Proposed Clonberne Wind Farm 220kV Grid Connection, Co. Galway

Planning Permission Application Drawings

Drawing No.	Drawing Title	Scale	Page Size
180740 – 100	Location Context Map	1: 50,000	A3
180740 – 101	Site Location Map (Including Site Notice Key Plan	1: 20,000	A3
180740 – 101A	Site Notice Location Map Sheet A	1:2,500	A3
180740 – 101B	Site Notice Location Map Sheet B	1:2,500	A3
180740 – 101C	Site Notice Location Map Sheet C	1:2,500	A3
180740 – 102	Signage Detail	1:20	A3
180740 – 103	Field Gate Detail	1:20	A3
180740 – 104	Access Junction E	As shown	A3
180740 – 105	Access Junction H	As shown	A3
TLI			
05990-DR-101	Site Layout Key Plan Sheet 1 of 2	1: 2,500	A1
05990-DR-102	Site Layout Key Plan Sheet 2 of 2	1: 2,500	A1
05990-DR-103	Site Layout Plan Sheet 1 of 9	1: 500	A1
05990-DR-104	Site Layout Plan Sheet 2 of 9	1: 500	A1
05990-DR-105	Site Layout Plan Sheet 3 of 9	1: 500	A1
05990-DR-106	Site Layout Plan Sheet 4 of 9	1: 500	A1
05990-DR-107	Site Layout Plan Sheet 5 of 9	1: 500	A1
05990-DR-108	Site Layout Plan Sheet 6 of 9	1: 500	A1
05990-DR-109	Site Layout Plan Sheet 7 of 9	1: 500	A1
05990-DR-110	Site Layout Plan Sheet 8 of 9	1: 500	A1
05990-DR-111	Site Layout Plan Sheet 9 of 9	1: 500	A1
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05990-DR-113	Substation Compound Elevations	1: 250	A0
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05990-DR-120	220KV GIS Building Elevations Sheet 1 of 2	1: 100	A1
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05990-DR-124	Ducting Through Access Road With and Without Peat	1: 50	A1
05990-DR-125	Ducting In Bog Road	1: 50	A3
05990-DR-126	Telecoms Tower	1: 100	A1
05990-DR-127	Bridge 1 – Proposed Crossing Details	As shown	A1
05990-DR-128	Trench Sections for Crossing Existing Culverts/Services	As shown	A1
05990-DR-129	Trench Sections for Crossing Watermain/Wastewater	As shown	A1
05990-DR-130	220kV Joint Bay Section Detail	As shown	A1
05990-DR-131	Cable Compound Layout Details	1: 200	A1
05990-DR-132	Cable Compound Sections	As shown	A1
05990-DR-133	Compound Gantry - Tower Elevations	1: 100	A1
05990-DR-134	Battery Container – Plan, Elevations & Section	1: 100	A3
Gavin & Doherty Geosolutions			
20021-GDG-ZZ-XX-DR-C-0100	Access Road Standard Details	N.T.S.	A1
20021-GDG-ZZ-XX-DR-C-0101	Cable Trench Standard Details	N.T.S.	A1
Hydro Environmental Services Ltd.			
P1508-0_D101_GC	Proposed Drainage Layout	1:2,000	A1
P1508-0_D501	Proposed Drainage Details	As shown	A1
P1508-0_D502	Proposed Drainage Details	As shown	A1

Project Design Drawing Notes

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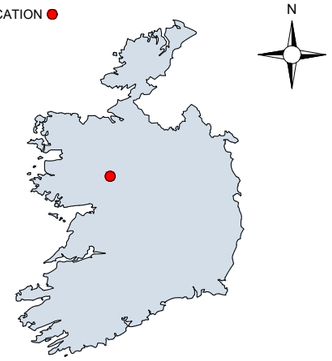
7. Exact location of cable/joint bay in the road curtilage to be subject to ESB specifications and agreement with Galway County Council.

Drawing Legend

- Planning Application Boundary
- Clonberne Windfarm Boundary Line Subject to a Separate Application

SITE LOCATION



SITE LOCATION - N.T.S

PROJECT TITLE:

Clonberne Wind Farm 220kV Grid Connection, Co. Galway.

DRAWING TITLE:

Location Context Map

PROJECT No.:	DRAWING No.:	SCALE:
180740	180740 - 100	1:50,000 @ A3

DRAWN BY:	CHECKED BY:	DATE:	REVISION.:
GO	N/A	27.06.2024	D01

OS SHEET No.: OS1424, OS1426, OS1624, OS1626

Email: info@www.mkoireland.ie /Website: www.mkoireland.ie

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Drawing Legend

- Planning Application Boundary
- Landowners Boundary
- Site Notice
- Wayleaves

N

PROJECT TITLE:
Clonberne Wind Farm 220kV Grid Connection, Co. Galway.

DRAWING TITLE:
Site Location Map (Including Site Notice Key Plan)

PROJECT No.:	DRAWING No.:	SCALE:
180740	180740 - 101	1:20,000 @ A3

DRAWN BY:	CHECKED BY:	DATE:	REVISION.:
GO	N/A	10.06.2024	D01

OS SHEET No.: 2679, 2680, 2748, 2749

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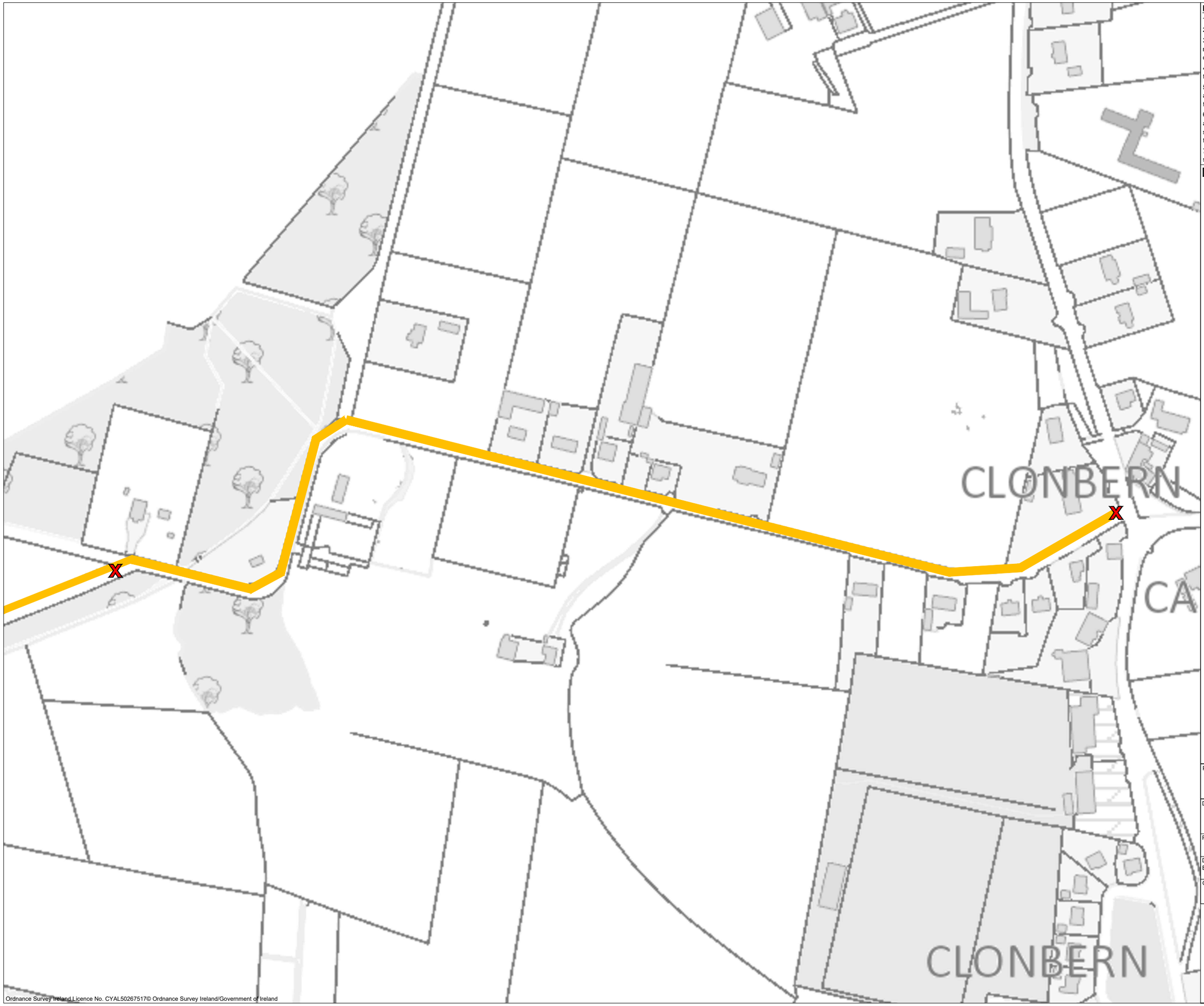
Email: info@www.mkoireland.ie /Website: www.mkoireland.ie



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Drawing Legend

X Site Notice

Wayleaves

N

PROJECT TITLE:
Clonberne Wind Farm 220kV Grid Connection, Co. Galway.

DRAWING TITLE:
Site Notice Location Map Sheet A

PROJECT No.:	DRAWING No.:	SCALE:
180740	180740 - 101A	1:2,500 @ A3

DRAWN BY:	CHECKED BY:	DATE:	REVISION.:
GO	N/A	10.06.2024	D01

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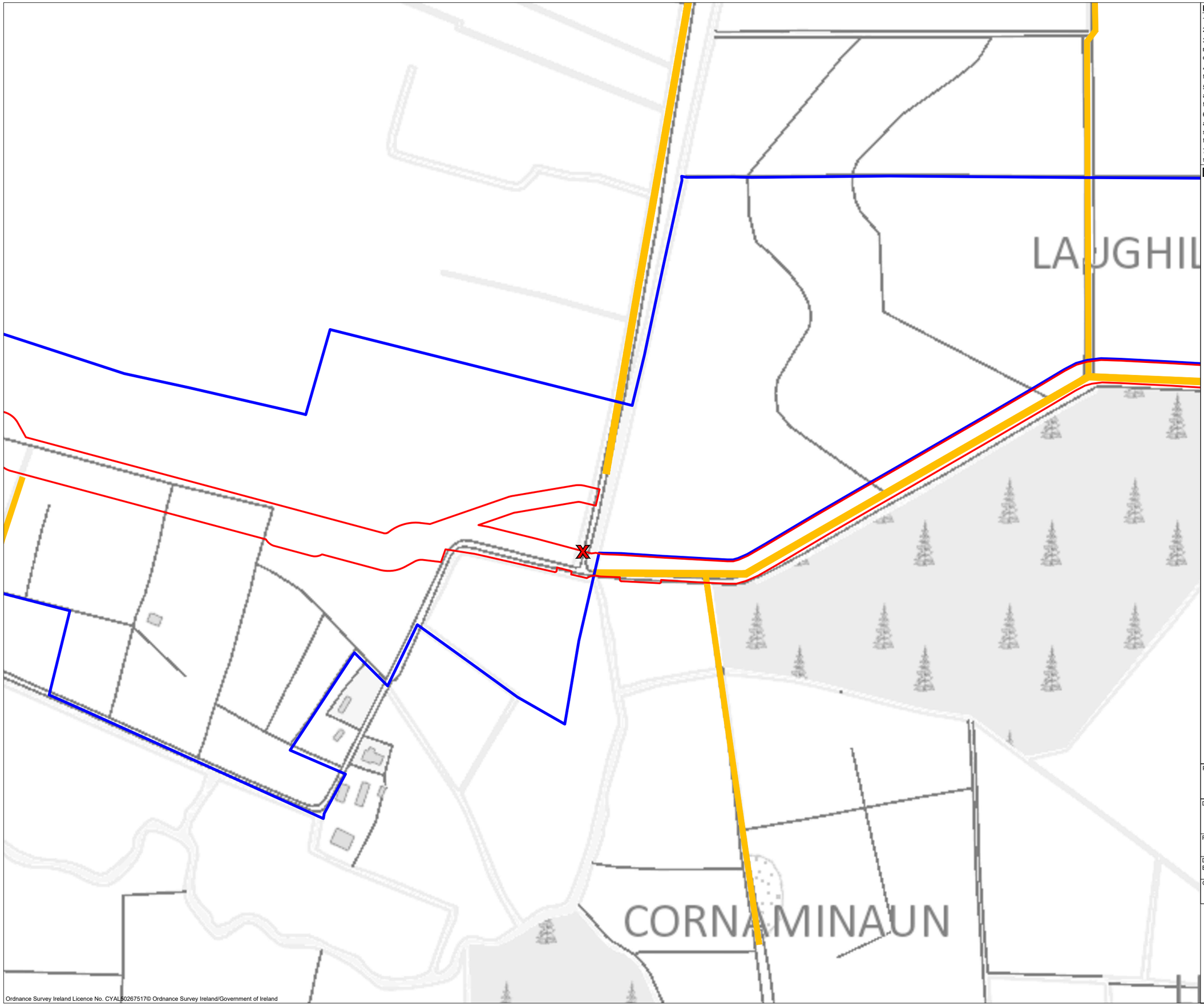

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Drawing Legend

- Planning Application Boundary
- Landowners Boundary
- Site Notice
- Wayleaves

N

PROJECT TITLE:
Clonberne Wind Farm 220kV Grid Connection, Co. Galway.

DRAWING TITLE:
Site Notice Location Map Sheet B

PROJECT No.:	DRAWING No.:	SCALE:
180740	180740 - 101B	1:2,500 @ A3

DRAWN BY:	CHECKED BY:	DATE:	REVISION.:
GO	N/A	10.06.2024	D01

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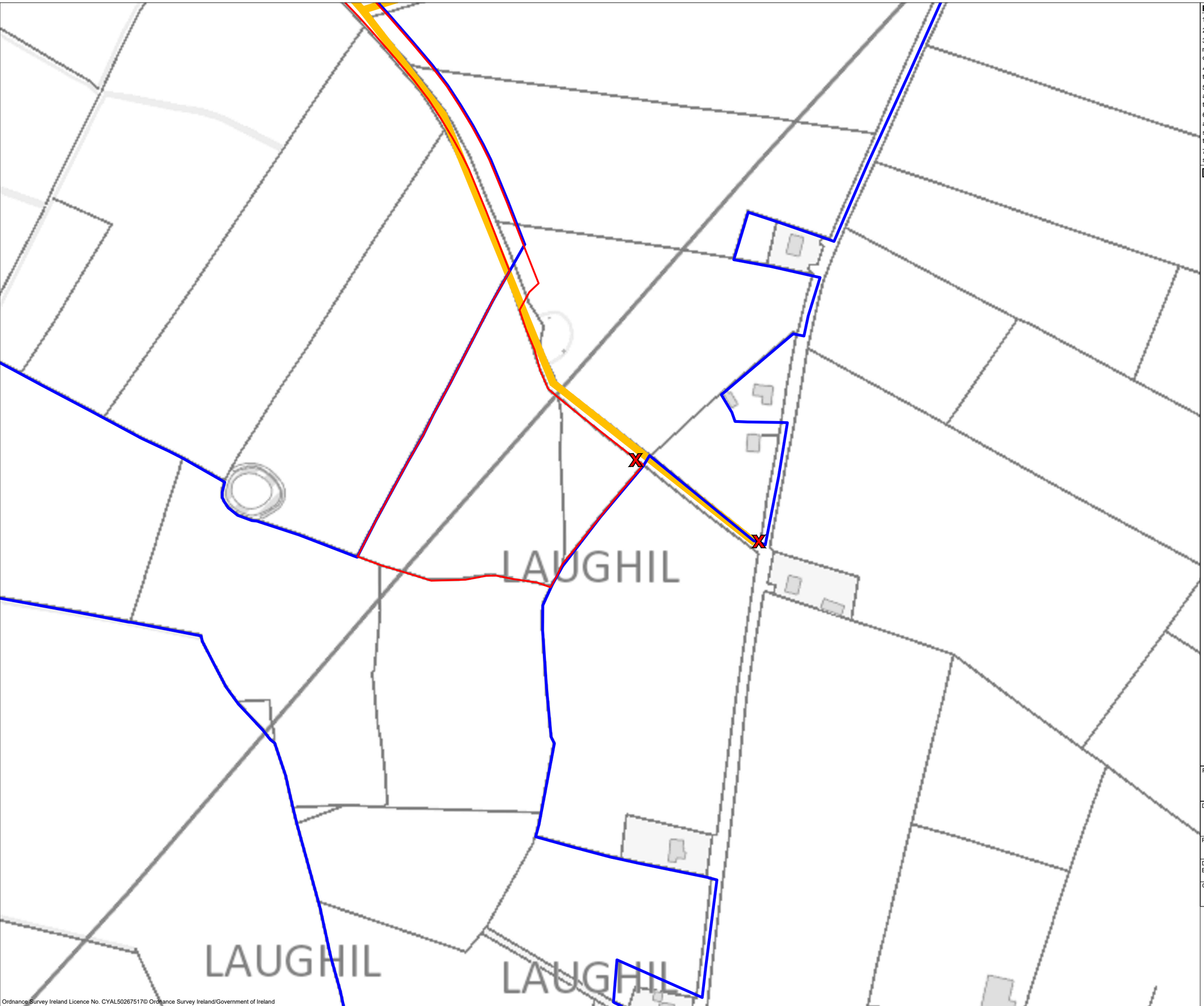

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Drawing Legend

- Planning Application Boundary
- Landowners Boundary
- X — Site Notice
- Wayleaves

N

PROJECT TITLE:
Clonberne Wind Farm 220kV Grid Connection, Co. Galway.

DRAWING TITLE:
Site Notice Location Map Sheet C

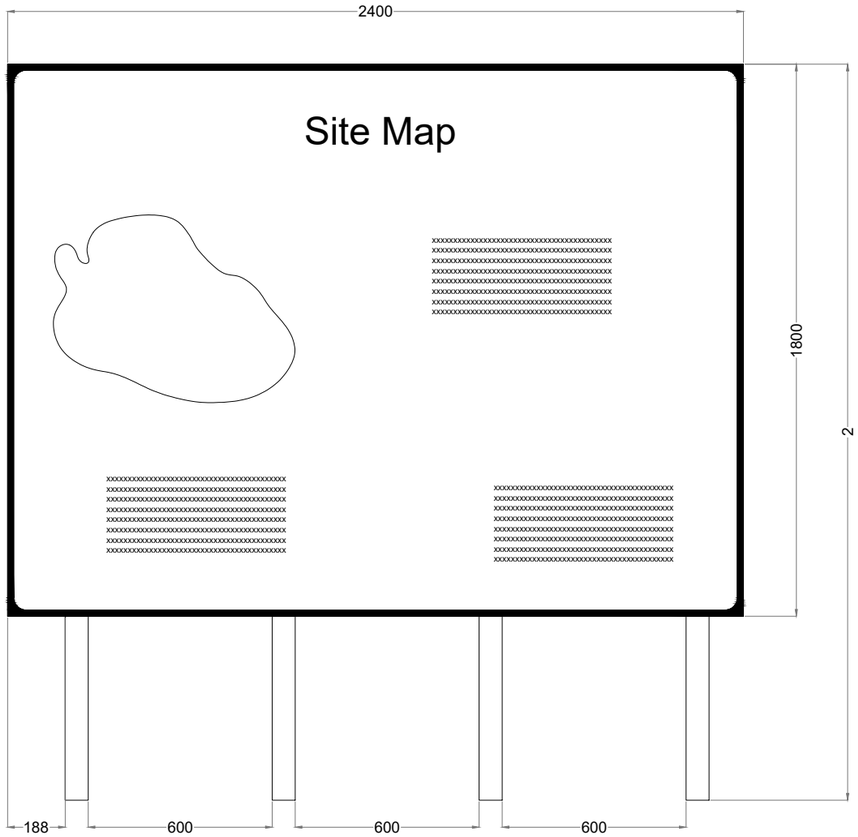
PROJECT No.:	DRAWING No.:	SCALE:
180740	180740 - 101C	1:2,500 @ A3

DRAWN BY:	CHECKED BY:	DATE:	REVISION.:
GO	N/A	10.06.2024	D01

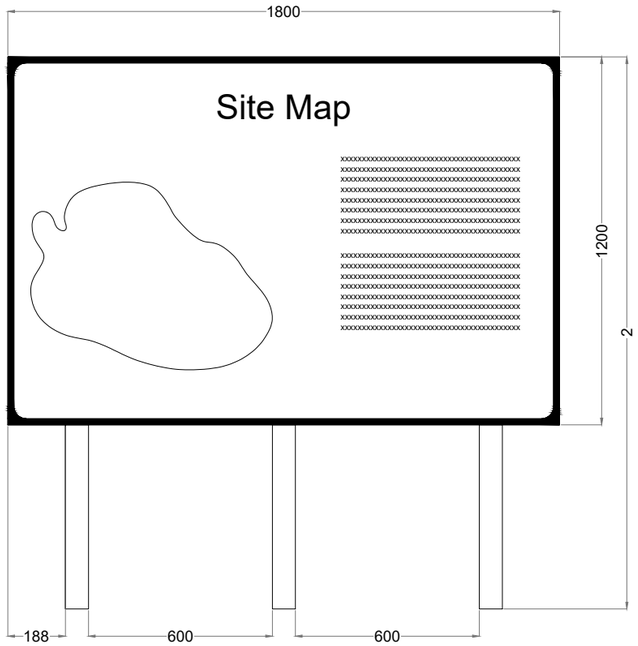
OS SHEET No.: 2679, 2680, 2748, 2749

Email: info@www.mkoireland.ie /Website: www.mkoireland.ie

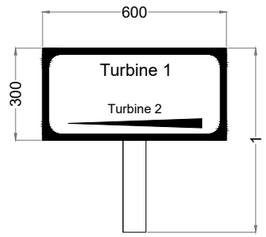
Note
For illustrative purposes only
exact details to be confirmed



Signage Type A - Waypoint Map Signage



Signage Type B -Entry Point Signage



Signage Type C - Way Point Direction Signage

PROJECT TITLE: **Clonberne Wind Farm 220kV Grid Connection, Co. Galway.**			
DRAWING TITLE: **Signage Detail**			
PROJECT No.: **180740**		DRAWING No.: **180740 - 102**	SCALE: **1:20 @ A3**
DRAWN BY: **GO**	CHECKED BY: **N/A**	DATE: **10.06.2024**	REVISION.: D01

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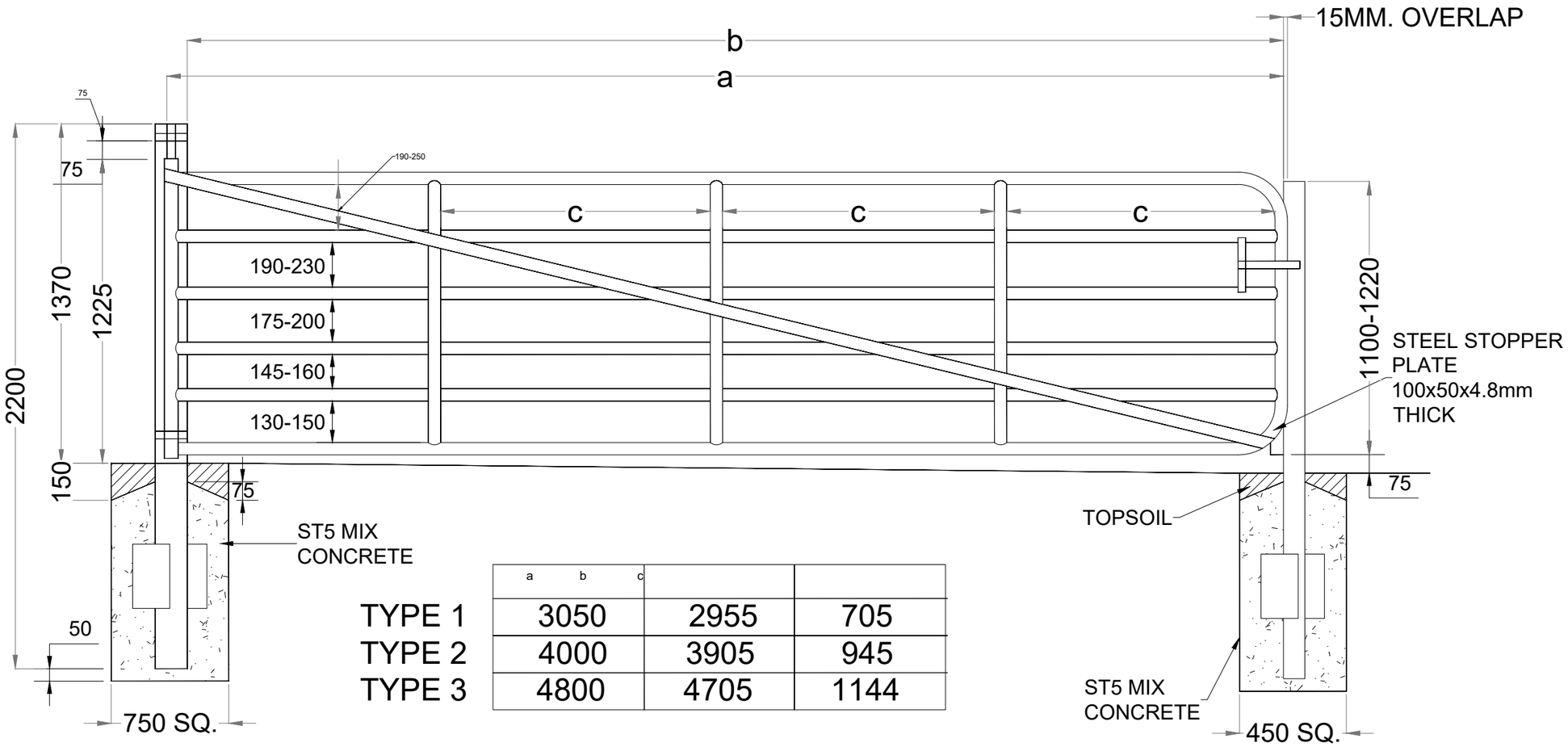

	a	b	c	
TYPE 1	3050	2955	705	
TYPE 2	4000	3905	945	
TYPE 3	4800	4705	1144	

PROJECT TITLE:
Clonberne Wind Farm 220kV Grid Connection, Co. Galway.

DRAWING TITLE:
Field Gate Detail

PROJECT No.:	DRAWING No.:	SCALE:
180740	180740 - 103	1: 20 @ A3

DRAWN BY:	CHECKED BY:	DATE:	REVISION.:
GO	N/A	10.06.2024	D01

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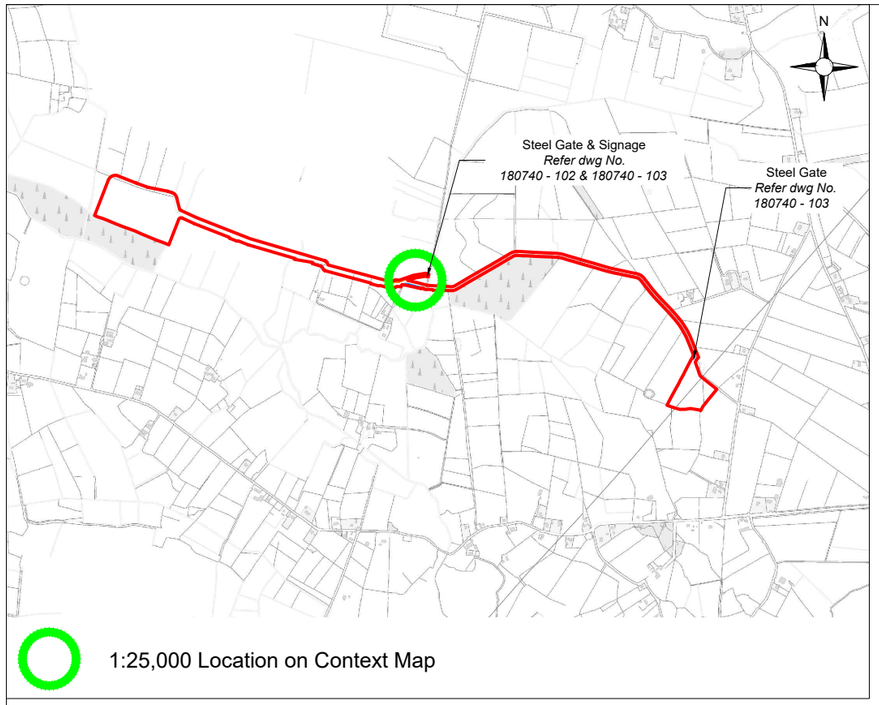

Access Junction E

Junction markings to be as per Figure 7.35 of the Traffic Signs Manual

- Centreline RM 001
- STOP line RRM 017
- STOP lettering M114.

Junction stop signs to be as per RUS 027 of the Traffic Signs Manual.

2.4m x 70m visibility splay

Site access road proposed to bypass existing access on 90 degree bend as indicated

Site access road

Existing local road

Steel Gate & Signage
Refer dwg No.
180740 - 105 & 180740 - 104

2.4m x 50m visibility splay

Existing local road

Existing access on 90 degree bend

Drawing Legend

- Existing Road Edge
- Proposed Road
- Sight Line

Scale: 1:500

PROJECT TITLE: Clonberne Wind Farm 220kV Grid Connection, Co. Galway.			
DRAWING TITLE: Access Junction E			
PROJECT No.: 180740		DRAWING No.: 180740 - 104	SCALE: As shown @ A3
DRAWN BY: GO	CHECKED BY: N/A	DATE: 10.06.2024	REVISION.: D01

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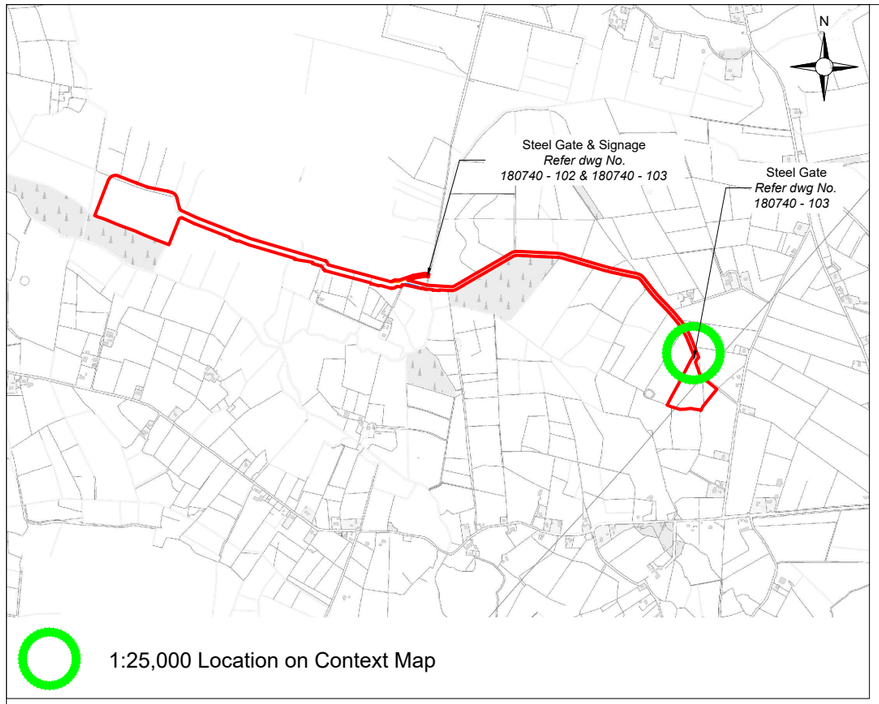

1:25,000 Location on Context Map

Access Junction H

Maintenance access to existing Overhead Line.
Access to be managed at all times.

Scale: 1:1,000

Drawing Legend

Existing Road Edge

Proposed Road

PROJECT TITLE:
Clonberne Wind Farm 220kV Grid Connection, Co. Galway.

DRAWING TITLE:
Access Junction H

PROJECT No.:	DRAWING No.:	SCALE:
180740	180740 - 105	As shown @ A3

DRAWN BY:	CHECKED BY:	DATE:	REVISION.:
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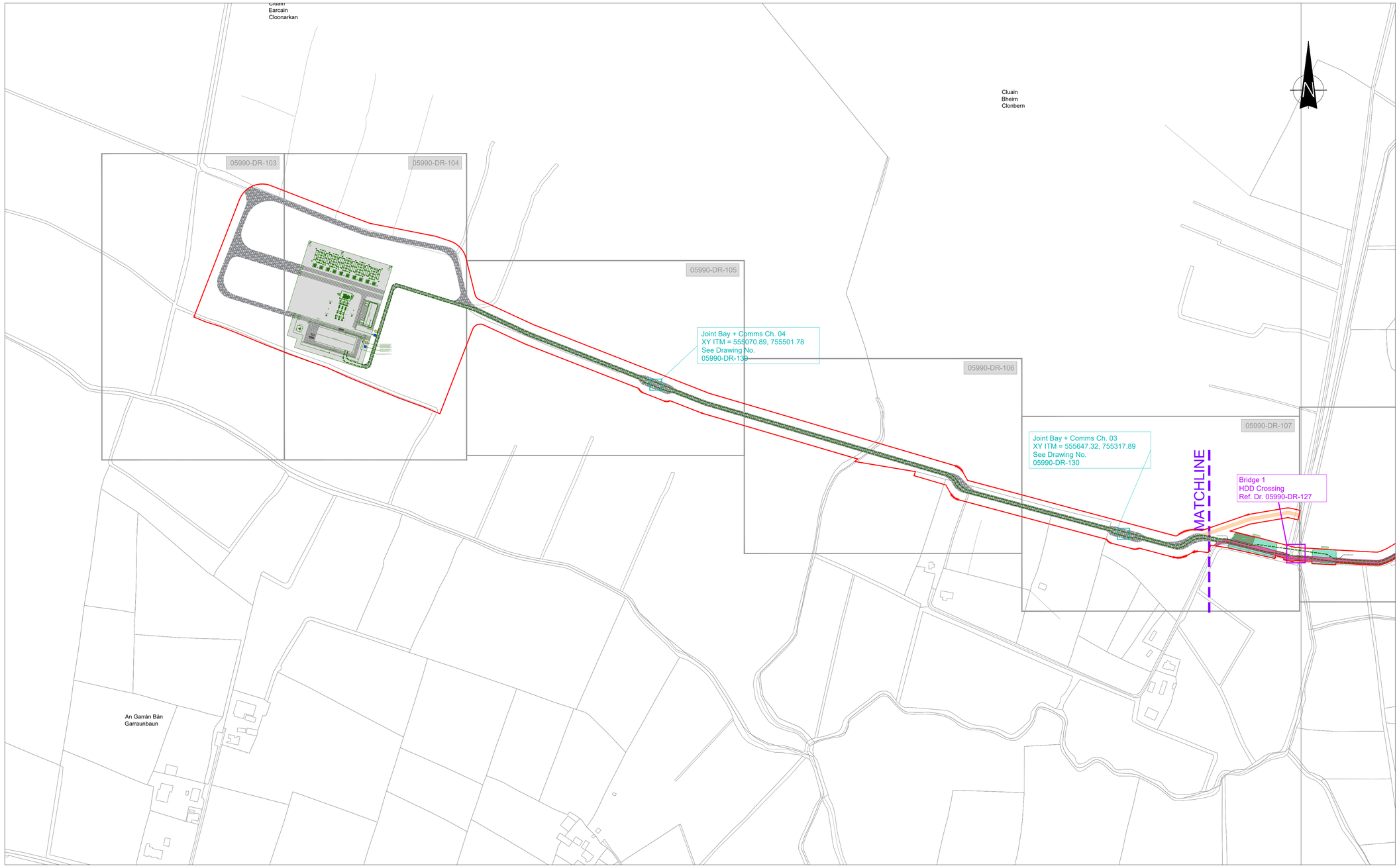
ISO A1 594mm x 841mm



Site Layout Key Plan

Scale: 1:2500

1:2500
50m 0 50m 100m 150m 200m 250m

Map Series:
Prime2 Vector Data - 1:2500
- 1:5000

Reference No.'s:
2679, 2748, 2749, 2680-C, 2748

Tailte Éireann Licence No.
CYAL50261649

Project Management Initials: Designer: JF Checked: AC Approved: RG

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PROJECT

Clonberne Wind Farm
220kV Grid Connection

CLIENT

Clonberne Windfarm Limited

CONSULTANTS

MKO Planning and Environmental Consultants

NOTES: -

1. Path of cable route and location may vary depending on site conditions.
2. Other services may be encountered along the route.
3. Layout and Arrangements of Substation Building and Electrical Equipment is shown indicatively and for illustration purposes only.
4. Dimensions shown are as per current Eirgrid Specifications at the time of submission. Dimensions may vary at time of construction to reflect any revisions to Eirgid Specififfications
5. This drawing is to be used only for the purpose of the planning application and is subject to detailed design.

