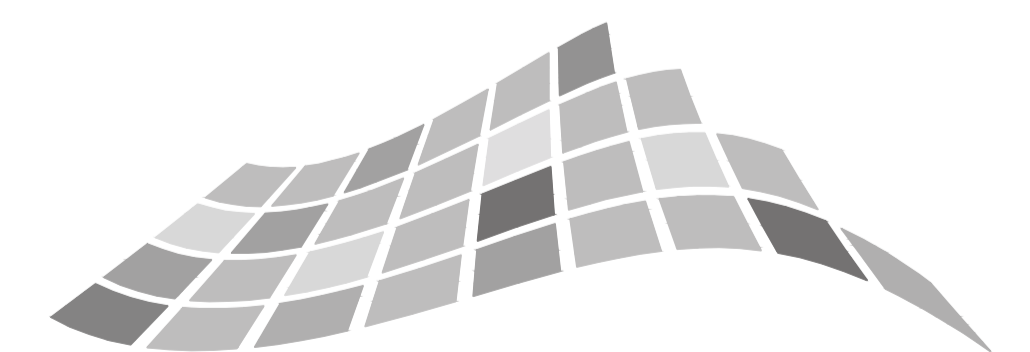
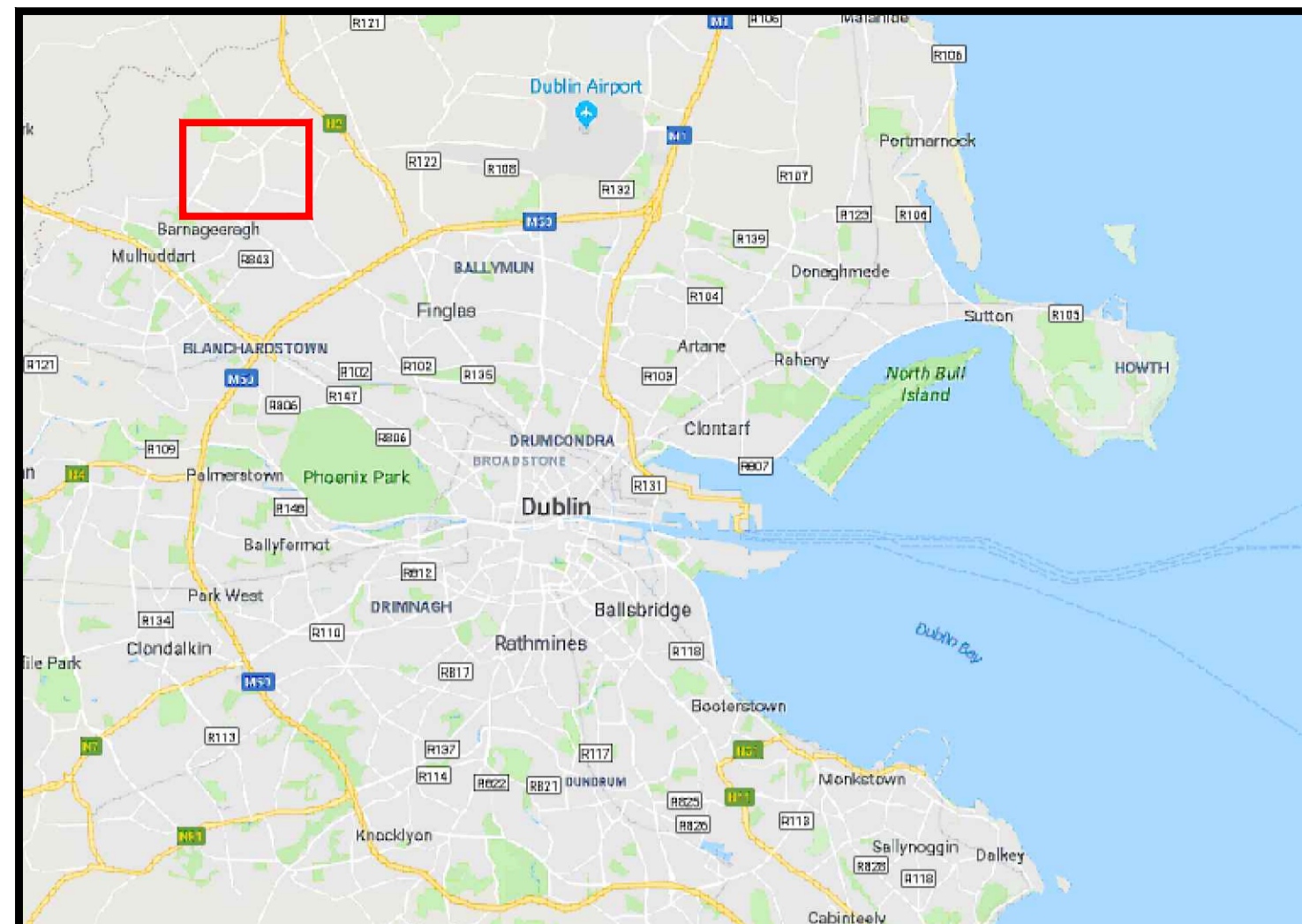


CRUISERATH 220 kV GIS SUBSTATION & UNDERGROUND TRANSMISSION LINE

DRAWING NO	TITLE	REVISION	SCALE
PROJ_G CSE 00 ZZ DR C 2000	COVER SHEET	-	-
PROJ_G CSE 00 XX DR C 2200	OVERALL SITE LOCATION PLAN	P11	1:2500
PROJ_G CSE GEN XX DR C 2218	OSI SITE LOCATION MAP	P04	1:2500
PROJ_G CSE 00 XX DR C 2219	PROPOSED OVERALL ROUTE LAYOUT PLAN	P11	1:2500
PROJ_G CSE 00 XX DR C 2220	PROPOSED SUB-STATION SITE LAYOUT AND SERVICES	P08	1:500
PROJ_G CSE 00 XX DR C 2221	PROPOSED 220kV ROUTE LAYOUT PLAN & SECTION - SHEET 1 OF 6	P09	1:500
PROJ_G CSE 00 XX DR C 2222	PROPOSED 220kV ROUTE LAYOUT PLAN & SECTION - SHEET 2 OF 6	P09	1:500
PROJ_G CSE 00 XX DR C 2223	PROPOSED 220kV ROUTE LAYOUT PLAN & SECTION - SHEET 3 OF 6	P10	1:500
PROJ_G CSE 00 XX DR C 2224	PROPOSED 220kV ROUTE LAYOUT PLAN & SECTION - SHEET 4 OF 6	P10	1:500
PROJ_G CSE 00 XX DR C 2225	PROPOSED 220kV ROUTE LAYOUT PLAN & SECTION - SHEET 5 OF 6	P10	1:500
PROJ_G CSE 00 XX DR C 2226	PROPOSED 220kV ROUTE LAYOUT PLAN & SECTION - SHEET 6 OF 6	P10	1:500
PROJ_G CSE 00 XX DR C 2227	PROPOSED 49kVA ROUTE LAYOUT PLAN	P06	1:500
PROJ_G CSE 00 XX DR C 2550	TYPICAL REINSTATEMENT DETAILS Sheet 1 of 2	P07	1:10
PROJ_G CSE 00 XX DR C 2551	TYPICAL REINSTATEMENT DETAILS Sheet 2 of 2	P07	1:10
PROJ_G CSE 00 XX DR C 2554	TYPICAL DETAILS FOR JOINT BAY	P06	-
PROJ_G CSE 00 XX DR C 2555	TYPICAL DETAILS FOR STEEL PLATE, LINK BOX AND C2 CHAMBERS	P06	-
PE610 D040 003 001 001	CORDUFF 220 KV SUBSTATION PLANNING PERMISSION APPLICATION 220 KV LINE BAYS F6 & F11 - SUBSTATION LAYOUT	001	-
PE610 D040 003 002 001	CORDUFF 220 KV SUBSTATION PLANNING PERMISSION APPLICATION 220 KV LINE BAYS F6 & F11 - F6 PLAN & ELEVATION	001	1:200
PE610 D040 003 003 001	CORDUFF 220 KV SUBSTATION PLANNING PERMISSION APPLICATION 220 KV LINE BAYS F6 & F11 - F6 PLAN & ELEVATION	001	1:200

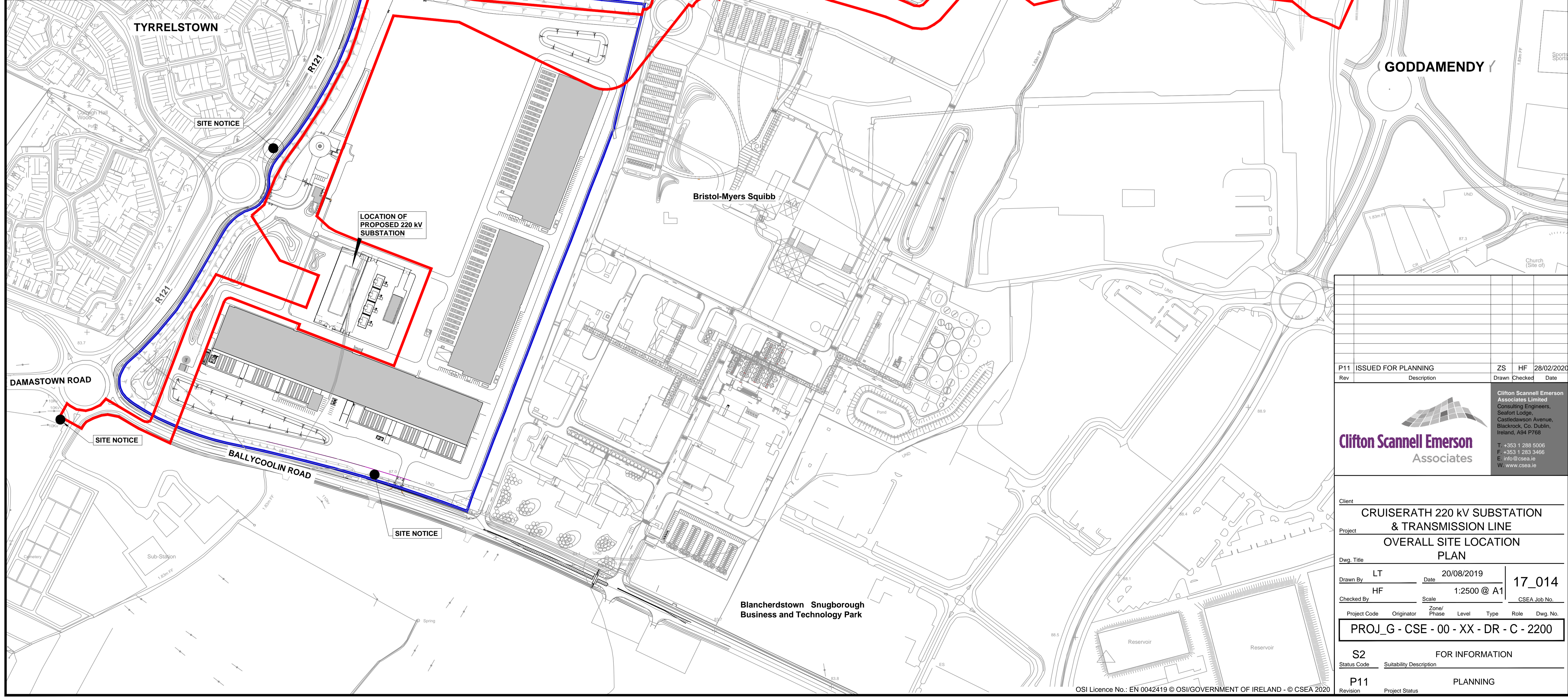


Clifton Scannell Emerson
Associates

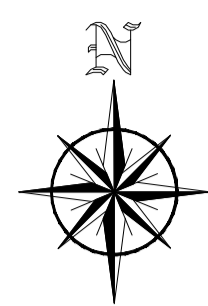


LEGEND:

- Application Site Boundary —
- Lands in Applicant's Control —
- Permitted Development Refer to Dwg Proj_G-CSE-00-XX-DR-C-2219



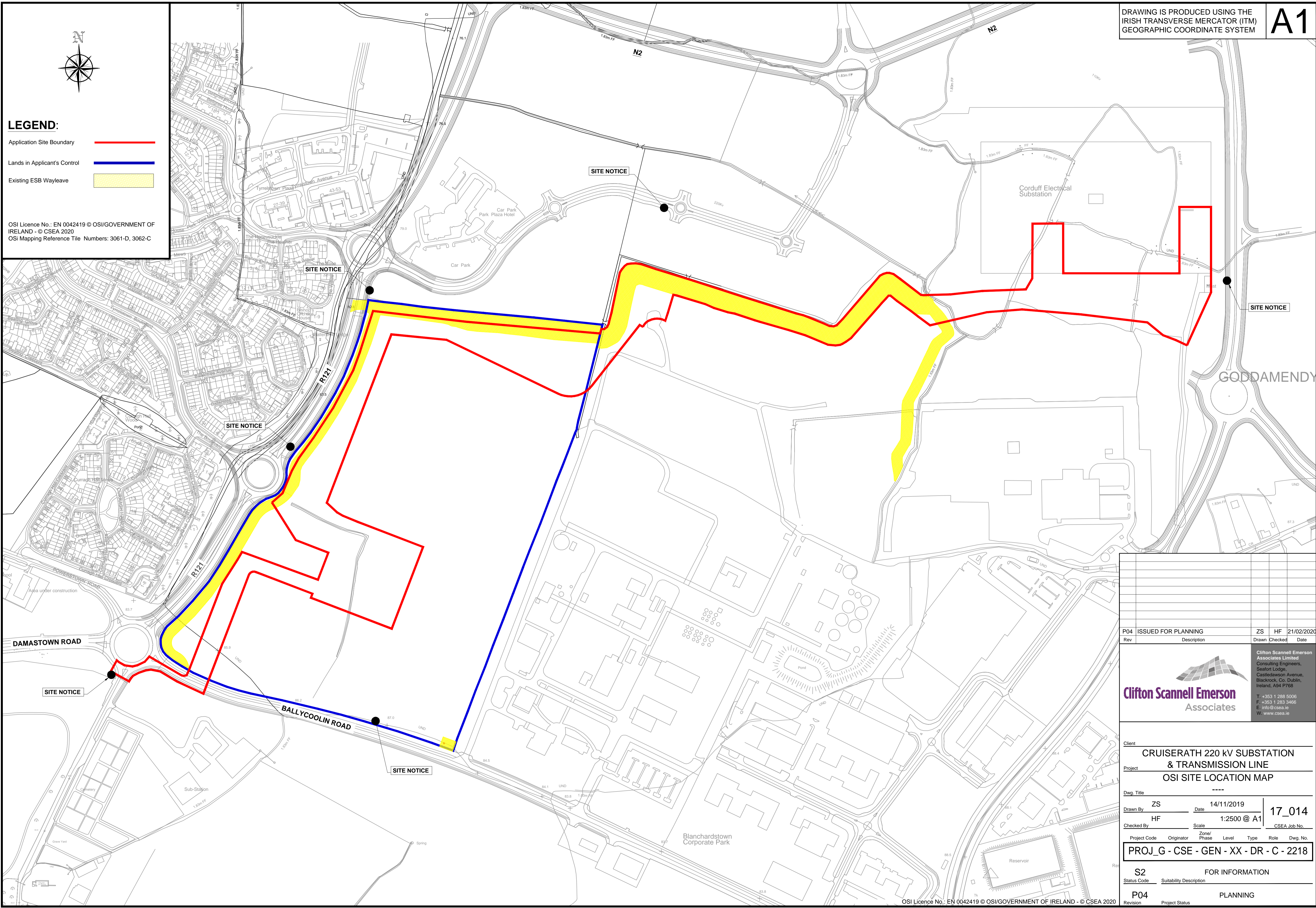
P11 ISSUED FOR PLANNING		ZS	HF	28/02/2020
Rev	Description	Drawn	Checked	Date
Clifton Scannell Emerson Associates Limited Consulting Engineers, Salford Lodge, Castlelawson Avenue, Blackrock, Co. Dublin, Ireland, A94 P768 T: +353 1 288 5006 F: +353 1 283 3466 E: info@csea.ie W: www.csea.ie				
Client				
CRUISERATH 220 kV SUBSTATION & TRANSMISSION LINE				
Project				
OVERALL SITE LOCATION PLAN				
Dwg. Title				
Drawn By	LT	Date	20/08/2019	
Checked By	HF	Scale	1:2500 @ A1	
Project Code		Originator	Zone/Phase	Level
Type		Role		
Dwg. No.				
17_014				
CSEA Job No.				
PROJ_G - CSE - 00 - XX - DR - C - 2200				
S2 FOR INFORMATION				
Status Code Suitability Description				
P11 PLANNING				
Revision Project Status				



