

DWD

Final Alignment and Construction Method Statement: Vicarage Drove Solar Farm Cable Connection

Land North West of Bicker

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Figure 2.1: Final Alignment Extract 3

APPENDICES

APPENDIX 1: GFC-0293-10-01 CABLE ROUTE PLAN REV F

Revision	Description	Originated	Checked	Reviewed	Authorised	Date
1	Submission	JM	RB	RB	RB	Feb 2024
DWD Job Number: 15349c						

1.0 INTRODUCTION AND BACKGROUND

- 1.1 This Construction Method Statement ('CMS') relates to the construction and installation of a 132kV underground electrical cable to connect Vicarage Drove Solar Farm to National Grid Distribution's Bicker Fen Substation (the 'Proposed Development') at Land adjacent north west of Bicker Fen Substation, Bicker, Boston PE20 3BQ (the 'Site') as approved by Boston Borough Council (the 'Council') on 23 September 2022 (Planning Application Reference: B/22/0198/) ('the Cable Connection Planning Permission').
- 1.2 While the solar farm which the Proposed Development is to serve was referred to as 'Bicker Solar Farm' on the Cable Connection Planning Permission Decision Notice, it is now known as 'Vicarage Drove Solar Farm' and was approved by Boston Borough Council on 17 February 2022 (Planning Application Reference: B/21/0443). Pre-commencement conditions on Vicarage Drove Solar Farm are currently being discharged.
- 1.3 Condition 3 of the decision notice states:
- *"(3) Prior to commencement of any development, a plan showing the selected route option for the underground electrical cable, including the extent of the working width required for its installation, shall be submitted to and approved in writing by the Local Planning Authority.*
- Reason: To define the terms of permission and in the interests of proper planning in accordance with Policies 2 and 3 of the South East Lincolnshire Local Plan 2019."*
- 1.4 A plan entitled 'GFC-0293-10-01 CABLE ROUTE PLAN REV F' has been submitted to the Council as part of this document in order to discharge Condition 3, the plan shows the selected route option for the underground electrical cable, including the extent of the working width required for its installation. The Final Cable Route Plan has been prepared to discharge Condition 3 and is included on page 1 of Appendix 1 of this document.
- 1.5 The remainder of this CMS has been prepared to discharge condition 4, which states:
- *"(4) Prior to commencement of any development, a construction method statement for the selected route option for the underground electrical cable, including details of the methods for installing the cable and the reinstatement of the working width required for its installation shall be submitted to and approved in writing by the Local Planning Authority.*

Reason: To ensure that the construction methods are acceptable and do not result in any unacceptable environmental impact in accordance with Policies 2 and 3 of the South East Lincolnshire Local Plan 2019.”

to 1.3m deep, laying of HV cable duct and fibre cable duct and backfill of excavated material. The HDD to install the ducting for the cable and fibre under Black Sluice's drainage ditch will be up to 5.6m deep and subject to land drainage consent with Black Sluice Internal Drainage Board. Further information is included on page 2 of Appendix 1.

- 2.5 Cross-sectional drawings for the cable trenching and HDD are included at Appendix 1 of this document. The electrical cable and fibre will be installed in ducts within the trench. The ducts will be surrounded by a fine stone dust bedding and granular sub base, depending on the location and detailed design requirements.
- 2.6 A working width of 6m either side of the cable trench has been allocated for the temporary placement/storage of soil excavated from the trench and the laydown of any construction materials.
- 2.7 The installation of the electrical cable would take approximately 3 months to complete.
- 2.8 Further detail on the construction methods proposed to be used as part of the cable installation is as follows:
 - Under supervision of a banksman, the excavator with toothless bucket will be escorted to excavation position. A banksman will be present throughout machine operations to ensure safe machine movements.
 - Following HSG47 Guidance: 'Avoiding danger from underground services' (2014), the excavator will remove the top soil/vegetation. The excavator will continue the excavation by removing layers of no more than 75mm of spoil.
 - Top soil and subsoil will be separated and stored either side of the trench and used as backfill material upon restoration of the trench.
 - Continual CAT Scanning of the excavation area will be undertaken at regular intervals as excavation progresses.
 - If any service is found, its position and depth shall be recorded on a site plan. An "Excavation Daily Inspection Check sheet & Log" will also be completed for excavations by the Site Engineer.
 - Dewatering of excavations shall only be carried out through filtration and into appropriate drainage areas in accordance with best practice construction guidance.