LEGEND: -

- 220kV Substation
- Cable Access Track
- Public Road Corridor
- Substation Asphalt Road
- Substation Concrete Road
- Operational Accesss
- Temporary Accommodation Area
- Underground Cable
- Planning Application Boundary
- Finished Compound Level 99.190

ISSUE/REVISION

I/R	DATE	DESCRIPTION
P1	04.06.24	Issued for Planning

PROJECT NUMBER

05-990

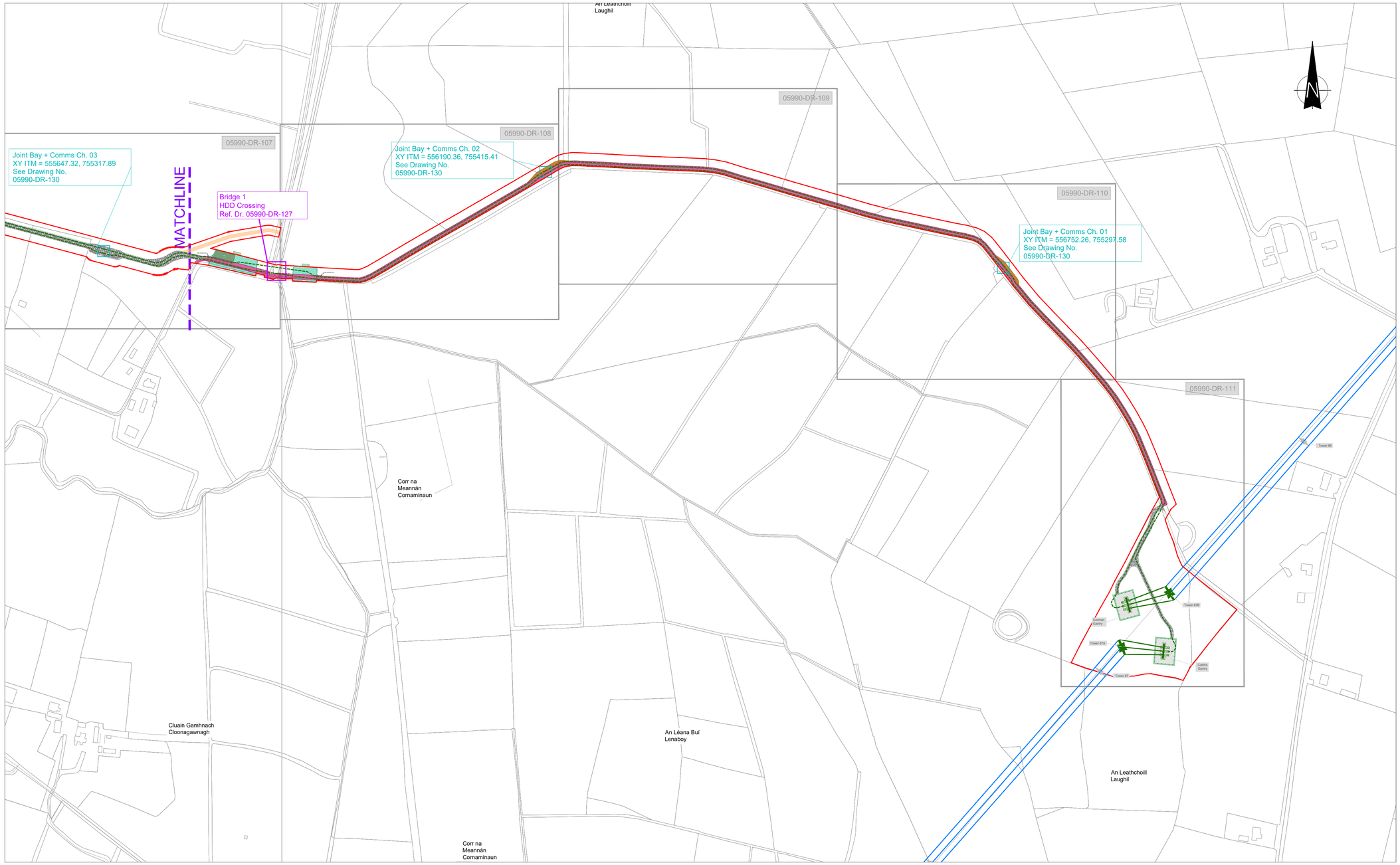
SHEET TITLE

Site Layout Key Plan
Sheet 1 of 2

SHEET NUMBER

05990-DR-101

ISO A1 594mm x 841mm



Site Layout Key Plan

Scale: 1:2500

1:2500
50m 0 50m 100m 150m 200m 250m

Map Series:
Prime2 Vector Data - 1:2500
- 1:5000

Reference No.'s:
2679, 2748, 2749, 2680-C, 2748

Tailte Éireann Licence No.
CYAL50261649

Project Management Initials: Designer: JF Checked: AC Approved: RG

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Tel: 00 44 1256406664

PROJECT

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220kV Grid Connection

CLIENT

Clonberne Windfarm Limited

CONSULTANTS

MKO Planning and Environmental Consultants

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LEGEND: -

- Cable Access Track
- Public Road Corridor
- Accommodation Area
- Temporary Accommodation Area
- Operational Accesss
- Underground Cable
- Existing 220kV Overhead Line
- Proposed Overhead Line
- Cable Compound
- Existing 220kV Tower
- Proposed Angle Mast
- Planning Application Boundary
- Finished Compound Level 99.190

ISSUE/REVISION

I/R	DATE	DESCRIPTION
P1	04.06.24	Issued for Planning

PROJECT NUMBER

05-990

SHEET TITLE

Site Layout Key Plan
Sheet 2 of 2

SHEET NUMBER

05990-DR-102

Project Management Initials: Designer: CH Checked: JF Approved: AC

LEGEND: -

- 220kV Substation
- Cable Access Track
- Substation Asphalt Road
- Substation Concrete Road
- Underground Cable
- Substation Internal Wind Farm Cables
- Existing Contours (68.0)
- Proposed Levels (+68.0)
- Planning Application Boundary
- Finished Compound Level (69.000)
- Excavation Required
- Fill Required

NOTES: -

1. Path of cable route and location may vary depending on site conditions.
2. Other services may be encountered along the route.
3. Layout and Arrangements of Substation Building and Electrical Equipment is shown indicatively and for illustration purposes only.
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Site Layout Plan

Scale: 1:500

1:500
10m 0 10m 20m 30m 40m 50m

Map Series:
Prime2 Vector Data - 1:2500
- 1:5000

Reference No.'s:
2679, 2748, 2749, 2680-C, 2748

Tailte Éireann Licence No.
CYAL50261649

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Tel: 00 44 1256406664

PROJECT

Clonberne Wind Farm
220kV Grid Connection

CLIENT

Clonberne Windfarm Limited

CONSULTANTS

MKO Planning and Environmental Consultants

ISSUE/REVISION

I/R	DATE	DESCRIPTION
P1	04.06.24	Issued for Planning

PROJECT NUMBER

05-990

SHEET TITLE

Site Layout Plan
Sheet 1 of 9

SHEET NUMBER

05990-DR-103

ISO A1 594mm x 841mm

Project Management Initials: Designer: CH Checked: JF Approved: AC

LEGEND: -

- 220kV Substation
- Cable Access Track
- Substation Asphalt Road
- Substation Concrete Road
- Underground Cable
- Substation Internal Wind Farm Cables
- Existing Contours (68.0)
- Proposed Levels (+68.0)
- Planning Application Boundary
- Finished Compound Level (69.000)
- Excavation Required
- Fill Required

NOTES: -

1. Path of cable route and location may vary depending on site conditions.
2. Other services may be encountered along the route.
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PROJECT

Clonberne Wind Farm 220kV Grid Connection

CLIENT

Clonberne Windfarm Limited

CONSULTANTS

MKO Planning and Environmental Consultants

ISSUE/REVISION

I/R	DATE	DESCRIPTION
P1	04.06.24	Issued for Planning

PROJECT NUMBER

05-990

SHEET TITLE

Site Layout Plan
Sheet 2 of 9

SHEET NUMBER

05990-DR-104

Site Layout Plan

Scale: 1:500

1:500
10m 0 10m 20m 30m 40m 50m

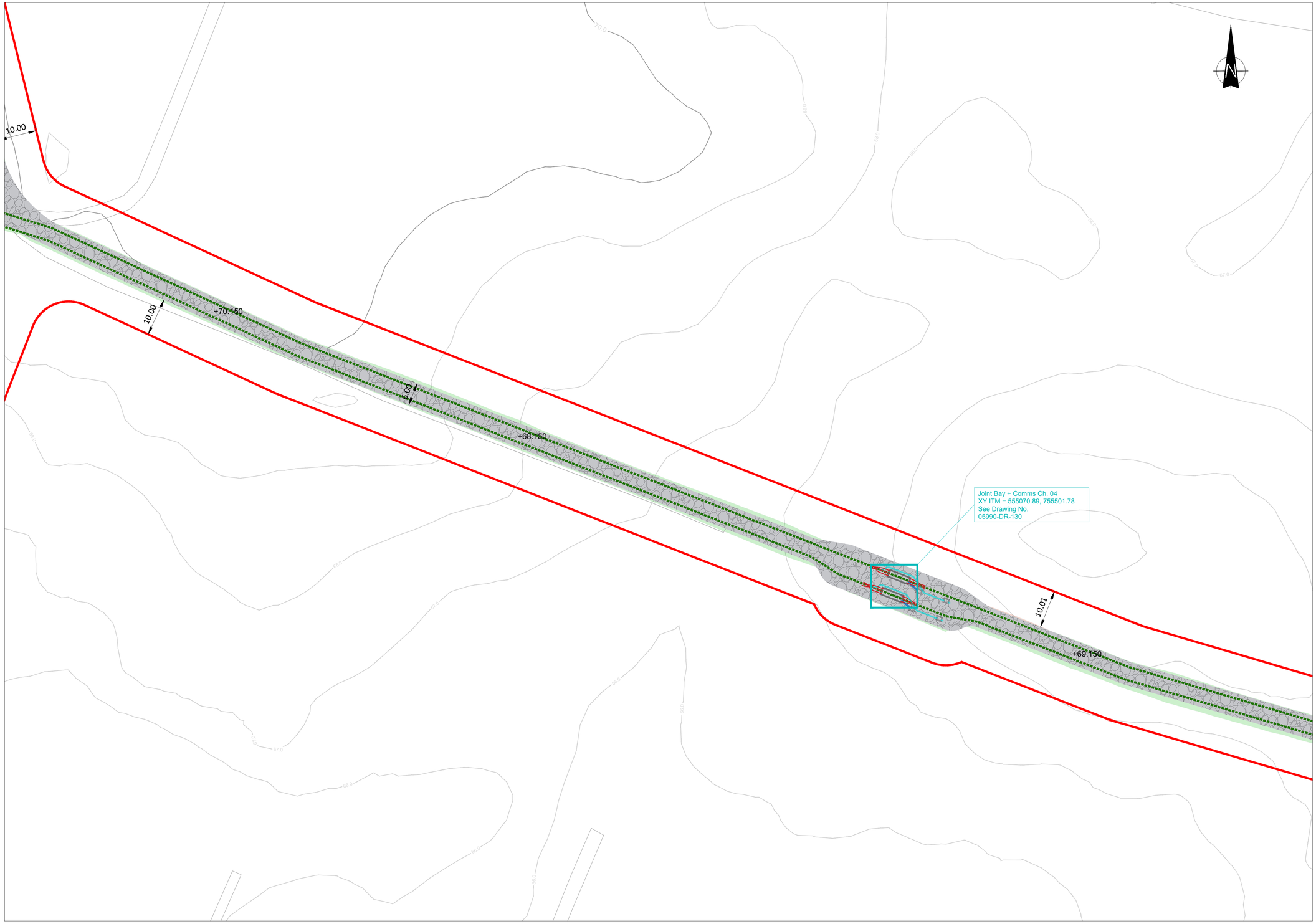
Map Series:
Prime2 Vector Data - 1:2500
- 1:5000

Reference No.'s:
2679, 2748, 2749, 2680-C, 2748

Tailte Éireann Licence No.
CYAL50261649

ISO A1 594mm x 841mm

ISO A1 594mm x 841mm



Site Layout Plan

Scale: 1:500

1:500
10m 0 10m 20m 30m 40m 50m

Map Series:
Prime2 Vector Data - 1:2500
- 1:5000

Reference No.'s:
2679, 2748, 2749, 2680-C, 2748

Tailte Éireann Licence No.
CYAL50261649

Project Management Initials: Designer: JF Checked: AC Approved: RG

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PROJECT

Clonberne Wind Farm
220kV Grid Connection

CLIENT

Clonberne Windfarm Limited

CONSULTANTS

MKO Planning and Environmental Consultants

NOTES: -

1. Path of cable route and location may vary depending on site conditions.
2. Other services may be encountered along the route.
3. Layout and Arrangements of Substation Building and Electrical Equipment is shown indicatively and for illustration purposes only.
4. Dimensions shown are as per current Eirgrid Specifications at the time of submission. Dimensions may vary at time of construction to reflect any revisions to Eirgid Specifications
5. This drawing is to be used only for the purpose of the planning application and is subject to detailed design.

LEGEND: -

- Cable Access Track
- Underground Cable
- 220kV Joint Bay
- Existing Contours (68.0)
- Proposed Levels (+68.0)
- Planning Application Boundary
- Excavation Required
- Fill Required

ISSUE/REVISION

I/R	DATE	DESCRIPTION
P1	04.06.24	Issued for Planning

PROJECT NUMBER

05-990

SHEET TITLE

Site Layout Plan
Sheet 3 of 9

SHEET NUMBER

05990-DR-105

ISO A1 594mm x 841mm

Site Layout Plan

Scale: 1:500

1:500
10m 0 10m 20m 30m 40m 50m

Map Series:
Prime2 Vector Data - 1:2500
- 1:5000

Reference No.'s:
2679, 2748, 2749, 2680-C, 2748

Tailte Éireann Licence No.
CYAL50261649

Project Management Initials: Designer: JF Checked: AC Approved: RG

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PROJECT

Clonberne Wind Farm
220kV Grid Connection

CLIENT

Clonberne Windfarm Limited

CONSULTANTS

MKO Planning and Environmental Consultants

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LEGEND: -

- Cable Access Track
- Underground Cable
- 220kV Joint Bay
- Existing Contours
- Proposed Levels (+68.0)
- Planning Application Boundary
- Excavation Required
- Fill Required

ISSUE/REVISION

I/R	DATE	DESCRIPTION
P1	04.06.24	Issued for Planning

PROJECT NUMBER

05-990

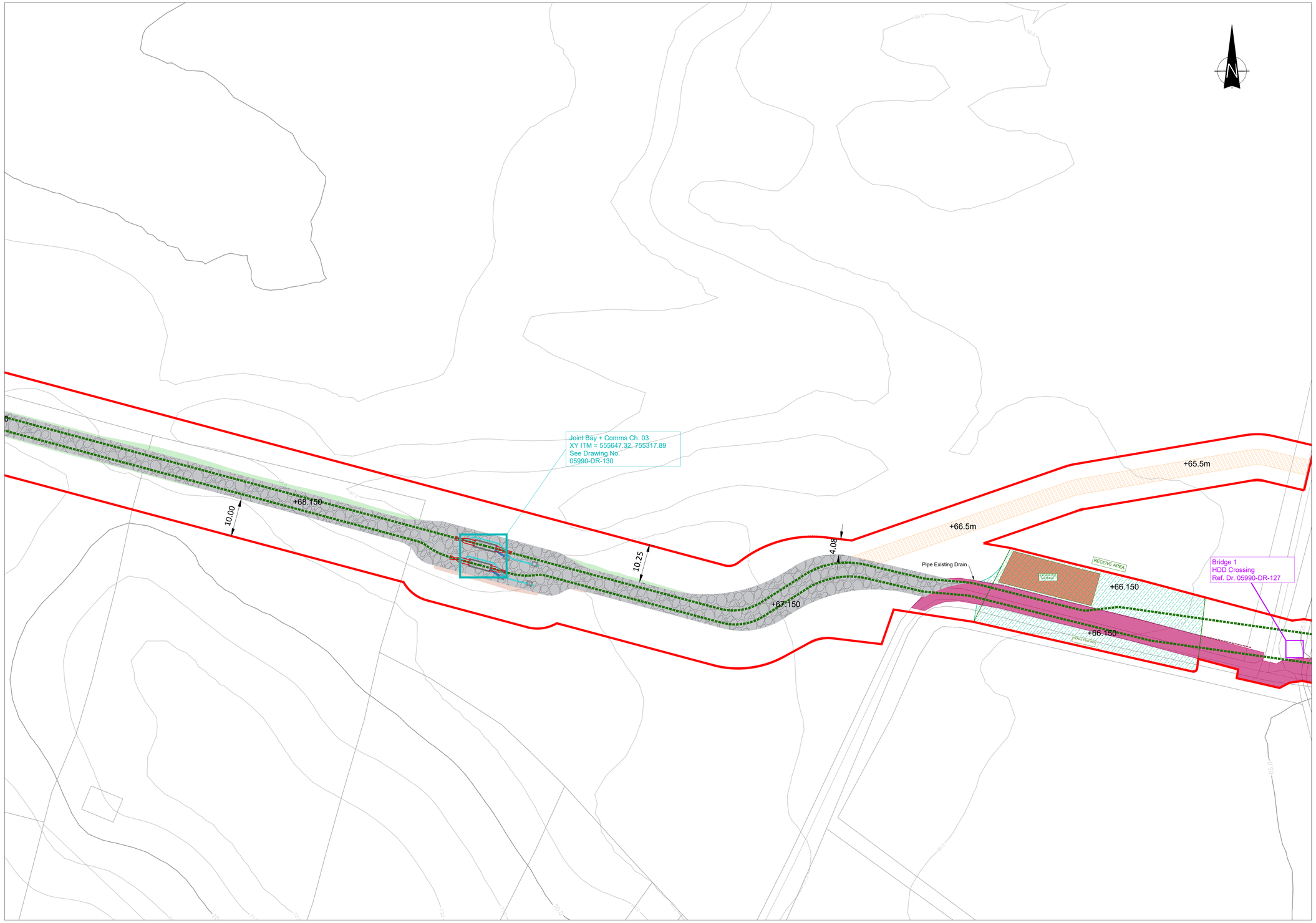
SHEET TITLE

Site Layout Plan
Sheet 4 of 9

SHEET NUMBER

05990-DR-106

ISO A1 594mm x 841mm



Site Layout Plan

Scale: 1:500

1:500
10m 0 10m 20m 30m 40m 50m

Map Series:
Prime2 Vector Data - 1:2500
- 1:5000

Reference No.'s:
2679, 2748, 2749, 2680-C, 2748

Tailte Éireann Licence No.
CYAL50261649

Project Management Initials: Designer: JF Checked: AC Approved: RG

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PROJECT

Clonberne Wind Farm
220kV Grid Connection

CLIENT

Clonberne Windfarm Limited

CONSULTANTS

MKO Planning and Environmental Consultants

NOTES: -

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LEGEND: -

- Cable Access Track
- Public Road Corridor
- Operational Accesss
- Temporary Accommodation Area
- Underground Cable
- 220kV Joint Bay
- Piped Drain
- HDD Launch / Receive Area
- Existing Contours (68.0)
- Proposed Levels (+68.0)
- Planning Application Boundary
- Excavation Required
- Fill Required

ISSUE/REVISION

I/R	DATE	DESCRIPTION
P1	04.06.24	Issued for Information

PROJECT NUMBER

05-990

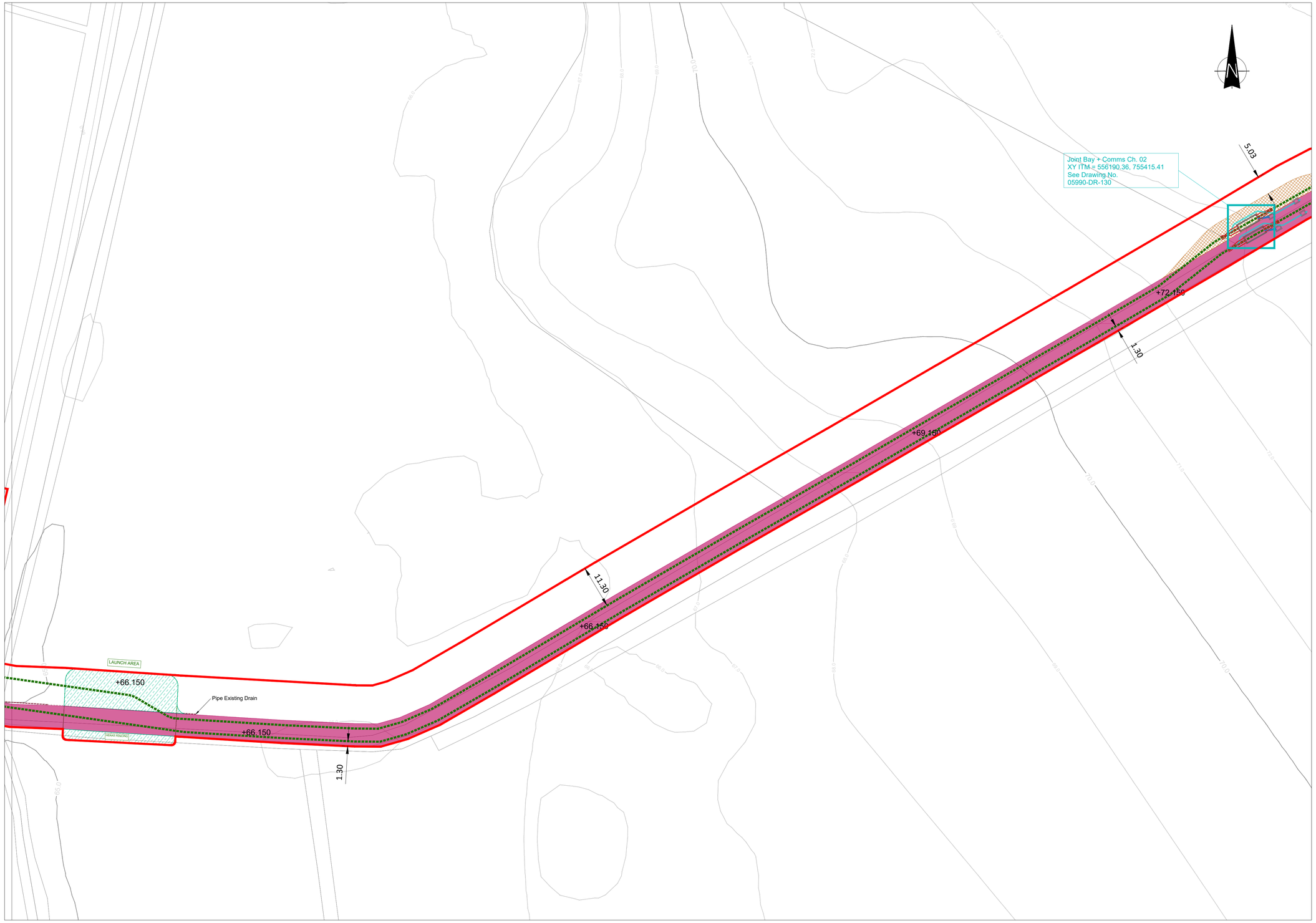
SHEET TITLE

Site Layout Plan
Sheet 5 of 9

SHEET NUMBER

05990-DR-107

ISO A1 594mm x 841mm



Site Layout Plan

Scale: 1:500

1:500
10m 0 10m 20m 30m 40m 50m

Map Series:
Prime2 Vector Data - 1:2500
- 1:5000

Reference No.'s:
2679, 2748, 2749, 2680-C, 2748

Tailte Éireann Licence No.
CYAL50261649

Project Management initials:
Designer: JF
Checked: AC
Approved: RG

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PROJECT

Clonberne Wind Farm
220kV Grid Connection

CLIENT

Clonberne Windfarm Limited

CONSULTANTS

MKO Planning and Environmental Consultants

NOTES: -

1. Path of cable route and location may vary depending on site conditions.
2. Other services may be encountered along the route.
3. Layout and Arrangements of Substation Building and Electrical Equipment is shown indicatively and for illustration purposes only.
4. Dimensions shown are as per current Eirgrid Specifications at the time of submission. Dimensions may vary at time of construction to reflect any revisions to Eirgid Specifications
5. This drawing is to be used only for the purpose of the planning application and is subject to detailed design.

LEGEND: -

- Public Road Corridor
- Accommodation Area
- Temporary Accommodation Area
- Underground Cable
- 220kV Joint Bay
- Piped Drain
- HDD Launch / Receive Area
- Existing Contours (68.0)
- Proposed Levels (+68.0)
- Planning Application Boundary

ISSUE/REVISION

I/R	DATE	DESCRIPTION
P1	04.06.24	Issued for Planning

PROJECT NUMBER

05-990

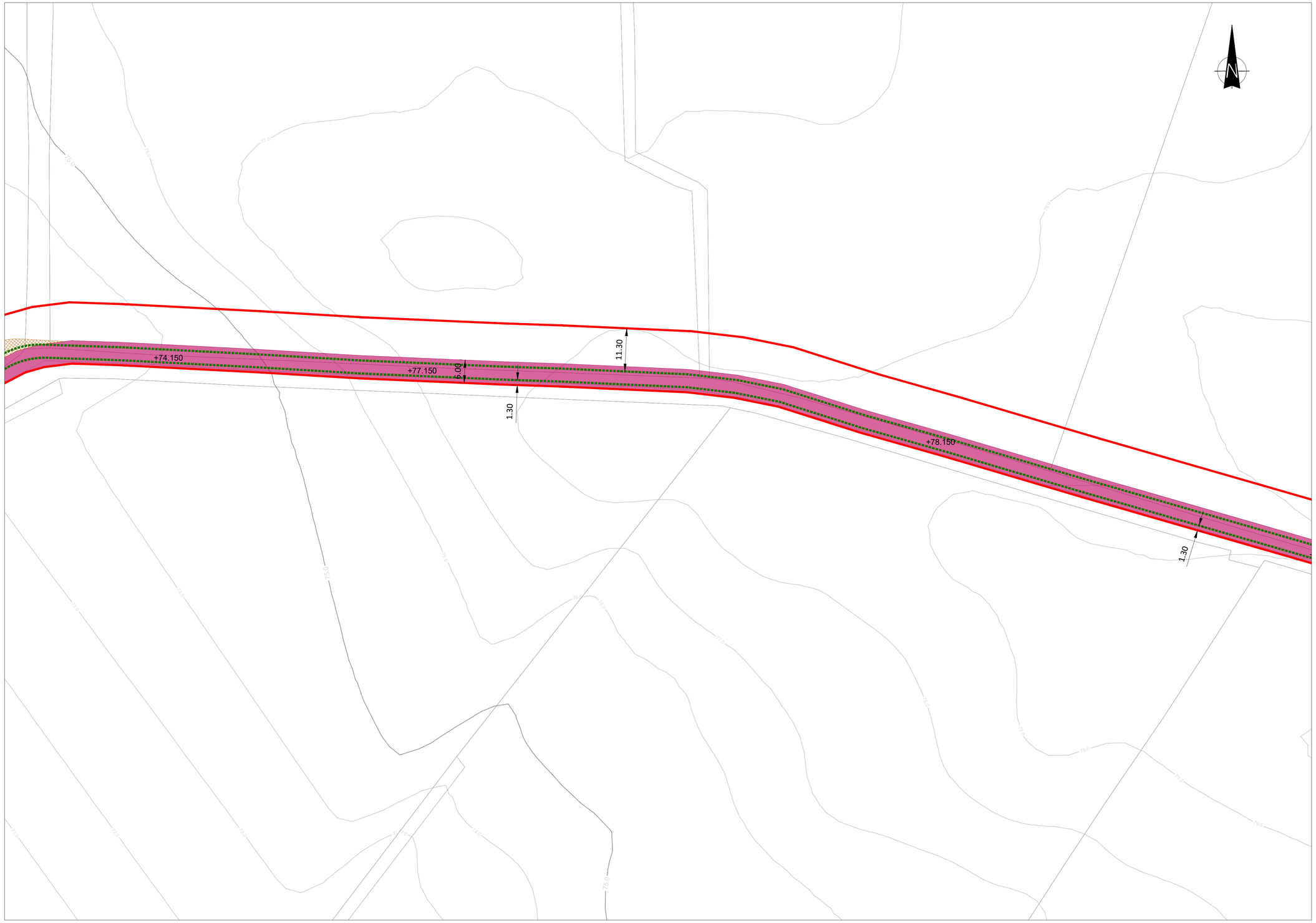
SHEET TITLE

Site Layout Plan
Sheet 6 of 9

SHEET NUMBER

05990-DR-108

ISO A1 594mm x 841mm



Site Layout Plan

Scale: 1:500

1:500
10m 0 10m 20m 30m 40m 50m

Map Series:
Prime2 Vector Data - 1:2500
- 1:5000

Reference No.'s:
2679, 2748, 2749, 2680-C, 2748

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CYAL50261649

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Project Management Initials: Designer: JF Checked: AC Approved: RG

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PROJECT

Clonberne Wind Farm
220kV Grid Connection

CLIENT

Clonberne Windfarm Limited

CONSULTANTS

MKO Planning and Environmental Consultants

NOTES: -

1. Path of cable route and location may vary depending on site conditions.
2. Other services may be encountered along the route.
3. Layout and Arrangements of Substation Building and Electrical Equipment is shown indicatively and for illustration purposes only.
4. Dimensions shown are as per current Eirgrid Specifications at the time of submission. Dimensions may vary at time of construction to reflect any revisions to Eirgid Specifiications
5. This drawing is to be used only for the purpose of the planning application and is subject to detailed design.

LEGEND: -

- Public Road Corridor
- Accommodation Area
- Underground Cable
- 220kV Joint Bay
- Existing Contours (68.0)
- Proposed Levels (+68.0)
- Planning Application Boundary

ISSUE/REVISION

I/R	DATE	DESCRIPTION
P1	04.06.24	Issued for Planning

PROJECT NUMBER

05-990

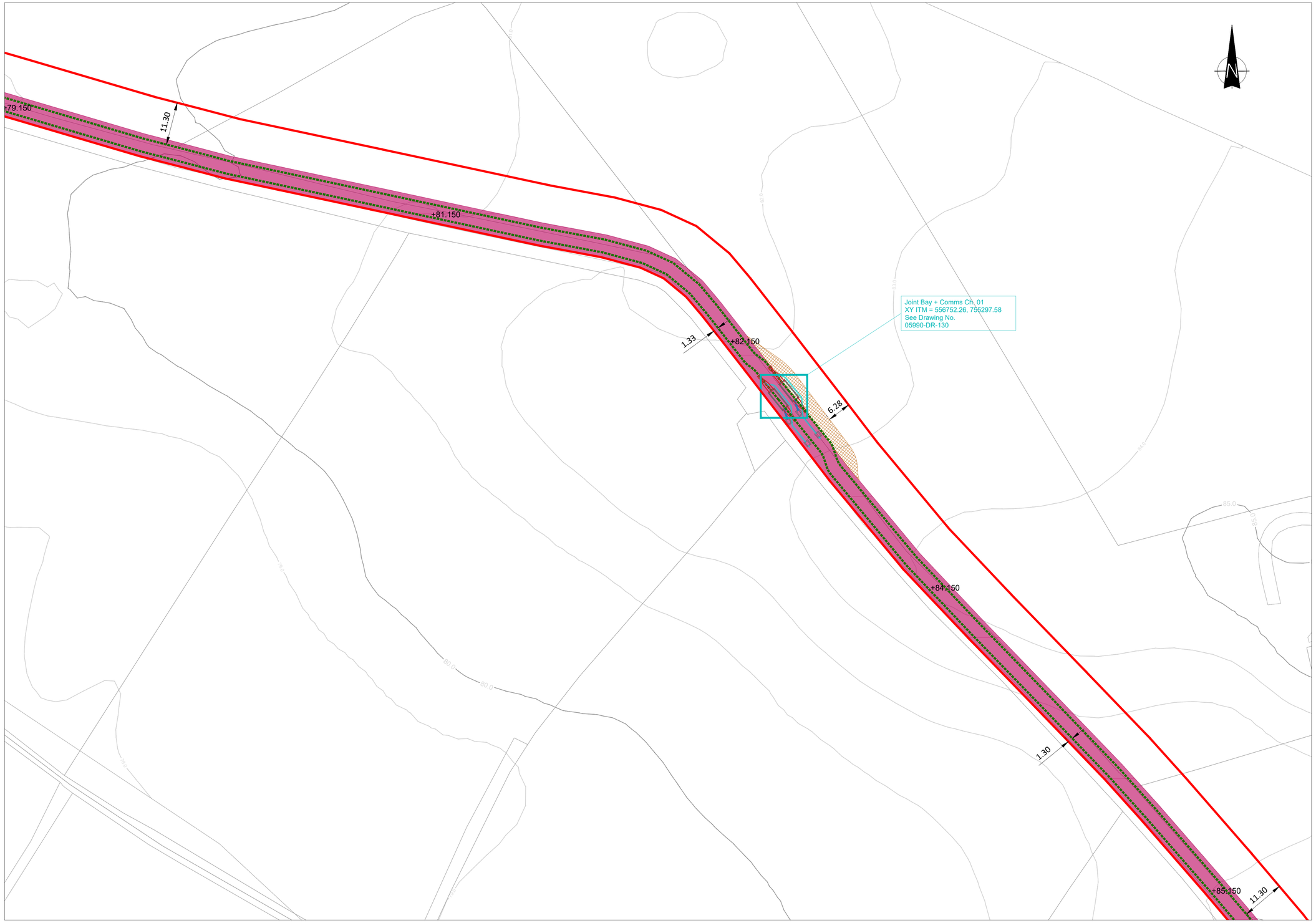
SHEET TITLE

Site Layout Plan
Sheet 7 of 9

SHEET NUMBER

05990-DR-109

ISO A1 594mm x 841mm



Site Layout Plan

Scale: 1:500

1:500
10m 0 10m 20m 30m 40m 50m

Map Series:
Prime2 Vector Data - 1:2500
- 1:5000

Reference No.'s:
2679, 2748, 2749, 2680-C, 2748

Tailte Éireann Licence No.
CYAL50261649

Project Management Initials: Designer: JF Checked: AC Approved: RG

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PROJECT

Clonberne Wind Farm
220kV Grid Connection

CLIENT

Clonberne Windfarm Limited

CONSULTANTS

MKO Planning and Environmental Consultants

NOTES: -

1. Path of cable route and location may vary depending on site conditions.
2. Other services may be encountered along the route.
3. Layout and Arrangements of Substation Building and Electrical Equipment is shown indicatively and for illustration purposes only.
4. Dimensions shown are as per current Eirgrid Specifications at the time of submission. Dimensions may vary at time of construction to reflect any revisions to Eirgid Specifications
5. This drawing is to be used only for the purpose of the planning application and is subject to detailed design.

