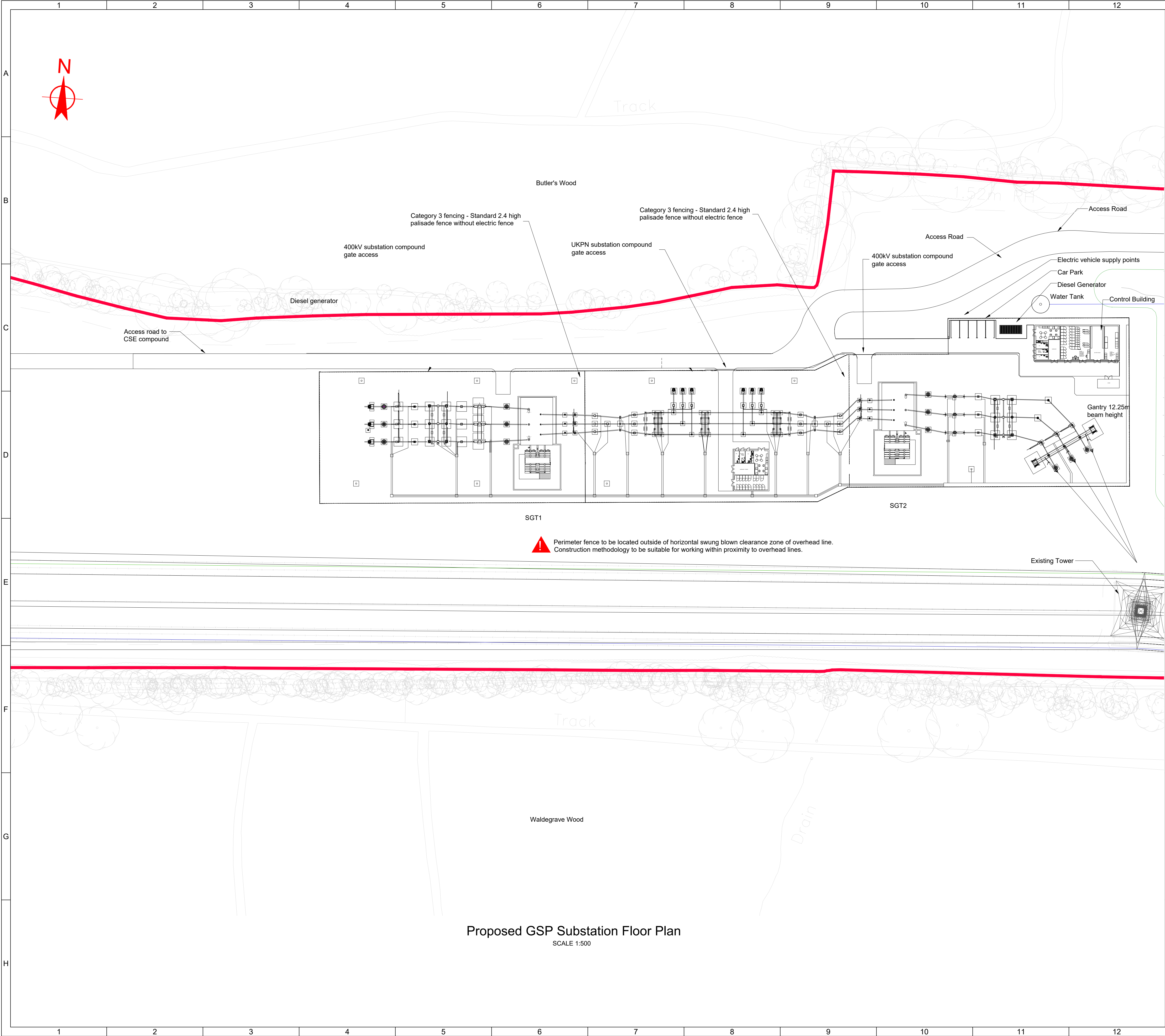
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Project: GRID SUPPLY POINT SUBSTATION, OFF THE A131 BETWEEN BUTLER'S & WALDEGRAVE WOODS				
Scheme: -				
Site: TWINSTEAD GREEN				
Circuit: -				
Revision: A		Dwg Title: PLANNING PROPOSED SITE LAYOUT PLAN		
Suitability: S0				
Scale @ A1: 1:1000	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







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Attached Xrefs:



Proposed GSP Substation Floor Plan  
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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**nationalgrid**