- Any work to be carried in proximity to the OHL tower will be done so in accordance with the DNO's guidance and working practices.
- The excavations will be undertaken in accordance with the Written Scheme of Investigation for archaeology.

Reinstatement of Working Width

2.9 Following the completion of works, the Site would be returned to its previous condition. This will take approximately 4 weeks and comprise the following activities:

- Backfilling the trench with the stored soil;
- Removal of any excess soil from the Site;
- Removal of construction machinery and materials from the Site; and
- Where land had previously be vegetated, the planting of these areas with grass seed etc.

APPENDIX 1: GFC-0293-10-01 CABLE ROUTE PLAN REV F



~~Sheet 3~~

ADVISED BY NGED

Mast

515040-338062

338061

338062

[illegible]

UTILITIES KEY

PROJECT:

DRAWING TITLE:
CABLE ROUTE PLAN

CLIENT: EUROPEAN ENERGY

EUROPEAN ENERGY



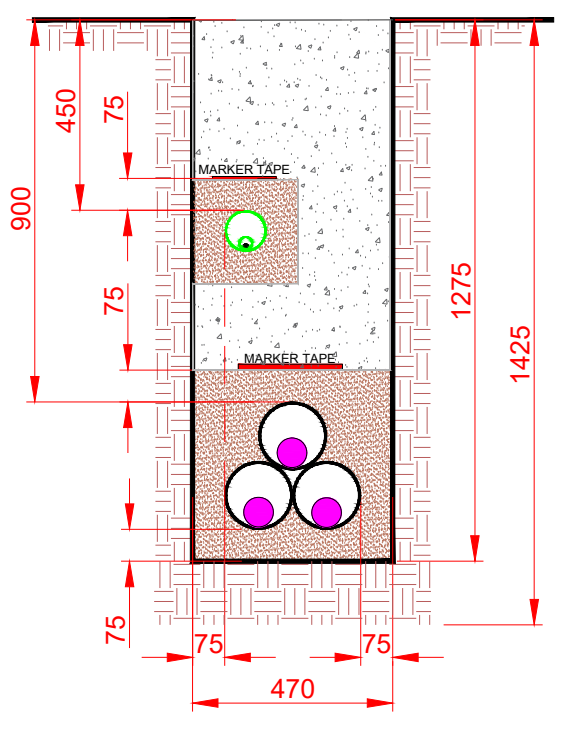
GreenFrog
Connect

SIZE:	SCALE: 1:500
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	DATE: 10/01/2023
ARM	REVISION: 1

SECTION A-A

CABLES TO BE INSTALLED IN ACCORDANCE
WITH STANDARD TECHNIQUE: CA6A/6



HV CABLE & DUCT

- 132kV 3 x 1-Core 300mm² Cu XLPE
- 160/150mm OD/ID EMELLE SMOOTH WALLED UPVC, BLACK DUCT TO BS EN50086-2-4
- MAX PULLING FORCE AT CONDUCTOR = 15 kN
- MIN BENDING RADIUS = 1800 mm
- MAX SIDEWALL PRESSURE =10 kN/m

FIBRE CABLE & DUCT

- FIBRE CABLE TO BE SUPPLIED BY NGED (TBC)
- GREEN 32mm HDPE SUBDUCT INSIDE A D90 96.5mm OD CT DUCT TO EN50086 (CLASS 2) 3mm WALL THICKNESS, GREEN - SUPPLIED BY NGED WITH CHAMBERS (TBC)

CABLE PROTECTION

- 132kV CABLE MARKER - POLYTHENE BOARD
1000mm x 244mm x 12mm
- FIBRE CABLE - PLASTIC MARKER TAPE TO
ENATS 12-23 WITH WORDS "CAUTION SURF
TELECOMS FIBRE OPTIC CABLE BELOW TEL
0845 604115"