LEGEND: -

- Public Road Corridor
- Accommodation Area
- Underground Cable
- 220kV Joint Bay
- Existing Contours (68.0)
- Proposed Levels (+68.0)
- Planning Application Boundary

ISSUE/REVISION

I/R	DATE	DESCRIPTION
P1	04.06.24	Issued for Planning

PROJECT NUMBER

05-990

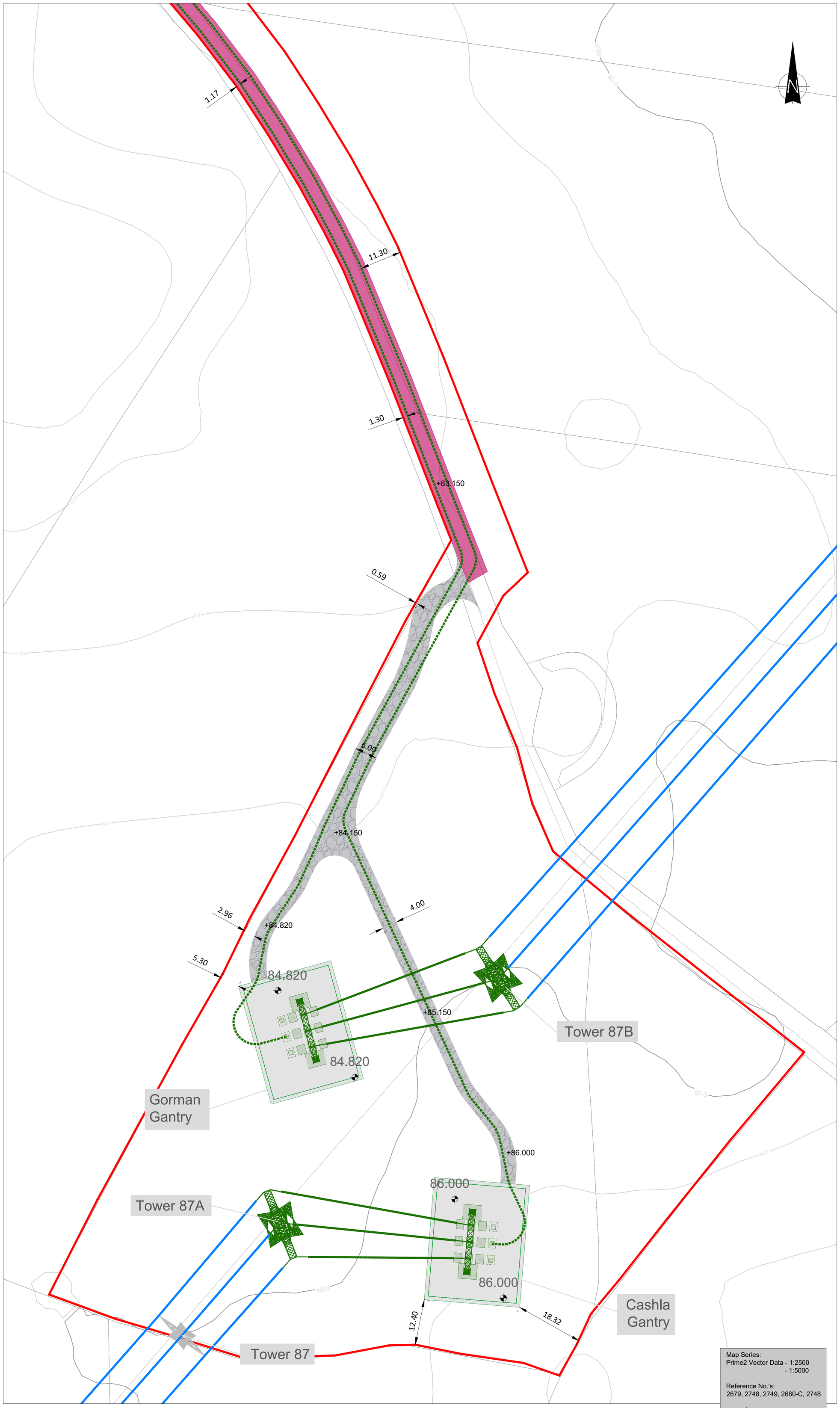
SHEET TITLE

Site Layout Plan
Sheet 8 of 9

SHEET NUMBER

05990-DR-110

Project Management Initials: Designer: CH Checked: JF Approved: AC



LEGEND: -

- Cable Access Track
- Public Road Corridor
- Underground Cable
- Existing 220kV Overhead Line
- Proposed Overhead Line
- Cable Compound
- Existing 220kV Tower
- Proposed Angle Mast
- Finished Compound Level (69.000)
- Existing Contours (68.0)
- Proposed Levels (+68.0)
- Planning Application Boundary

NOTES: -

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Site Layout Plan

Scale: 1:500

1:500
10m 0 10m 20m 30m 40m 50m

Map Series:
Prime2 Vector Data - 1:2500
- 1:5000

Reference No.'s:
2679, 2748, 2749, 2680-C, 2748

Tailte Éireann Licence No.
CYAL50261649

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PROJECT

Clonberne Wind Farm
220kV Grid Connection

CLIENT

Clonberne Windfarm Limited

CONSULTANTS

MKO Planning and Environmental Consultants

ISSUE/REVISION

I/R	DATE	DESCRIPTION
P1	04.06.24	Issued for Planning

PROJECT NUMBER

05-990

SHEET TITLE

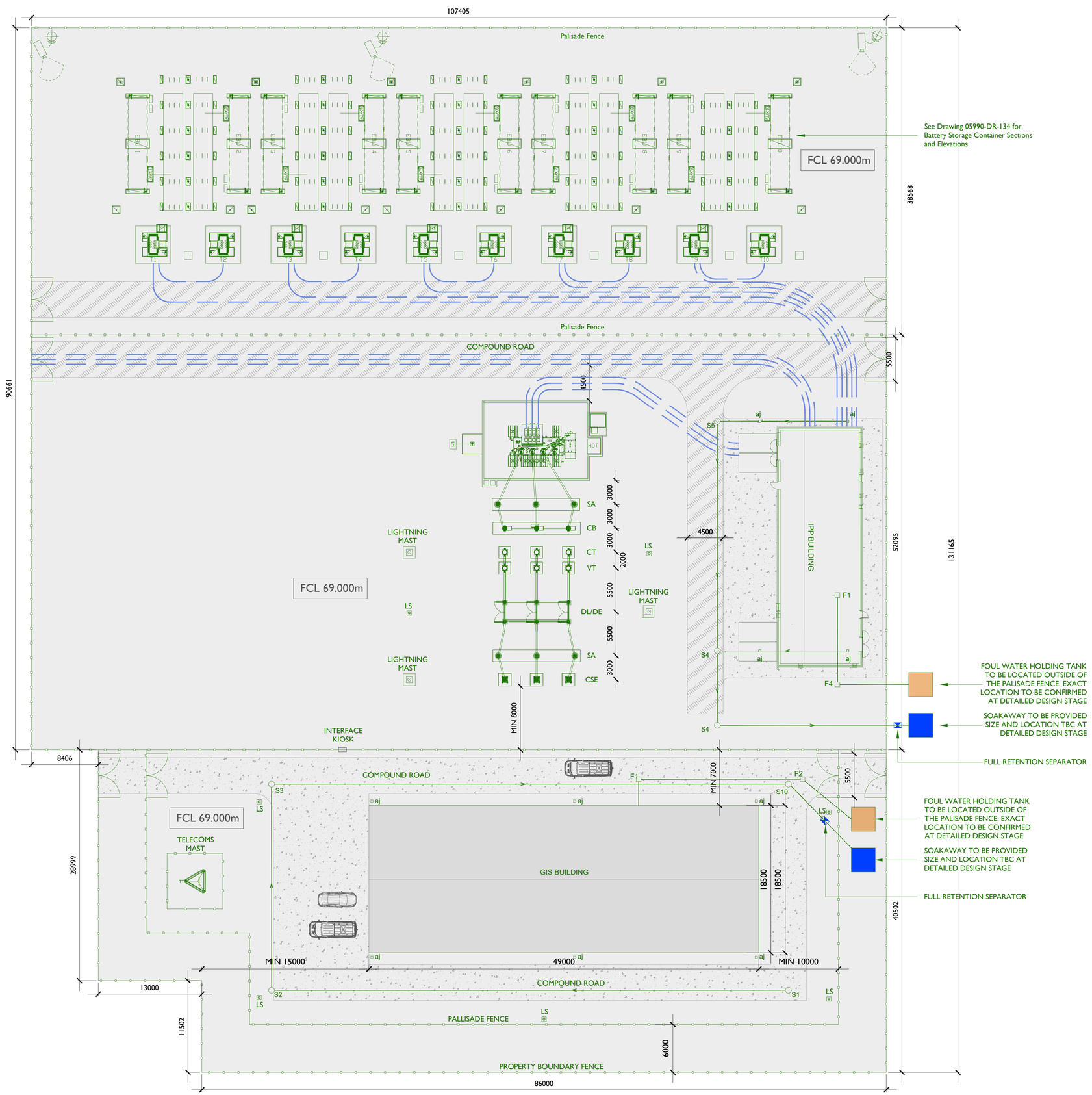
Site Layout Plan
Sheet 9 of 9

SHEET NUMBER

05990-DR-111

ISO A1 594mm x 841mm

ISO A1 594mm x 841mm



220kV GIS Substation Plan

Scale: - 1:250

Project Management Initials: Designer: JF Checked: AC Approved: RG

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PROJECT

Clonbern Wind Farm
220kV Grid Connection

CLIENT

Clonberne Windfarm Limited

CONSULTANTS

NOTES: -

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3. Final Specifications of Buildings and Electrical Equipment is to be as per Eirgrid and ESB Specifications.
4. The Elevation of the Compound will be depicted by localized Topography such that Cut/Fill Earthworks associated with the construction of the Compound are balanced.

LEGEND: -

- Substation Internal Wind Farm Cables
- Substation Asphalt Road
- Substation Concrete Road
- Auxiliary Transformer
- Transformer

ISSUE/REVISION

I/R	DATE	DESCRIPTION
P1	04.06.24	Issued for Planning

PROJECT NUMBER

05-990

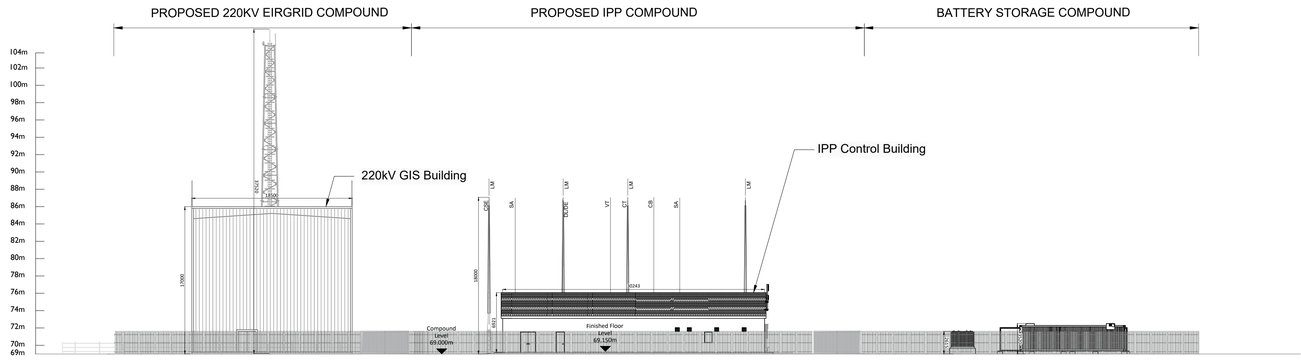
SHEET TITLE

220kV GIS Substation Plan

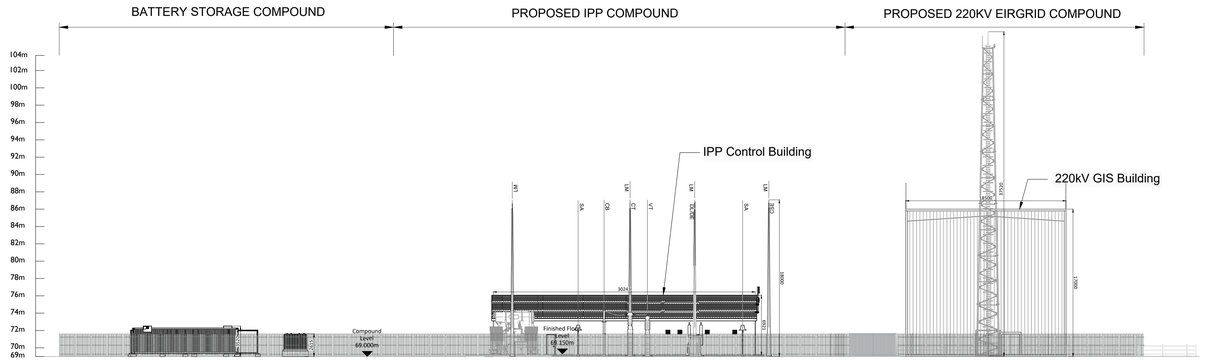
SHEET NUMBER

05990-DR-112

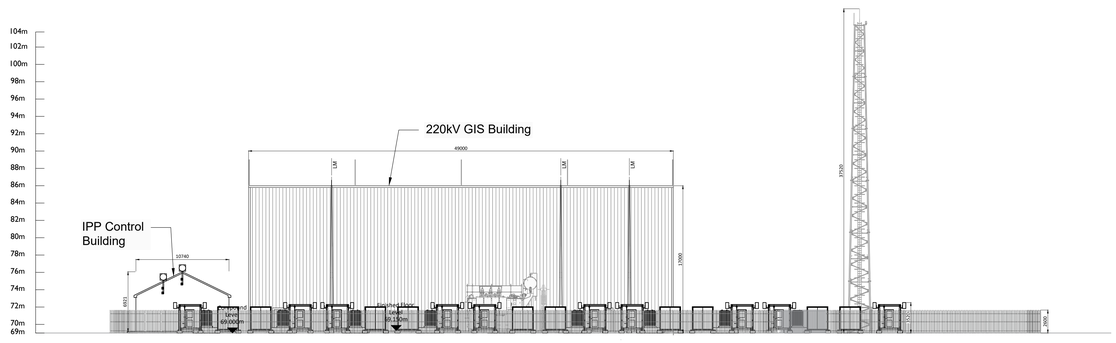
ISO A0 841mm x 1189mm



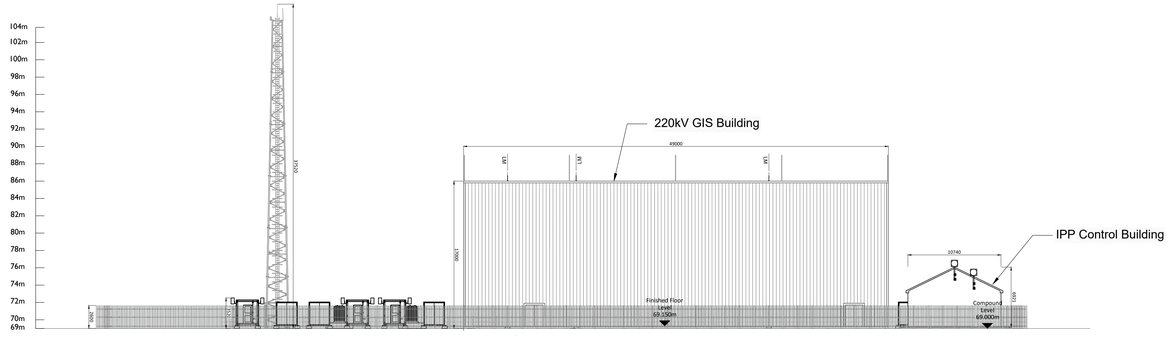
North East Elevation
Scale: 1:250



South West Elevation
Scale: 1:250



North West Elevation
Scale: 1:250



South East Elevation
Scale: 1:250

Project Management Initials: Designer: CH Checked: AC Approved: RG

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PROJECT

Clonberne Wind Farm
220kV Grid Connection

CLIENT

Clonberne Windfarm Limited

CONSULTANTS

NOTES: -

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4. The Elevation of the Compound will be depicted by localized Topography such that Cut/Fill Earthworks associated with the construction of the Compound are balanced

LEGEND: -

	Description
CSE	Cable Sealing End.
SA	Surge Arrester.
DL/DE	Line / Earth Disconnect.
VT	Voltage Transformer.
CT	Current Transformer.
CB	Circuit Breaker.
LM	Lightning Mast.

ISSUE/REVISION

I/R	DATE	DESCRIPTION
P1	04.06.24	Issued for Planning

KEY PLAN

PROJECT NUMBER

05-990

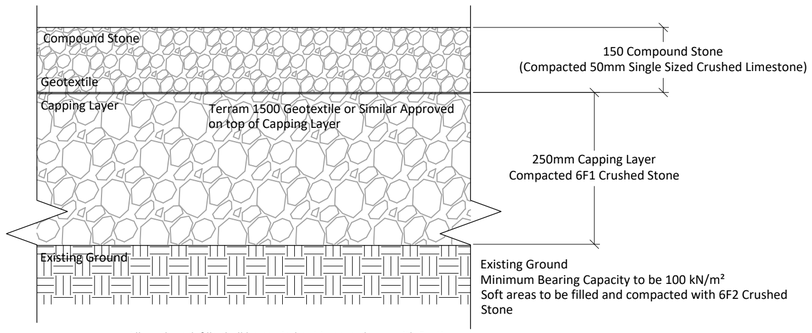
SHEET TITLE

Substation Compound Elevations

SHEET NUMBER

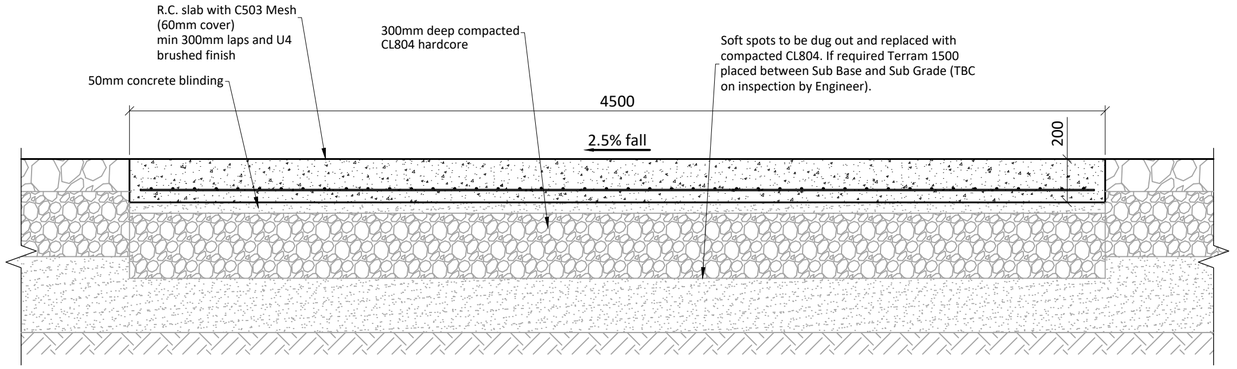
05990-DR-113

ISO A2 420mm x 594mm

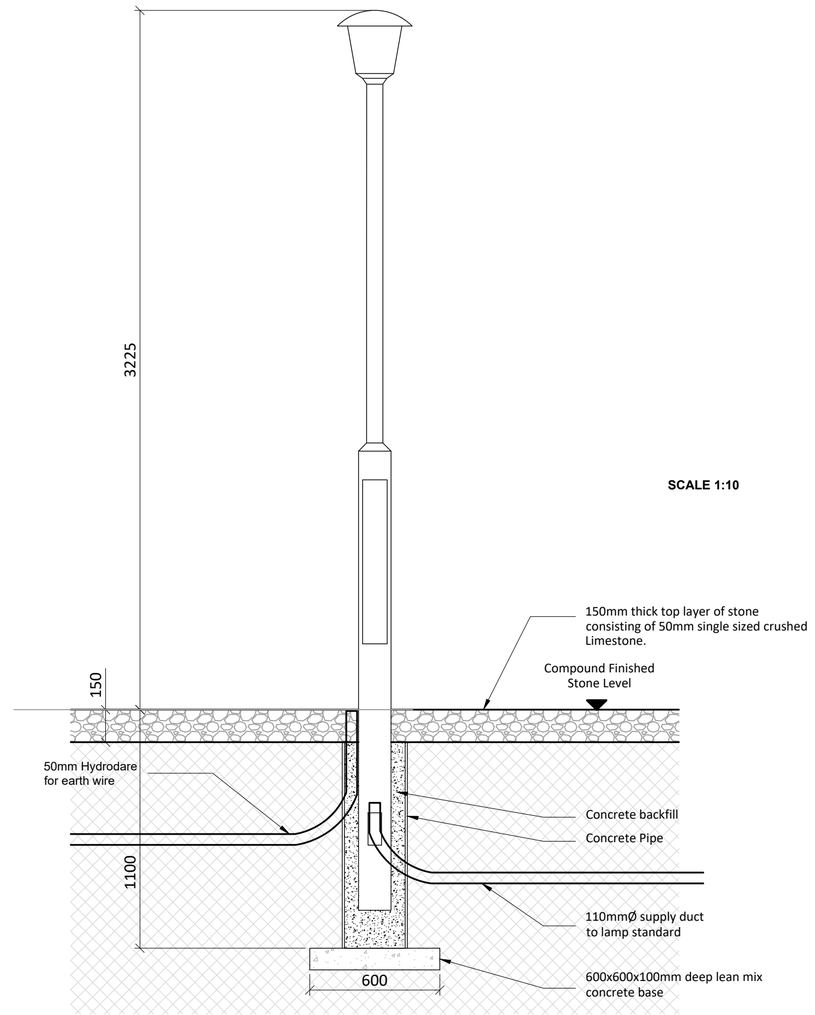


All earthwork fills shall be carried out in accordance with Section 3.12 of PE607-F0000-S00-004 and test results to be provided to ESB for approval"

Typical Compound Detail
SCALE 1:10

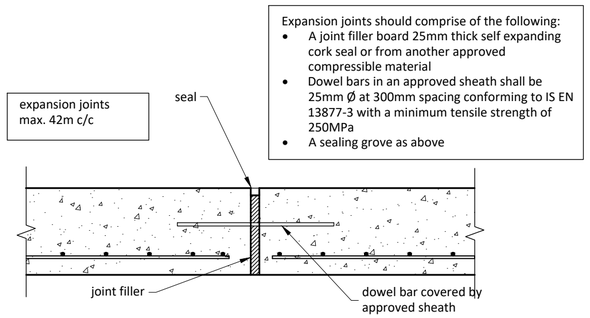


Typical Section - Concrete Access Road
SCALE 1:20



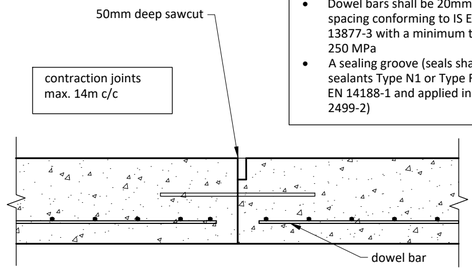
SCALE 1:10

Lighting Column & Surround Detail
SCALE 1:20



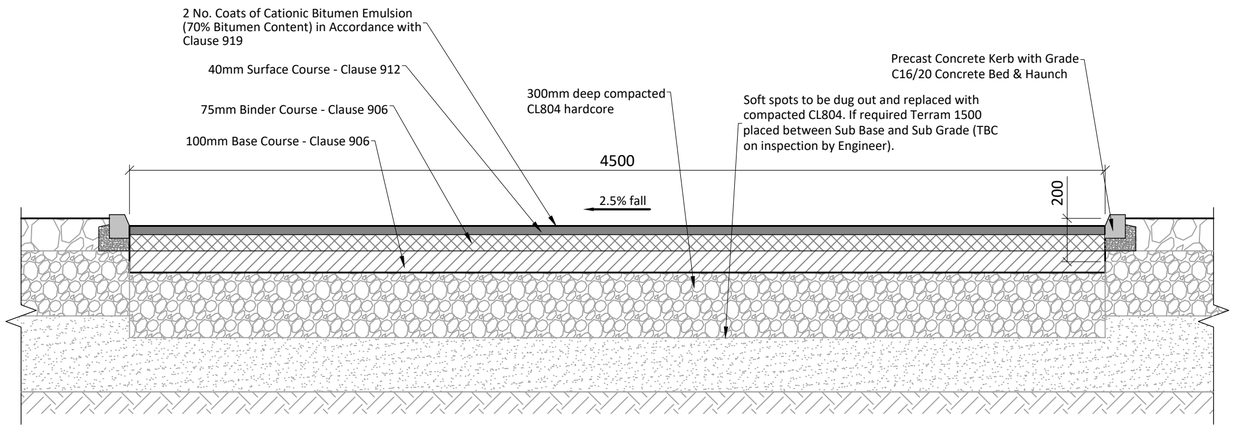
Expansion joints should comprise of the following:
- A joint filler board 25mm thick self expanding cork seal or from another approved compressible material
- Dowel bars in an approved sheath shall be 25mm Ø at 300mm spacing conforming to IS EN 13877-3 with a minimum tensile strength of 250MPa
- A sealing grove as above

Concrete Access Road Expansion Joint
SCALE 1:10



Contraction joints should comprise of the following:
- A sawn groove joint 10mm wide at least ¼ the slab depth
- Dowel bars shall be 20mm Ø at 300mm spacing conforming to IS EN 10060 and IS EN 13877-3 with a minimum tensile strength of 250 MPa
- A sealing groove (seals shall be hot applied sealants Type N1 or Type F1 complying with IS EN 14188-1 and applied in accordance with BS 2499-2)

Concrete Access Road Contraction Joint
SCALE 1:10



Typical Section - Asphalt Access Road
SCALE 1:20

Project Management Initials: Designer: CH Checked: DT Approved: RG

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PROJECT

Clonberne Wind Farm
220kV Grid Connection

CLIENT

Clonberne Windfarm Limited

CONSULTANTS

NOTES: -
- This drawing is to be read in conjunction with relevant engineering drawings, specifications and reports
- Dimensions are in millimeters, unless noted otherwise
- Drawings are not to be scaled use figured dimensions only

LEGEND: -

ISSUE/REVISION

P1	04.06.24	Issued for Planning
I/R	DATE	DESCRIPTION

PROJECT NUMBER

05-990

SHEET TITLE

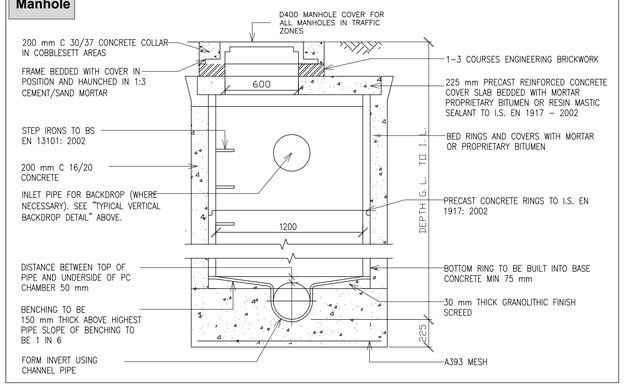
Site Compound Details

SHEET NUMBER

05990-DR-114

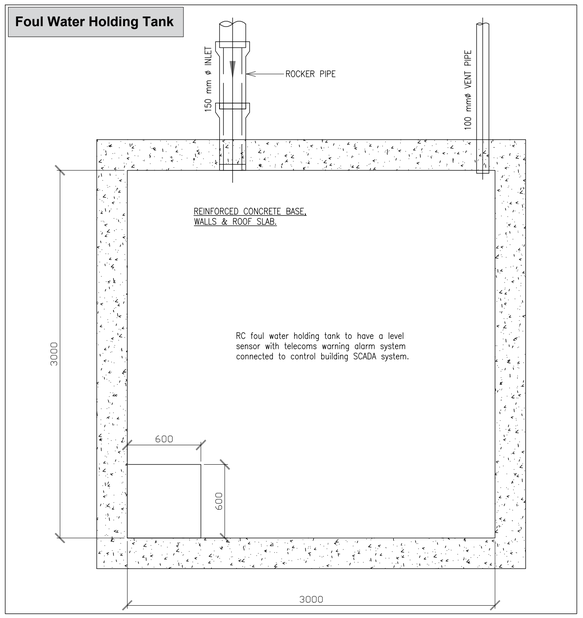
ISO A1 594mm x 841mm

Manhole



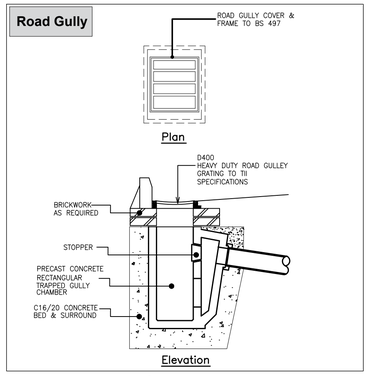
Typical Precast Ring Manhole - Elevation
Scale : 1:25

Foul Water Holding Tank



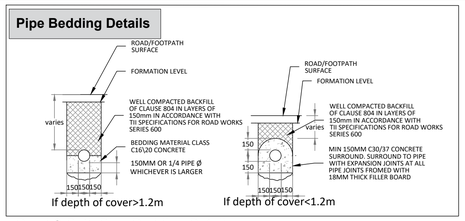
Plan - Typical Foul Water Holding Tank
Scale : 1:25

Road Gully



Typical Road Gully Detail
Scale : 1:25

Pipe Bedding Details



Road & Path Pipe Bedding Details
Scale : NTS

DP/AJ

Typical Rainwater Downpipe Detail - Elevation
Scale : 1:25

Soakaway Detail

Typical Soakaway Detail - Elevation
Scale : 1:25

Sewer Section

Typical Section through Foul/Surface Water Sewer
Scale : 1:20

Full Retention Separator

Unit Ref No.	Nominal Flow	Dim L (mm)	Approx Empty Weight (kgs)	Fall across Unit
NSFA010	10 L/s	2610	130	50
NSFA015	15 L/s	3910	167	50

NSFA010-NSFA015 FULL RETENTION SEPARATORS
Scale : 1:25

Project Management Initials: Designer: CH Checked: GD Approved: RG

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PROJECT

Clonberne Wind Farm
220kV Grid Connection

CLIENT

Clonberne Windfarm Limited

CONSULTANTS

NOTES: -

- This drawing is to be read in conjunction with relevant engineering drawings, specifications and reports
- Dimensions are in millimeters, unless noted otherwise
- Drawings are not to be scaled use figured dimensions only
- Drainage to be marked by a qualified engineer.