LEGEND:

- Application Site Boundary
- Lands in Applicant's Control
- Existing ESB Wayleave

OSI Licence No.: EN 0042419 © OSI/GOVERNMENT OF IRELAND - © CSEA 2020
OSI Mapping Reference Tile Numbers: 3061-D, 3062-C



Rev	Issued For Planning	Description	ZS	HF	21/02/2020
	ISSUED FOR PLANNING		ZS	HF	21/02/2020

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Client					
CRUISERATH 220 kV SUBSTATION & TRANSMISSION LINE					
Project					
OSI SITE LOCATION MAP					
Dwg. Title					

Drawn By	ZS	Date	14/11/2019	17_014	
Checked By	HF	Scale	1:2500 @ A1	CSEA Job No.	
Project Code	Originator	Zone/Phase	Level	Type	Role
PROJ_G - CSE - GEN - XX - DR - C - 2218					
S2 FOR INFORMATION					
Status Code	Suitability Description				
P04	PLANNING				
Revision	Project Status				

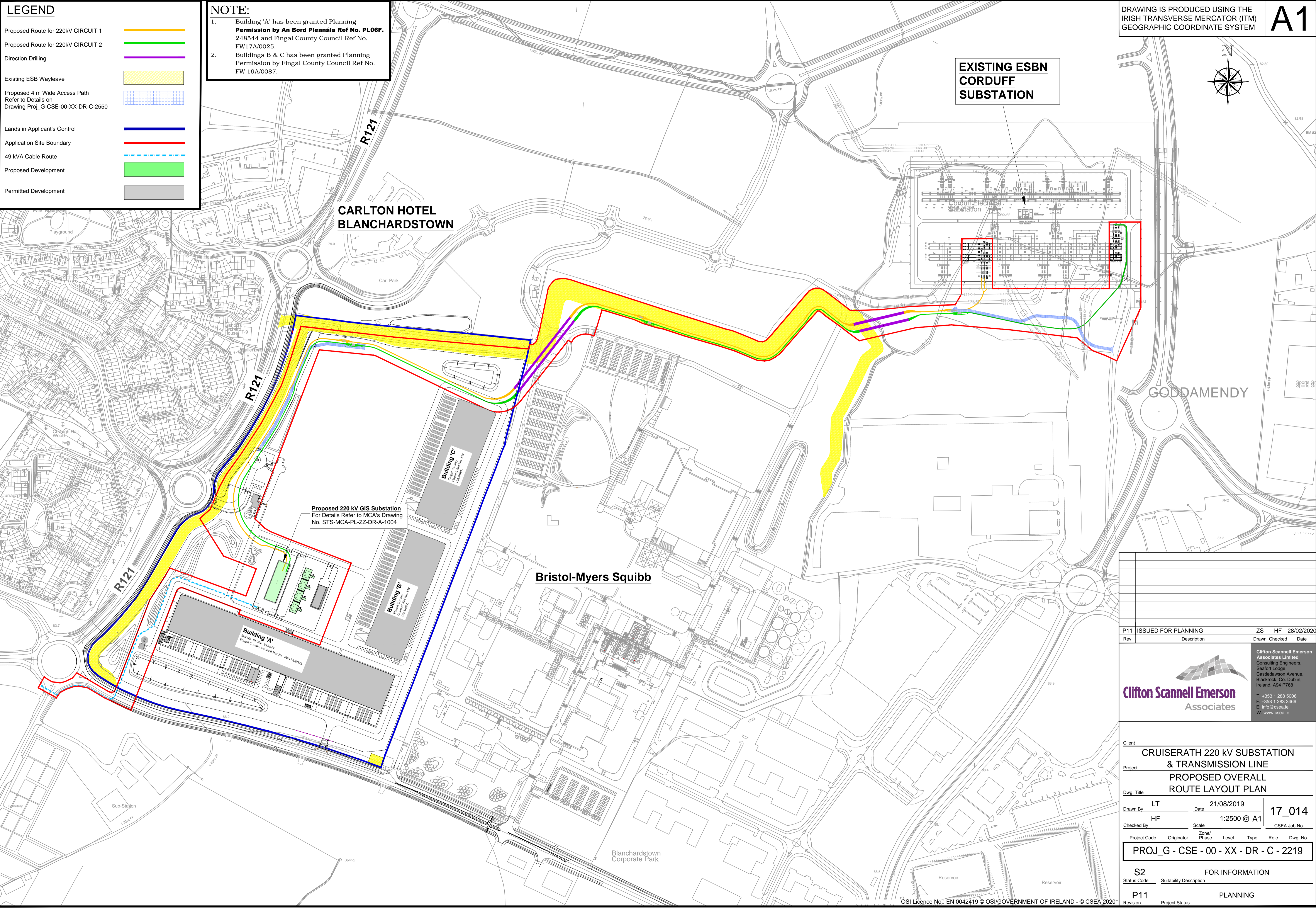
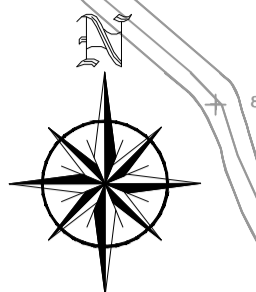
LEGEND

- Proposed Route for 220kV CIRCUIT 1 —
- Proposed Route for 220kV CIRCUIT 2 —
- Direction Drilling —
- Existing ESB Wayleave
- Proposed 4 m Wide Access Path
Refer to Details on
Drawing Proj_G-CSE-00-XX-DR-C-2550
- Lands in Applicant's Control —
- Application Site Boundary —
- 49 kVA Cable Route —
- Proposed Development
- Permitted Development

NOTE:

1. Building 'A' has been granted Planning Permission by An Bord Pleanála Ref No. PL06F. 248544 and Fingal County Council Ref No. FW17A/0025.
2. Buildings B & C has been granted Planning Permission by Fingal County Council Ref No. FW 19A/0087.

DRAWING IS PRODUCED USING THE IRISH TRANSVERSE MERCATOR (ITM) GEOGRAPHIC COORDINATE SYSTEM A1



Proposed 220 kV GIS Substation
For Details Refer to MCA's Drawing
No. STS-MCA-PL-ZZ-DR-A-1004

Building 'A'
Ref No. PL06F-18184
Fingal County Council Ref No. FW17A/0025

Building 'B'
Fingal County Council Ref No. FW 19A/0087

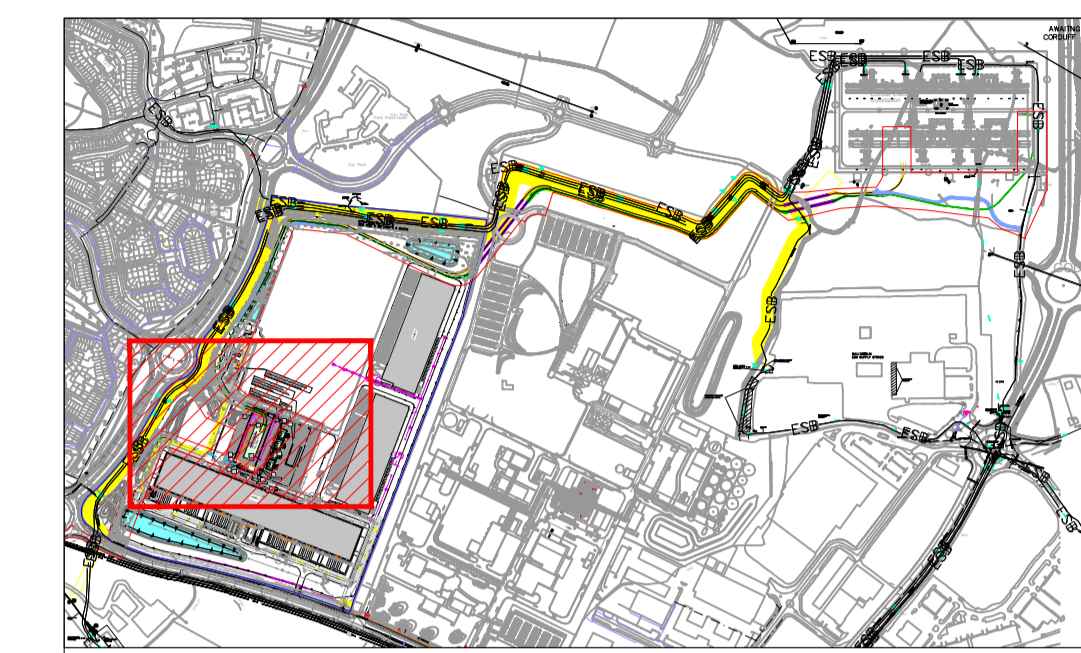
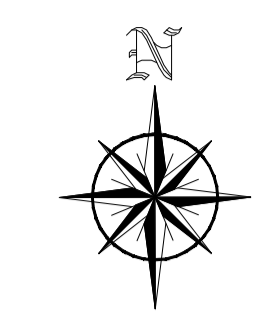
Building 'C'
Fingal County Council Ref No. FW 19A/0087

P11	ISSUED FOR PLANNING	ZS	HF	28/02/2020
Rev	Description	Drawn	Checked	Date

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Client			
CRUISERATH 220 kV SUBSTATION & TRANSMISSION LINE			
Project			
PROPOSED OVERALL ROUTE LAYOUT PLAN			
Dwg. Title			
Drawn By	LT	Date	21/08/2019
Checked By	HF	Scale	1:2500 @ A1
Project Code		Originator	Zone/Phase
Level		Type	Role
Dwg. No.		17_014	
PROJ_G - CSE - 00 - XX - DR - C - 2219			
S2 FOR INFORMATION			
Status Code	Suitability Description		
P11	PLANNING		
Revision	Project Status		



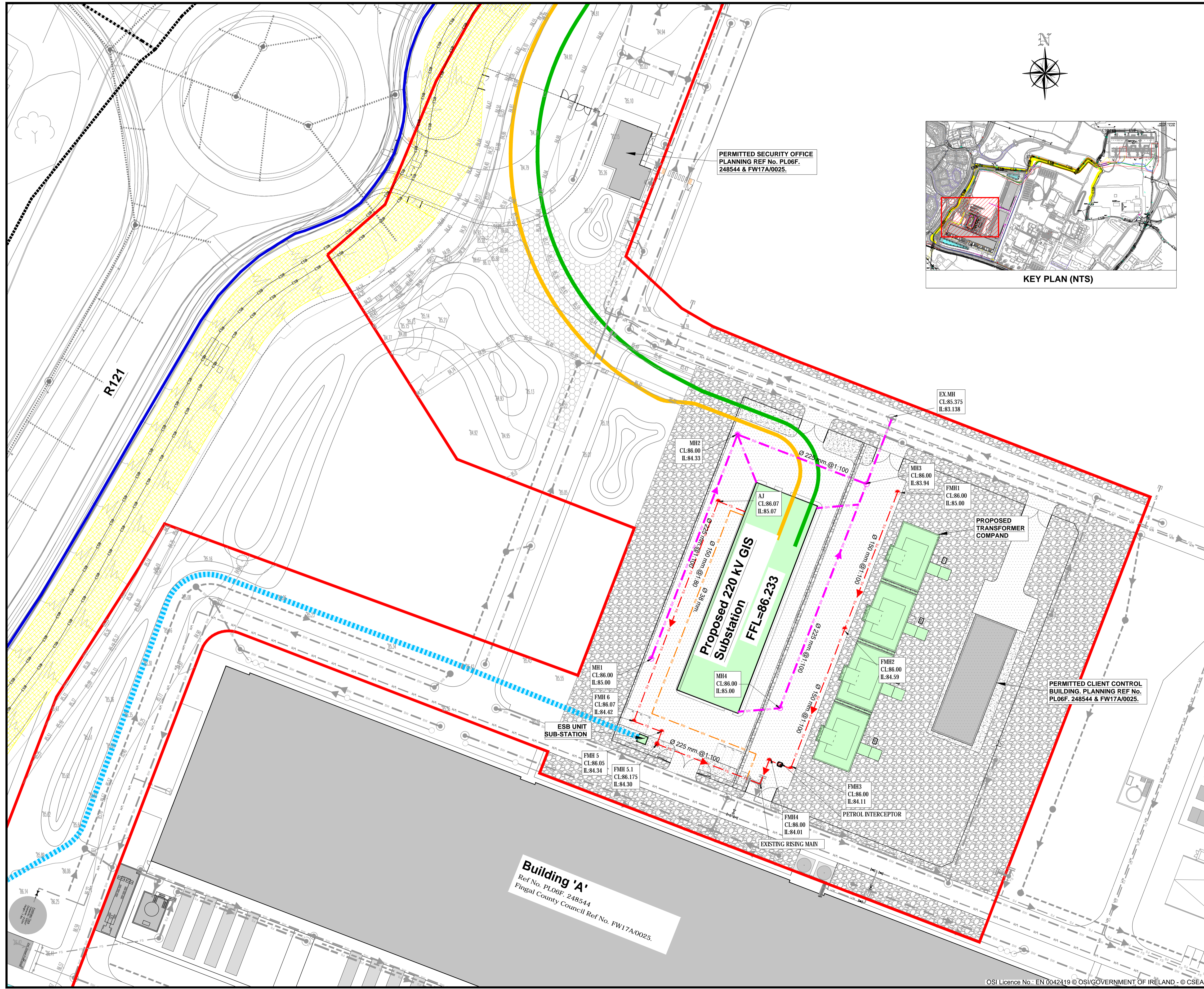
KEY PLAN (NTS)

LEGEND

- Proposed Route for 220kV CIRCUIT 1
- Proposed Route for 220kV CIRCUIT 2
- Existing ESB Wayleave
- Lands in Applicant's Control
- Application Site Boundary
- 49 kVA Cable Route
- Proposed Watermain
- Proposed Surface Water
- Proposed Foul Sewer
- Permitted Watermain
- Permitted Surface Water
- Permitted Foul Sewer
- Existing HV ESB ducts (Wayleave)
- Proposed Development
- Permitted Development
- Proposed Access Roads
- Proposed Footpath
- Proposed Stoned area
- Proposed Grasscrete

NOTE:

1. Building 'A' has been granted Planning Permission by An Bord Pleanála Ref No. PL06F. 248544 and Fingal County Council Ref No. FW17A/0025.
2. Buildings B & C has been granted Planning Permission by Fingal County Council Ref No. FW 19A/0087.



PERMITTED SECURITY OFFICE
PLANNING REF No. PL06F.
248544 & FW17A/0025.

EX.MH
CL:85.375
IL:83.138

MH2
CL:86.00
IL:84.33

AJ
CL:86.07
IL:85.07

MH3
CL:86.00
IL:83.94

FMH1
CL:86.00
IL:85.00

PROPOSED TRANSFORMER COMPAND

PERMITTED CLIENT CONTROL BUILDING. PLANNING REF No. PL06F. 248544 & FW17A/0025.