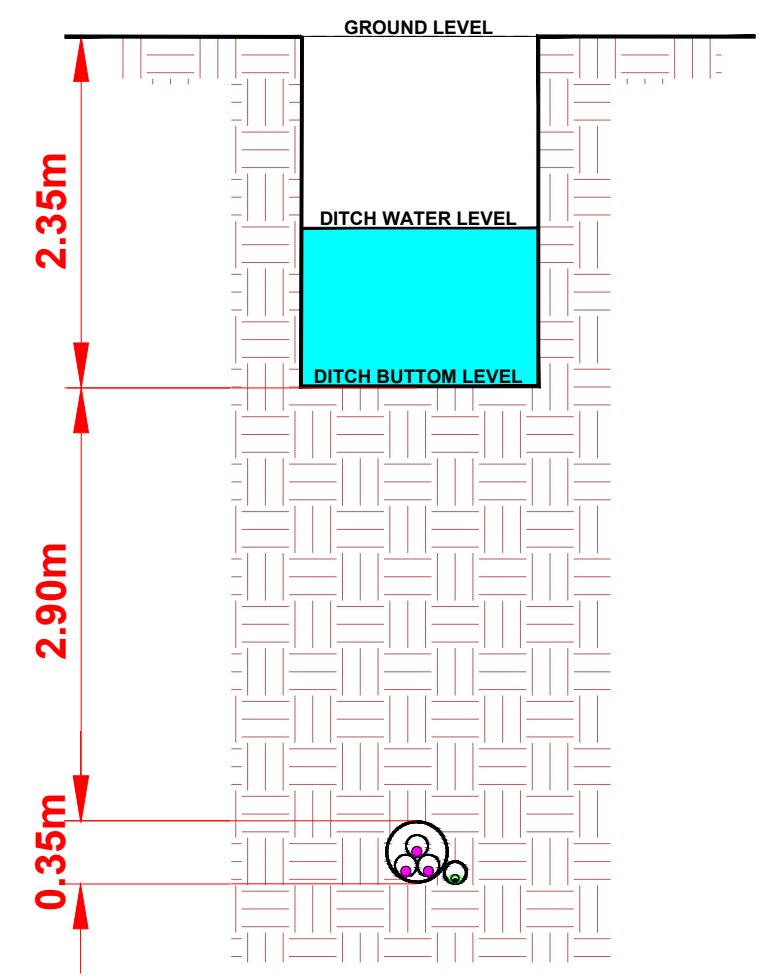
BACKFILL

- 132kV CABLES - 3mm TO DUST, LIMESTONE OR GRANITE FINE STONE DUST BEDDING & BLINDING
- FIBRE CABLE - STONE DUST
- REMAINING AREA - GRANULAR SUB BASE

N.T.S

SECTION B-B

CABLES TO BE INSTALLED IN ACCORDANCE WITH STANDARD TECHNIQUE: CA6A/6



HV CABLE & DUCT

- 132kV 3 x 1-Core 300mm² Cu XLPE
- MAIN DUCT 355/288 mm OD/ID SOLID WALLED MDPE SDR11,
- SUB DUCTS 110/96 mm OD/ID SOLID WALLED MDPE SDR17, BLACK DUCTS
- MAX PULLING FORCE AT CONDUCTOR = 15 kN
- MIN BENDING RADIUS = 1800 mm
- MAX SIDEWALL PRESSURE = 10 kN/m

FIBRE CABLE & DUCT

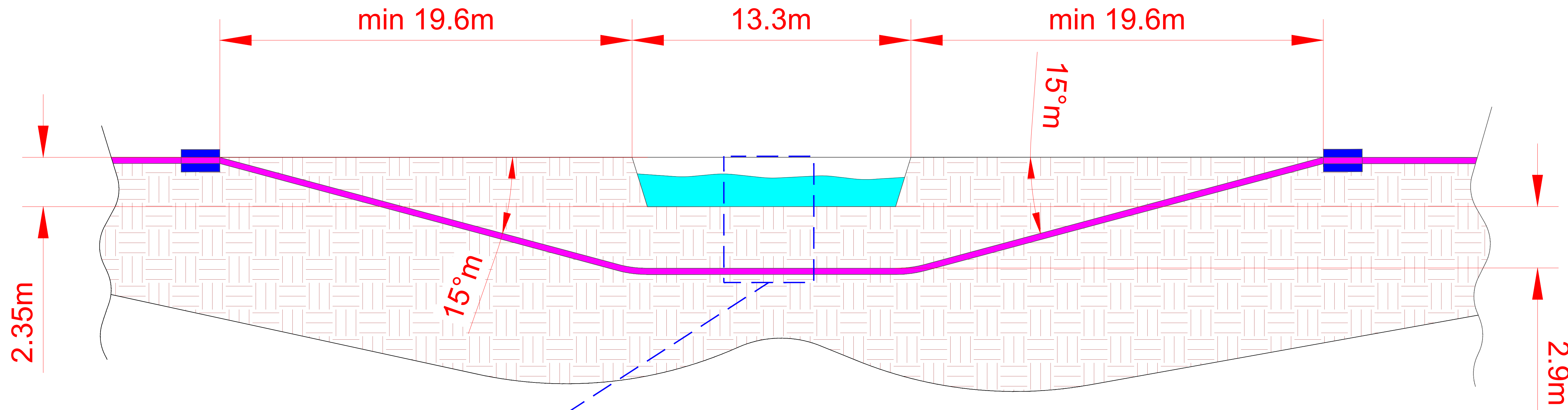
- FIBRE CABLE TO BE LAID IN 1 x 35mm OD / 30mm ID SUB DUCT INSIDE THE 125mm OD DUCT SDR11.3