LEGEND: -

ISSUE/REVISION

I/R	DATE	DESCRIPTION
P1	04.06.24	Issued for Planning

PROJECT NUMBER

05-990

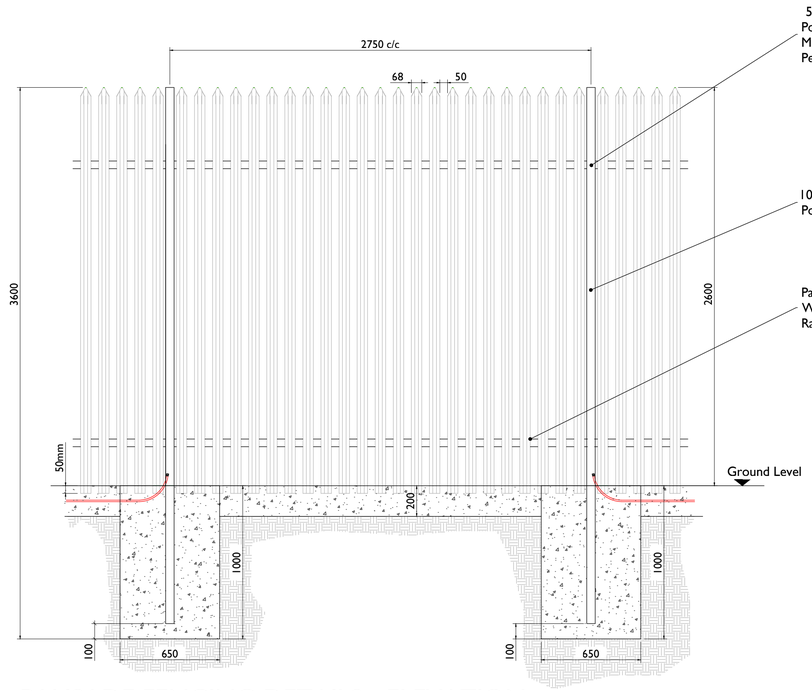
SHEET TITLE

Drainage Details

SHEET NUMBER

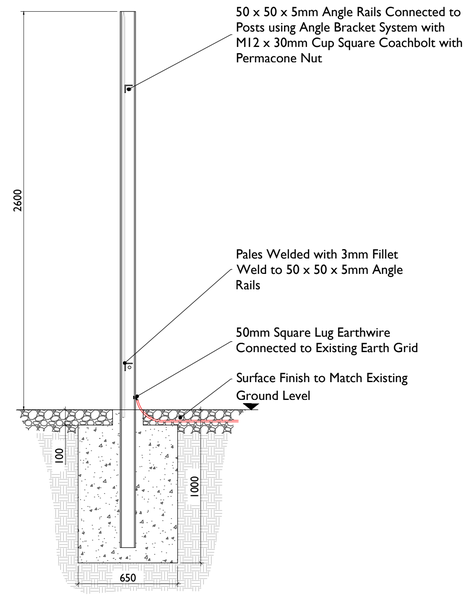
05990-DR-115

ISO A1 594mm x 841mm



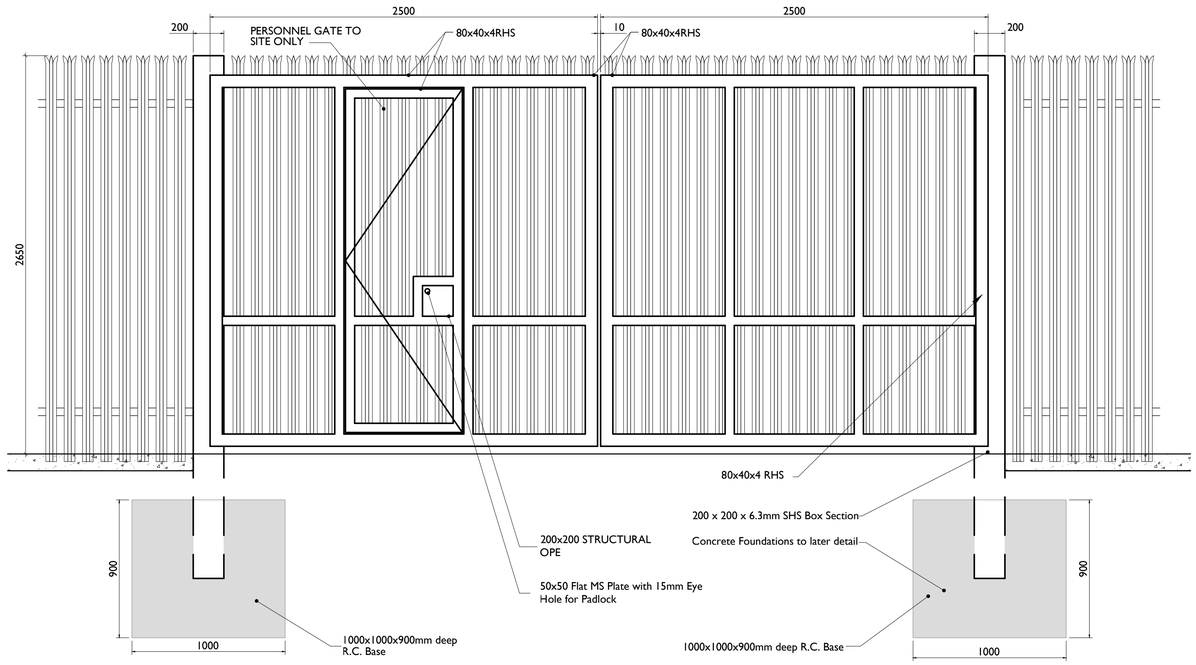
PALISADE FENCING DETAILS - ELEVATION

SCALE 1:20



PALISADE FENCING DETAILS - SECTION

SCALE 1:20



PALISADE FENCING DETAILS - ELEVATION

SCALE 1:20

Project Management Initials: Designer: CH Checked: GD Approved: RG

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PROJECT

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220kV Grid Connection

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CONSULTANTS

NOTES: -

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LEGEND: -

ISSUE/REVISION

P1	04.06.24	Issued for Planning
I/R	DATE	DESCRIPTION

PROJECT NUMBER

05-990

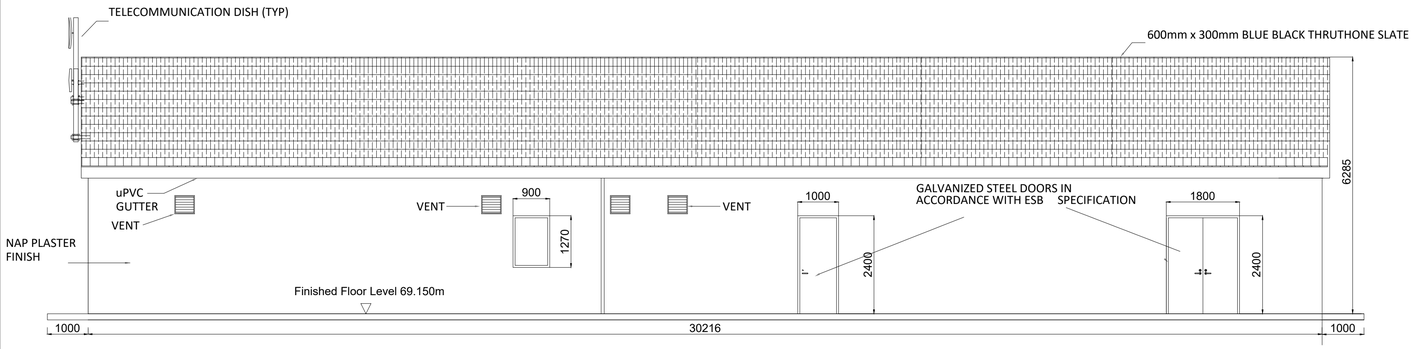
SHEET TITLE

Gate & Fencing Details

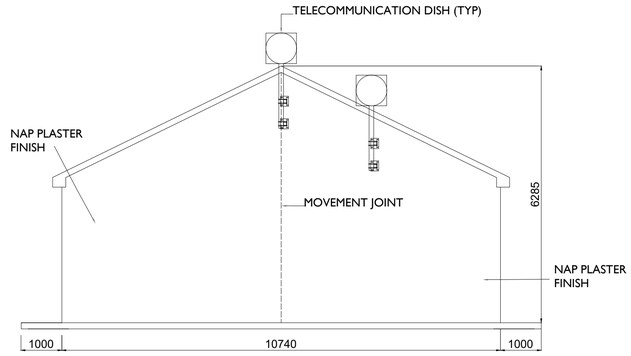
SHEET NUMBER

05990-DR-116

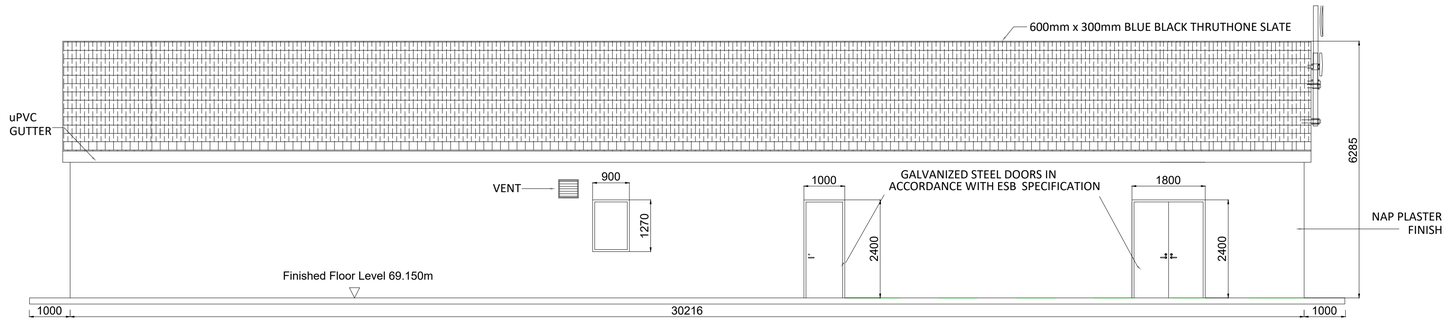
ISO A1 594mm x 841mm



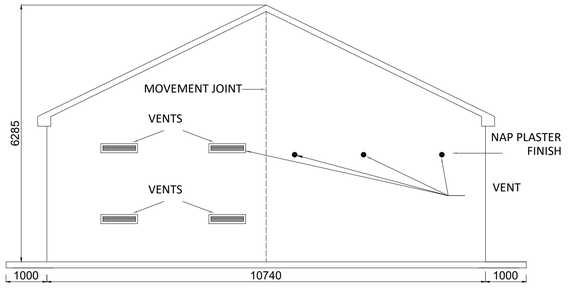
ELEVATION A-A
Scale : 1:75



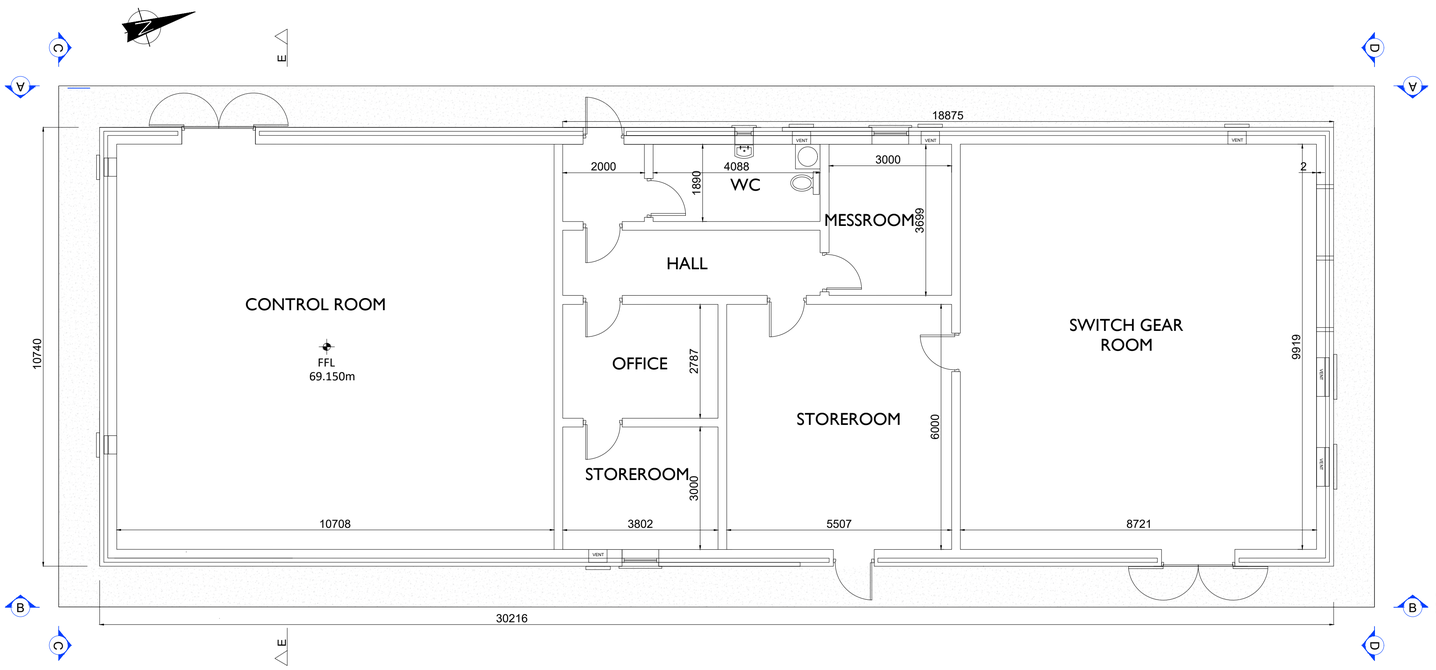
ELEVATION C-C
Scale : 1:75



ELEVATION B-B
Scale : 1:75



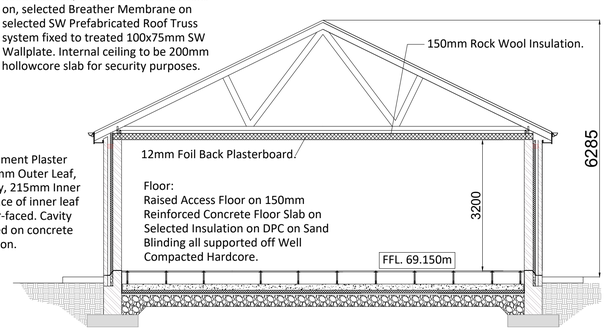
ELEVATION D-D
Scale : 1:75



PLAN - IPP BUILDING
Scale : 1:75

Roof Construction:
Rood slate on, treated SW Roof Battens on, selected Breather Membrane on selected SW Prefabricated Roof Truss system fixed to treated 100x75mm SW Wallplate. Internal ceiling to be 200mm hollowcore slab for security purposes.

Cavity Wall:
Flat Sand / Cement Plaster finish to 100mm Outer Leaf, 100mm Cavity, 215mm Inner Leaf. Inside face of inner leaf to remain fair-faced. Cavity wall supported on concrete strip foundation.



SECTION E-E
Scale : 1:75

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PROJECT

Clonberne Wind Farm 220kV Grid Connection

CLIENT

Clonberne Windfarm Limited

CONSULTANTS

NOTES: -

1. Layout and Arrangements of Substation Building and Electrical Equipment is shown indicatively and for illustration purposes only.
2. Dimensions shown are as per current EirGrid Specifications at the time of submission. Dimensions may vary at time of construction to reflect any revisions to EirGrid Specifications.
3. Final Specifications of Buildings and Electrical Equipment is to be as per Eirgrid and ESB Specifications.
4. The Elevation of the Compound will be depicted by localized Topography such that Cut/Fill Earthworks associated with the construction of the Compound are balanced.

LEGEND: -

Levels shown thus 93.340m

Concrete Footpath shown thus

ISSUE/REVISION

P1	04.06.24	Issued for Planning
I/R	DATE	DESCRIPTION

PROJECT NUMBER

05-990

SHEET TITLE

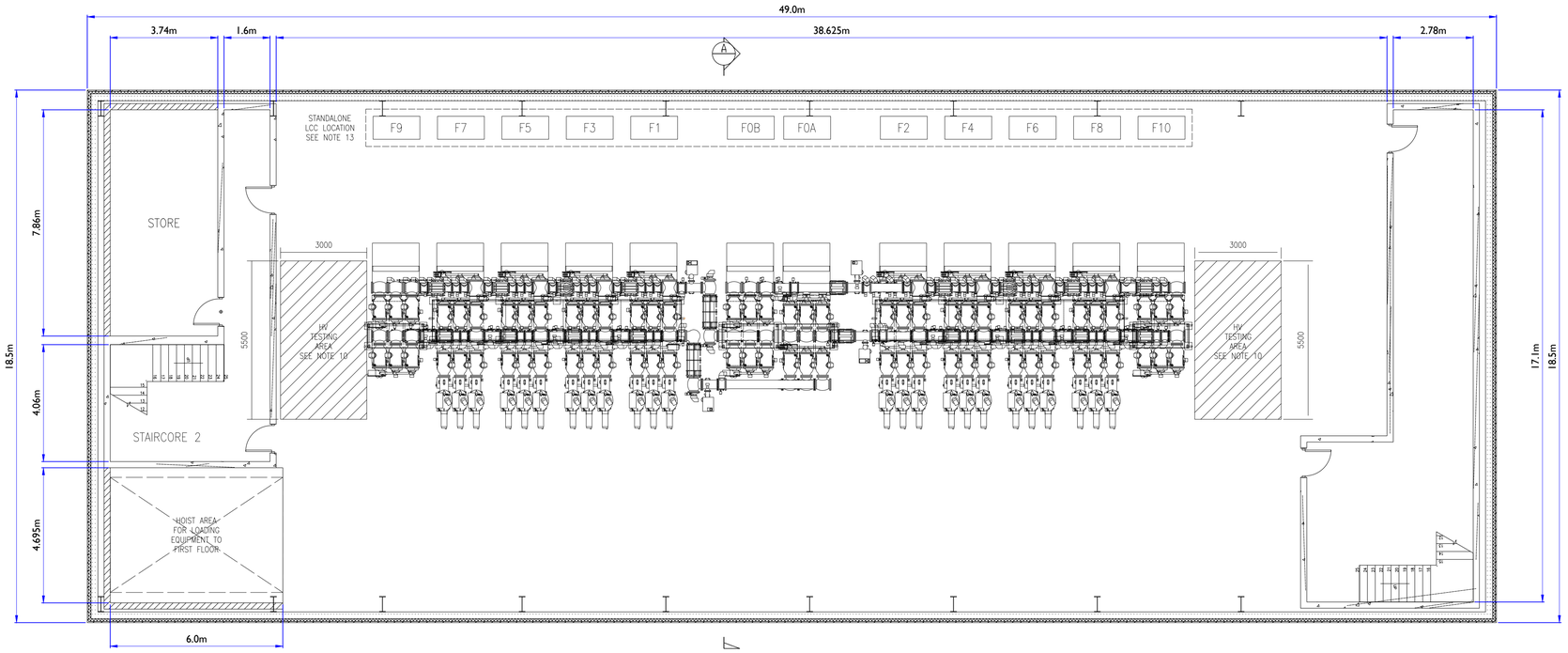
MV Customer Switchgear Room Plan And Elevations & Section

SHEET NUMBER

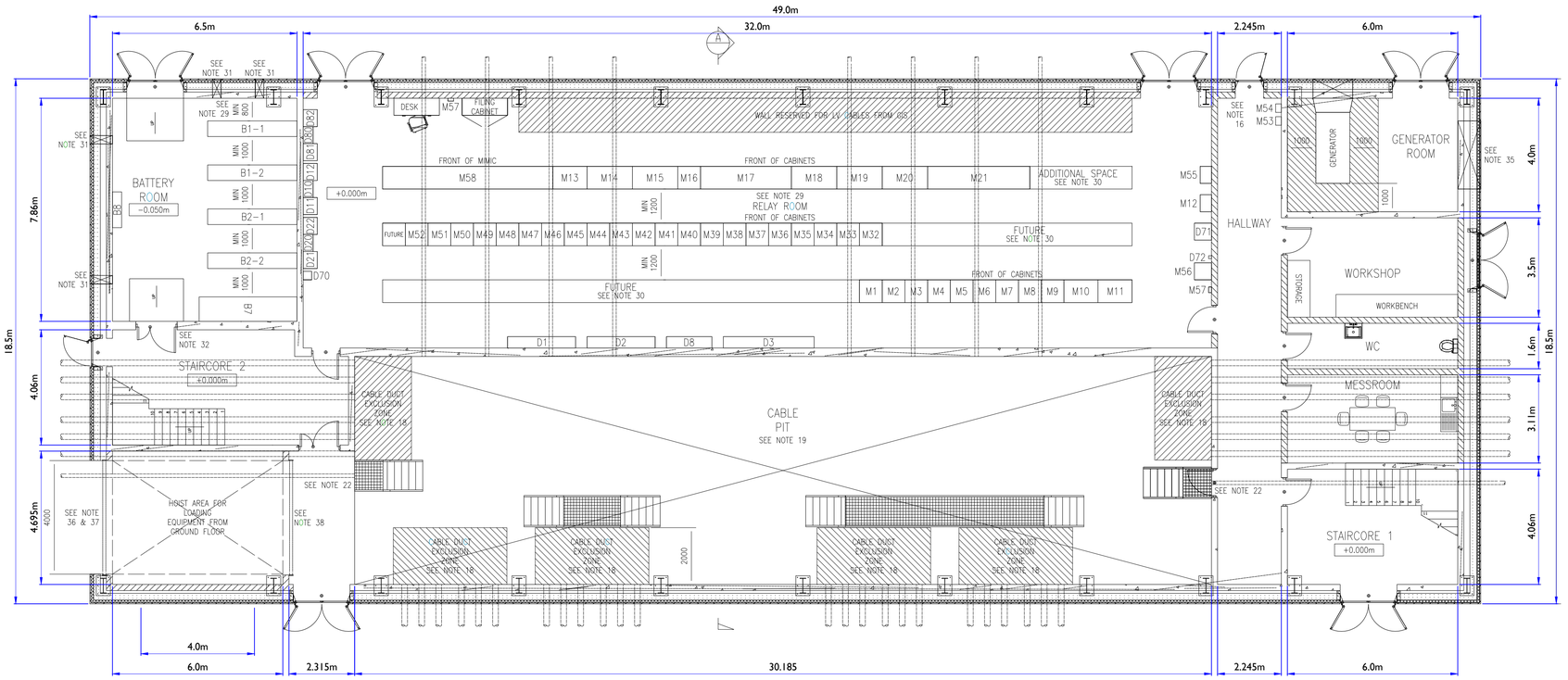
05990-DR-117

Project Management Initials: Designer: LG Checked: JF Approved: AC

ISO A1 594mm x 841mm



FIRST FLOOR PLAN
SCALE: 1:100



GROUND FLOOR PLAN
SCALE: 1:100

Project Management Initials: Designer: RR Checked: CH Approved: AC

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CLIENT

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CONSULTANTS

NOTES: -

LEGEND: -

ISSUE/REVISION

P1	04.06.24	Issued for Planning
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PROJECT NUMBER

05-990

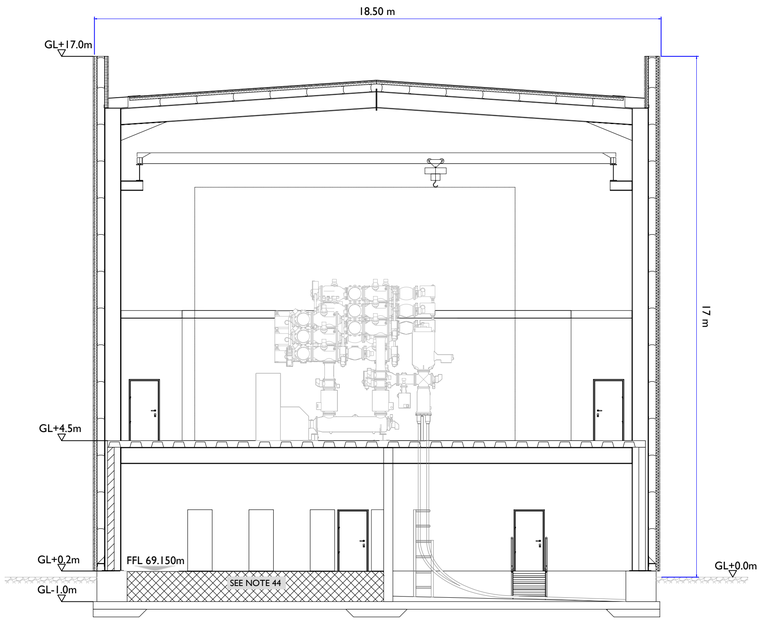
SHEET TITLE

220kV GIS Building
General Arrangement
Ground & First Floor Plans

SHEET NUMBER

05990-DR-118

ISO A1 594mm x 841mm



ELEVATION - SECTION A-A

SCALE: 1:100

CABINET/EQUIPMENT LIST		
CABINET DESIGNATION	DESCRIPTION	DIMSENSIONS
B1-1	220V DC BATTERY 1, STAND 1	3150x550
B1-2	220V DC BATTERY 1, STAND 2	3150x550
B2-1	220V DC BATTERY 2, STAND 1	3150x550
B2-2	220V DC BATTERY 2, STAND 2	3150x550
B7	48V DV TELECOMS BATTERY	3450x860
B8	48V DC STATION BATTERY	1260x320
D1	220V DC DISTRIBUTION BOARD 1	2400x400
D2	220V DC DISTRIBUTION BOARD 2	2400x400
D8	48V DC DISTRIBUTION BOARD	1600x400
D3	AC DISTRIBUTION BOARD	3200x400
D10	220V BATTERY No. 1 CHARGER CHANGEOVER SWITCH & FUSE BOX	600x350
D11	220V BATTERY No. 1 CHARGER 1 & BATTERY SUPERVISION	600x500
D12	220V BATTERY No. 1 CHARGER 2 & BATTERY SUPERVISION	600x500
D20	220V BATTERY No. 2 CHARGER CHANGEOVER SWITCH & FUSE BOX	600x350
D21	220V BATTERY No. 2 CHARGER 1 & BATTERY SUPERVISION	600x500
D22	220V BATTERY No. 2 CHARGER 2 & BATTERY SUPERVISION	600x500
D80	24/48V BATTERY: CHARGER 1 & BATTERY SUPERVISION	600x350
D81	24/48V BATTERY: CHARGER 1 & BATTERY SUPERVISION	600x500
D82	24/48V BATTERY: CHARGER 2 & BATTERY SUPERVISION	600x500
D70	48V TELECOMS CONNECTION/FUSE BOX	
D71	48V SMPS (TELECOMS)	600x600
D72	TELECOMS ISOLATION SWITCH	100x100
M1	OPMUX 1	800x800
M2	OPMUX 2	800x800
M3	OPMUX 3	800x800
M4	ODF	800x800
M5	IP SERVICES	800x800
M6	48V DC (TELECOMS) DISTRIBUTION BOARD	600x600
M7	MAIN DISTRIBUTION FRAME	800x800
M8	NCC RTU 1 (INCLU. GPS CLOCK)	800x800
M9	NCC RTU 2 (INCLU. GPS CLOCK)	800x800
M10	TELEMETERING 1	1200x800
M11	TELEMETERING 2	1200x800
M12	DCC RTU	600x400
M13	SYNCHRONISING PANEL	1200x800
M14	EVENT RECORDER/AAP 1	1600x800
M15	EVENT RECORDER/AAP 2	1600x800
M16	BATTERY SUPERVISION	800x800
M17	SIGNAL INTERPOSING	3200x800
M18	BUSBAR PROTECTION 1	1600x800
M19	BUSBAR PROTECTION 2	1600x800
M20	BUSBAR PROTECTION 3	1600x800
M21	CUSTOMER INTERFACE	4800x800
M22	F19 COUPLER PROTECTION	800x800
M23	F17 PROTECTION	800x800
M24	F17 PROTECTION	800x800
M25	F17 PROTECTION	800x800
M26	F17 PROTECTION	800x800
M27	F17 PROTECTION	800x800
M28	F17 PROTECTION	800x800
M29	F17 PROTECTION	800x800
M30	F17 PROTECTION	800x800
M31	F9A SECTIONALISER PROTECTION	800x800
M32	F9B SECTIONALISER PROTECTION	800x800
M33	F7 PROTECTION	800x800
M34	F7 PROTECTION	800x800
M35	F5 PROTECTION	800x800
M36	F5 PROTECTION	800x800
M37	F3 PROTECTION	800x800
M38	F3 PROTECTION	800x800
M39	F1 PROTECTION	800x800
M40	F1 PROTECTION	800x800
M41	F0A SECTIONALISER PROTECTION	800x800
M42	F0B SECTIONALISER PROTECTION	800x800
M43	F2 PROTECTION	800x800
M44	F2 PROTECTION	800x800
M45	F4 PROTECTION	800x800
M46	F4 PROTECTION	800x800
M47	F6 PROTECTION	800x800
M48	F6 PROTECTION	800x800
M49	F8 PROTECTION	800x800
M50	F8 PROTECTION	800x800
M51	F10 COUPLER PROTECTION	800x800
M52	REMOTE INTERROGATION/DISTURBANCE RECORDER	800x800
M53	INTRUDER ALARM PANEL	
M54	FIRE ALARM PANEL	
M55	ETIT	600x400
M56	EIRGRID ENERGY METERING	800x800
M57	TELEPHONE POINTS (2No.)	
M58	MIMIC	600x800

GENERAL:

NOTE 1:
THIS DRAWING IS PRODUCED FOR INFORMATION PURPOSES ONLY. ALL DIMENSIONS, REFERENCES (EG. LIGHTNING MAST LOCATIONS ETC.) GIVEN ARE INDICATIVE AND SHOULD NOT BE USED AS PART OF A DETAILED DESIGN.
NOTE 2:
THIS IS A CONCEPTUAL DESIGN. DETAILED DESIGN IS REQUIRED PENDING CONFIRMATION OF SPECIFIC EQUIPMENT SUPPLIER AND SITE DETAILS.
NOTE 3:
BUILDING HAS BEEN SPECIFICALLY DESIGNED TO ACCOMMODATE 4 No. TRANSFORMER BAYS (CABLE CONNECTION) AND 8 No. FEEDER BAYS (CABLE CONNECTIONS).
NOTE 4:
WHERE THERE IS MORE THAN ONE MINIMUM DISTANCE STATED FOR A SPECIFIC AREA THE LARGEST MINIMUM DISTANCE SHOULD BE ADHERED TO.
NOTE 5:
FIRE AND ATEX ZONES NOT SHOWN, THIS SHOULD BE CONSIDERED DURING THE CUSTOMER DESIGN.
NOTE 6:
CIVIL CALCULATIONS ARE TO BE CARRIED OUT AT THE DETAIL DESIGN STAGE AND TAKE INTO ACCOUNT SPECIFIC, EXISTING SITE GROUND CONDITIONS.

SWITCH GEAR

NOTE 7 (AS ILLUSTRATED ON DRAWING):
THE SWITCHGEAR SHOWN ON THIS DRAWING IS INDICATIVE ONLY. DIMENSIONS OF THE OVERALL BUILDING SHALL BE DESIGNED TO SUIT MANUFACTURER SPECIFIC DIMENSIONS. ENVELOPE AROUND THE SWITCHGEAR SHALL BE WITH MANUFACTURER RECOMMENDATIONS FOR ON-GOING OPERATION, MAINTENANCE AND REPLACEMENT OF HV PLANT.
NOTE 8:
REQUIREMENT FOR GIS OVERPRESSURE VENTS TO BE CONFIRMED BY GIS SUPPLIER.
NOTE 9:
ALL OPES IN GIS ROOM FOR LV AND HV CABLES TO BE FIRE SEALED.
NOTE 10 (AS ILLUSTRATED ON DRAWING):
MINIMUM CLEAR AREA ON BOTH SIDES OF THE GIS FOR THE HV TEST EQUIPMENT IS 3000mm.
NOTE 11:
LV CABLE ROUTING FOR FUTURE SWITCHGEAR BAYS SHALL BE CONSIDERED AS PART OF THE DETAILED DESIGN. DIFFERENCES IN LENGTH BETWEEN THE RELAY ROOM AND THE SWITCHGEAR HALL MUST BE NOTED AT THE DETAIL DESIGN PHASE, WITH LV CABLING ROUTED ACCORDINGLY.
NOTE 12:
SPECIFIC SWITCHROOM FLOOR REQUIREMENTS ARE TO SUIT THE MANUFACTURER'S SPECIFICATIONS AND ARE TO BE EVALUATED AT THE DETAIL DESIGN STAGE.
NOTE: 13
BOTH OPTIONS OF LCC, INTEGRATED AND STANDALONE, HAVE BEEN SHOWN FOR INFORMATIONAL PURPOSES.
NOTE 14:
HIGH FREQUENCY MESH IS TO BE LAID WITHIN THE GIS FLOOR AND SUIT SWITCHGEAR MANUFACTURER REQUIREMENTS. FOR FUTURE DETAILS ON EIRGRID EARTHING REQUIREMENTS, REFER TO EIRGRID'S FUNCTIONAL SPECIFICATION XDS-GFS-12-001.
NOTE 15:
GIS ACCESS PLATFORMS SHOWN ARE INDICATIVE ONLY AND SHALL BE EVALUATED AT THE DETAIL DESIGN PHASE.

HALLWAY

NOTE 16 (AS ILLUSTRATED ON DRAWING):
FIRE AND ALARM PANELS TO BE LOCATION IN THE VICINITY OF THE MAIN ENTRANCE.

CABLE PITS

NOTE 17:
THE MAXIMUM LENGTH OF A CABLE THAT CAN BE PUSHED INTO THE CABLE ROOM IS 100m ROUTE LENGTH.
NOTE 18 (AS ILLUSTRATED ON DRAWING):
BUILDING DESIGNER AND CABLE DESIGNER SHALL BE CO-ORDINATE WORKS TO ENSURE THERE ARE NO OBSTRUCTIONS LOCATED 2m DIRECTLY IN FRONT OF THE CABLE ROOM.
NOTE 19 (AS ILLUSTRATED ON DRAWING):
ADEQUATE AREA TO BE PROVIDED IN THE VICINITY OF THE GIS BUILDING TO ALLOW SPACE FOR SETTING UP THE EQUIPMENT NEEDED FOR CABLE PULLING OPERATIONS. THIS AREA IS APPROX. 12m x 12m FOR EACH CABLE CIRCUIT, CABLE DESIGNER TO CONSIDER.
NOTE 20:
AN OPENING MUST BE PROVIDED FOR EACH CIRCUIT TO ALLOW FOR SUITABLE CABLE PULLING DUCTS.
NOTE 21:
CABLE SUPPORT STEELWORK TO BE PROVIDED BY THE CONTRACTOR. WALL TO BE CAPABLE OF SUPPORTING HV CABLES, RING CT's ETC.
NOTE 22 (AS ILLUSTRATED ON DRAWING):
AN OPENING SHALL BE PROVIDED UNDER THE STAIRS FOR CABLE PULLING.
NOTE 23:
SUITABLE ANCHOR POINTS SHALL BE INSTALLED FOR CABLE PULLING.
NOTE 24 (AS ILLUSTRATED ON DRAWING):
INDICATIVE MODULAR/RELOCATABLE WALKWAY BRIDGES HAVE BEEN SHOWN WITHIN THE CABLE PIT AND ARE INTENDED TO PROVIDE AN UNIMPEDED ROUTE OF ESCAPE FROM THE PIT IN THE EVENT OF AN EMERGENCY. BRIDGES ARE TO BE CONSTRUCTED WITH A NON-METALLIC MATERIAL. I.E. GLASS REINFORCED PLASTIC.
NOTE 25:
CABLE PIT ENTRY DUCTS LOCATIONS ARE INDICATIVE ONLY. DUCTING SHALL BE FACILITATED TO SUIT THE ULTIMATE DEVELOPMENT OF THE STATION TO REDUCE THE POSSIBILITY OF WATER INGRESS.
NOTE 26:
RISK ASSESSMENT TO BE CARRIED OUT AT DETAIL DESIGN STAGE TO EVALUATE THE REQUIREMENT FOR FORCED VENTILATION WITHIN CABLE PIT.
NOTE 27:
LINK BOXES LOCATED IN THE CABLE BASEMENTS SHALL BE READILY ACCESSIBLE FOR OPERATIONS STAFF FOR THE MAINTENANCE PURPOSES WITH SAFETY SIGNAGE AS OUTLINED IN THE EIRGRID CABLE SPECIFICATIONS.
NOTE 28:
TELECOMMUNICATIONS DUCTS SHALL BE ROUTED DIRECTLY TO THE RELAY ROOM AS PER ESB TELECOMS REQUIREMENTS.

BATTERY ROOM:

NOTE 29 (AS ILLUSTRATED ON DRAWING):
MINIMUM CLEAR DISTANCE BETWEEN 220V BATTERY STANDS AND WALLS IS 800mm.
NOTE 30:
BATTERIES SHOULD BE LOCATED AWAY FROM THE WALL TO ENSURE ACCESS TO ALL THE BATTERY CELLS FOR MAINTENANCE. BATTERIES SHOULD NOT BE LOCATED IN FRONT OF AIR VENTS.
NOTE 31 (AS ILLUSTRATED ON DRAWING):
SCREENED VENTS (2 HIGH LEVEL AND 2 LOW LEVEL) ARE TO BE INSTALLED IN THE BATTERY ROOM AS PER IEC 62485-2 ON ADJACENT EXTERNAL WALL. MINIMUM VENT DIMENSIONS: 900x225mm.
NOTE 32 (AS ILLUSTRATED ON DRAWING):
ACCESS DOOR TO STAIRCORE 2 FROM HOIST AREA, AND ADDITIONAL DOUBLE DOOR EXIT IN BATTERY ROOM TO BE SIZED APPROPRIATELY. SIZE REQUIREMENT TBC IN LINE WITH FIRE REGULATIONS.
NOTE 33:
BATTERY ROOM FLOOR IS TO BE FITTED WITH NON-SLIP, ACID RESISTANT VINYL AS PER THE REQUIREMENTS OF XDS-GFS-13-001-R2.
NOTE 34:
DETAIL DESIGN IS TO CARRY OUT APPROPRIATE RISK ASSESSMENT & VENTILATION CALCULATIONS TO EVALUATE BATTERY ROOM VENT REQUIREMENTS.