MH1
CL:86.00
IL:85.00

FMH 6
CL:86.07
IL:84.42

ESB UNIT SUB-STATION

FMH 5
CL:86.05
IL:84.34

FMH 5.1
CL:86.175
IL:84.30

MH4
CL:86.00
IL:85.00

FMH2
CL:86.00
IL:84.59

FMH3
CL:86.00
IL:84.11

PETROL INTERCEPTOR

EXISTING RISING MAIN

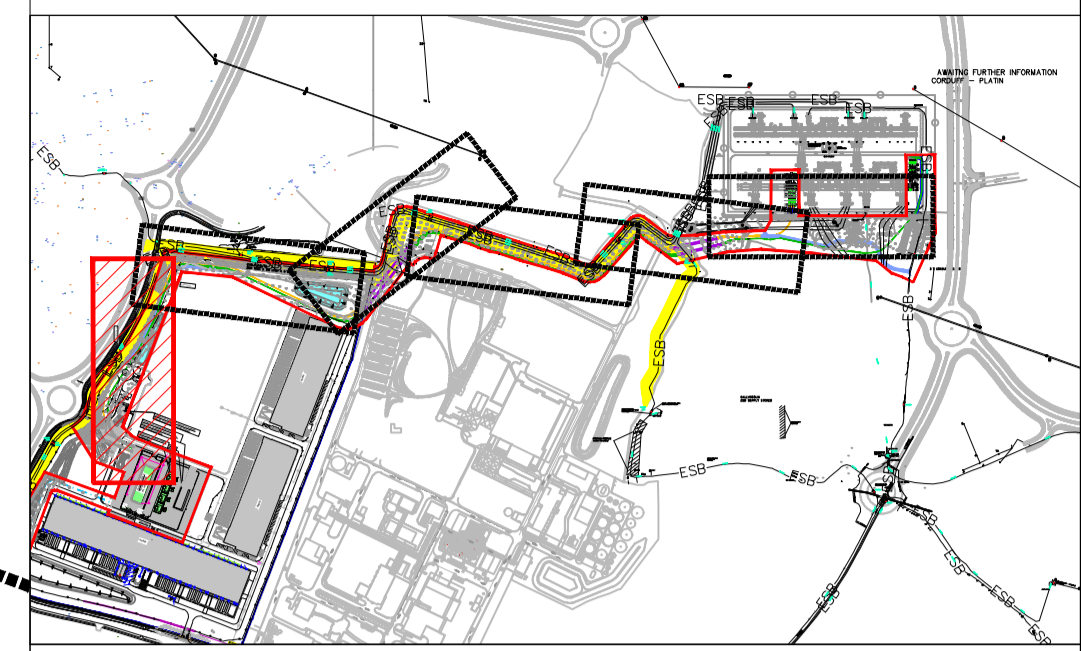
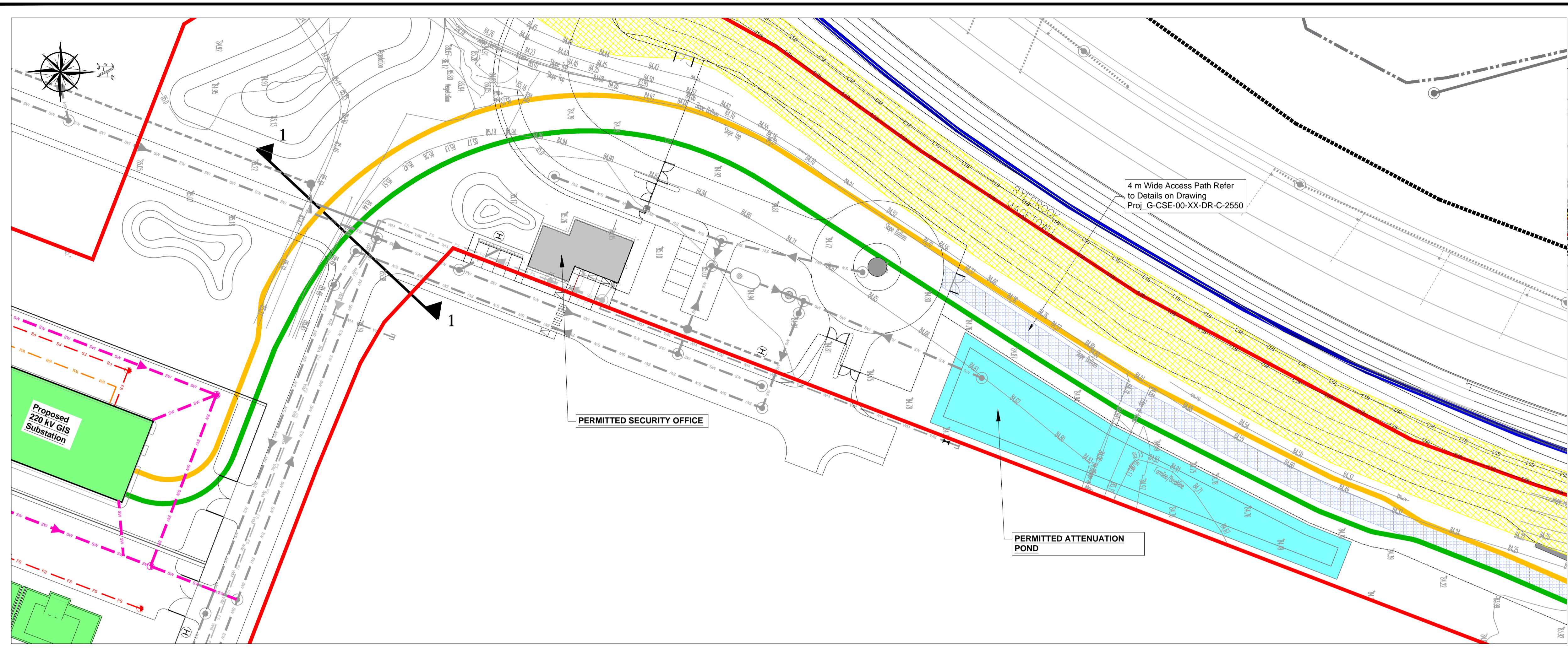
Building 'A'
Ref No. PL06F. 248544
Fingal County Council Ref No. FW17A/0025.

Rev	ISSUED FOR PLANNING	Description	ZS	HF	21/02/2020
P08	ISSUED FOR PLANNING		ZS	HF	21/02/2020

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Client	CRUISERATH 220 kV SUBSTATION & TRANSMISSION LINE				
Project	PROPOSED SUB-STATION SITE LAYOUT AND SERVICES				
Dwg. Title	17_014				
Drawn By	LT	Date	12/08/2019	17_014	
Checked By	HF	Scale	1:500 @ A1	CSEA Job No.	
Project Code	Originator	Zone/Phase	Level	Type	Role
PROJ_G - CSE - 00 - XX - DR - C - 2220					

S2	FOR INFORMATION
Status Code	Suitability Description
P08	PLANNING
Revision	Project Status

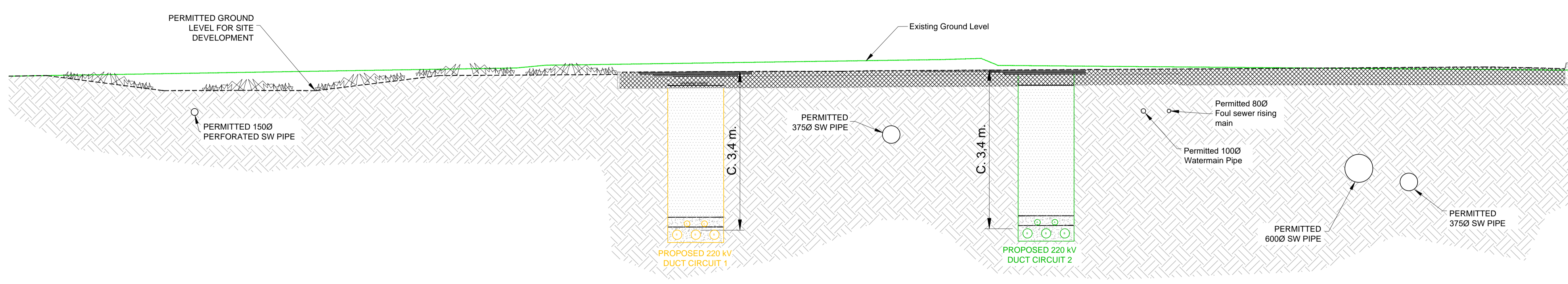


KEY PLAN (NTS)

LEGEND

Proposed Route for 220kV CIRCUIT 1	
Proposed Route for 220kV CIRCUIT 2	
Lands in Applicant's Control	
Application Site Boundary	
Proposed Development	
Permitted Development	
Existing ESB Wayleave	
Permitted Attenuation Pond	
Proposed 4 m Wide Access Path Refer to Details on Drawing Proj_G-CSE-00-XX-DR-C-2550	
Proposed Surface Water	
Proposed Foul Sewer	
Proposed Watermain	
Permitted Watermain	
Permitted Surface Water	
Permitted Foul Sewer	
Existing Surface water	
Existing HV ESB ducts (Wayleave)	

NOTE:
The Services indicate in the cross Section as "Permitted" have been granted permission under the Planning Ref No. PL06F. 248544 and Fingal County Council Ref No. FW17a/0025



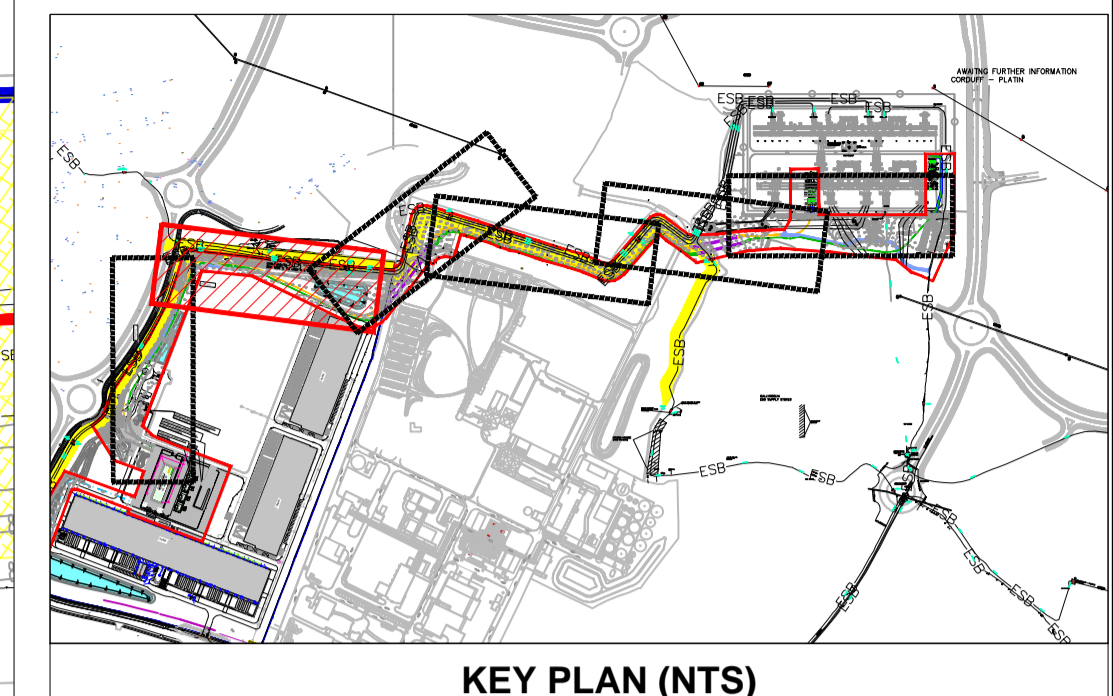
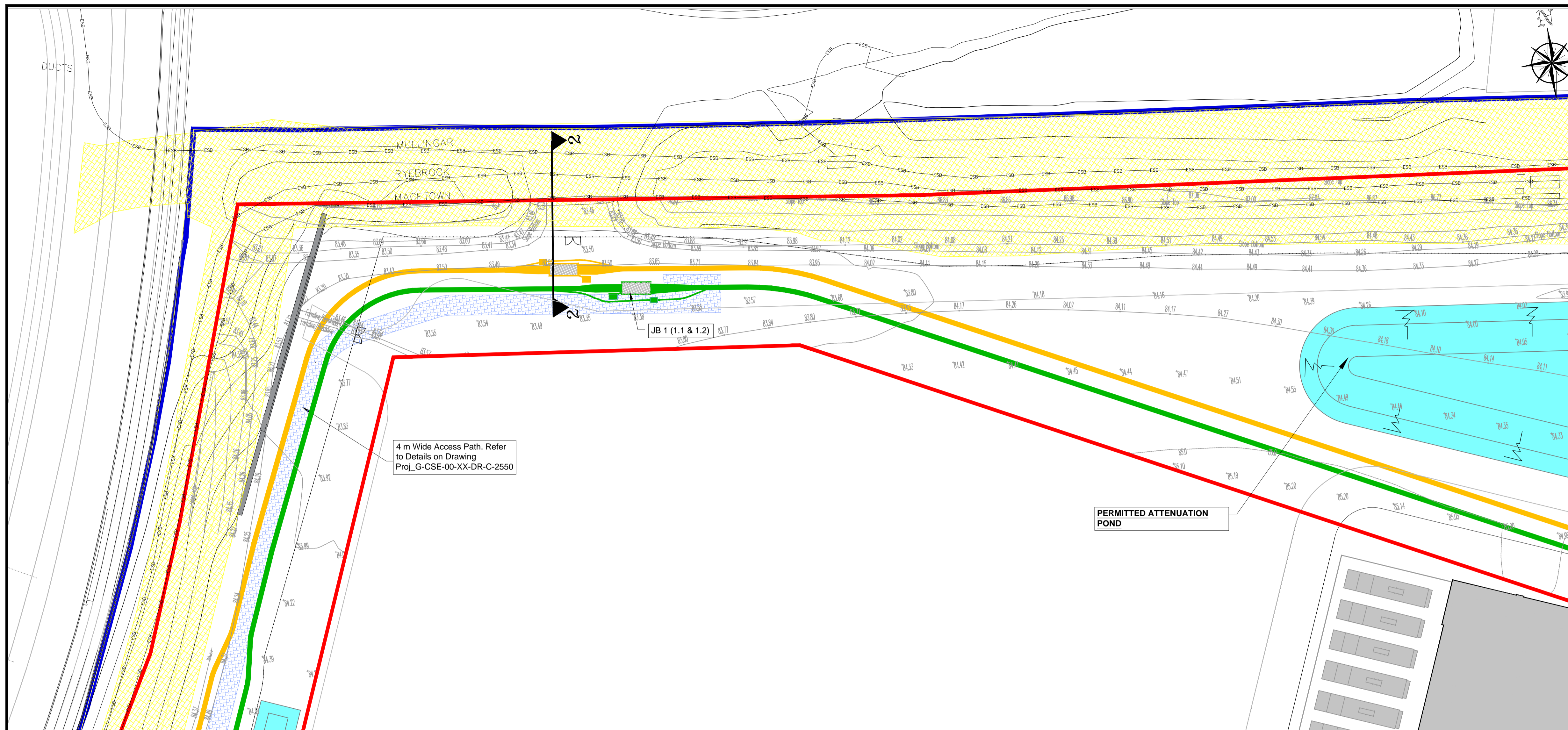
SECTION 1-1
SCALE 1:50

P09	ISSUED FOR PLANNING	ZS	HF	28/02/2020
Rev	Description	Drawn	Checked	Date

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Client	CRUISERATH 220 kV SUBSTATION & TRANSMISSION LINE
Project	PROPOSED 220 kV ROUTE LAYOUT PLAN & SECTION - SHEET 1 OF 6
Dwg. Title	
Drawn By	LT
Date	12/08/2019
Checked By	HF
Scale	1:500 @ A1
CSEA Job No.	17_014
Project Code	PROJ_G - CSE - 00 - XX - DR - C - 2221
Originator	
Zone/Phase	
Level	
Type	
Role	
Dwg. No.	