J. MURPHY & SONS LTD  
Hawks Green Lane, Cannock WS11 7LH

NATIONAL GRID PLC  
Warwick Technology Park, Galloway Hill, Warwick, CV34 6DA

Project: PROPOSED GRID SUPPLY POINT SUBSTATION, OFF THE A131 BETWEEN BUTLER'S & WALDEGRAVE WOODS

Scheme: -

Site: TWINSTEAD GREEN

Circuit: -

Revision: A

Suitability: S0

Scale @ A1: 1:500

Sheets: 1 OF 1

Internal Proj Ref: -

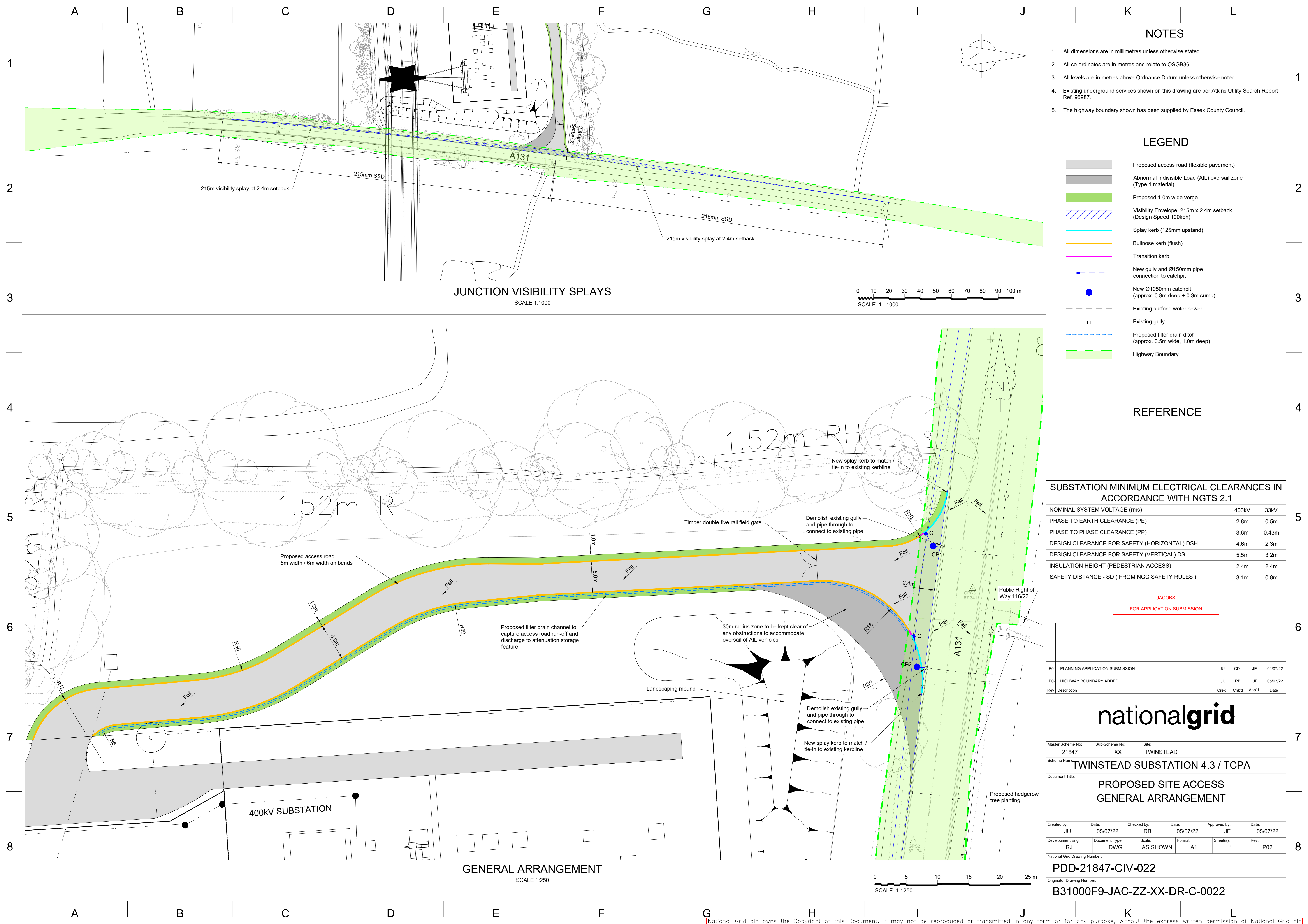
Dwg Title: PLANNING  
PROPOSED GSP SUBSTATION  
FLOOR PLAN

Dwg No: TWIN4-JMS-DS-XX-DR-X-0020

Purpose of Issue: FOR PLANNING CONSENT

Client Dwg Number: -





NOTES

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

LEGEND

- Proposed access road (flexible pavement)
- Abnormal Indivisible 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

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

**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: JU	Date: 05/07/22	Checked by: RB	Date: 05/07/22	Approved by: JE	Date: 05/07/22
Development Eng: RJ	Document Type: DWG	Scale: AS SHOWN	Format: A1	Sheet(s): 1	Rev: P02

National Grid Drawing Number: PDD-21847-CIV-022  
Originator Drawing Number: B31000F9-JAC-ZZ-XX-DR-C-0022

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National Grid plc  
National Grid House,  
Warwick Technology Park,  
Gallows Hill, Warwick.  
CV34 6DA United Kingdom

Registered in England and Wales  
No. 4031152  
[nationalgrid.com](http://nationalgrid.com)