GENERATOR ROOM

NOTE 35 (AS ILLUSTRATED ON DRAWING):
MINIMUM DIESEL GENERATOR LOUVRE DIMENSIONS 1200x1200mm.

HOIST AREA

NOTE 36 (AS ILLUSTRATED ON DRAWING):
EQUIPMENT ACCESS DOOR TO SIZED SUCH THAT A STANDARD ESB TRUCK CAN BE REVERSED IN HOIST AREA (MIN 4000mm WIDTH).

NOTE 37 (AS ILLUSTRATED ON DRAWING):
ROLLER SHUTTER DOOR EXTENDS TO CEILING LEVEL OF THE GROUND FLOOR OF THE GIS BUILDING.

NOTE 38 (AS ILLUSTRATED ON DRAWING):
ROLLER SHUTTER DOOR TO BE INSTALLED BETWEEN HOIST AREA AND THE CABLE PIT AND IS INTENDED TO PREVENT VERTICAL FIRE TRAVEL BETWEEN THE FIRST AND SECOND FLOORS OF THE BUILDING, INLINE WITH FIRE REGULATIONS

RELAY ROOM

NOTE 39 (AS ILLUSTRATED ON DRAWING):
RELAY ROOM MUST BE SIZED APPROPRIATELY TO ALLOW FOR ULTIMATE DEVELOPMENT OF STATION.
NOTE 40 (AS ILLUSTRATED ON DRAWING):
SPACE SHOULD BE CONSIDERED FOR ADDITIONAL TELECOMS AND PROTECTION PANELS.
NOTE 41:
INDICATIVE CABLE ACCESS SHOWN.
NOTE 42:
A TELECOMS EARTH BAR SHALL BE INSTALLED IN CLOSE PROXIMITY TO THE DCC RTU.
NOTE 43:
NO ELECTRICAL EQUIPMENT (INCL. BATTERIES) SHALL BE INSTALLED DIRECTLY IN FRONT OF VENTS.
NOTE 44 (AS ILLUSTRATED ON DRAWING):
RELAY ROOM FLOOR CONSTRUCTION TO SUIT ROOM REQUIREMENTS,

ROOF ACCESS

NOTE 45:
ROOF ACCESS IS TO BE EVALUATED AT THE DETAIL DESIGN STAGE BY CONDUCTING A RISK ASSESSMENT.

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PROJECT

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220kV Grid Connection

CLIENT

Clonberne Windfarm Limited

CONSULTANTS

NOTES: -

LEGEND: -

ISSUE/REVISION

P1	04.06.24	Issued for Planning
I/R	DATE	DESCRIPTION

PROJECT NUMBER

05-990

SHEET TITLE

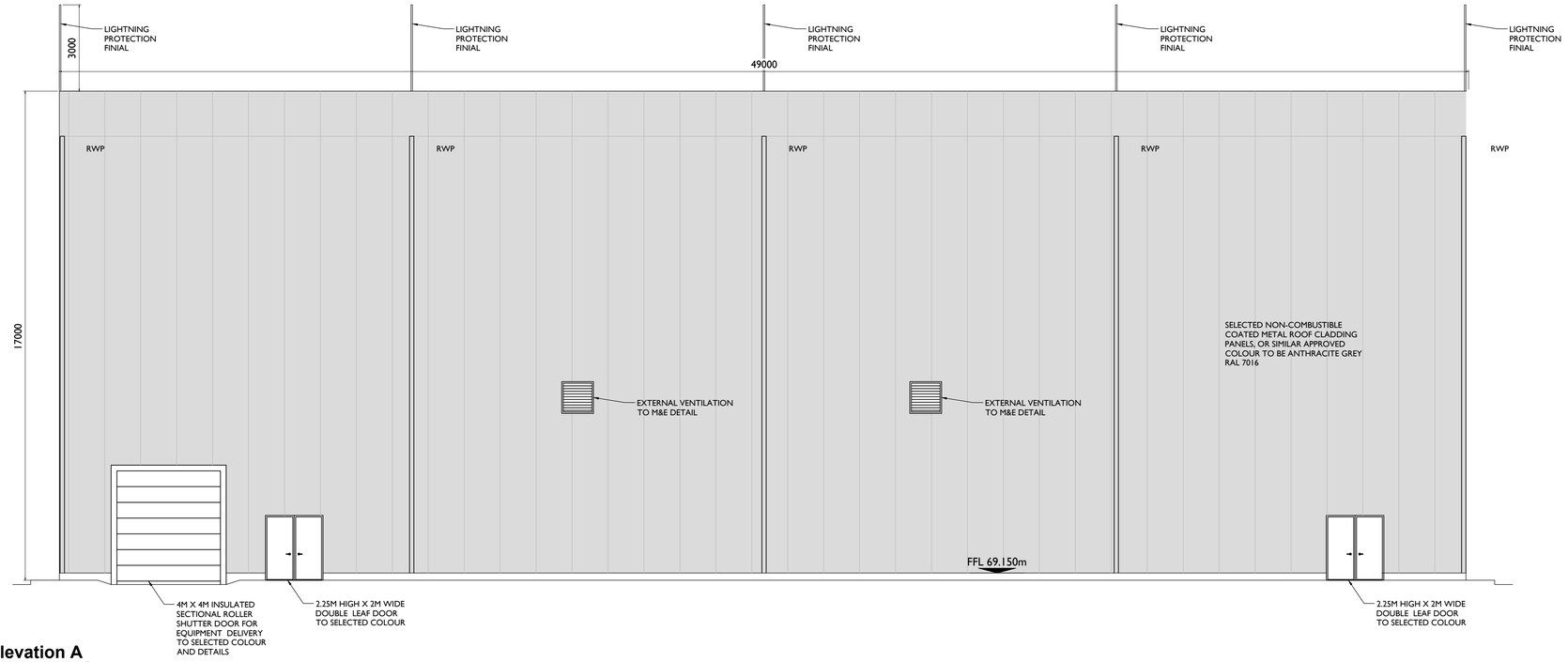
220kV GIS Building
General Arrangement
Section A-A

SHEET NUMBER

05990-DR-119

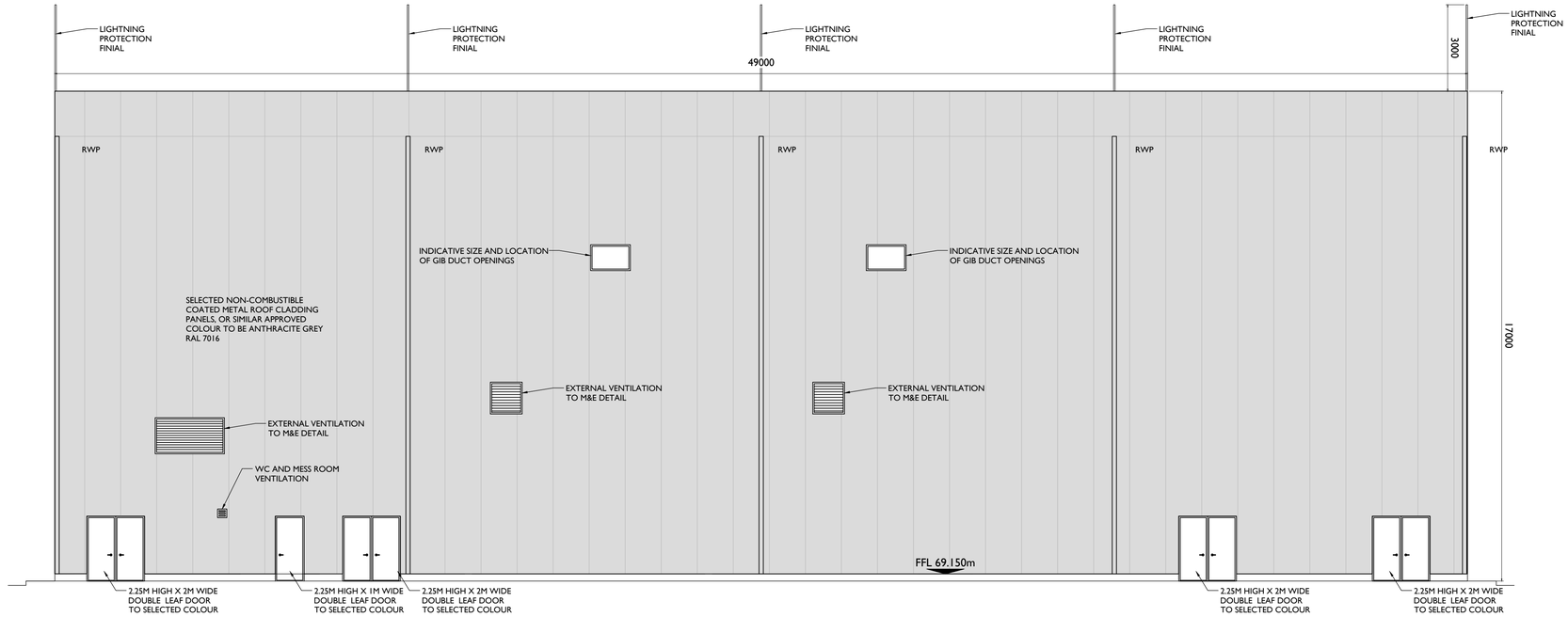
Project Management Initials: Designer: RR Checked: CH Approved: AC

ISO A1 594mm x 841mm



Elevation A

Scale: - 1:100



Elevation B

Scale: - 1:100

Project Management Initials: Designer: LG Checked: AC Approved: RG

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NOTES: -

LEGEND: -

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PROJECT NUMBER

05-990

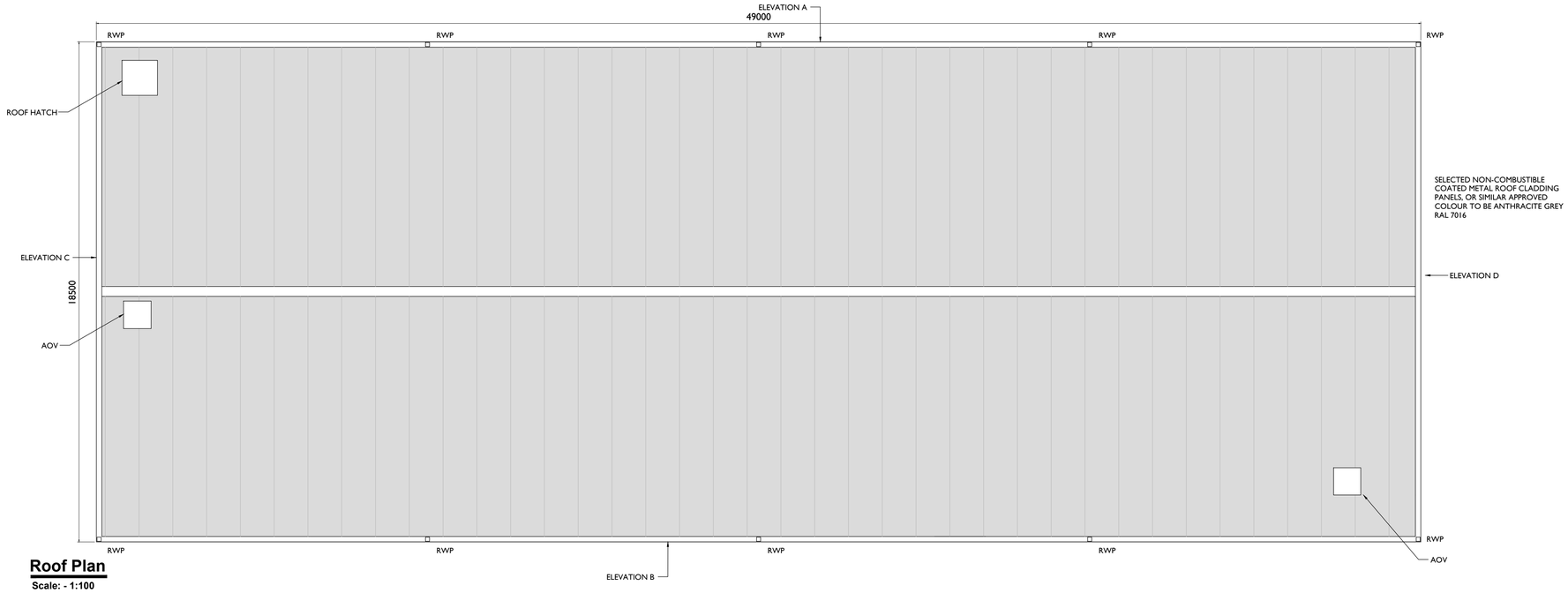
SHEET TITLE

220kV GIS Building
Elevations Sheet 1 of 2

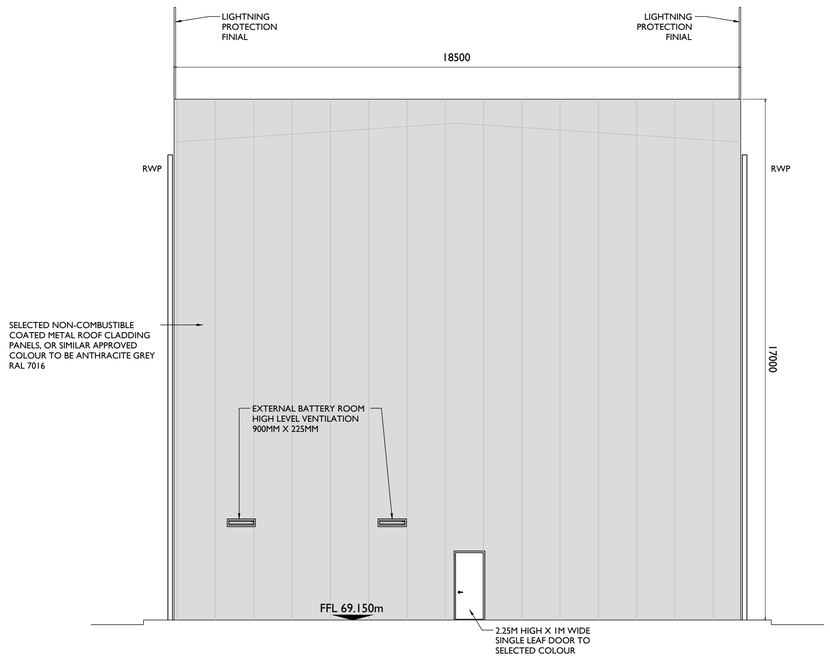
SHEET NUMBER

05987-DR-120

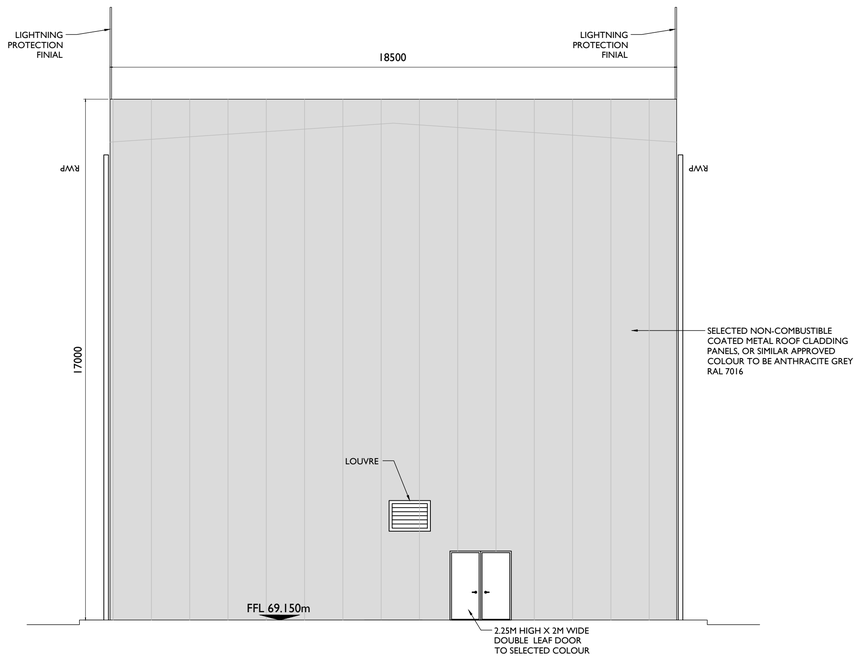
ISO A1 594mm x 841mm



Roof Plan
Scale: - 1:100



Elevation C
Scale: - 1:100



Elevation D
Scale: - 1:100

Project Management Initials: Designer: LG Checked: AC Approved: RG

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PROJECT

Clonberne Wind Farm
220kV Grid Connection

CLIENT

Clonberne Windfarm Limited

CONSULTANTS

NOTES: -

LEGEND: -

ISSUE/REVISION

I/R	DATE	DESCRIPTION
P1	04.06.24	Issued for Planning

PROJECT NUMBER

05-990

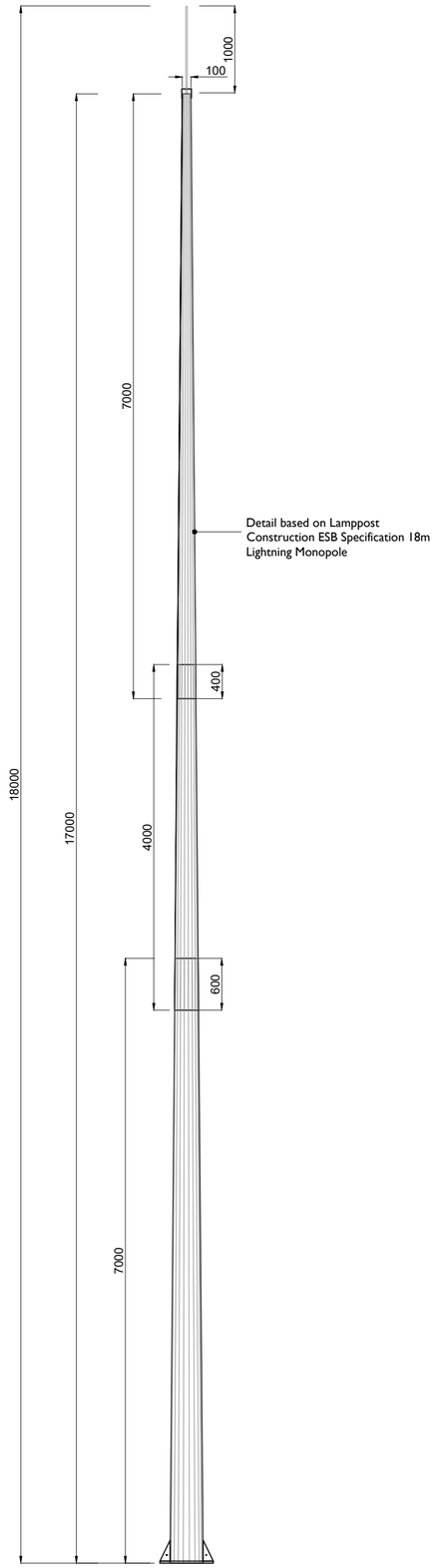
SHEET TITLE

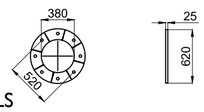
220kV GIS Building
Roof Plan & Elevations Sheet 2 of 2

SHEET NUMBER

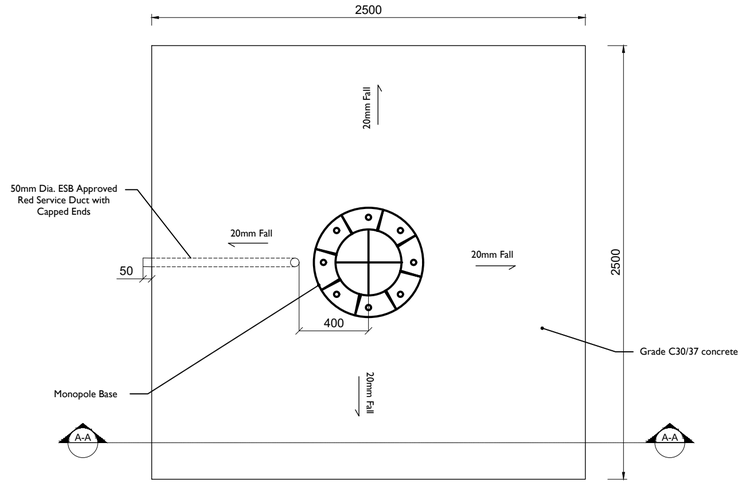
05990-DR-121

ISO A2 420mm x 594mm

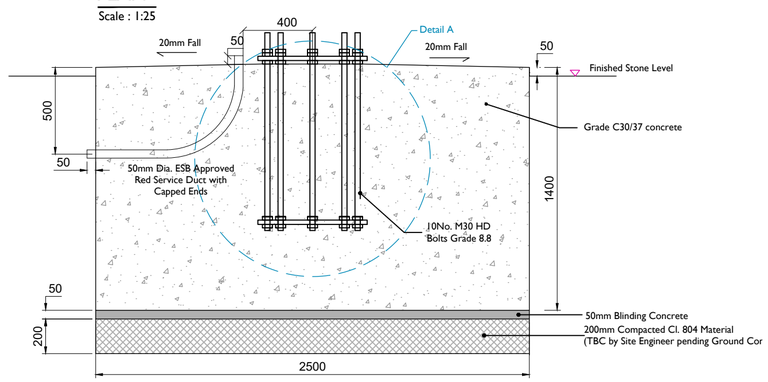




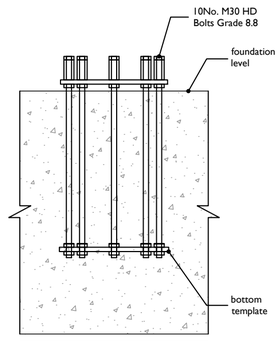
MONOPOLE DETAILS
Scale : 1:50



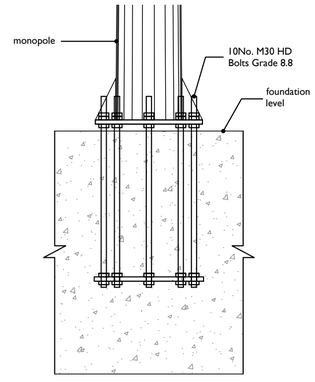
PLAN
Scale : 1:25



SECTION A-A: FOUNDATION DETAIL
Scale : 1:25



DETAIL A
Scale : 1:25



MONOPOLE BASE PLATE TO HDB CONNECTION
Scale : 1:25

GENERAL NOTES:

1. ALL drawings to be read in conjunction with the Specification and all Engineers and Architects Drawings.
2. All concrete to be in accordance with I.S. EN 206-1:2002 with the Mix Designs shown in Table 1
3. Concrete finishes to be in accordance with Table 6.1 of the ESBI Specification CS17-SO1-005.
4. ALL Reinforcement shall be in accordance with BS4449 and scheduled in accordance with BS.8666. 300mm Laps for A142 Mesh 600mm Min Laps for A393 Mesh.
5. Refer always to relevant Earth Grid drawing prior to excavations & concrete pours.
6. Geometrical tolerances to be in accordance with Table 6.2 of ESBI Specification CS17-S01-005

FOUNDATION NOTES:

7. Ground to have a minimum Bearing Capacity of 100 kN/m².
8. Formation level and Foundations to be inspected and approved by the Engineer prior to any Concrete being poured.
9. All Foundations are to be blinded immediately after excavation with 50mm of C16/20 Concrete Blinding.
10. Refer always to the relevant Earth Work Drawings prior to Excavations & Concrete pours.

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PROJECT

Clonberne Wind Farm
220kV Grid Connection

CLIENT

Clonberne Windfarm Limited

CONSULTANTS

NOTES: -

- This drawing is to be read in conjunction with relevant engineering drawings, specifications and reports
- Dimensions are in millimeters, unless noted otherwise
- Drawings are not to be scaled use figured dimensions only

LEGEND: -

ISSUE/REVISION

P1	04.06.24	Issued for Planning
I/R	DATE	DESCRIPTION

PROJECT NUMBER

05-990

SHEET TITLE

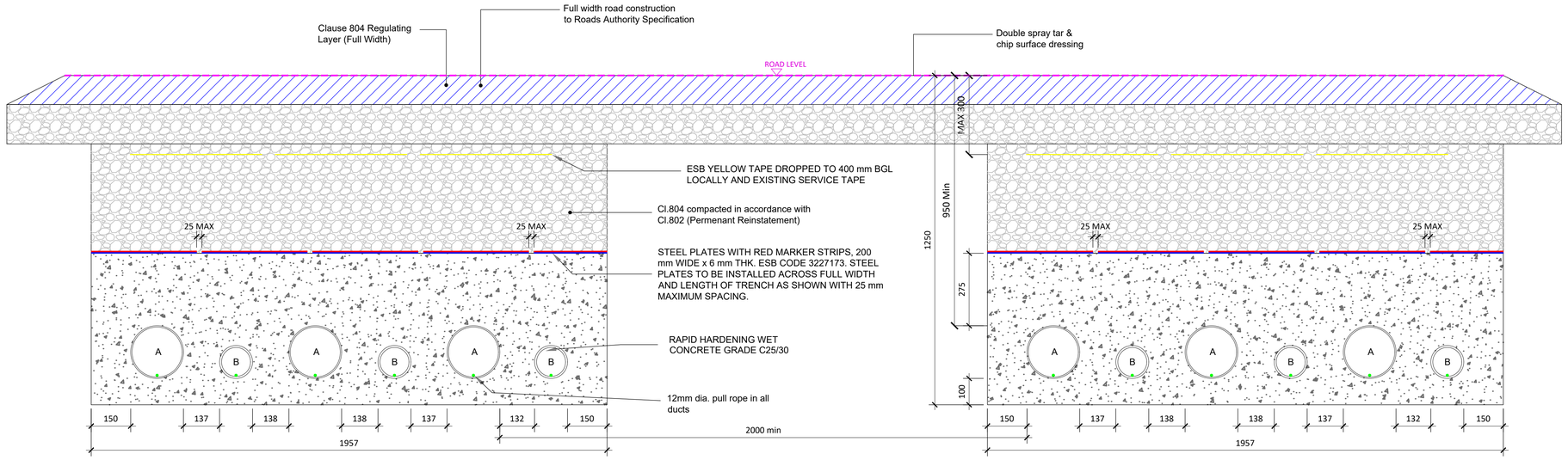
Lightning Monopole Details - 18m Mast

SHEET NUMBER

05990-DR-122

Project Management Initials: Designer: GD Checked: KC Approved: GH

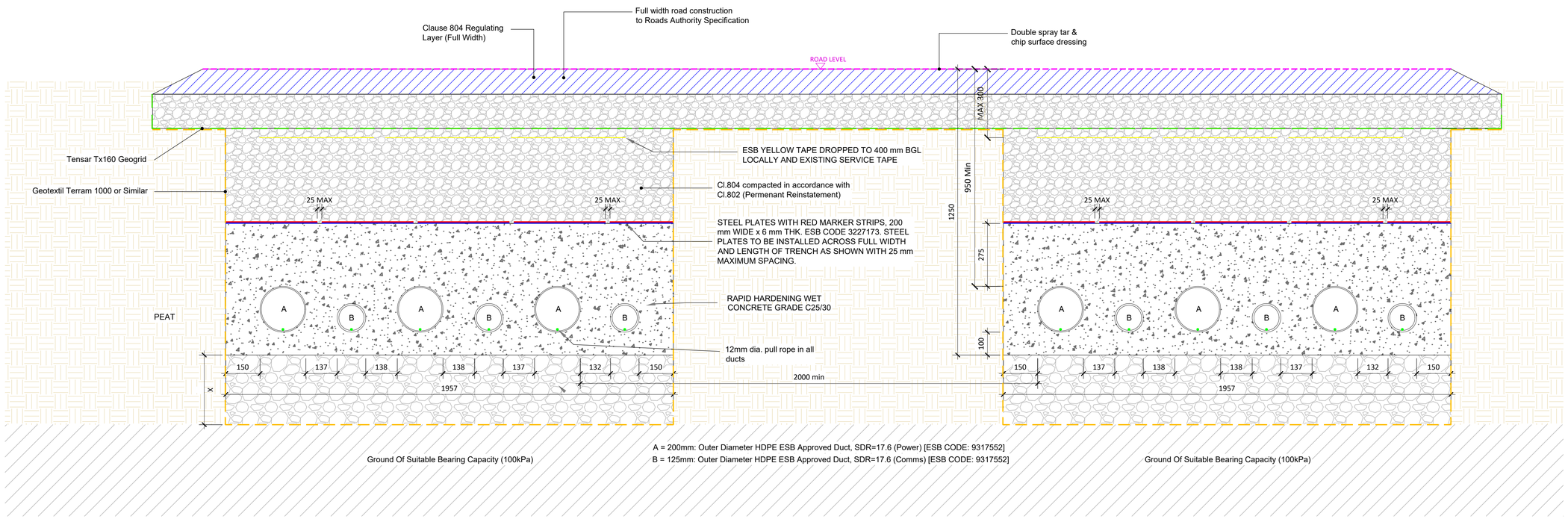
ISO A1 594mm x 841mm



A = 200mm: Outer Diameter HDPE ESB Approved Duct, SDR=17.6 (Power) [ESB CODE: 9317552]
B = 125mm: Outer Diameter HDPE ESB Approved Duct, SDR=17.6 (Comms) [ESB CODE: 9317552]

Ducting Through Road Cross Section

Scale : 1:50



Ground Of Suitable Bearing Capacity (100kPa)

A = 200mm: Outer Diameter HDPE ESB Approved Duct, SDR=17.6 (Power) [ESB CODE: 9317552]
B = 125mm: Outer Diameter HDPE ESB Approved Duct, SDR=17.6 (Comms) [ESB CODE: 9317552]

Ground Of Suitable Bearing Capacity (100kPa)

Ducting Through Road (Shallow Peat)

Scale : 1:50

ALL REINSTATEMENT WORKS ARE TO BE IN ACCORDANCE WITH LANDOWNER REQUIREMENTS

Reinstatement details based on Guidelines for Managing Openings in Public Roads - SD14

Note:
- This drawing is to be read in conjunction with relevant drawings, specifications and reports
- Dimensions are in millimeters, unless noted otherwise
- Drawings are not to be scaled use figured dimensions only

Project Management Initials: Designer: JF Checked: AC Approved: RG

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PROJECT

Clonberne Wind Farm
220kV Grid Connection

CLIENT

Clonberne Windfarm Limited

CONSULTANTS

MKO Planning and Environmental Consultants

NOTES: -

LEGEND: -

ISSUE/REVISION

I/R	DATE	DESCRIPTION
P1	04.06.24	Issued for Planning

PROJECT NUMBER

05-990

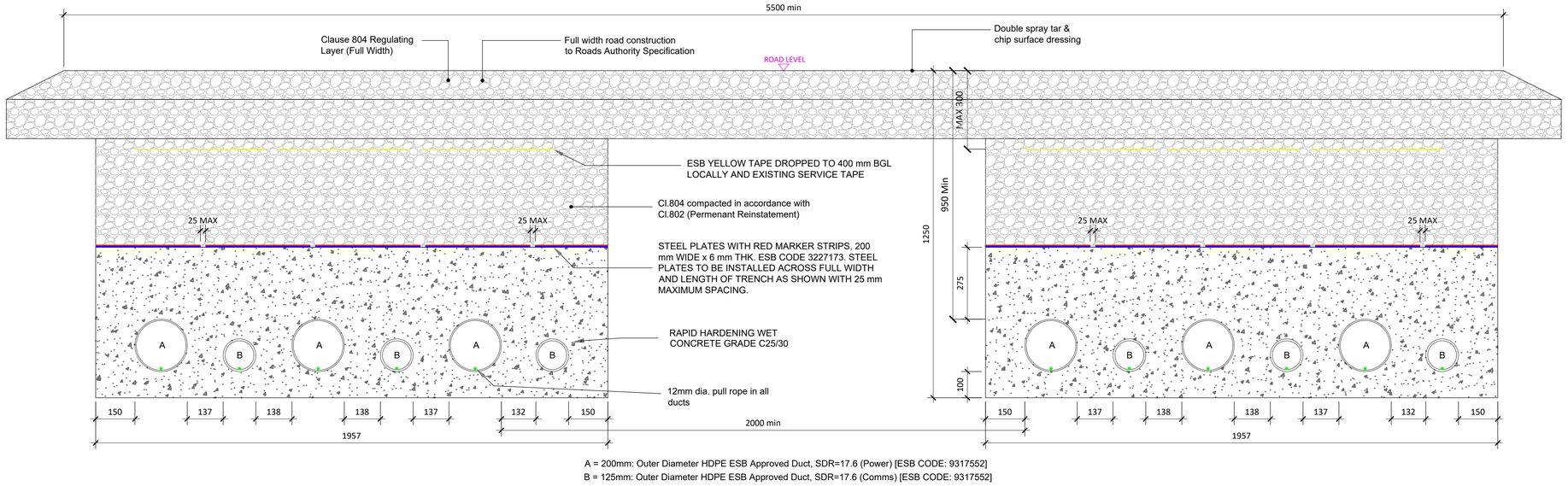
SHEET TITLE

Ducting Through Public Road
With and Without Peat

SHEET NUMBER

05990-DR-123

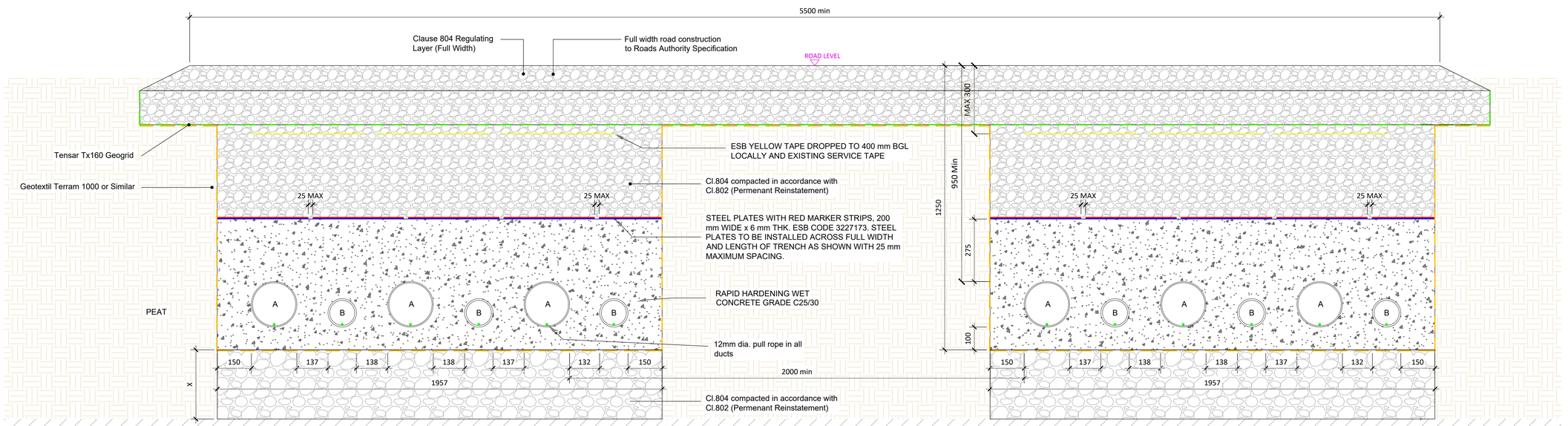
ISO A1 594mm x 841mm



A = 200mm: Outer Diameter HDPE ESB Approved Duct, SDR=17.6 (Power) [ESB CODE: 9317552]
B = 125mm: Outer Diameter HDPE ESB Approved Duct, SDR=17.6 (Comms) [ESB CODE: 9317552]