S2	FOR INFORMATION
Status Code	Suitability Description
P09	PLANNING
Revision	Project Status

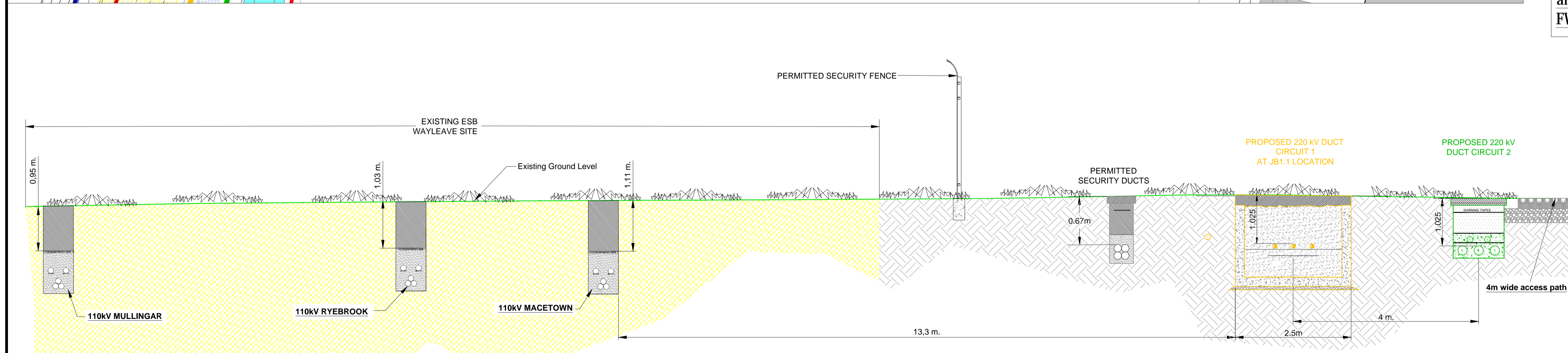


KEY PLAN (NTS)

LEGEND

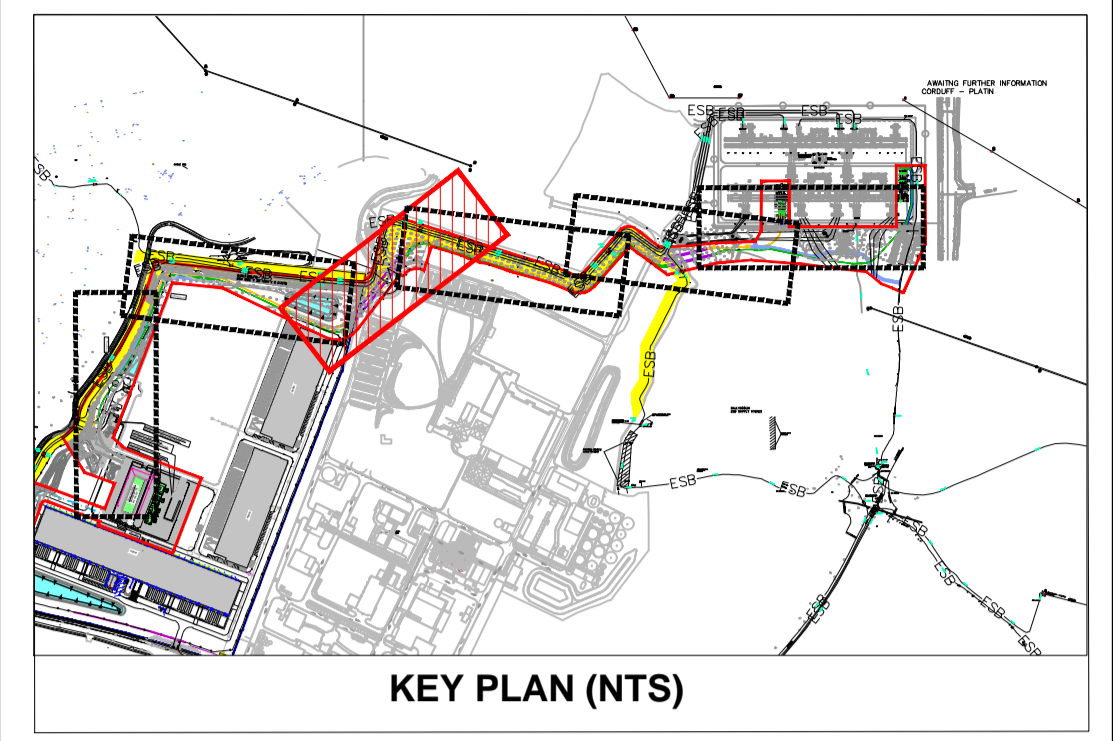
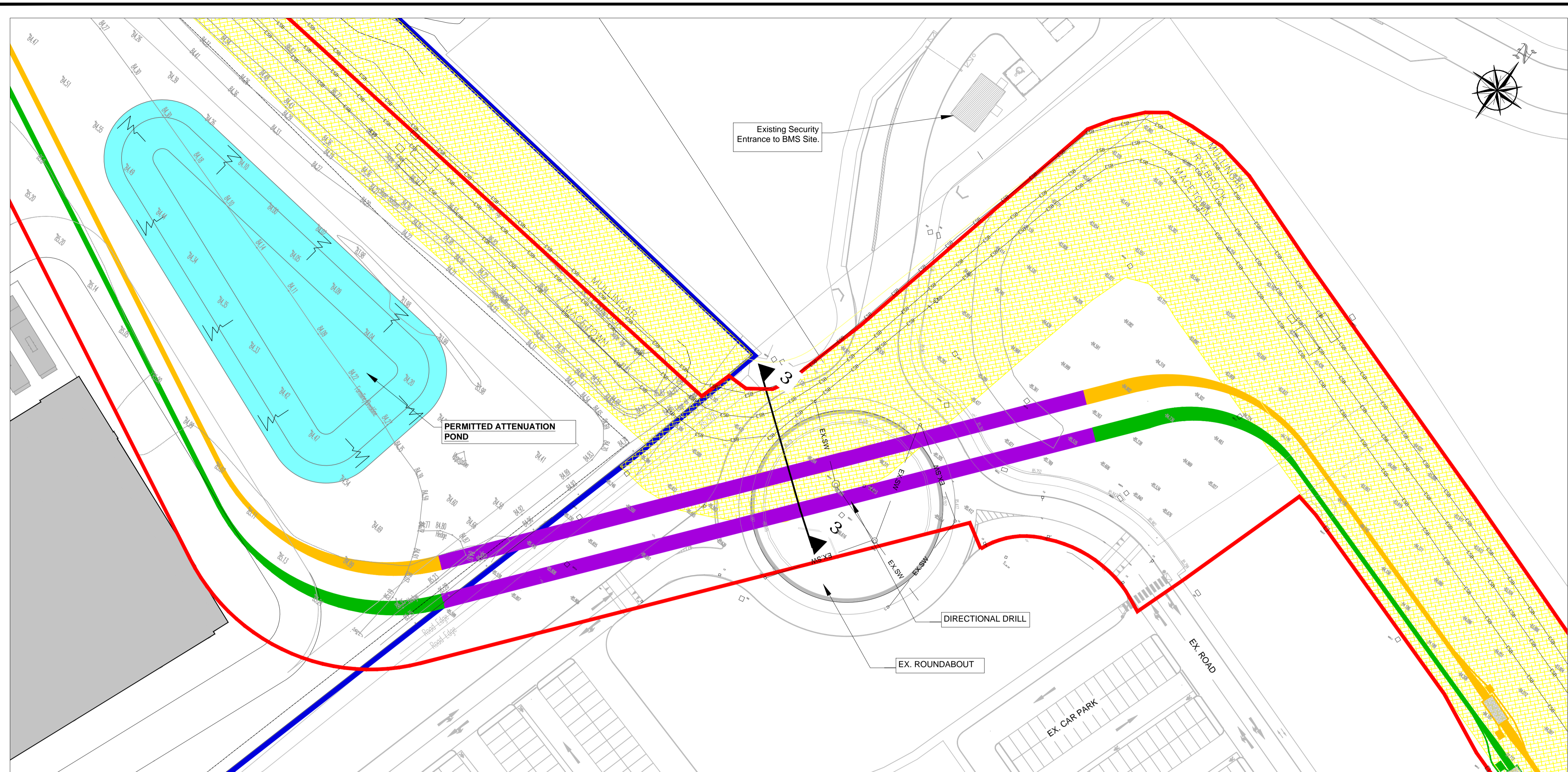
- Proposed Route for 220kV CIRCUIT 1 —
- Proposed Route for 220kV CIRCUIT 2 —
- Lands in Applicant's Control
- Application Site Boundary
- Permitted Development
- Existing ESB Wayleave
- Permitted Attenuation Pond
- Proposed 4 m Wide Access Path Refer to Details on Drawing Proj_G-CSE-00-XX-DR-C-2550
- Existing HV ESB ducts (Wayleave)

NOTE:
The Services indicate in the cross Section as "Permitted" have been granted permission under the Planning Ref No. PL06F. 248544 and Fingal County Council Ref No. FW17a/0025



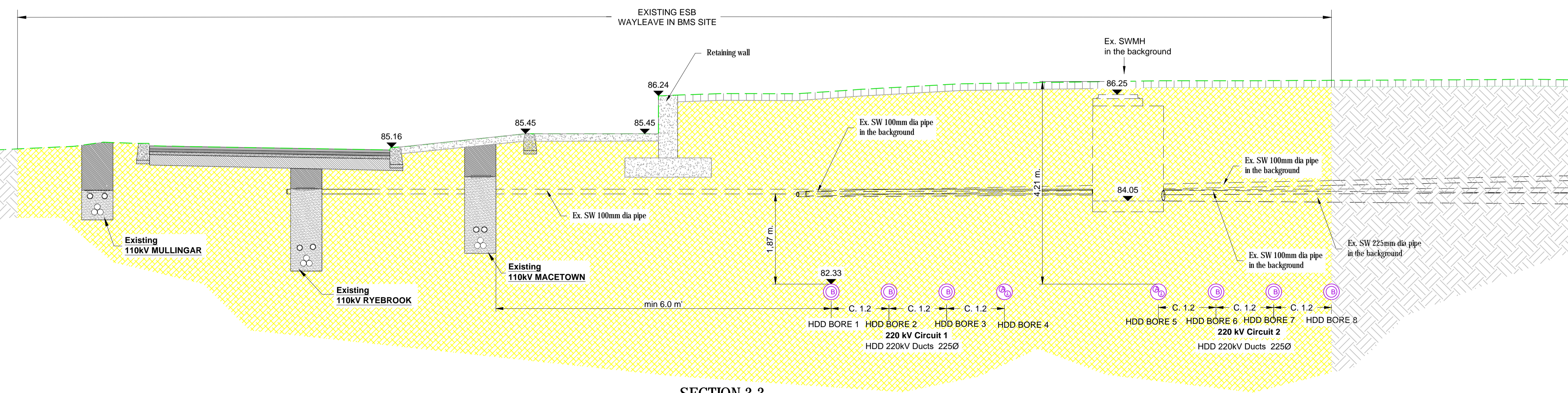
SECTION 2-2
SCALE 1:50

P09 FOR PLANNING		ZS	HF	28/02/2020
Rev	Description	Drawn	Checked	Date
Clifton Scannell Emerson Associates Limited Consulting Engineers, Salford Lodge, Castledawson Avenue, Blackrock, Co. Dublin, Ireland, A94 P768 T: +353 1 288 5006 F: +353 1 283 3466 E: info@csea.ie W: www.csea.ie				
Client: CRUISERATH 220 kV SUBSTATION & TRANSMISSION LINE				
Project: PROPOSED 220 kV ROUTE LAYOUT PLAN & SECTION - SHEET 2 OF 6				
Dwg. Title: PROPOSED 220 kV ROUTE LAYOUT PLAN & SECTION - SHEET 2 OF 6				
Drawn By:	LT	Date:	12/08/2019	17_014
Checked By:	HF	Scale:	1:500 @ A1	CSEA Job No.
Project Code	Originator	Zone/Phase	Level	Type
Role	Dwg. No.	PROJ_G - CSE - 00 - XX - DR - C - 2222		
S2	FOR INFORMATION			
Status Code	Suitability Description			
P09	PLANNING			
Revision	Project Status			