EARTHING

- TBC

REVISION:	E		F		B		C		D		CLIENT: EUROPEAN ENERGY	SIZE: A1	SCALE: 1:500
DRAWN:	PP	WATER DITCH CROSSING DEPTH, HDD PITS AND CABLE ROUTE UPDATED.	PP	WATER DITCH CROSSING DEPTH, HDD PITS POSITION, AND CABLE ROUTE UPDATED.	PP	DETAILED HDD SECTIONS ADDED AND CABLE ROUTE ALTERED.	PP	POINT OF CONNECTION AND CABLE ROUTE AMENDED AS PER DNO COMMENTS.	PP	FIBRE CABLE ADDED TO MAIN HV CABLE ROUTE.	DNO: NGED		DATE: 18/01/2023
CHECKED:	MS		PP		MS		MS		ADDRESS: VICARAGE DRIVE, ASH FARM, BICKER, BOSTON, PE20 3BJ		REVISION: F		
APPROVED:	MM		MM		MM		MM						
ISSUE DATE:	19.09.23		22.09.23		20.03.23		03.05.23		08.06.23				

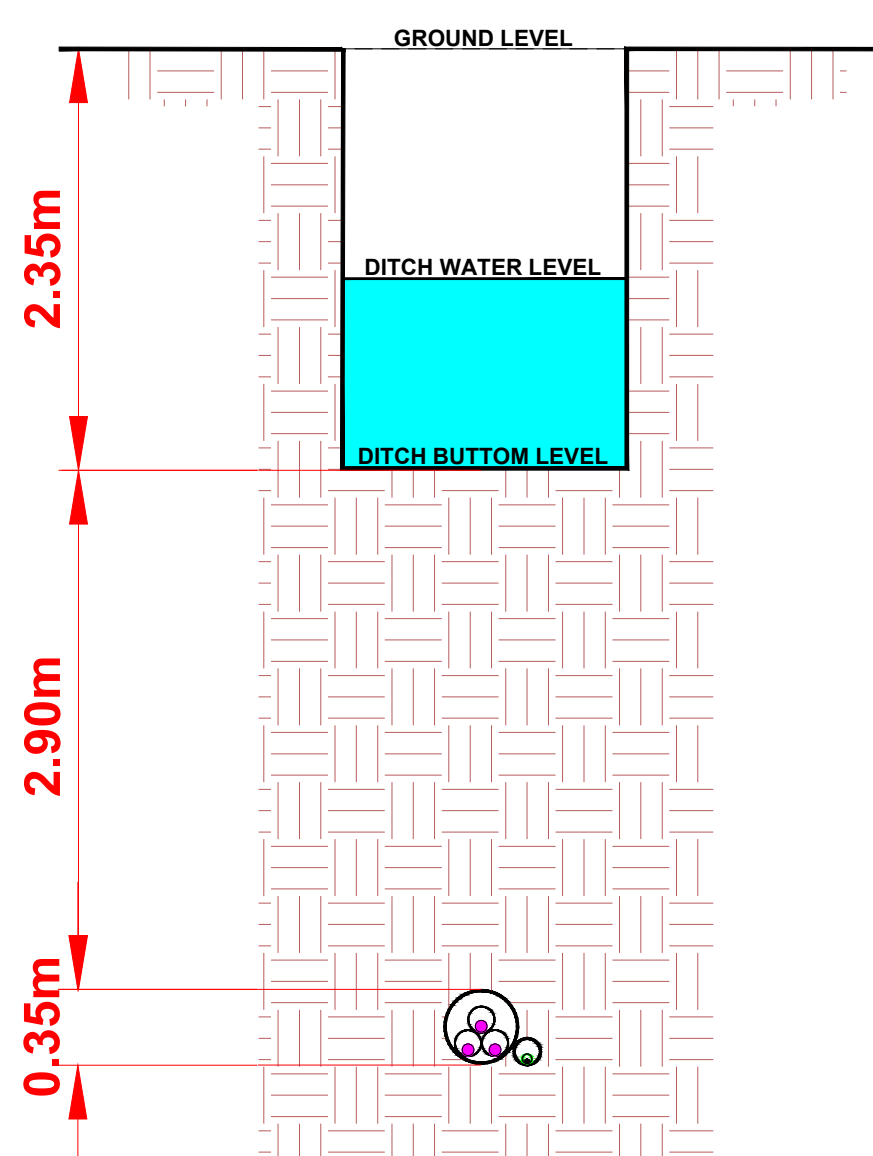
HDD SECTION



SCALE 1:100

SECTION B-B

CABLES TO BE INSTALLED IN ACCORDANCE WITH
STANDARD TECHNIQUE: CA6A/6



HV CABLE & DUCT

- 132kV 3 x 1-Core 300mm² Cu XLPE
- MAIN DUCT 355/288 mm OD/ID SOLID WALLED MDPE SDR11,
- SUB DUCTS 110/96 mm OD/ID SOLID WALLED MDPE SDR17, BLACK DUCTS
- MAX PULLING FORCE AT CONDUCTOR = 15 kN
- MIN BENDING RADIUS = 1800 mm
- MAX SIDEWALL PRESSURE = 10 kN/m

FIBRE CABLE & DUCT

- FIBRE CABLE TO BE LAID IN 1 x 35mm OD / 30mm ID SUB DUCT INSIDE THE 125mm OD DUCT SDR11.3

EARTHING

- TBC