Ducting Through Access Road Cross Section

Scale : 1:50



A = 200mm: Outer Diameter HDPE ESB Approved Duct, SDR=17.6 (Power) [ESB CODE: 9317552]
B = 125mm: Outer Diameter HDPE ESB Approved Duct, SDR=17.6 (Comms) [ESB CODE: 9317552]

Ducting Through Access Road (Shallow Peat)

Scale : 1:50

ALL REINSTATEMENT WORKS ARE TO BE IN ACCORDANCE WITH LANDOWNER REQUIREMENTS

Reinstatement details based on Guidelines for Managing Openings in Public Roads - SD14

Note:
- This drawing is to be read in conjunction with relevant drawings, specifications and reports
- Dimensions are in millimeters, unless noted otherwise
- Drawings are not to be scaled use figured dimensions only

Project Management Initials: Designer: JF Checked: AC Approved: RG

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PROJECT

Clonberne Wind Farm
220kV Grid Connection

CLIENT

Clonberne Windfarm Limited

CONSULTANTS

MKO Planning and Environmental Consultants

NOTES: -

LEGEND: -

ISSUE/REVISION

P1	04.06.24	Issued for Planning
I/R	DATE	DESCRIPTION

PROJECT NUMBER

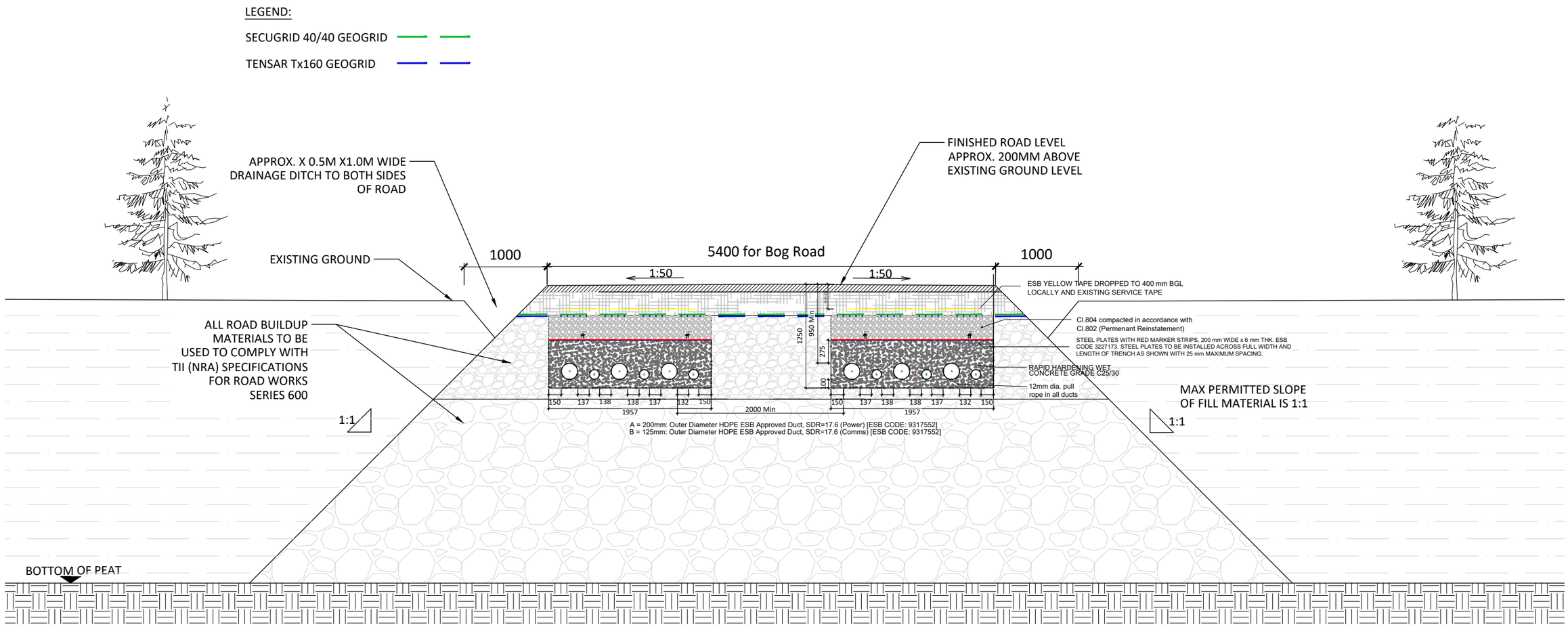
05-990

SHEET TITLE

Ducting Through Access Road
With and Without Peat

SHEET NUMBER

05990-DR-124



Cables in Bog Road Cross Section

Scale : 1:50

Note:

2. This drawing is subject to planning approval and should not be used for construction.
3. This drawing is to be read in conjunction with relevant drawings, specifications and reports.
4. Dimensions are in millimeters, unless noted otherwise.
5. Drawings are not to be scaled use figured dimensions only.
6. Underground cable circuit spacing to be determined during detailed design, road layout may change during detailed design with site investigation results.

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CLIENT
Clonberne Windfarm Limited

PROJECT
Clonberne Wind Farm
220kV Grid Connection

PROJECT NUMBER
05-990

SHEET NUMBER
05990-DR-125

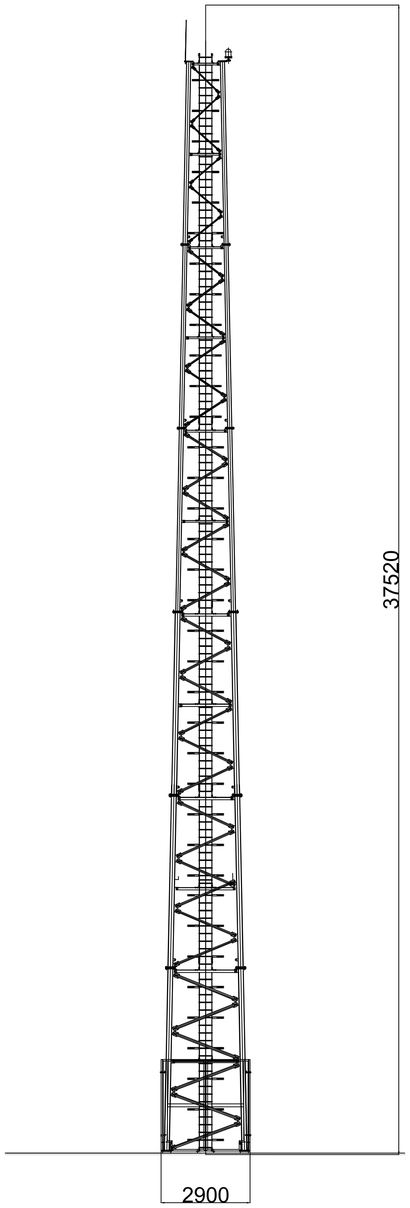
SHEET TITLE
Ducting in Bog Road
Peat Depth < 2.5m

DRAWING STATUS
For Information

ISSUE/REVISION

I/R	DATE	DESCRIPTION
P1	04.06.24	Issued for Planning

ISO A1 594mm x 841mm



Front View

Scale: - 1:100

Plan View

Scale: - 1:100

Project Management Initials: Designer: LG Checked: ER Approved: AC

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PROJECT

Clonberne Wind Farm

220kV Grid Connection

CLIENT

Clonberne Windfarm Limited

CONSULTANTS

NOTES: -

1. All dimensions noted are in mm
2. Drawing is for planning purposes only
3. Equipment/Structure details are indicative only and will be finalised during detailed design stage is
4. Detailed design shall be carried out in line with system operator and asset owner specifications.

LEGEND: -

ISSUE/REVISION

P1	04.06.24	Issued for Planning
I/R	DATE	DESCRIPTION

PROJECT NUMBER

05-990

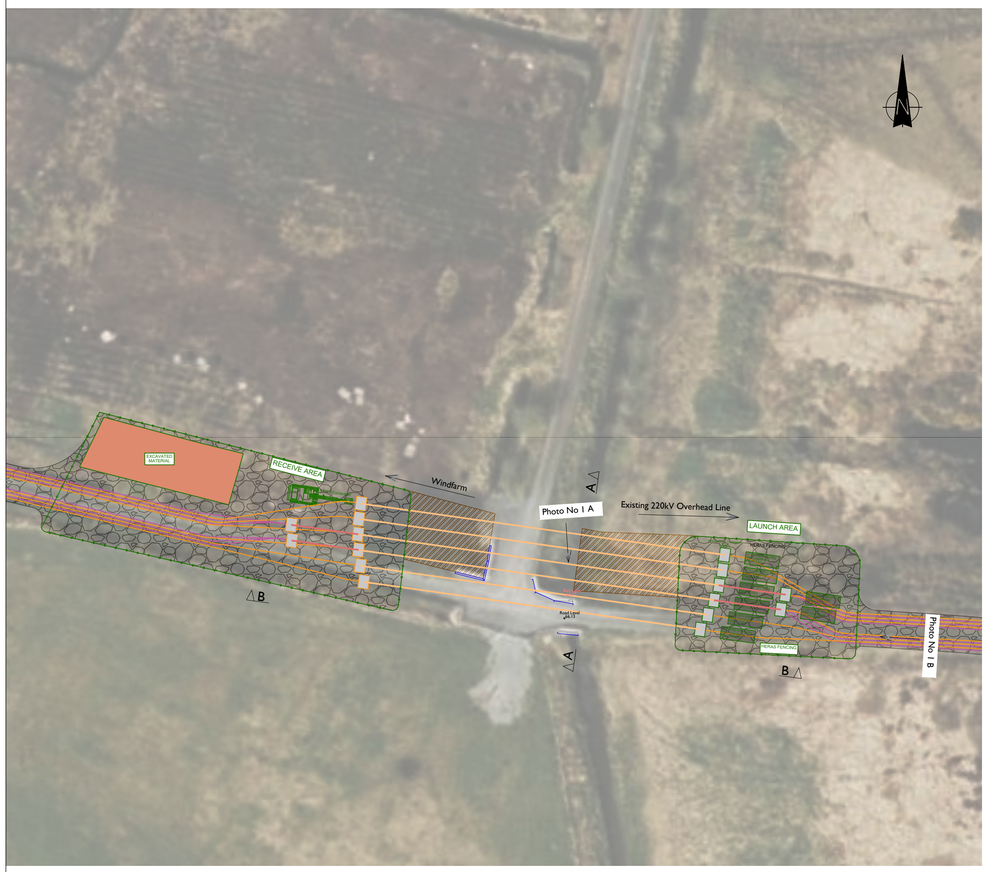
SHEET TITLE

Telecom Tower

SHEET NUMBER

05990-DR-126

ISO A1 594mm x 841mm

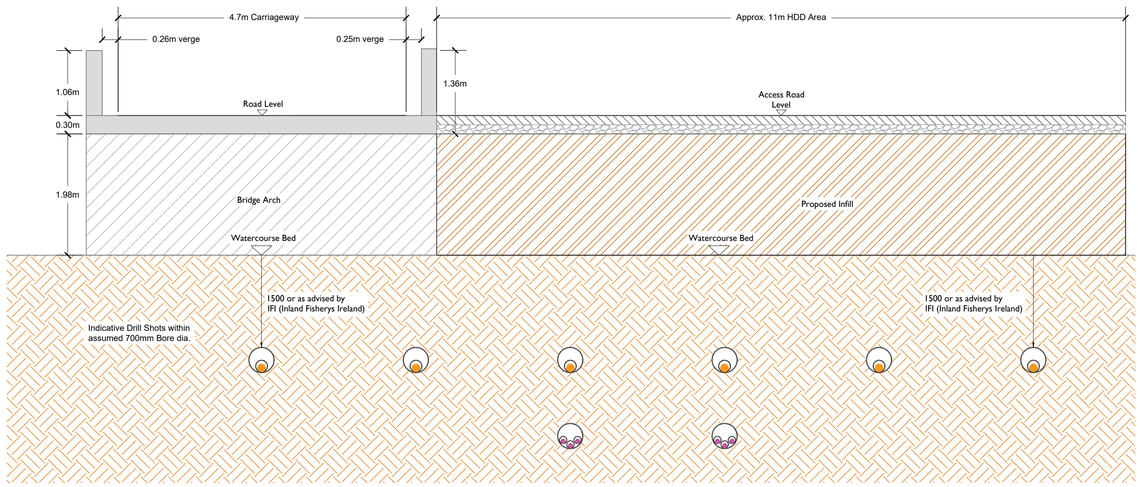


Plan View Bridge No 1

Scale : 1:250

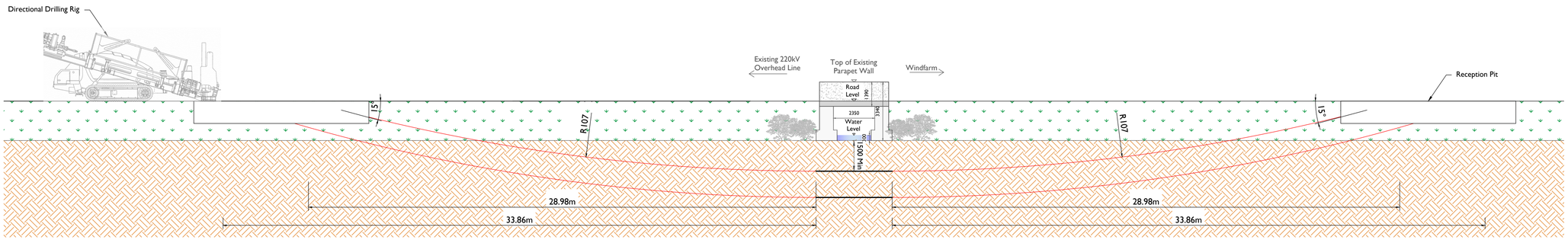
Photo No 1 A

Photo No 1 B



Section A-A

Scale : 1:50



Section B-B

Scale : 1:75

Project Management Initials: Designer: JF Checked: AC Approved: RG

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PROJECT

Clonberne Windfarm 220kV Grid Connection

CLIENT

Clonberne Windfarm Limited

CONSULTANTS

NOTES: -

- Bridge crossing designs will be submitted to Galway Co. Council for review.
- Drawings are in compliance with ESBN specification requirements for shallow formation, bridge crossings, etc.
- HDD launch and reception pits locations to be determined following site investigations.
- Single or multi bore to be confirmed following site investigation and confirmed at detail design
- Bridge Crossing design requires ESB/EirGrid approval and may be subject to change.

LEGEND: -

Proposed 220kV Cable

Communications and ECC Cable

ISSUE/REVISION

P1	04.06.24	Issued for Planning
I/R	DATE	DESCRIPTION

PROJECT NUMBER

05-990

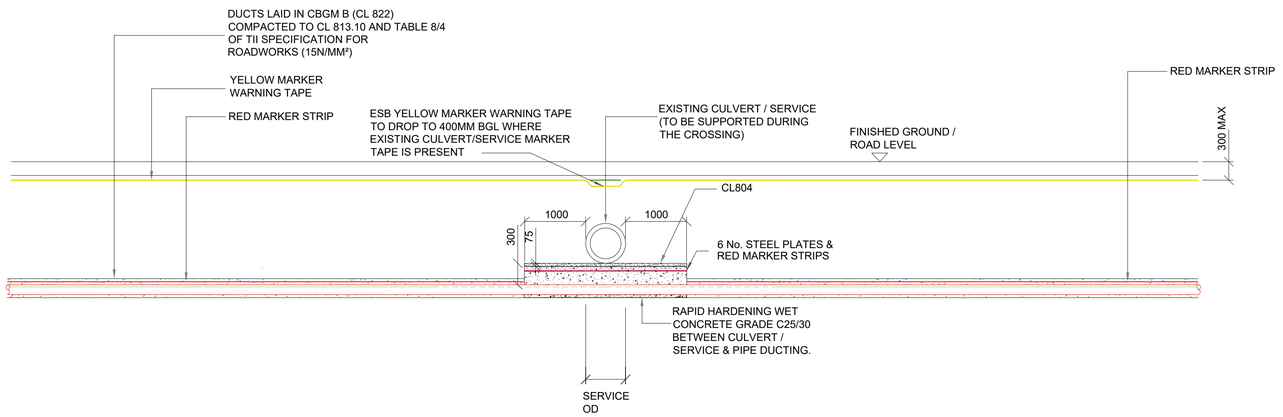
SHEET TITLE

Bridge 1 - Proposed Crossing Details

SHEET NUMBER

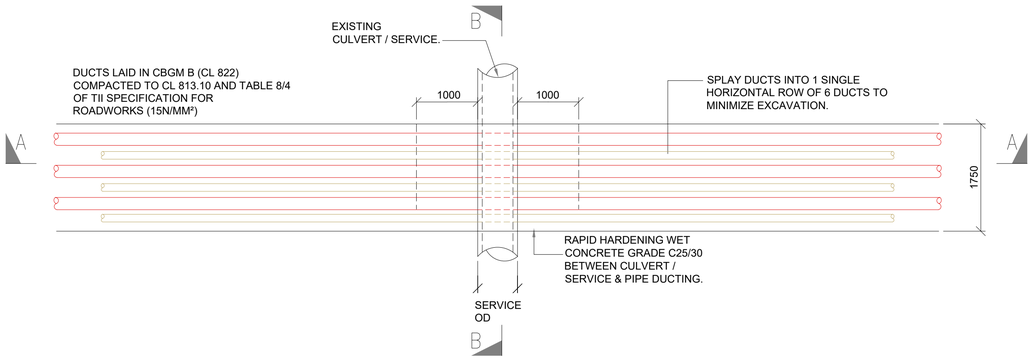
05990-DR-127

ISO A1 594mm x 841mm



SECTION A-A

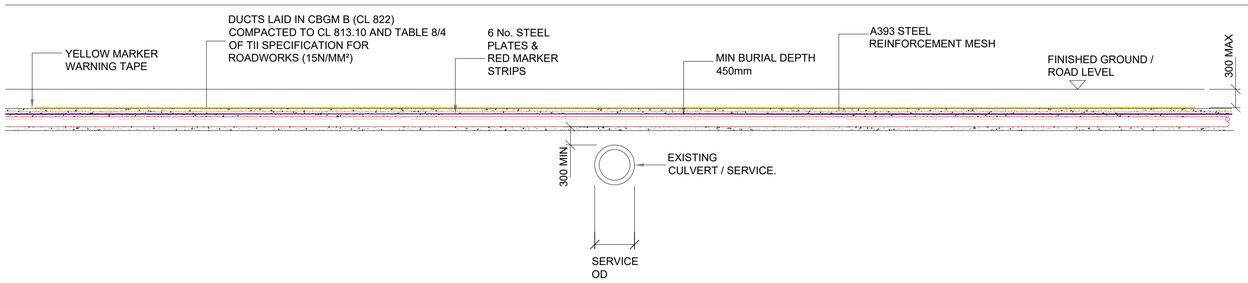
SCALE 1:50



PLAN VIEW

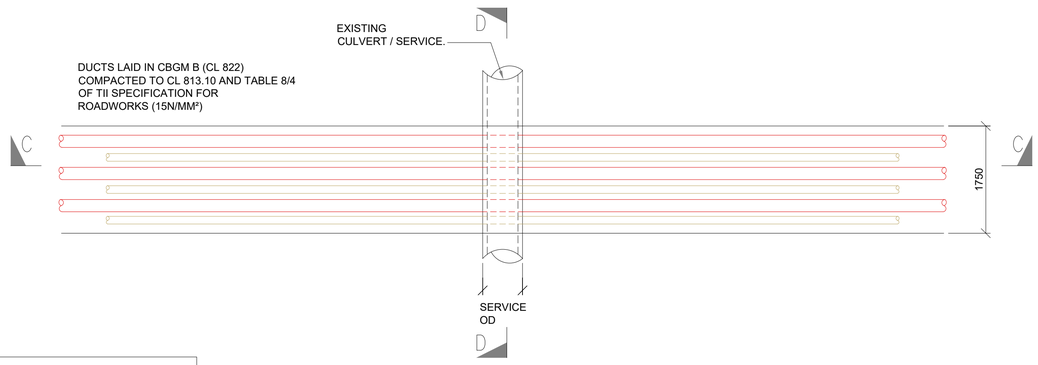
SCALE 1:50

SERVICE UNDERCROSSING



SECTION C-C

SCALE 1:50



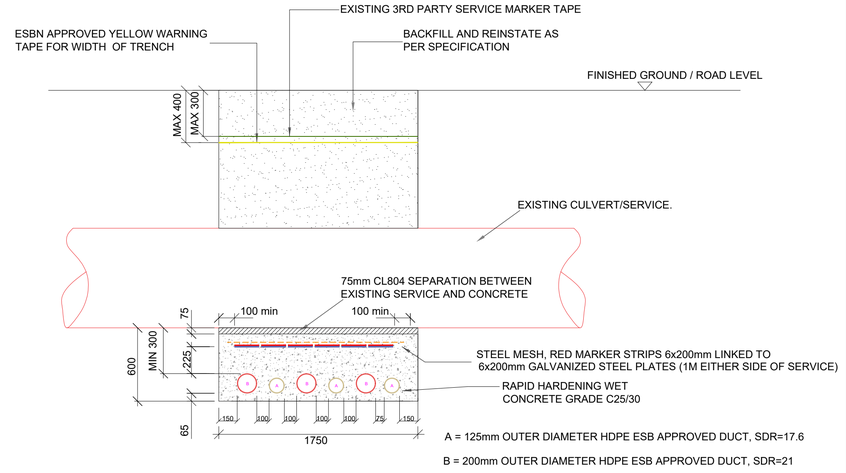
PLAN VIEW

SCALE 1:50

SERVICE OVERCROSSING

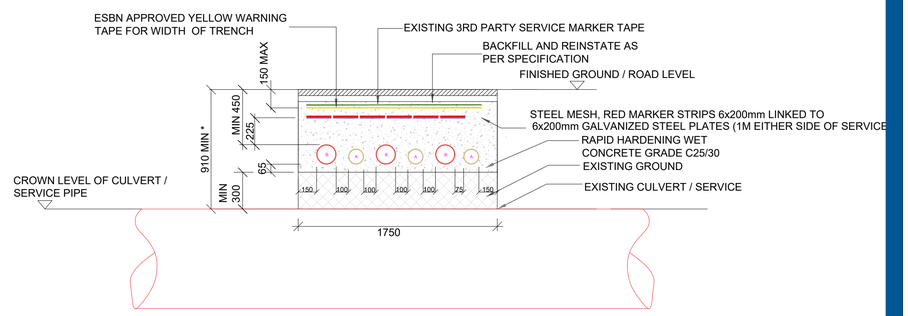
GENERAL NOTES

1. This drawing is to be read in conjunction with all other relevant documentation.
2. Do not scale from this drawing use only printed dimensions.
3. All dimensions are in millimetres, all chainages, levels and co-ordinates are in metres unless defined otherwise.
4. This drawing is to be read in conjunction with the project Health & Safety file for any identified potential risks.
5. No excavation shall commence until the contractor has consulted up to date services drawings and carried out an Electromagnetic Locator (EML) Scan.
6. Hand dig only within 500mm of existing services.
7. If compacting CBGM B could cause damage to the culvert / service below, use rapid hardening cement grade C25/30 following engineers prior approval.
8. For standard trench cross section drawings and minimum horizontal separation to existing services, see 05990-DR-122(FLAT).
9. Where depths exceed 3000mm to the top of duct the contractor shall consult the cable system design engineer for phase spacing requirements.
10. For Watermain crossings, see 05990-DR-128
11. All Products and materials to be utilised during construction to comply with Eirgrid functional specification for road works and all relevant Irish (European) and British standards
12. 300mm minimum vertical and horizontal clearances to be observed between cable ducts and third party services (e.g. gas pipes, water mains, culverts etc.) In the case of high risk 3rd party services, greater clearances mat be required. Designer to consult Eirgrid and 3rd party service owners for guidance
13. Steel plates must cover ducts. No overlap is required however standard dimensions may result in an overlap. Spacing of 10mm to be maintained between steel plates to prevent the transfer of stray current.
14. Templates are to be used at 5m intervals during duct installation in CBGM. Pre-made 75mm wide concrete spacers to be used during duct installation in wet concrete
15. If existing service marker tape is not present, the ESBN yellow marker tape should be installed at maximum 300mm below finished surface level



SECTION B-B

SCALE: NTS



* ALL EXISTING SERVICES WITH COVER LESS THAN MIN. DIMENSIONS ABOVE SHALL BE CROSSED BY UNDERCROSSING METHOD

SECTION D-D

SCALE: NTS

A = 125mm OUTER DIAMETER HDPE ESB APPROVED DUCT, SDR=17.6

B = 200mm OUTER DIAMETER HDPE ESB APPROVED DUCT, SDR=21

LEGEND

- 160mm Ø HDPE POWER DUCT WITH 12mm DIAMTER PULL ROPE
- 125mm Ø HDPE COMMUNICATION DUCT WITH 12mm DIAMTER PULL ROPE
- YELLOW MARKER WARNING TAPE
- A393 STEEL REINFORCEMNET MESH
- 6mm GALVANISED STEEL PLATE
- EXISTING 3RD PARTY MARKER TAPE
- RED MARKER STRIP OR STEEL PLATES

Project Management Initials: Designer: JC Checked: POS Approved: GH

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PROJECT

Clonberne Windfarm
220kV Grid Connection

CLIENT

Clonberne Windfarm Limited

CONSULTANTS

NOTES: -

See General Notes

LEGEND: -

ISSUE/REVISION

I/R	DATE	DESCRIPTION
P1	04.06.24	Issued for Planning

PROJECT NUMBER

05-990

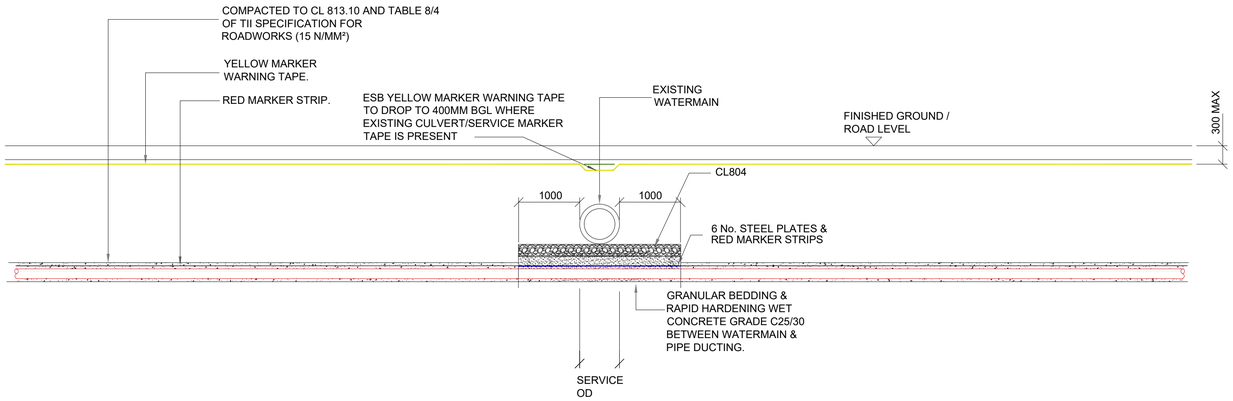
SHEET TITLE

Trench Sections for
Crossing Existing Culverts/Services

SHEET NUMBER

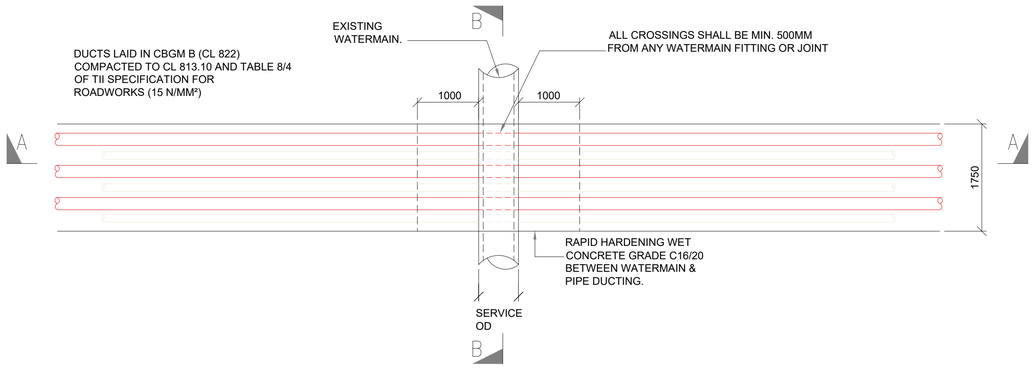
05990-DR-128

ISO A1 594mm x 841mm



SECTION A-A

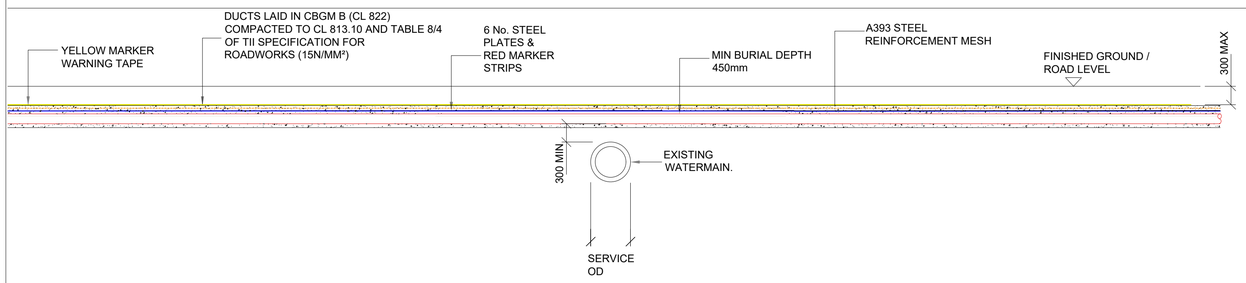
SCALE 1:50



PLAN VIEW

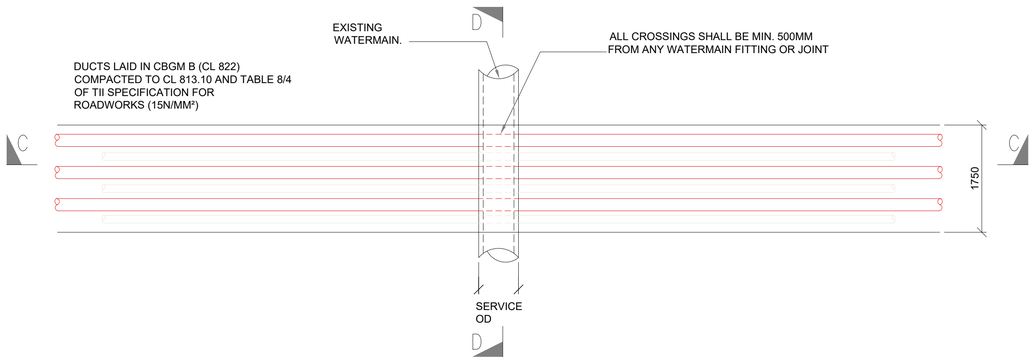
SCALE 1:50

WATERMAIN UNDERCROSSING



SECTION C-C

SCALE 1:50



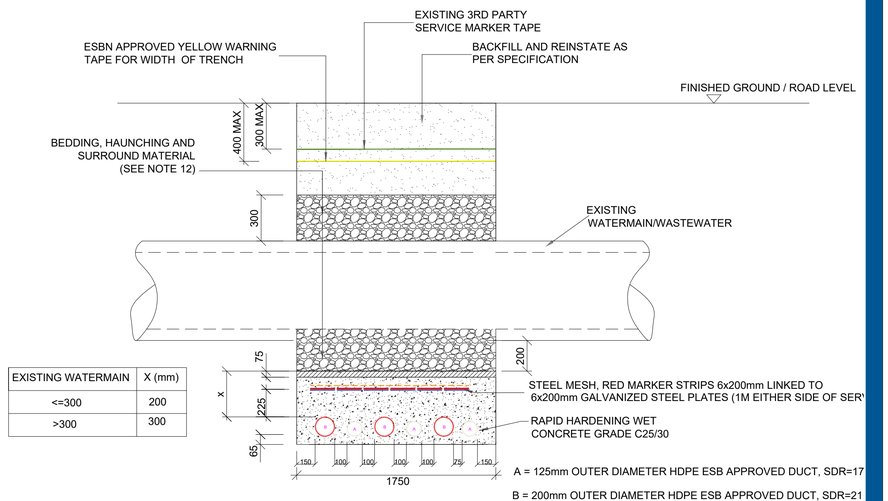
PLAN VIEW

SCALE 1:50

WATERMAIN OVERCROSSING

GENERAL NOTES

1. This drawing is to be read in conjunction with all other relevant documentation.
2. Do not scale from this drawing use only printed dimensions.
3. All dimensions are in millimetres, all chainages, levels and co-ordinates are in metres unless defined otherwise.
4. This drawing is to be read in conjunction with the project Health & Safety file for any identified potential risks.
5. No excavation shall commence until the contractor has consulted up to date services drawings and carried out an Electromagnetic Locator (EML) Scan.
6. Hand dig only within 500mm of existing services.
7. If compacting CBGM B could cause damage to the culvert / service below, use rapid hardening cement grade C25/30 following engineers prior approval.
8. For standard trench cross section drawings and minimum horizontal separation to existing services, see 05990-DR-122 (FLAT).
9. Where depths exceed 3000mm to the top of duct the contractor shall consult the cable system design engineer for phase spacing requirements.
10. All works shall be in accordance with Irish Water code of practice for infrastructure.
11. Backfill as per guidelines for the opening, backfilling and reinstatement of openings in public roads (2015)
12. As per WIS 4-08-02 & IGN 4-08-01 granular material shall be 14mm to 5mm graded aggregate or 10mm single sized aggregate
13. All Products and materials to be utilised during construction to comply with Eirgrid functional specification for road works and all relevant Irish (European) and British standards
14. 300mm minimum vertical and horizontal clearances to be observed between cable ducts and third party services (e.g. gas pipes, water mains, culverts etc.) In the case of high risk 3rd party services, greater clearances mat be required. Designer to consult Eirgrid and 3rd party service owners for guidance
15. Steel plates must cover ducts. No overlap is required however standard dimensions may result in an overlap. Spacing of 10mm to be maintained between steel plates to prevent the transfer of stray current.
16. Templates are to be used at 5m intervals during duct installation in CBGM. Pre-made 75mm wide concrete spacers to be used during duct installation in wet concrete
17. If existing service marker tape is not present, the ESBN yellow marker tape should be installed at maximum 300mm below finished surface level