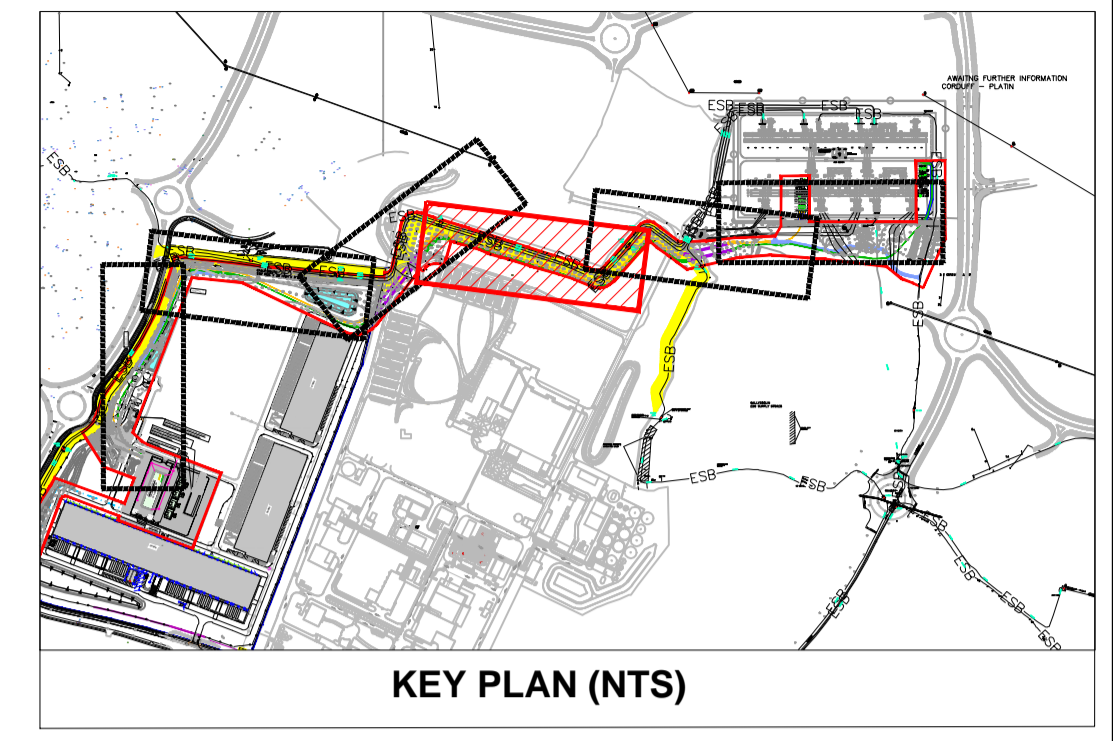
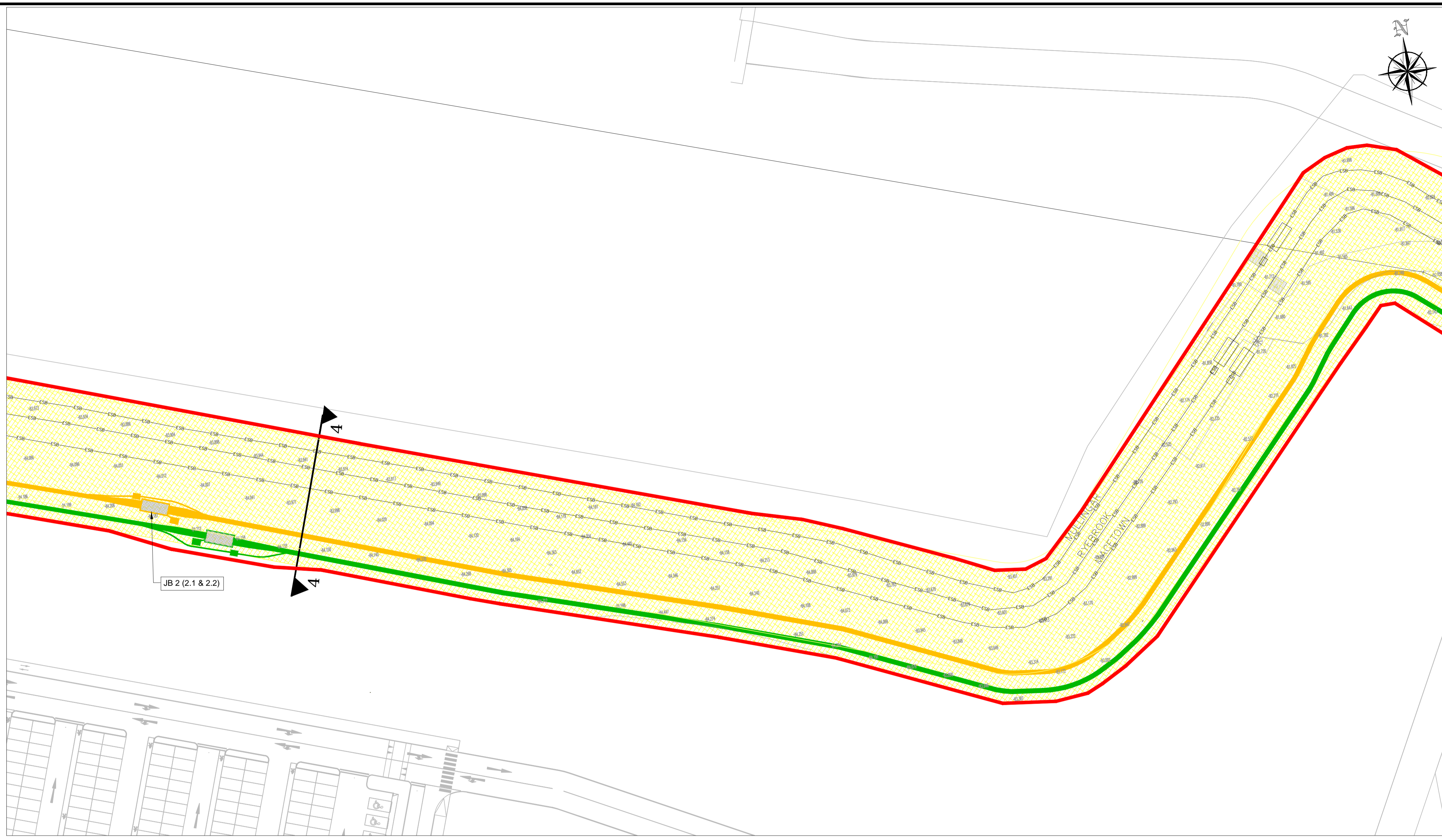
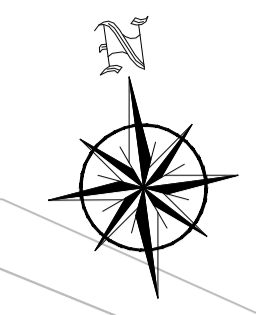
LEGEND

- Proposed Route for 220kV CIRCUIT 1 —
- Proposed Route for 220kV CIRCUIT 2 —
- Lands in Applicant's Control —
- Application Site Boundary —
- Permitted Development
- Existing ESB Wayleave
- Permitted Attenuation Pond
- Directional Drill —
- Planning Boundary —
- Existing HV ESB ducts (Wayleave) — ESB — ESB —
- Existing SW drainage — EX.SW —



SECTION 3-3
SCALE 1:50

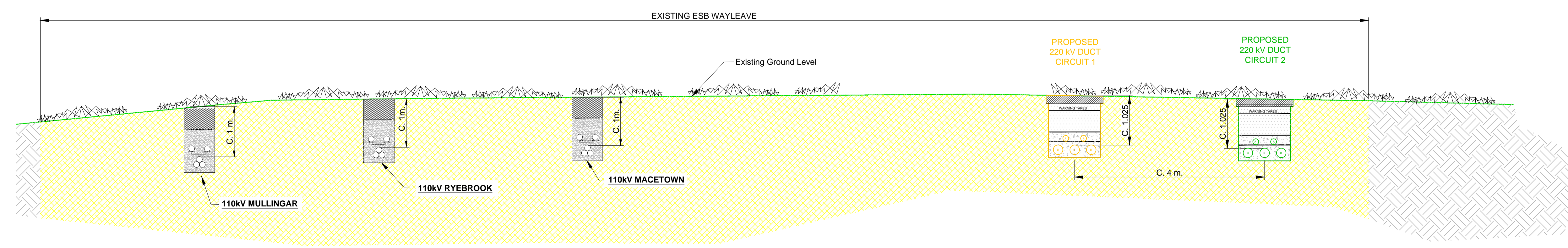
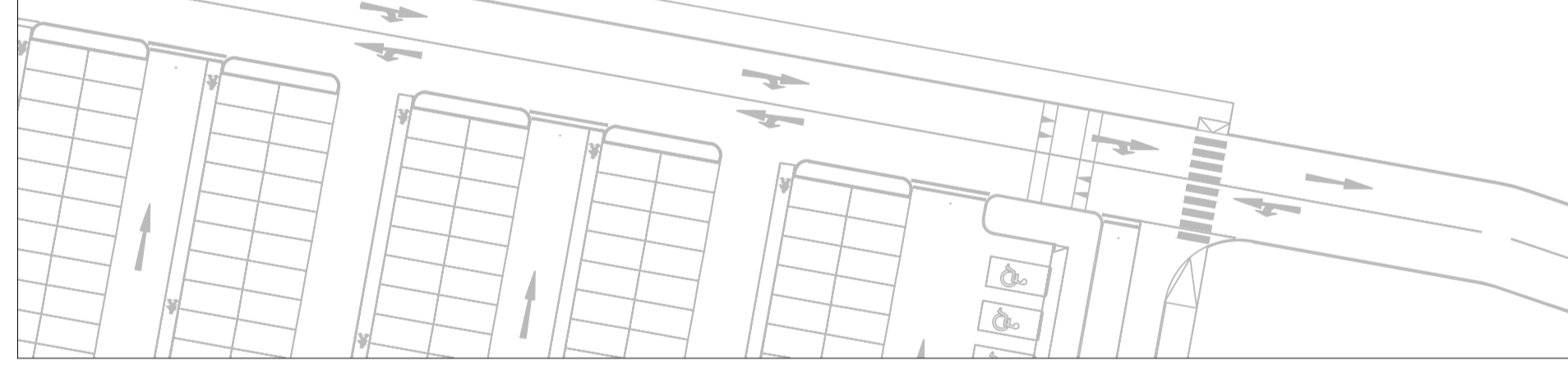
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Rev	Description	Drawn	Checked	Date
Clifton Scannell Emerson Associates Limited Consulting Engineers, Salford Lodge, Castledareen Avenue, Blackrock, Co. Dublin, Ireland, A94 P768 T: +353 1 288 5006 F: +353 1 283 3466 E: info@csea.ie W: www.csea.ie				
Client: CRUISERATH 220 kV SUBSTATION & TRANSMISSION LINE				
Project: PROPOSED 220 kV ROUTE LAYOUT PLAN & SECTION - SHEET 3 OF 6				
Dwg. Title: & SECTION - SHEET 3 OF 6				
Drawn By:	LT	Date:	12/08/2019	17_014
Checked By:	HF	Scale:	1:500 @ A1	CSEA Job No.
Project Code	Originator	Zone/Phase	Level	Type
PROJ_G - CSE - 00 - XX - DR - C - 2223				
S2 FOR INFORMATION				
Status Code Suitability Description				
P10 PLANNING				
Revision Project Status				



LEGEND

Proposed Route for 220kV CIRCUIT 1	
Proposed Route for 220kV CIRCUIT 2	
Existing ESB Wayleave	
Application Site Boundary	
Existing HV ESB ducts (Wayleave)	

JB 2 (2.1 & 2.2)



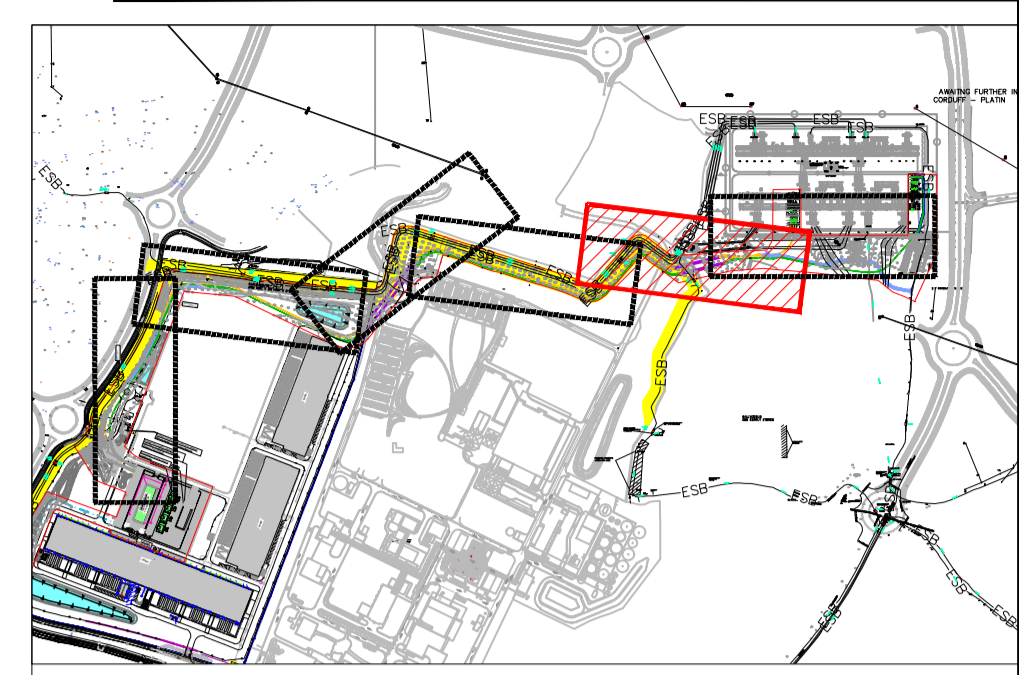
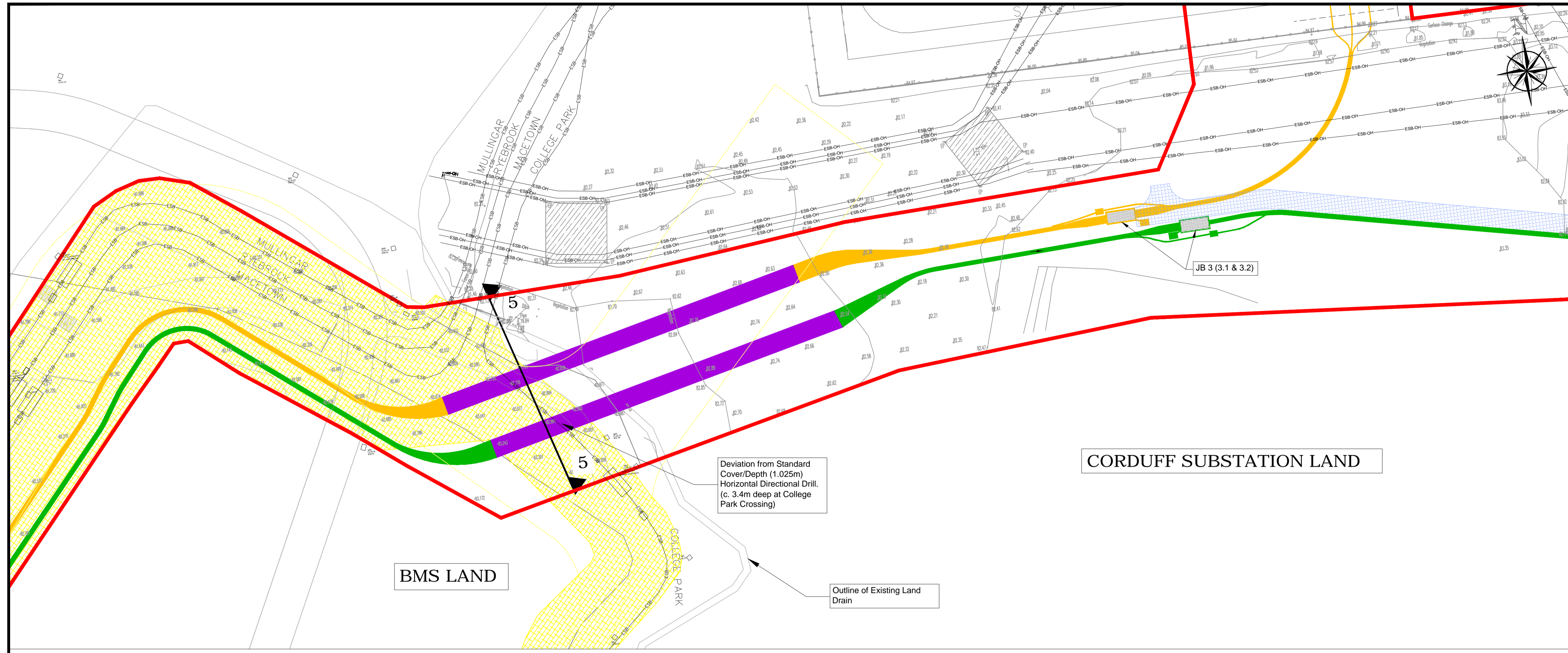
SECTION 4-4
SCALE 1:50

P10	FOR PLANNING	ZS	HF	28/02/2020
Rev	Description	Drawn	Checked	Date

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W: www.csea.ie

Client				
CRUISERATH 220 kV SUBSTATION & TRANSMISSION LINE				
Project				
PROPOSED 220kV ROUTE LAYOUT PLAN & SECTION - SHEET 4 OF 6				
Dwg. Title				
Drawn By	LT	Date	12/08/019	17_014
Checked By	HF	Scale	1:500 @ A1	CSEA Job No.
Project Code	Originator	Zone/Phase	Level	Type
PROJ_G - CSE - 00 - XX - DR - C - 2224				
S2 FOR INFORMATION				
Status Code Suitability Description				
P10 PLANNING				
Revision Project Status				