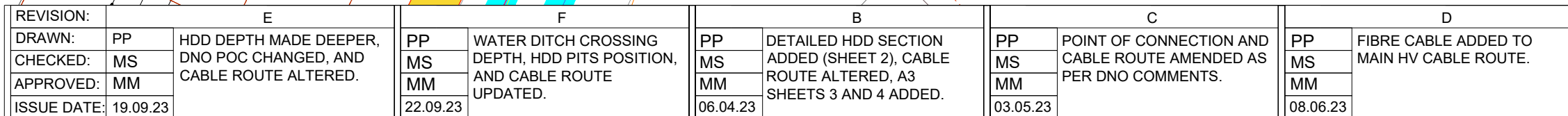
N.T.S.


DRAWING KEY

DIRECTIONAL LAUNCH/RECEIVE PIT	
DRAINAGE DITCH	
EXISTING 132kV CABLES	
PROPOSED DIRECTIONAL DRILL	
EXISTING BT CABLE	

REVISION:		E		F		B		C		D		CLIENT: EUROPEAN ENERGY		SIZE: A1	SCALE: AS SHOWN	
DRAWN:	PP	HDD DEPTH MADE DEEPER, DNO POC CHANGED, AND CABLE ROUTE ALTERED.	PP	WATER DITCH CROSSING DEPTH, HDD PITS POSITION, AND CABLE ROUTE UPDATED.	PP	DETAILED HDD SECTION ADDED (SHEET 2), CABLE ROUTE ALTERED, A3 SHEETS 3 AND 4 ADDED.	PP	POINT OF CONNECTION AND CABLE ROUTE AMENDED AS PER DNO COMMENTS.	PP	FIBRE CABLE ADDED TO MAIN HV CABLE ROUTE.	DNO: NGED		DATE: 18/01/2023			
CHECKED:	MS		MS		MS		MS		ADDRESS: VICARAGE DROVE, ASH FARM, BICKER, BOSTON, PE20 3BJ		REVISION: F					
APPROVED:	MM		MM		MM		MM									
ISSUE DATE:	19.09.23		22.09.23		06.04.23		03.05.23		08.06.23							

SERVICE	MIN CLEARANCE TO 132kV CABLE (mm)
BT	450
WATER	300
ELECTRIC	450
VIRGIN	450
GAS	1.5x PIPE DIAMETER OR 250mm
SEWER	300



PROJECT: VICARAGE DROVE			
DRAWING TITLE: CABLE ROUTE PLAN			
DRAWING NO: GFC-0293-10-01	SHEET: 3/3	STATUS: FOR APPROVAL	
CLIENT: EUROPEAN ENERGY		SIZE: A3	SCALE: 1:500
DNO: NGED			DATE: 18.01.23
ADDRESS: ASH FARM, BICKER, BOSTON, PE20 3BJ		REVISION: F	