EXISTING WATERMAIN	X (mm)
<=300	200
>300	300

A = 125mm OUTER DIAMETER HDPE ESB APPROVED DUCT, SDR=17

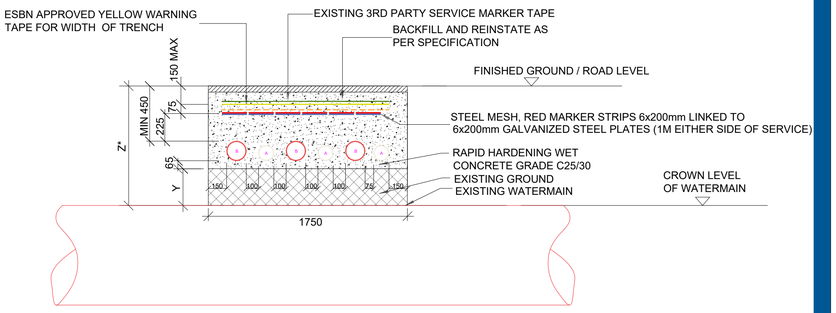
B = 200mm OUTER DIAMETER HDPE ESB APPROVED DUCT, SDR=21

SECTION B-B

SCALE: NTS

LEGEND

- 160mm Ø HDPE POWER DUCT WITH 12mm DIAMTER PULL ROPE
- 125mm Ø HDPE COMMUNICATION DUCT WITH 12mm DIAMTER PULL ROPE
- YELLOW MARKER WARNING TAPE
- A393 STEEL REINFORCEMNET MESH
- 6mm GALVANISED STEEL PLATE
- EXISTING 3RD PARTY MARKER TAPE
- RED MARKER STRIP OR STEEL PLATES



SECTION D-D

SCALE: NTS

A = 125mm OUTER DIAMETER HDPE ESB APPROVED DUCT, SDR=17.6

B = 200mm OUTER DIAMETER HDPE ESB APPROVED DUCT, SDR=21

EXISTING WATERMAIN	Y (mm)	Z* (mm)
<=300	235	885 MIN
>300	435	1085 MIN

* ALL EXISTING SERVICES WITH COVER LESS THAN MIN. DIMENSIONS ABOVE SHALL BE CROSSED BY UNDERCROSSING METHOD

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PROJECT

Clonberne Windfarm
220kV Grid Connection

CLIENT

Clonberne Windfarm Limited

CONSULTANTS

NOTES: -

See General Notes

LEGEND: -

ISSUE/REVISION

I/R	DATE	DESCRIPTION
P1	04.06.24	Issued for Planning

PROJECT NUMBER

05-990

SHEET TITLE

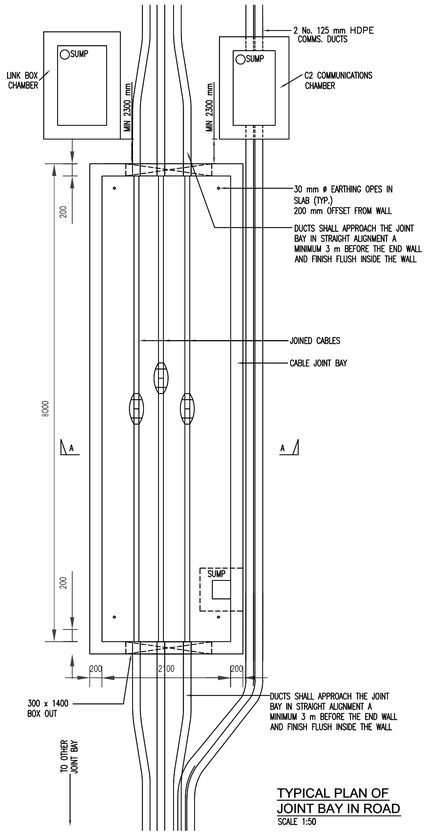
Trench Sections for
Crossing Watermain/Wastewater

SHEET NUMBER

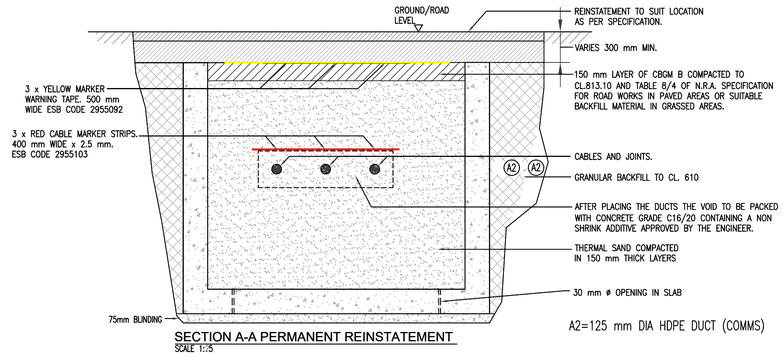
05990-DR-129

Project Management Initials: Designer: CH Checked: JF Approved: AC

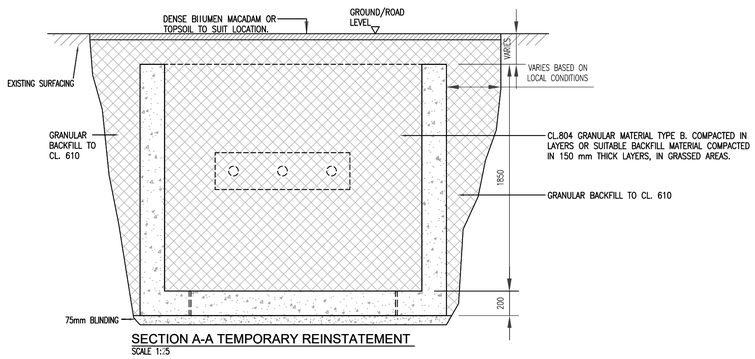
ISO A1 594mm x 841mm



TYPICAL PLAN OF JOINT BAY IN ROAD
SCALE 1:50



SECTION A-A PERMANENT REINSTATEMENT
SCALE 1::5



SECTION A-A TEMPORARY REINSTATEMENT
SCALE 1::5

Note:
- This drawing is subject to ESB design approval and should not be used for construction.
- This drawing is to be read in conjunction with relevant drawings, specifications and reports.
- Dimensions are in millimeters, unless noted otherwise.
- Drawings are not to be scaled use figured dimensions only.
- The compaction of backfill material around the cables shall be carried out by hand.
- The Contractor shall provide test certificates confirming that the thermal resistivity of the thermal sand is maximum 1.K.m/W.

ALL REINSTATEMENT WORKS ARE TO BE IN ACCORDANCE WITH LOCAL AREA ENGINEERS REQUIREMENTS AND GUIDELINES FOR MANAGING OPENINGS IN PUBLIC ROADS

Project Management Initials: Designer: Checked: Approved:

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PROJECT

Clonberne Wind Farm

220kV Grid Connection

CLIENT

Clonberne Windfarm Limited

CONSULTANTS

NOTES: -

See General Notes

LEGEND: -

ISSUE/REVISION

P1	04.06.24	Issued for Planning
I/R	DATE	DESCRIPTION

PROJECT NUMBER

05-990

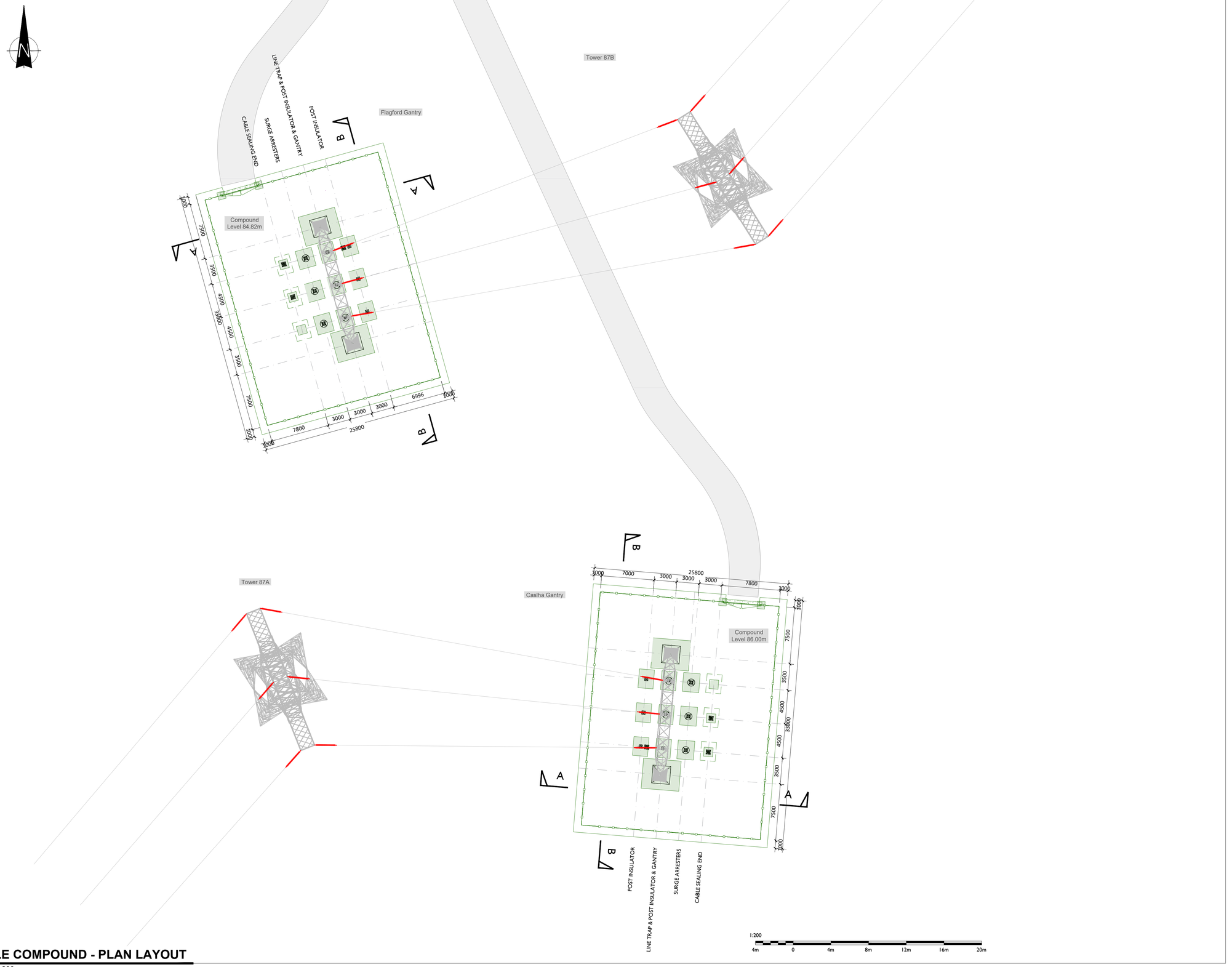
SHEET TITLE

220kV Joint Bay Section Details

SHEET NUMBER

05990-DR-130

ISO A1 594mm x 841mm



CABLE COMPOUND - PLAN LAYOUT

Scale : 1:200

Project Management Initials: Designer: CH Checked: JF Approved: AC

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PROJECT

Clonberne Wind Farm
220kV Grid Connection

CLIENT

Clonberne Windfarm Limited

CONSULTANTS

NOTES: -

- This drawing is to be read in conjunction with relevant engineering drawings, specifications and reports
- Dimensions are in millimeters, unless noted otherwise
- Drawings are not to be scaled use figured dimensions only

LEGEND: -

Proposed works shown thus

Proposed Palisade Fencing

Proposed Access Road

ISSUE/REVISION

I/R	DATE	DESCRIPTION
P1	04.06.24	Issued for Planning

PROJECT NUMBER

05-990

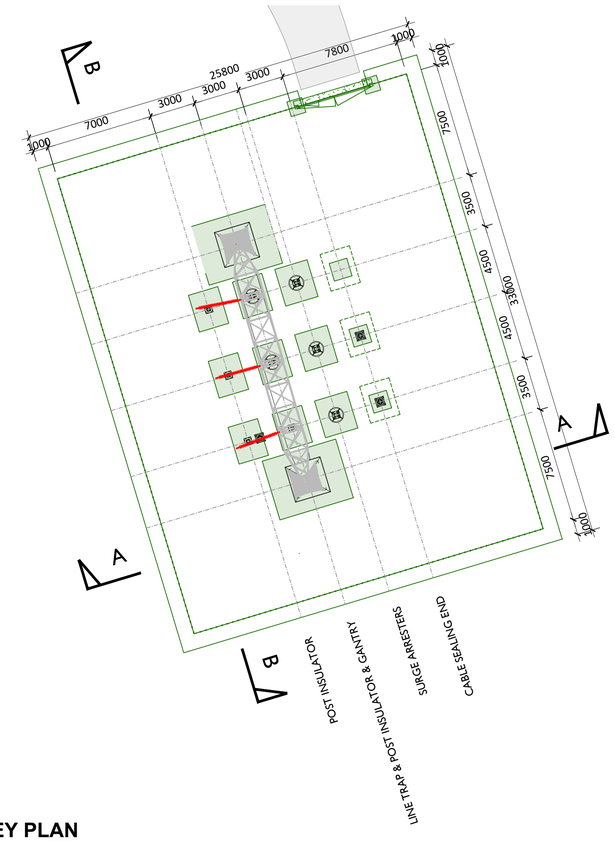
SHEET TITLE

Cable Compound Layout Details

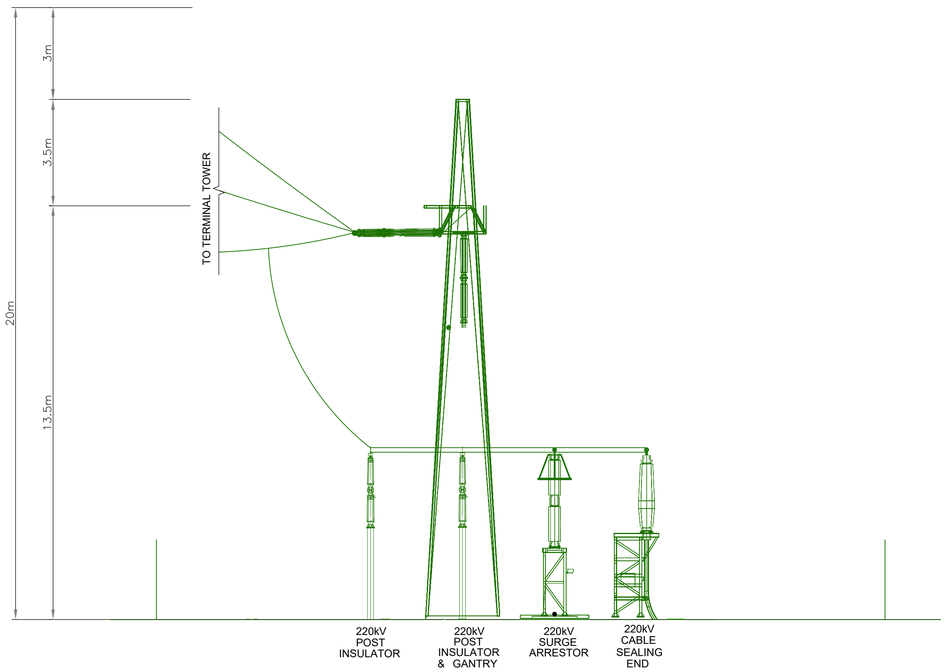
SHEET NUMBER

05990-DR-131

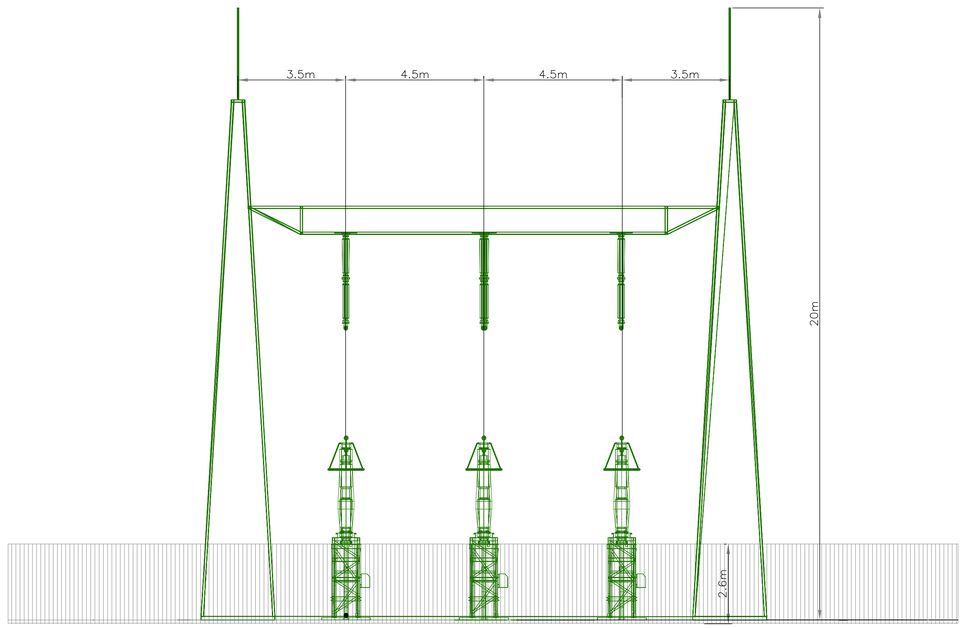
ISO A1 594mm x 841mm



KEY PLAN
Scale : 1:200



SECTION A-A
Scale : 1:100



SECTION B-B
Scale : 1:100

Project Management Initials: Designer: CH Checked: JF Approved: AC

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PROJECT

Clonberne Wind Farm
220kV Grid Connection

CLIENT

Clonberne Windfarm Limited

CONSULTANTS

NOTES: -

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- Dimensions are in millimeters, unless noted otherwise
- Drawings are not to be scaled use figured dimensions only

LEGEND: -

Proposed works shown thus

ISSUE/REVISION

I/R	DATE	DESCRIPTION
P1	04.06.24	Issued for Planning

PROJECT NUMBER

05-990

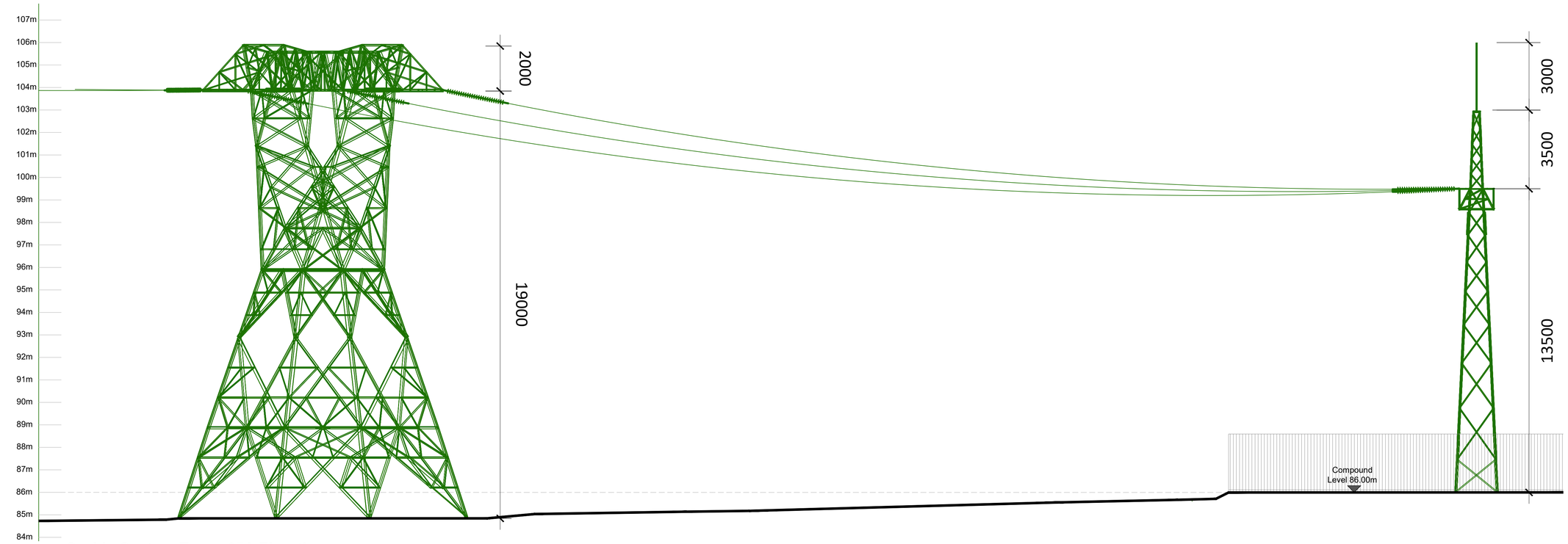
SHEET TITLE

Cable Compound Section

SHEET NUMBER

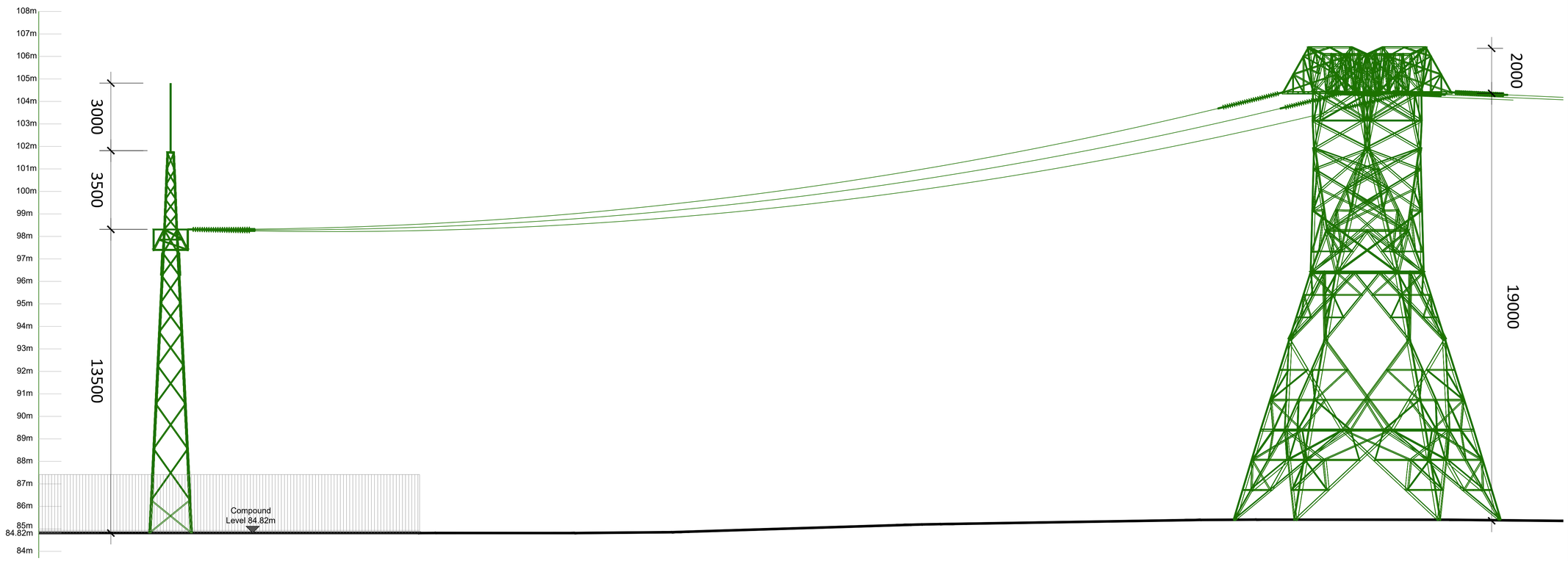
05990-DR-132

ISO A1 594mm x 841mm



Cashla Gantry - Tower 87A Elevation

Scale : 1:100



Flagford Gantry - Tower 87B Elevation

Scale : 1:100

Project Management Initials: Designer: CH Checked: JF Approved: AC

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PROJECT

Clonberne Wind Farm

220kV Grid Connection

CLIENT

Clonberne Windfarm Limited

CONSULTANTS

NOTES: -

- This drawing is to be read in conjunction with relevant engineering drawings, specifications and reports
- Dimensions are in millimeters, unless noted otherwise
- Drawings are not to be scaled use figured dimensions only

LEGEND: -

Proposed works shown thus

ISSUE/REVISION

I/R	DATE	DESCRIPTION
P1	04.06.24	Issued for Planning

PROJECT NUMBER

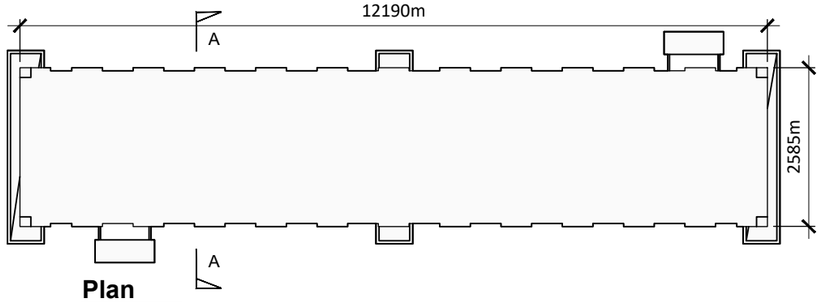
05-990

SHEET TITLE

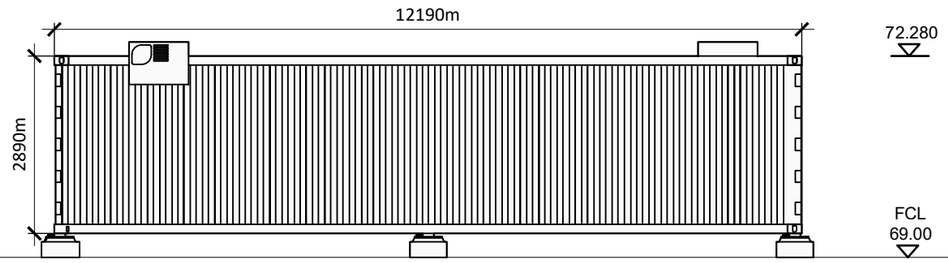
Compound Gantry-Tower Elevations

SHEET NUMBER

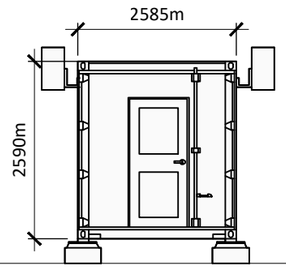
05990-DR-133



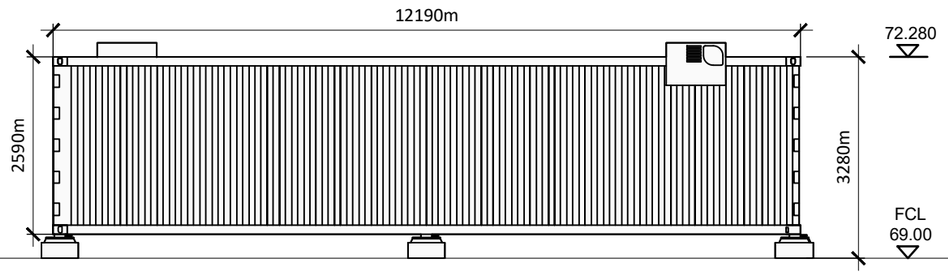
Plan
SCALE 1:100



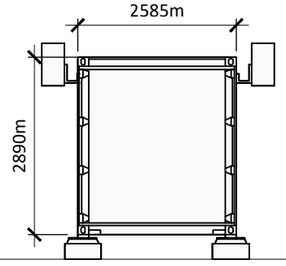
Front Elevation
SCALE 1:100



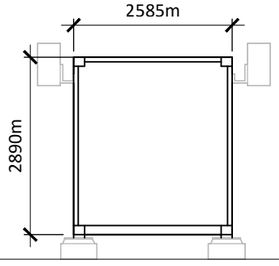
End Elevation
SCALE 1:100



Rear Elevation
SCALE 1:100



End Elevation
SCALE 1:100



Section A-A
SCALE 1:100

Note:
- Project contains 10 modules total.
- Dimensions are in millimeters, unless noted otherwise.
- Drawings are not to be scaled use figured dimensions only.
- All Levels in Meters to Malin Head Datum

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CLIENT
Clonberne Windfarm Limited

PROJECT
Clonberne Wind Farm
220V Grid Connection

PROJECT NUMBER
05-990

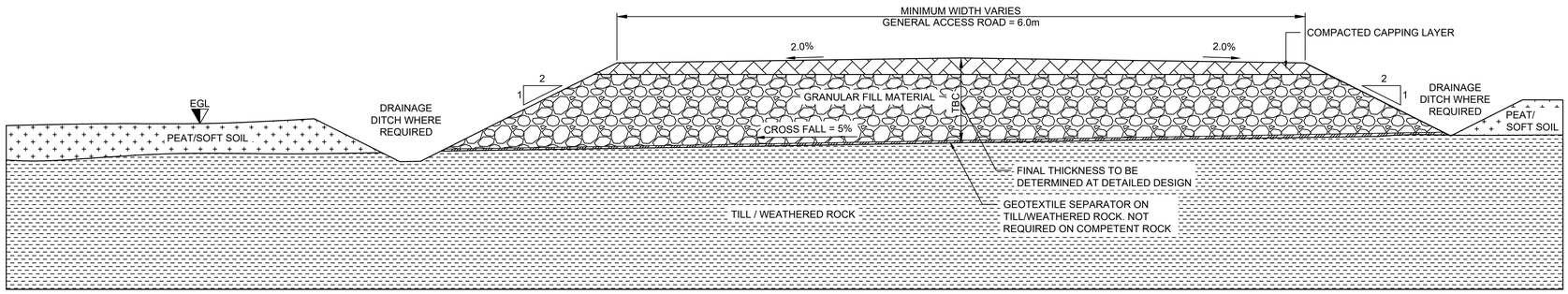
SHEET NUMBER
05990-DR-134

SHEET TITLE
Battery Container - Plan Elevations & Section

DRAWING STATUS
For Planning

ISSUE/REVISION

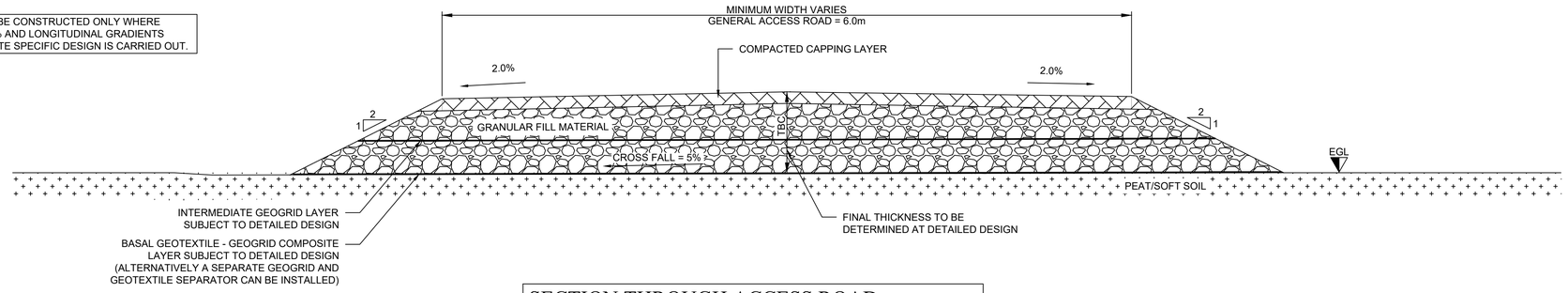
I/R	DATE	DESCRIPTION
P1	04.06.24	Issued for Planning



SECTION THROUGH ACCESS ROAD NEW CONSTRUCTION: FOUNDED - DETAIL 01

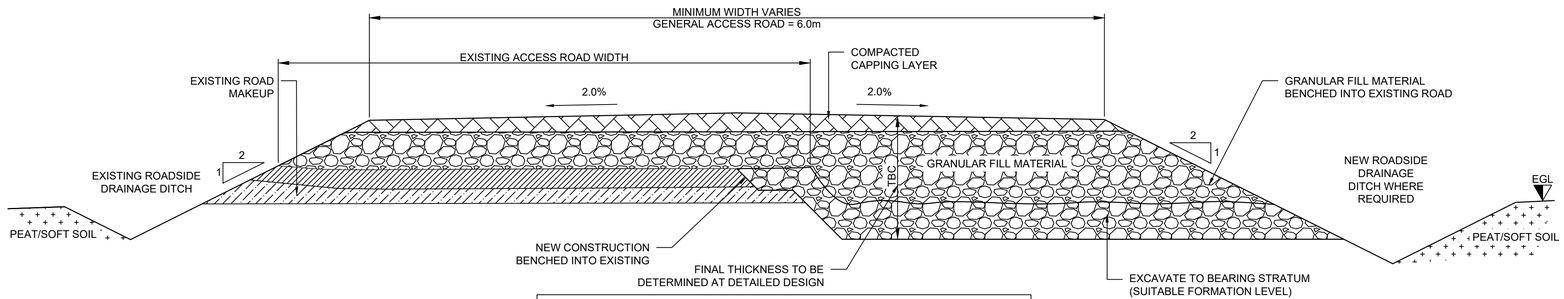
SCALE: N.T.S.

FLOATING ROADS TO BE CONSTRUCTED ONLY WHERE CROSSFALLS ARE <5% AND LONGITUDINAL GRADIENTS ARE <5% UNLESS A SITE SPECIFIC DESIGN IS CARRIED OUT.



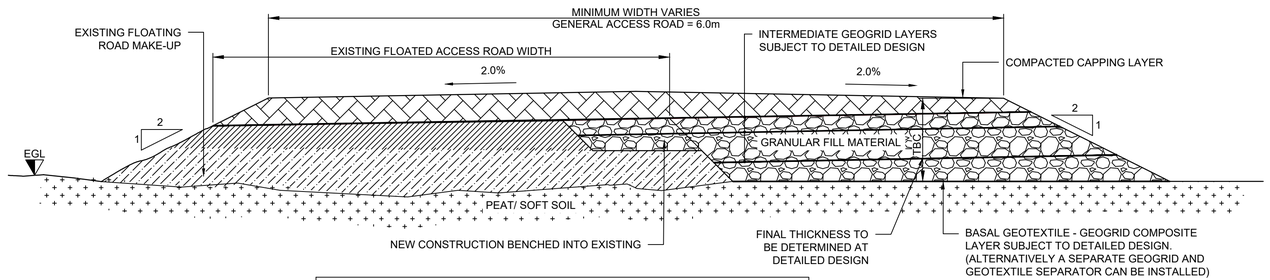
SECTION THROUGH ACCESS ROAD NEW CONSTRUCTION: FLOATED - DETAIL 02

SCALE: N.T.S.



SECTION THROUGH WIDENING OF EXISTING ACCESS ROAD: FOUNDED - DETAIL 03

SCALE: N.T.S.



SECTION THROUGH WIDENING OF EXISTING ACCESS ROAD: FLOATED - DETAIL 04

SCALE: N.T.S.