LEGEND

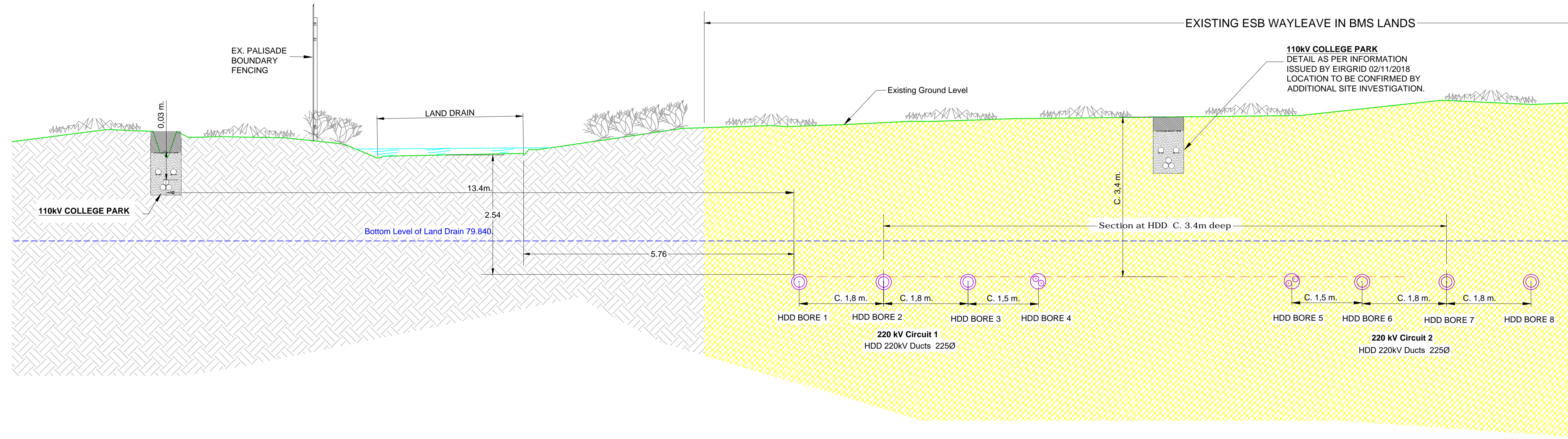
- Proposed Route for 220kV CIRCUIT 1: Yellow line
- Proposed Route for 220kV CIRCUIT 2: Green line
- Directional Drill: Purple line
- Existing ESB Wayleave: Yellow hatched area
- Proposed 4m. Wide Access Path: Blue hatched area
- Application Site Boundary: Red line
- Existing HV ESB ducts (Wayleave): Dashed line with 'ESB' labels
- Existing HV ESB Overhead Lines: Dashed line with 'ESB-OH' labels
- ESB Pylon: Hatched rectangle

BMS LAND

CORDUFF SUBSTATION LAND

Deviation from Standard Cover/Depth (1.025m) Horizontal Directional Drill. (c. 3.4m deep at College Park Crossing)

Outline of Existing Land Drain

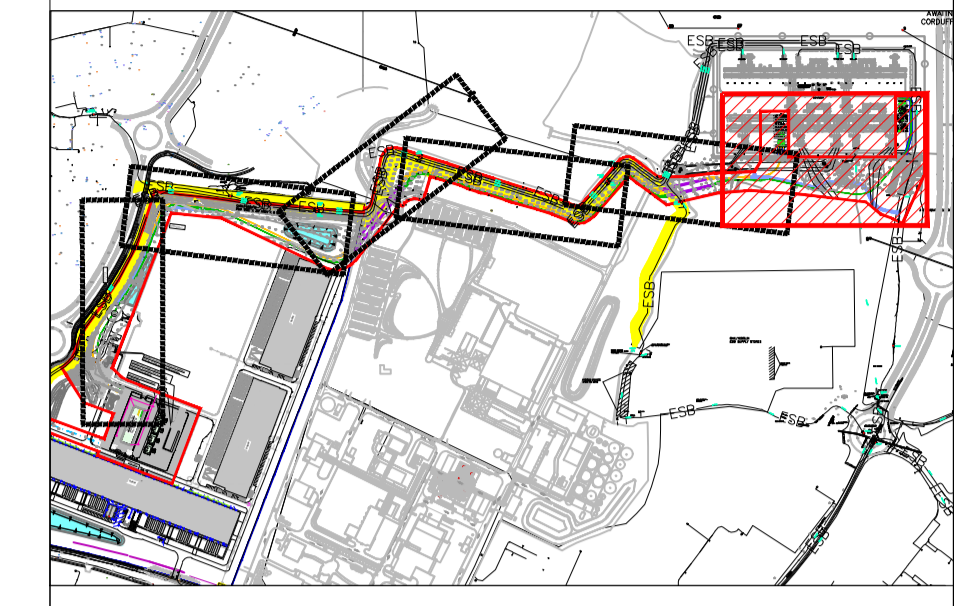
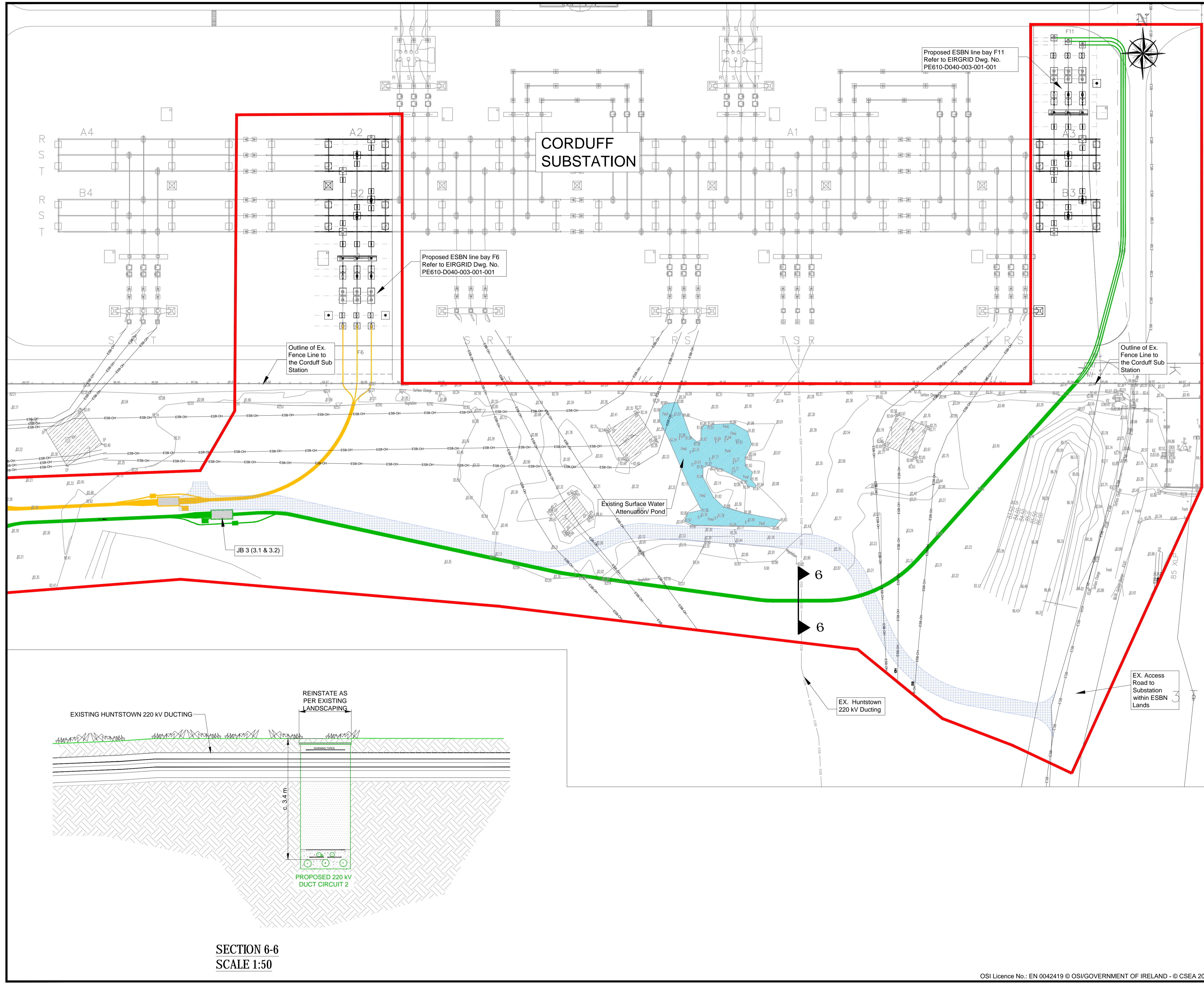


SECTION 5-5
SCALE 1:50

Rev	Description	Drawn	Checked	Date
P10	FOR PLANNING	ZS	HF	28/02/2020

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 E: info@csea.ie
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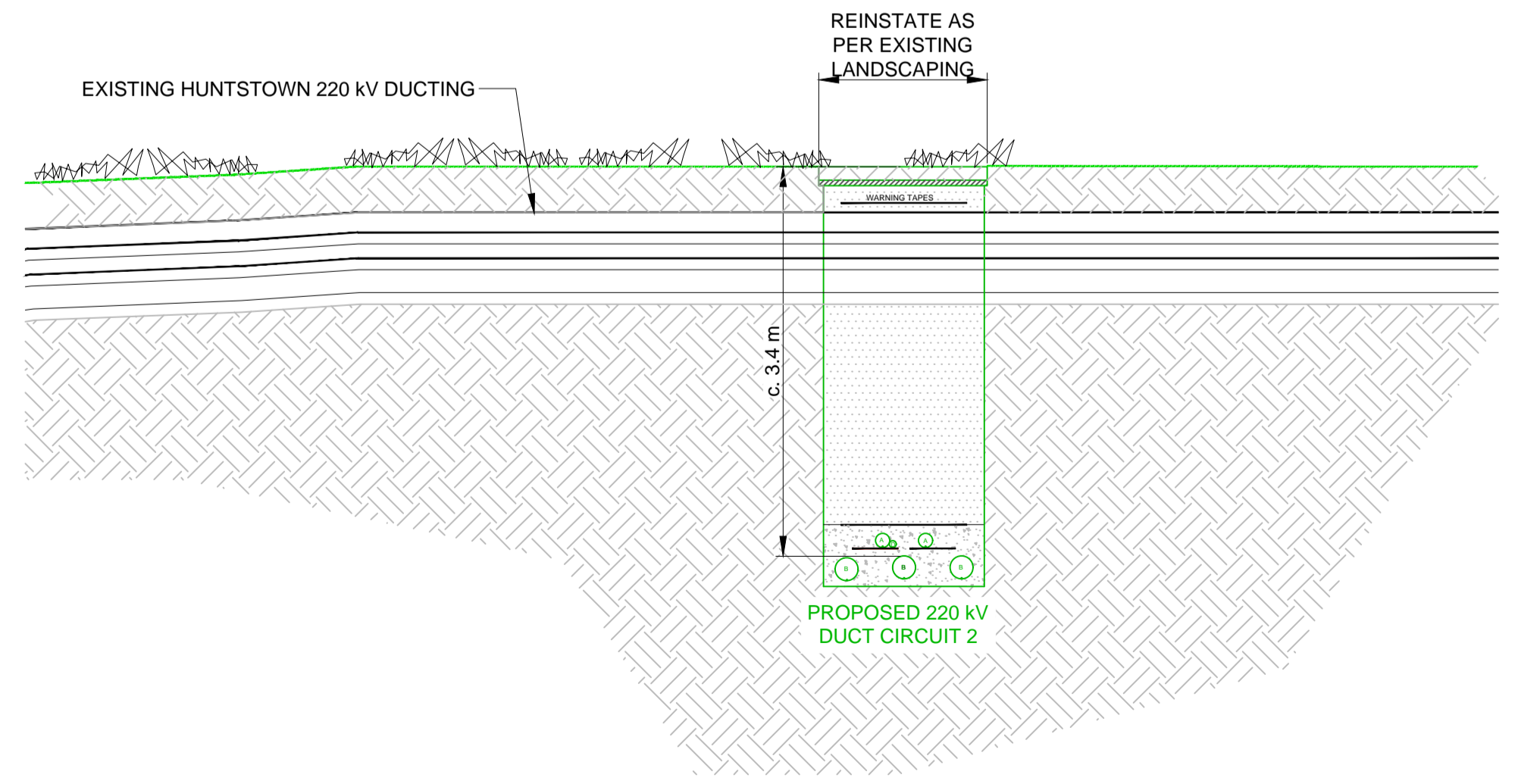
Client: CRUISERATH 220 kV SUBSTATION & TRANSMISSION LINE
 Project: PROPOSED 220 kV ROUTE LAYOUT PLAN & SECTION - SHEET 5 OF 6
 Dwg. Title: PROPOSED 220 kV ROUTE LAYOUT PLAN & SECTION - SHEET 5 OF 6
 Drawn By: LT Date: 12/08/2019
 Checked By: HF Scale: 1:500 @ A1
 Project Code: PROJ_G - CSE - 00 - XX - DR - C - 2225
 Status Code: S2 FOR INFORMATION
 Revision: P10 PLANNING



KEY PLAN (NTS)

LEGEND

- Proposed Route for 220kV CIRCUIT 1
- Proposed Route for 220kV CIRCUIT 2
- Application Site Boundary
- Proposed 4 m Wide Access Path Refer to Details on Drawing Proj_G-CSE-00-XX-DR-C-2550
- Existing SW Attenuation Pond
- Existing HV ESB ducts
- Existing HV ESB Overhead Lines
- Existing ESB Pylon