NOTES:

1. THIS DRAWING IS FOR PLANNING AND ENVIRONMENTAL IMPACT ASSESSMENT PURPOSES AND SHOULD NOT BE USED AS DETAILED DESIGN OR FOR CONSTRUCTION.
2. DO NOT SCALE FROM DRAWINGS.
3. THE STRENGTH OF THE SUBFORMATION SOILS TO BE ASSESSED BY A SUITABLY QUALIFIED GEOTECHNICAL ENGINEER PRIOR TO CONSTRUCTION / PLACEMENT OF FILL.
4. DRAINAGE TO BE PROVIDED TO PREVENT WATER DEGRADATION OF THE SUBFORMATION SOILS IN-LINE WITH DRAINAGE STRATEGY.

HEALTH & SAFETY:

1. NO OPERATIVES TO ACCESS ANY UNSUPPORTED TRENCHES. TRENCHES TO BE ADEQUATELY BATTERED BACK OR SUPPORTED WHERE NECESSARY. SAFE TEMPORARY BATTER ANGLES TO BE ASSESSED IN ACCORDANCE WITH CIRIA REPORT 97 "TRENCHING PRACTICE".

REV: S2-P01	DATE: 18/12/23	DRAWN BY: EFC	CHECKED BY: C.E.
DESCRIPTION:	ISSUED FOR INFORMATION		

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ISSUED AS: FOR INFORMATION

CLIENT: MKO

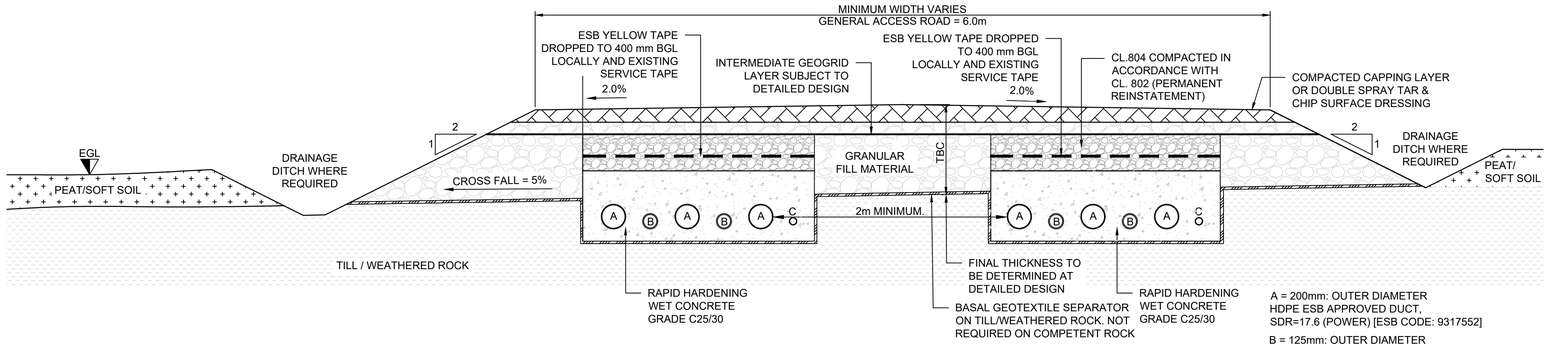
PROJECT TITLE: CLONBERNE WIND FARM

DRAWING No: 20021-GDG-ZZ-XX-DR-C-0100

Revision: -S2-P01

DRAWING TITLE: ACCESS ROAD STANDARD DETAILS

SCALE: N.T.S.	SHEET SIZE: A1	DATE: 18/12/2023
DRAWN BY: EFC	CHECKED BY: C.E.	APPROVED BY: J.O'D.



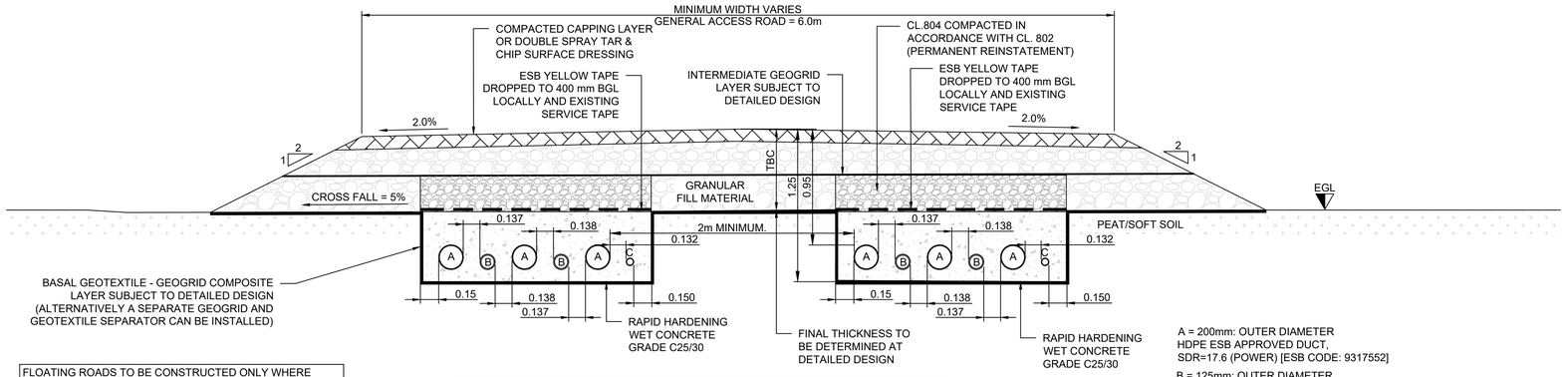
A = 200mm: OUTER DIAMETER HDPE ESB APPROVED DUCT, SDR=17.6 (POWER) [ESB CODE: 9317552]

B = 125mm: OUTER DIAMETER HDPE ESB APPROVED DUCT, SDR=17.6 (COMMS) [ESB CODE: 9317552]

C = 63mm: OUTER DIAMETER HDPE ESB APPROVED DUCT, SDR=17.6 (ECC) [ESB CODE: 9317552]

SECTION THROUGH CABLE TRENCH NEW CONSTRUCTION: FOUNDED - DETAIL 01

SCALE: N.T.S.



FLOATING ROADS TO BE CONSTRUCTED ONLY WHERE CROSSFALLS ARE <5% AND LONGITUDINAL GRADIENTS ARE <5% UNLESS A SITE SPECIFIC DESIGN IS CARRIED OUT.

A = 200mm: OUTER DIAMETER HDPE ESB APPROVED DUCT, SDR=17.6 (POWER) [ESB CODE: 9317552]

B = 125mm: OUTER DIAMETER HDPE ESB APPROVED DUCT, SDR=17.6 (COMMS) [ESB CODE: 9317552]

C = 63mm: OUTER DIAMETER HDPE ESB APPROVED DUCT, SDR=17.6 (ECC) [ESB CODE: 9317552]

SECTION THROUGH CABLE TRENCH NEW CONSTRUCTION: FLOATED - DETAIL 02

SCALE: N.T.S.

NOTES:

1. THIS DRAWING IS FOR PLANNING AND ENVIRONMENTAL IMPACT ASSESSMENT PURPOSES AND SHOULD NOT BE USED AS DETAILED DESIGN OR FOR CONSTRUCTION.
2. DO NOT SCALE FROM DRAWINGS.
3. THE STRENGTH OF THE SUBFORMATION SOILS TO BE ASSESSED BY A SUITABLY QUALIFIED GEOTECHNICAL ENGINEER PRIOR TO CONSTRUCTION / PLACEMENT OF FILL.
4. DRAINAGE TO BE PROVIDED TO PREVENT WATER DEGRADATION OF THE SUBFORMATION SOILS IN-LINE WITH DRAINAGE STRATEGY.
5. BURIED CABLE SPACING TO BE DETERMINED DURING DETAILED DESIGN
6. DIMENSIONS ARE IN METERS UNLESS OTHERWISE NOTED

HEALTH & SAFETY:

1. NO OPERATIVES TO ACCESS ANY UNSUPPORTED TRENCHES. TRENCHES TO BE ADEQUATELY BATTERED BACK OR SUPPORTED WHERE NECESSARY. SAFE TEMPORARY BATTER ANGLES TO BE ASSESSED IN ACCORDANCE WITH CIRIA REPORT 97 "TRENCHING PRACTICE".

REV:	S2-P02	DATE:	23/02/24	DRAWN BY:	RR	CHECKED BY:	C.E.
DESCRIPTION:	UPDATE TO ADDRESS MKO COMMENTS						
REV:	S2-P01	DATE:	21/12/23	DRAWN BY:	EFC	CHECKED BY:	C.E.
DESCRIPTION:	ISSUED FOR INFORMATION						

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ISSUED AS: FOR INFORMATION

CLIENT: MKO

PROJECT TITLE: CLONBERNE WIND FARM

DRAWING No: 20021-GDG-ZZ-XX-DR-C-0101

Revision: -S2-P02

DRAWING TITLE: CABLE TRENCH STANDARD DETAILS

SCALE:	N.T.S.	SHEET SIZE:	A1	DATE:	21/12/2023
DRAWN BY:	EFC	CHECKED BY:	C.E.	APPROVED BY:	J.O'D.

POLLUTION PREVENTION NOTES:

1. Site management proposals are intended to ensure protection against surface water and groundwater pollution, siltation and erosion.
2. Suitable drainage control measures should be in place at all times to prevent conveyance of significant volumes of silt to off site receiving watercourses.
3. Silty water can arise from dewatering excavations, erosion of exposed/disturbed ground, temporary stockpiles, plant and wheel wash, site roads/tracks, and disturbance of existing field drains and ditches.

Discharges

4. Water containing silt will not be pumped directly to any natural watercourse. All discharges to be made over open ground or into existing field drain with silt trap at a minimum of 20m from nearest watercourse unless otherwise stated.
5. No excavated material is to be stored within any surface water buffer zone.
6. Pumped water will be directed into track side ditches and treated in settlement ponds and vegetation swales prior to overland discharge.
7. Pumping of clean water from excavations / or over-pumping in drains/ditches/streams will be completed in a manner that does not cause scour or erosion at the point of release/discharge. This will be done by reducing the flow velocities or by use of splash plates, and other similar discharge controls.
8. Vegetation will NOT be stripped from existing drains/ditches unless absolutely necessary.

Excavations

9. Where deep excavations are proposed cut-off drains will be use to reduce the amount of surface water entering the excavation. This will be the case around turbine base excavations.

Exposed Ground & Stockpiles

10. The amount of exposed ground and temporary stockpiles open at any one time will be minimised, as far as practicable.

Site tracks

11. Use of track side swales with check dams, and/or filtration check dams will reduce silt in runoff water as required.
12. Check dams to be inspected and cleaned regularly.

Refueling

13. Refuelling of mobile plant will be completed in designated refueling areas only, preferably on an impermeable surface and away from field drains / ditches and watercourses / waterbodies.
14. Spill kits and drip trays will be available on site for use as required.

Concrete

15. Care will be taken when completing concrete works on site to ensure no discharges occur.
16. Concrete wash water, and waste concrete will be managed appropriately on site.

IF WATER POLLUTION IS IDENTIFIED THE FOLLOWING STEPS WOULD BE ADHERED TO:

STOP - work in the immediate area should be stopped and the source of the pollution identified.

CONTAIN - the source of the pollution should be bunded using a suitable method. Natural watercourses should be temporarily diverted around the source of pollution.

NOTIFY - The relevant authorities (Site Manager / Fisheries / NPWS / Local Authority etc.) should be notified immediately to ensure that measures can be implemented downstream to protect fisheries and other sensitive areas.

DRAINAGE NOTES:

1. Roadway surfacing design and construction to Engineer's Specification (i.e. by others).
2. Spare straw bales/silt fencing/ or similar, to be stored on site. The level of silt in runoff during construction is to be monitored visually and excessive silt levels in any area to be temporarily managed by placing silt fences, straw bales / or similar or additional check dams at the problem areas. Mobile siltbuster system to be available on-site for use as required also.
3. SUDS system to be constructed prior to, or at the same time as the access tracks. Interim measures such as the placement of straw bales/silt fencing/or similar approved method or additional check dams and silt fences to be employed in all instances where work carried out to construct the access tracks is likely to cause adverse environmental effects through increased silt loadings being generated during the construction phase.
4. Suitable prevention measures should be in place at all times to prevent the conveyance of significant volumes of silt to receiving watercourses. See notes on pollution prevention.
5. Interceptor swales / ditches to be used to collect upstream surface water flows. Regular cross drains / discharge to field ditches/drains will be required to transfer / discharge surface water in interceptor drains to suitable field drain outfall points.
6. Drainage swales / ditches to be excavated adjacent to the access tracks. Regular cross drains to be located along access tracks to prevent excessive volumes of water collecting in the swales / ditches. Locations of cross drains to be agreed with the Engineer on site. Surface water will not be allowed to discharge directly into existing watercourses.
7. Where possible, a buffer zone of >20m to any existing watercourse will be required where over land discharges are proposed from access track swales / ditches.
8. Batters of all proposed swales / ditches to have a slope of between 1 : 1.5 to 1 : 2 depending upon depth of swale/ditch and will be left as cut to re-vegetate with local species.
9. Track side swales / ditches to be shallow with moderate gradients to prevent scouring. In steep areas check dams should be installed to reduce flow velocities and provide source control of silt containment. Where necessary these have been designated in conjunction with settlement ponds and silt traps, prior to discharge.
10. Settlement ponds to be constructed for silt removal at turbine bases and hard stand areas. Pond sizes depends on catchment area served. Sample pond sizes shown on Drawing D501.
11. Straw bales / or similar and silt fences to be used also around spoil heaps to mitigate silt runoff. Silt fences may be removed when suitable vegetation cover is established.
12. Silt fences to be provide along edge of existing watercourse where works comes within <15m of edge of any ditch / ephemeral channels.
13. Slopes of the swales / ditches to be vegetated or protected from erosion until vegetation has been established. Stripped vegetative layer (peat 'sod' or 'scraw') from excavations to be stored locally and used to line slopes and base of swales / ditches or longitudinal mounds of vegetation swales at field drain discharge points.
14. Areas stripped of vegetation should be kept to a minimum.
15. Clean stone flow control check dams to be made of locally won / geologically similar well graded stone. Aggregate size for stone check dams to be typically 20- 40mm clean stone. On sloping sections of the access tracks, 40mm check dams to be protected from washing away through the placement of 100m stone on the downhill face of the check dam and by wrapping in geotextile.
16. Build up of silt levels at check dams to be removed and disposed of appropriately. Silt levels at check dams to be visually inspected as part of an ongoing drainage maintenance programme during the construction phase. Where check dams become clogged with silt or vegetation, stone check dam to be removed and replaced subsequent to the removal of silt.
17. Spacing and frequency of check dams will be dependent upon longitudinal gradient of swale.
18. Location of filtration check dams (if required) to be agreed on site with Engineer. Settlement ponds to be constructed in a manner where they may be easily infilled at a later date (post completion of the turbine base and hardstand construction). Only suitable materials excavated from the pond to be used to form part of the embankment around the pond.
19. Oil fuel should be stored within bunded containment structures.
20. Silt bags will be used on site at field drain discharge locations, as necessary.

MITIGATION / DRAINAGE COINTROLS AVAILABLE FOR USE ACROSS THE SITE

Management Type	Description of SUDS Drainage Control Methods
Avoidance Controls	1) Application of 50m buffer zones to natural Watercourses where possible 2) Application of 10m buffer zones to main drains where possible 3) Using small working areas 4) Working in appropriate weather, and suspending certain work activities in advance of forecasted wet weather
Source Controls:	1) Use of upstream interceptor drains and downstream collector drains / oversized swales, vee-drains, diversion drains, flumes and culvert pipes 2) Erosion and velocity control measures such as: A) Sand bags B) oyster bags filled with gravel C) filter fabrics D) and other similar/equivalent or appropriate systems 3) Using small working areas 4) Surrounding stockpiles with silt fencing 5) weathering off / sealing peat stockpiles
In-Line Controls:	1) interceptor drains, vee-drains, oversized swales/collector drains 2) Erosion and velocity control measures such as: A) Sand bags B) oyster bags filled with gravel C) filter fabrics D) straw bales E) flow limiters F) weirs or baffles G) and/or other similar/equivalent or appropriate systems. 3) silt fences, filter fabrics 4) In stream Sedimats 5) collection sumps, temporary sumps, pumping systems 5) attenuation lagoons 6) sediment traps, stilling / settlement ponds
Water Treatment Controls:	1) Temporary sumps 2) attenuation ponds 3) Temporary storage lagoons 4) Sediment traps, Stilling / Settlement ponds 5) Proprietary settlement systems such as Siltbuster, and/or other similar/equivalent or appropriate systems. 6) Silt dewatering bags
Outfall Controls:	1) Levelspreaders 2) Buffered outfalls 3) Vegetation filters 4) Silt dewatering bags 5) Flow limiters and weirs

KEY PLAN

Drawing Notes

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4. All dimensions are in metres.

Drawing Legend :

- Existing Drainage: Rivers/Streams Drains; Rivers/Streams 50m Buffer; Stream Flow Direction
- Proposed Drainage: Upstream Interceptor Drain; Swales/Downstream Collector Drain; Direction of Flow; Silt Fences; Double Silt Fences; Settlement Pond - Level Spreader; Check Dam 'Type A'; Check Dam 'Type B'; Proposed WC Crossing; Interceptor Ditch Culvert; O Overland Flow Discharge; TW Treated Water Discharge; SP Settlement Pond; VS Semi-Natural Vegetation Swale / Filter Bed /Secondary SP; Pumping Sump
- Grid Connection Planning Application Boundary; Existing Ground Surface Minor Contour (1 m Interval); New Cable Access Track; Proposed New Roads; Public Road; Substation; Grid Connection Construction Compound; Cut Area; Fill Area

Date	Description	Chkd	Signed

Revisions

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Client: MKO

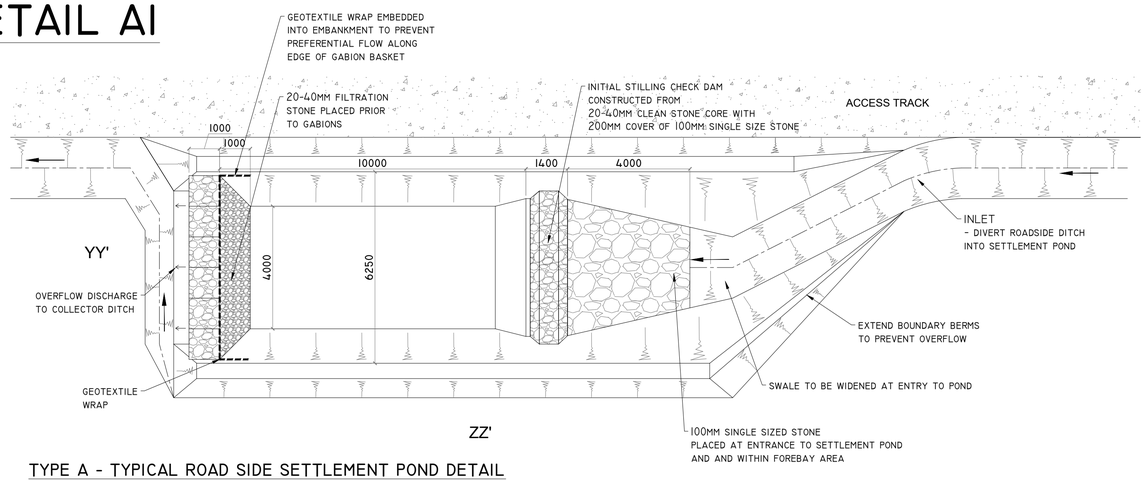
Job: Clonberne, Co. Galway - Grid Connection and Substation Application

Title: Proposed Drainage Layout

Figure No: D101_GC

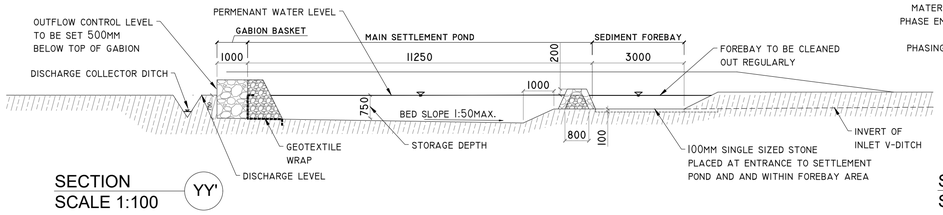
Drawing No: P1508-0-0624-A1-D101_GC-00C	
Sheet Size: A1	Project No.: P1508-0
Scale: 1:2,000 (A1)	Drawn By: GA
Date: 10/06/2024	Checked By: MG

DETAIL AI



TYPE A - TYPICAL ROAD SIDE SETTLEMENT POND DETAIL

SCALE 1:200 (NOTE DIMENSIONS VARY DEPENDING ON CATCHMENT SIZE - SEE ATTACHED TABLE)



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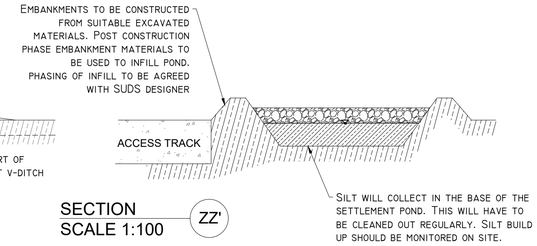

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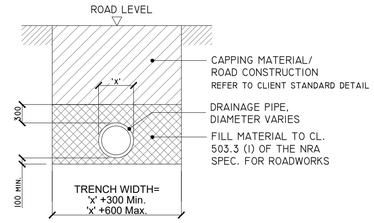
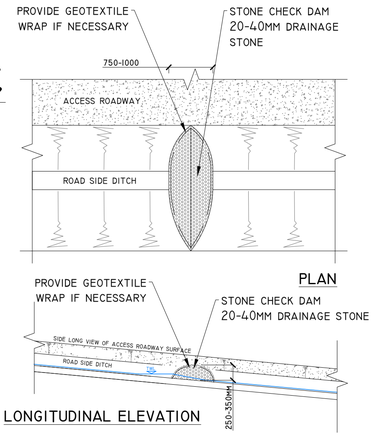
DETAIL B



'TYPE B' CULVERT - DRAINAGE CROSSING BENEATH EXCAVATED ROAD

SCALE 1:50

DETAIL C



PLAN

LONGITUDINAL ELEVATION

TYPE X - CHECK DAM DETAIL

SCALE 1:50

DETAIL A2

TYPE B - TYPICAL ROAD SIDE SETTLEMENT POND DETAIL

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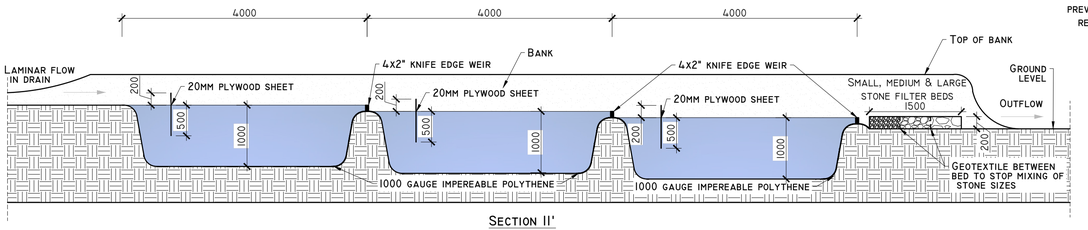
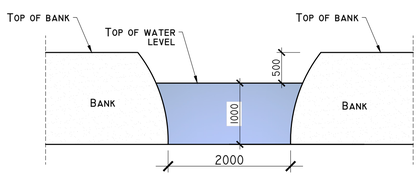
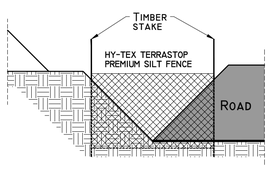


SECTION II'



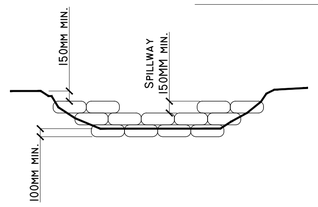
SECTION 22'

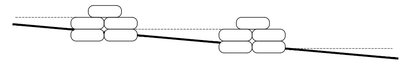
SEDIMENT FENCE/CHECK DAM DETAIL



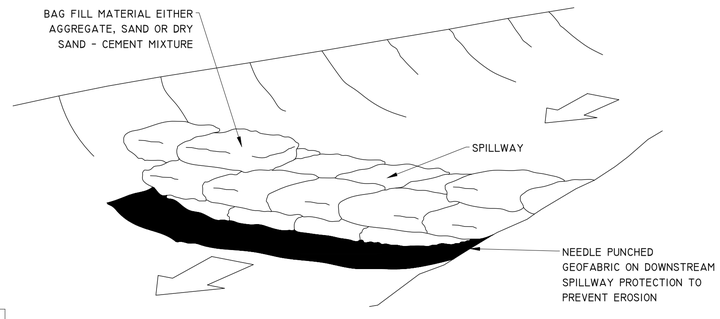
POND SIZE W [M] x L [M] x D [M]			TRACK/HARDSTAND CATCHMENT SIZE (M^2)		
RETURN PERIOD	*10 YRS*	STORM DURATION	500	1000	2000
6HR RETENTION FOR COARSE SILT		6 HRS	3.4 x 10.6 x 1 M	4.8 x 15.0 x 1 M	6.9 x 21.0 x 1 M
11HR RETENTION FOR MEDIUM SILT		12 HRS	3.8 x 12.0 x 1 M	5.5 x 16.5 x 1 M	7.5 x 24.2 x 1 M
24HR RETENTION FOR FINE SILT		24 HRS	4.2 x 13.8 x 1 M	6.2 x 18.6 x 1 M	8.6 x 27.0 x 1 M

DETAIL CI





NOTE: SPACING OF CHECK DAMS ALONG CENTRELINE AND SCOUR PROTECTION BELOW EACH CHECK DAM



TEMPORARY CHECK DAM / SETTLEMENT POND OVERFLOW SAND FILLED BAG CONSTRUCTION

SCHEMATIC - NOT TO SCALE

10/06/24	Planning	MG	MG
Date	Description	Chkd	Signed

Revisions

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Client: MKO

Job: CLONBERNE, CO. GALWAY

Title: DRAINAGE DETAILS I

Figure No: D501

Drawing No: P1599-0-0624-A1-D501-00B	
Sheet Size: A1	Project No.: P1508-0
Scale: as shown (A1)	Drawn By: MG/GA
Date: 10/06/2024	Checked By: MG

DETAIL C2

TEMPORARY CHECK DAM / SETTLEMENT POND OVERFLOW

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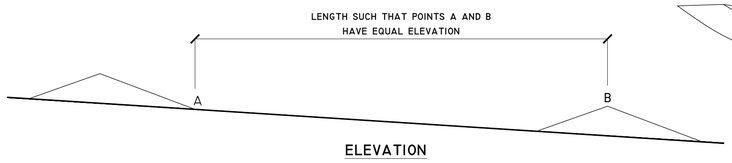

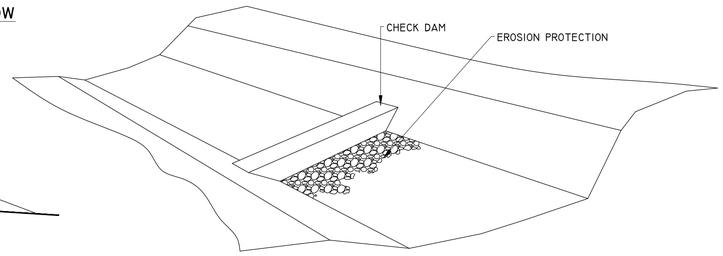

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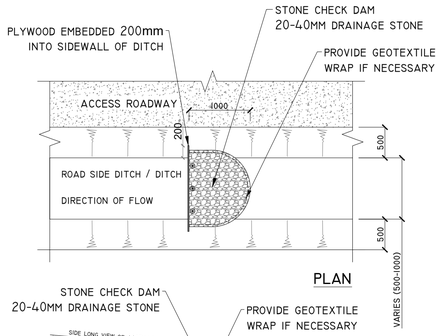
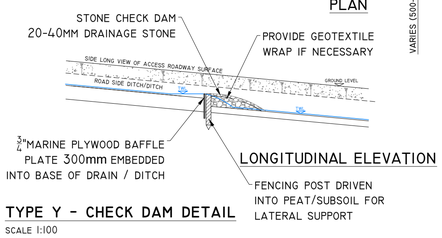


PLAN



LONGITUDINAL ELEVATION

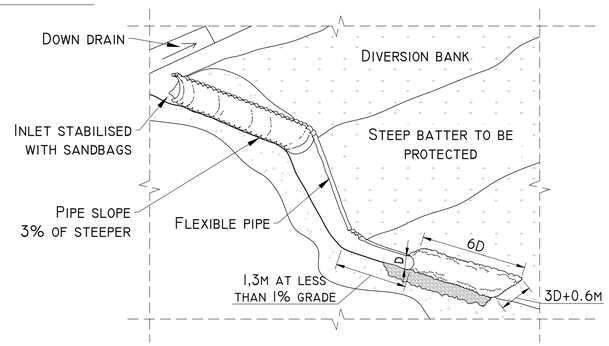
TYPE Y - CHECK DAM DETAIL

SCALE 1:100

DETAIL G

TYPICAL PIPE SPILLWAY DETAIL

SCHEMATIC - NOT TO SCALE



DETAIL J-1

LEVEL SPREADER DETAIL

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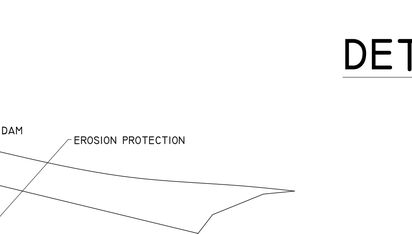
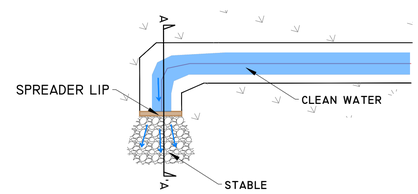
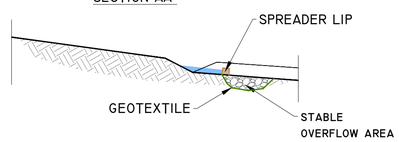


PLAN



SECTION AA'

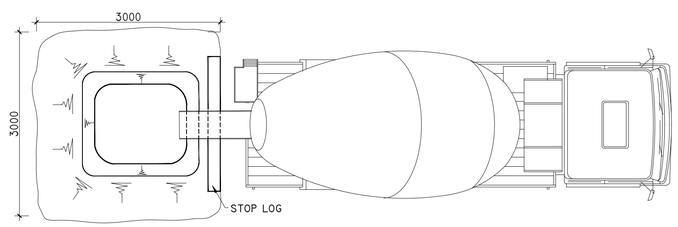


DETAIL I

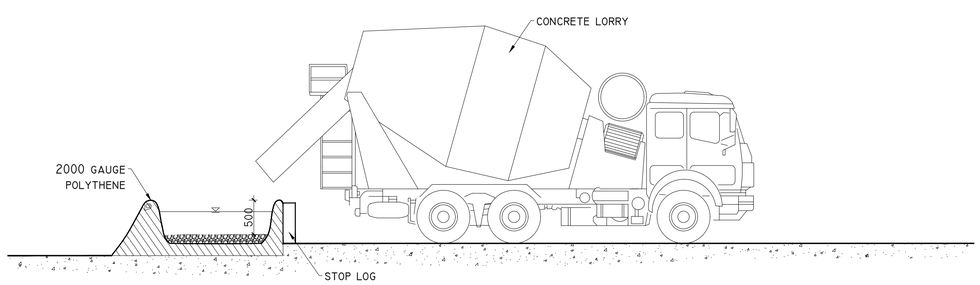
TEMPORARY CONCRETE WASH OUT PIT

SCALE 1:50

PLAN



ELEVATION



DETAIL J-2

LEVEL SPREADER DETAIL

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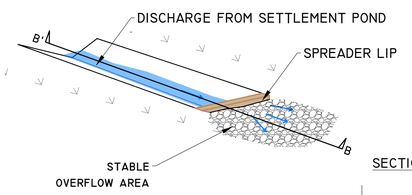

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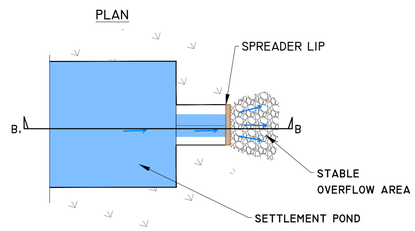
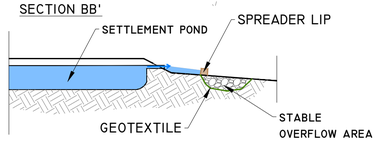
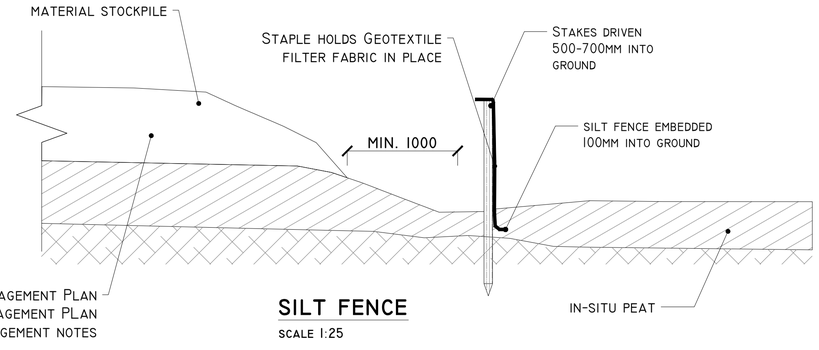


SECTION BB'



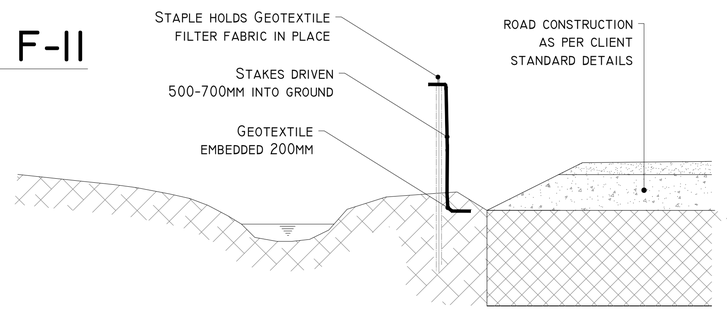
DETAIL F-I



SILT FENCE

SCALE 1:25

DETAIL F-II



SILT FENCE FOR WATERCOURSE PROTECTION

SCALE 1:25

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Date	Description	Chkd	Signed
07/03/24	Planning	MG	MG

Revisions

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Job: Clonberne, Co. Galway

Title: Drainage Details 2

Figure No: D502

Drawing No: P1508-0624-A1-D502-00B

Sheet Size: A1 | Project No.: P1508-0

Scale: as shown (A1) | Drawn By: MG/GA

Date: 10/06/2024 | Checked By: MG