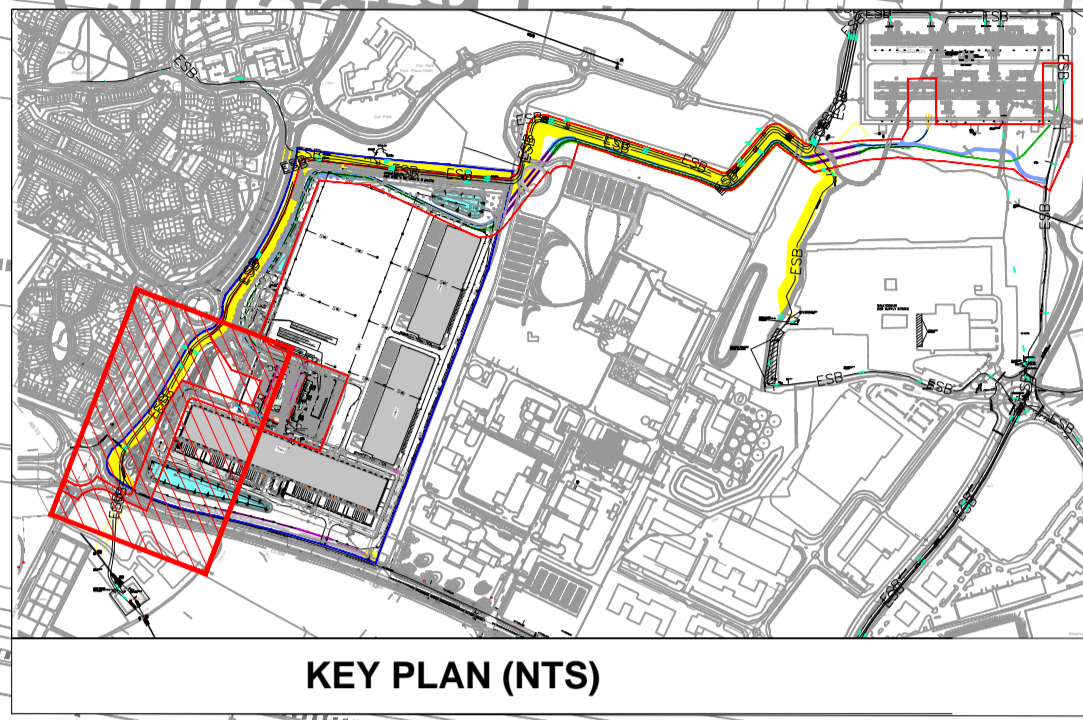
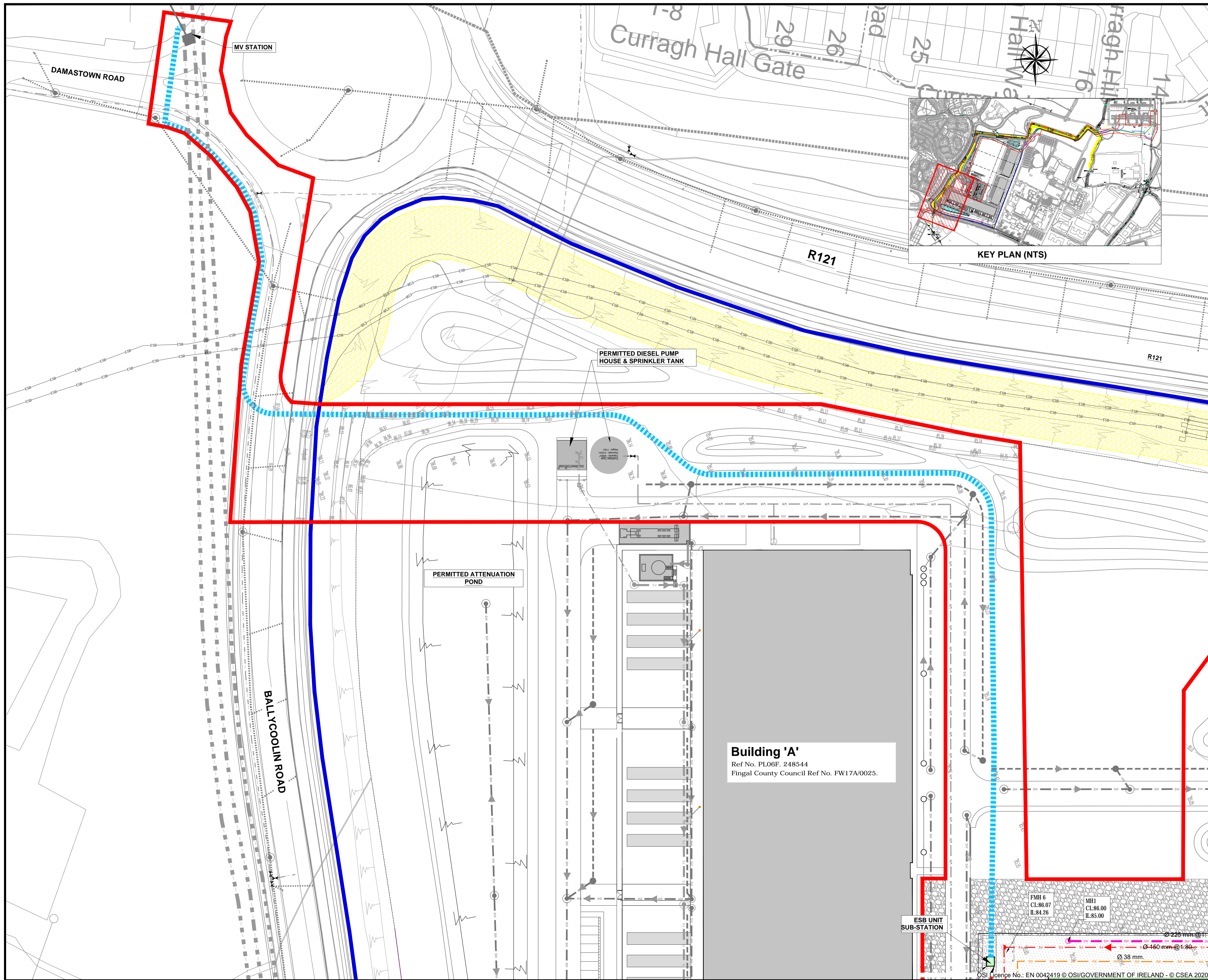
SECTION 6-6
SCALE 1:50

Rev	Description	Drawn	Checked	Date
P10	FOR PLANNING	ZS	HF	28/02/2020

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Client: CRUISERATH 220 kV SUBSTATION & TRANSMISSION LINE
Project: PROPOSED 220 kV ROUTE LAYOUT PLAN & SECTION - SHEET 6 OF 6
Dwg. Title: 17_014
Drawn By: LT Date: 12/08/2019
Checked By: HF Scale: 1:500 @ A1
Project Code: PROJ_G - CSE - 00 - XX - DR - C - 2226

Status Code: S2 FOR INFORMATION
Revision: P10 Project Status: PLANNING



DRAWING IS PRODUCED USING THE IRISH TRANSVERSE MERCATOR (ITM) GEOGRAPHIC COORDINATE SYSTEM **A1**

LEGEND

Existing ESB Wayleave	
Lands in Applicant's Control	
Application Site Boundary	
Proposed 49 kVA Cable Route	
Proposed Watermain	
Proposed Surface Water	
Proposed Foul Sewer	
Permitted Watermain	
Permitted Surface Water	
Permitted Foul Sewer	
Existing Surface water	
Existing Watermain	
Existing HV ESB ducts (Wayleave)	
Proposed Development	
Permitted Development	
Proposed Access Roads	
Proposed Footpath	
Proposed Stoned area	

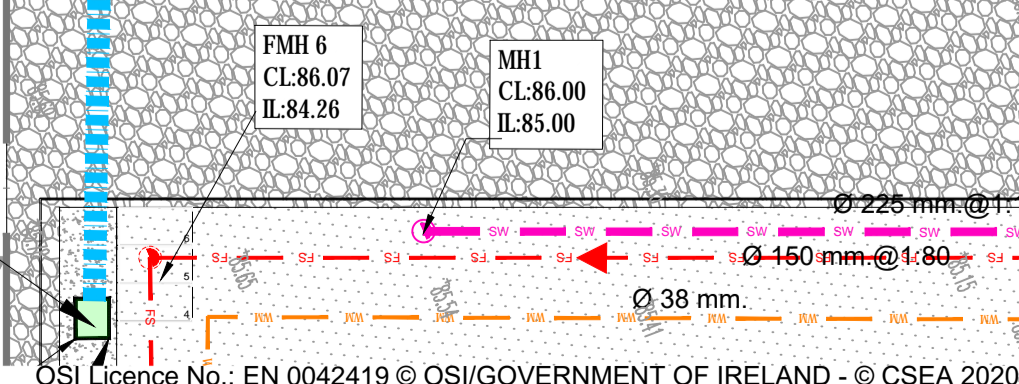
NOTE:

- Building 'A' has been granted Planning Permission by An Bord Pleanála Ref No. **PL06F. 248544** and Fingal County Council Ref No. FW17A/0025.
- Buildings B & C has been granted Planning Permission by Fingal County Council Ref No. FW 19A/0087.

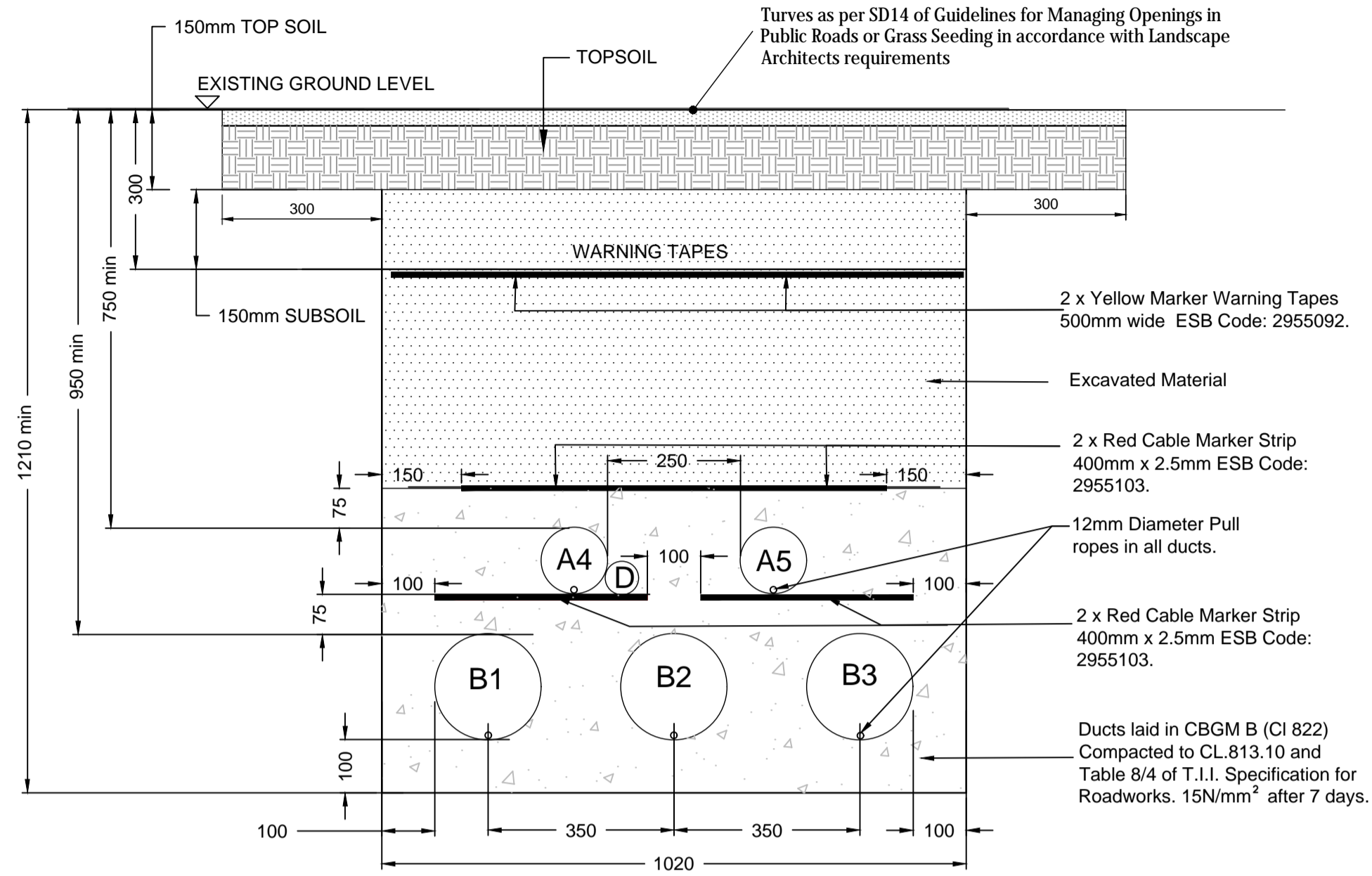
P06 FOR PLANNING		ZS	HF	21/02/2020
Rev	Description	Drawn	Checked	Date
Clifton Scannell Emerson Associates Limited Consulting Engineers, Salford Lodge, Castledawson Avenue, Blackrock, Co. Dublin, Ireland, A94 P768 T: +353 1 288 5006 F: +353 1 283 3466 E: info@csea.ie W: www.csea.ie				
Client				
CRUISERATH 220 kV SUBSTATION & TRANSMISSION LINE				
Project				
PROPOSED 49KVA ROUTE LAYOUT PLAN				
Dwg. Title				
Drawn By	ZS	Date	03/10/2019	17_014
Checked By	HF	Scale	1:500 @ A1	CSEA Job No.
Project Code	Originator	Zone/Phase	Level	Type
Proj_G - CSE - 00 - XX - DR - C - 2227				
S2 FOR INFORMATION				
Status Code	Suitability Description			
P06	PLANNING			
Revision	Project Status			

Building 'A'
 Ref No. PL06F. 248544
 Fingal County Council Ref No. FW17A/0025.

ESB UNIT SUB-STATION



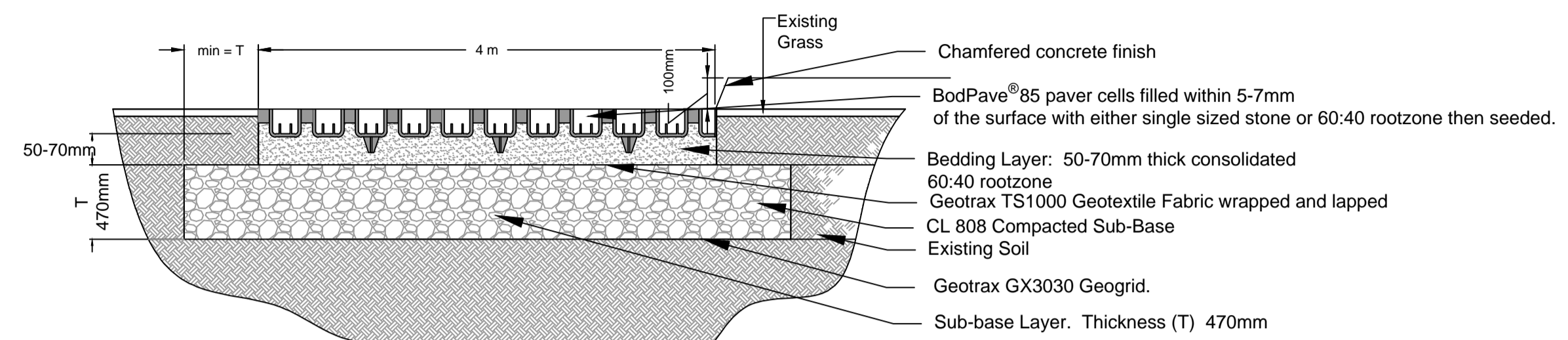
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Typical Section of a Single Circuit Flat Formation Grass Reinstatement (not driveable- Adjacent to Access Path)

SCALE 1:10

**B1, B2, B3 = 200mmØ
A4, A5 = 125mmØ
D = 63mmØ**

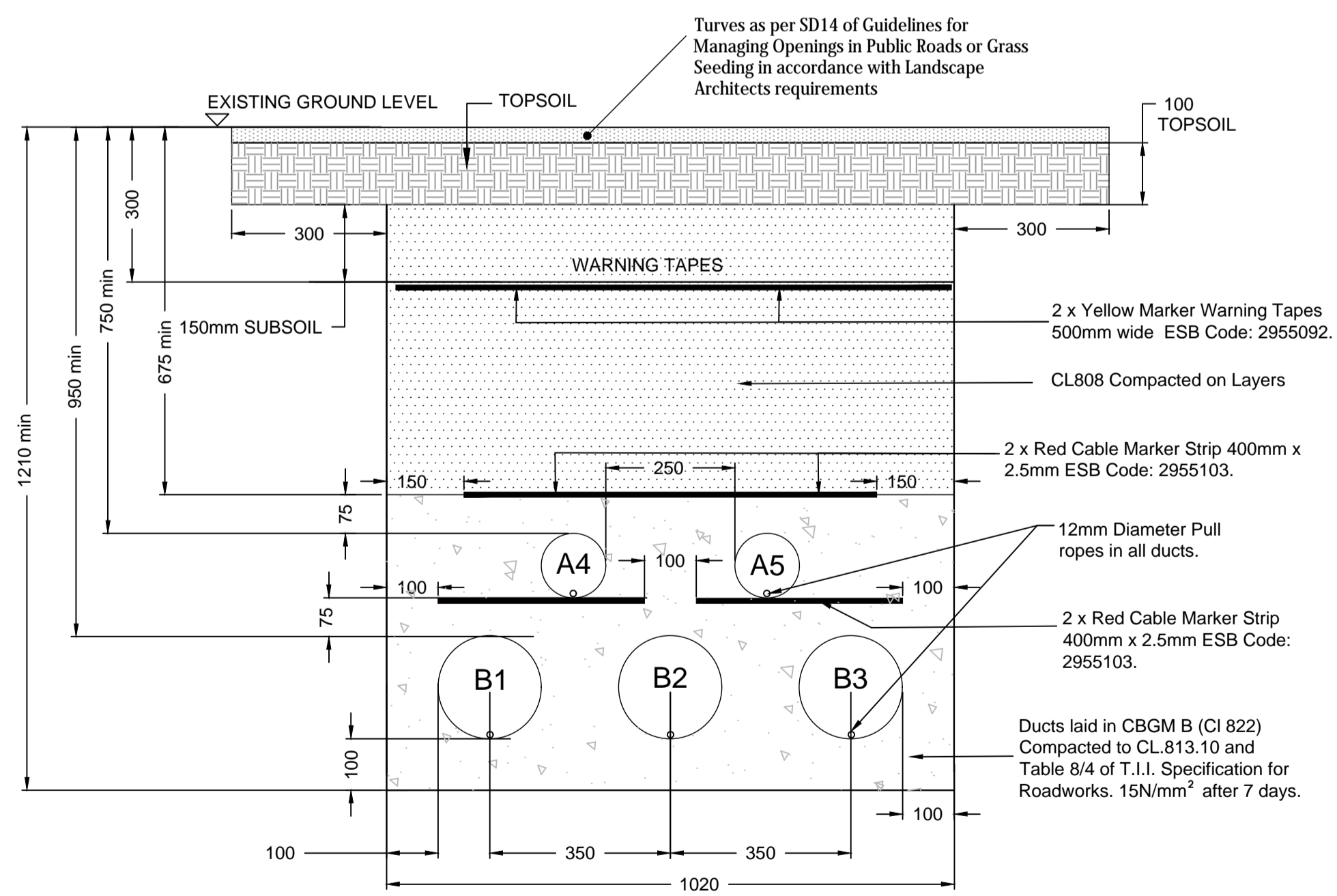


TYPICAL ACCESS PATH DETAIL

SCALE 1:20

NOTES:

- DO NOT SCALE FROM THIS DRAWING.
- THIS DRAWING IS FOR INFORMATION PURPOSES ONLY. NO RESPONSIBILITY CAN BE TAKEN FOR ANY INACCURACIES OF INFORMATION IN THE DRAWING.
- THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ANY RELEVANT CONSULTANTS DRAWINGS.
- THIS DRAWING SHALL BE READ IN CONJUNCTION WITH PROJECT SPECIFICATIONS.
- PRIOR TO EXCAVATION, ALL GRASS AREAS ARE TO BE CUT INTO TURVES WHICH ARE TO BE CAREFULLY STACKED AND RE-USED WITHIN ONE WEEK OF CUTTING DURING THE PERIOD 1ST APRIL TO 31ST AUGUST OR WITHIN TWO WEEKS OF CUTTING DURING THE REMAINDER OF THE YEAR. TURVES NOT USED WITHIN THESE PERIODS SHALL BE REGARDED AS TOPSOIL. OUTSIDE THIS PERIOD OR WHERE TURVES FROM GRASS AREA ARE NOT SUITABLE, IMPORTED TURVES APPROVED BY THE LOCAL AUTHORITY ARE TO BE USED.
- ANY DAMAGED AREA ADJACENT TO THE OPENING AND RESULTING FROM THE EXCAVATION OPERATION SHALL BE INCLUDED WITHIN THE AREA TO BE REINSTATED.
- WHERE THE WORKS ARE IN CLOSE PROXIMITY TO TREES/TREE ROOTS COMPLIANCE WITH BS 5837:2012 IS REQUIRED. (SEE CHAPTER 6)
- A = 125mm (OD) HDPE RED DUCT (SDR=17.6) WITH 12mm DRAW ROPE. B=200mm (OD) HDPE Red Duct (SDR=17.6) with 12mm DRAW ROPE. 9m SECTIONS. NO PRE-FORMED BENDS. COUPLERS TO BE SLIP OR RUBBER GASKET TYPE WITH NO INTERNAL OBSTRUCTIONS/SHARP EDGES. NO SPIGOT AND SOCKET DUCTS TO BE USED. DUCT MARKING TO BE 2 LINES 20mm HIGH BLACK LETTERING "DANGER 220 kV ELECTRICITY CABLES" WITH MAX. 150mm GAP BETWEEN LEGENDS. "HDPE 125/200 mm" IS TO BE PROVIDED AT 1m CENTRES.
- D=63mm (OD) HDPE Red Duct (SDR=11).



Typical Section of a Single Circuit Flat Formation Grass Reinstatement (drivable)

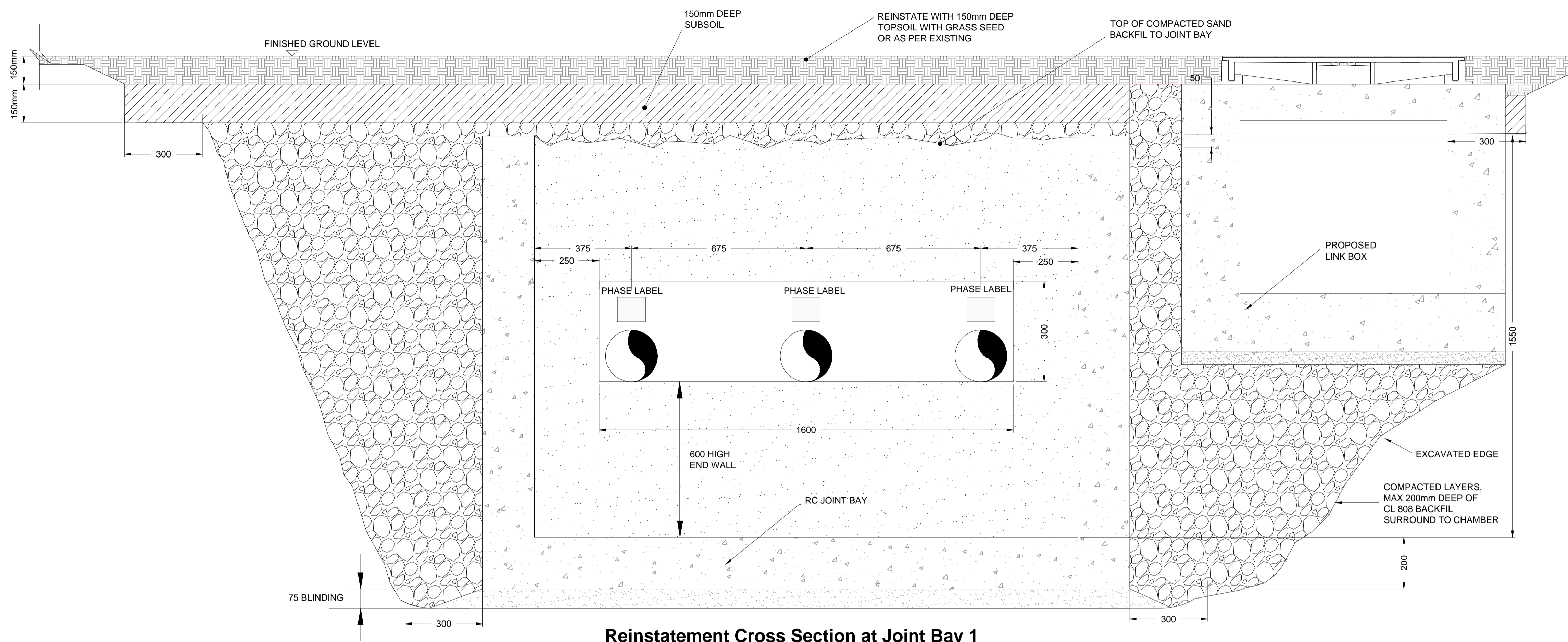
SCALE 1:10

**B1, B2, B3 = 200mmØ
A4, A5 = 125mmØ
D = 63mmØ**

Rev	Description	Drawn	Checked	Date
P07	FOR PLANNING	ZS	HF	28/02/2020

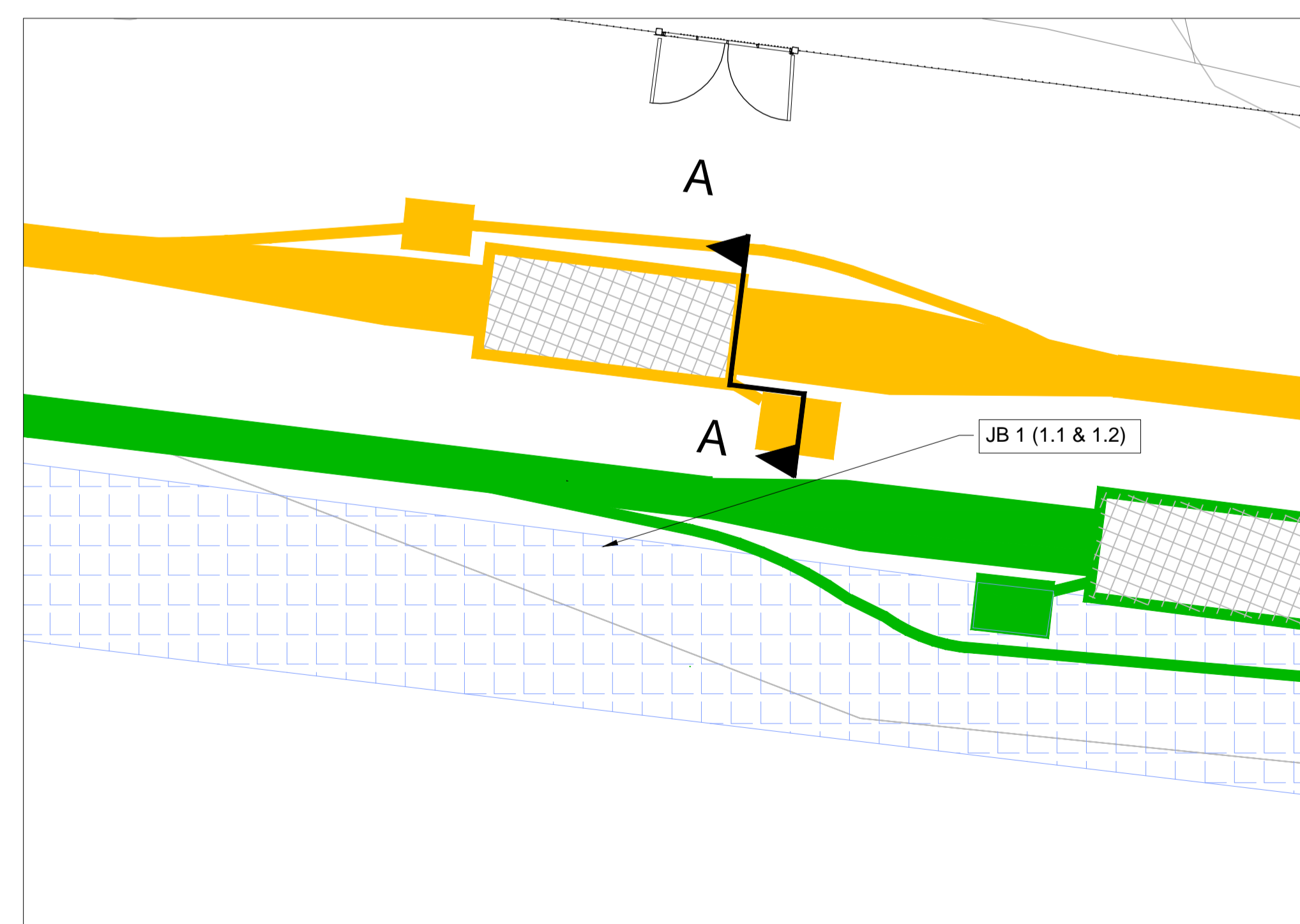
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Client	CRUISERATH 220 kV SUBSTATION & TRANSMISSION LINE		
Project	TYPICAL REINSTATEMENT DETAILS SHEET 1 OF 2		
Dwg. Title	17_014		
Drawn By	LT	Date	14/08/2019
Checked By	HF	Scale	1:10 @ A1
Project Code	Originator	Zone/Phase	Level Type Role Dwg. No.
PROJ_G - CSE - 00 - XX - DR - C - 2550			
S2	FOR INFORMATION		
Status Code	Suitability Description		
P07	PLANNING		
Revision	Project Status		



Reinstatement Cross Section at Joint Bay 1
SCALE 1:10

NOTE:
 1. Refer to drawing Proj_G-CSE-00-XX-DR-C-2554 for Joint bay construction details
 2. Refer to drawing Proj_G-CSE-00-XX-DR-C-2555 for Link box construction details



Section at Joint Bay 1
N.T.S.

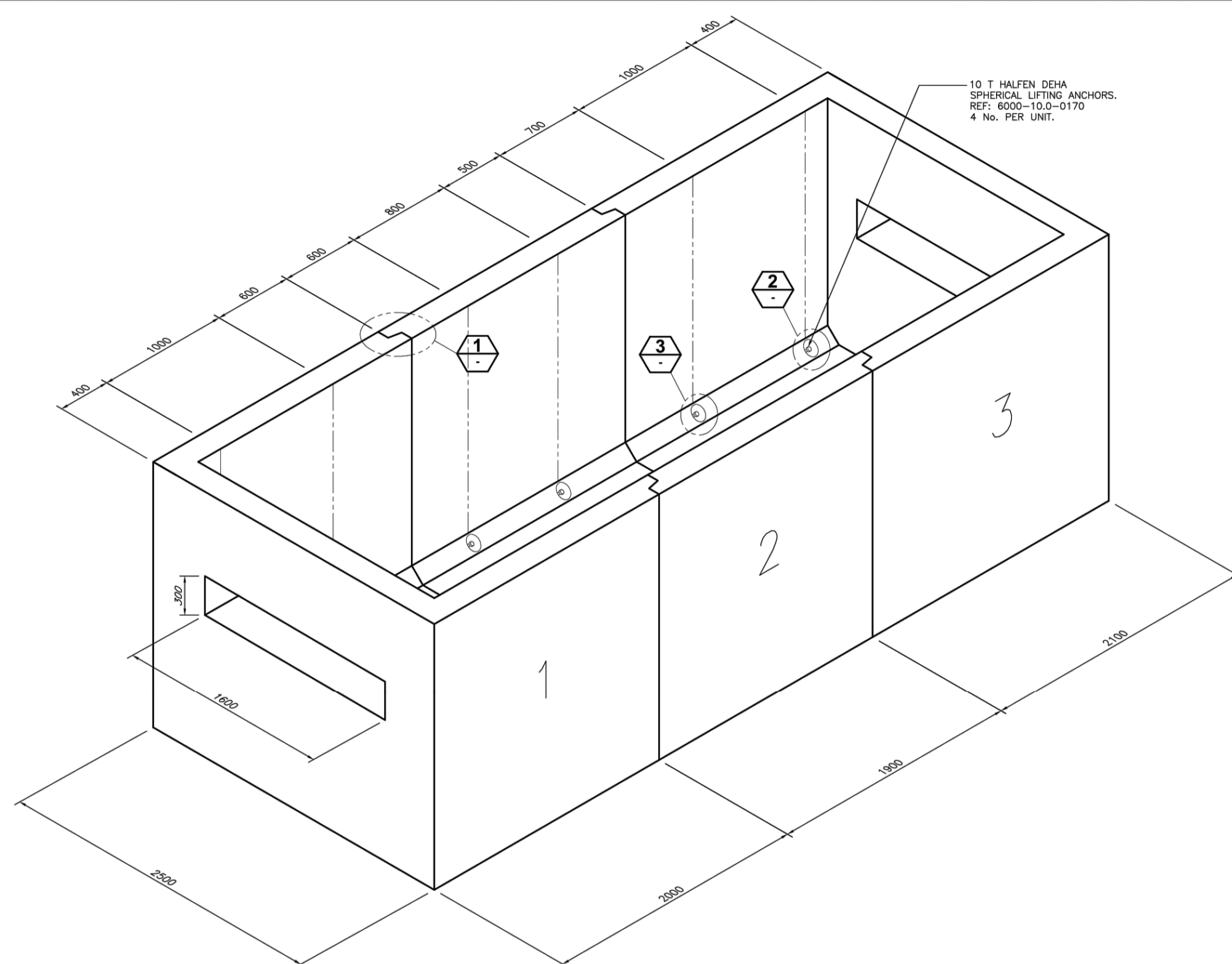
LEGEND

- Proposed Route for 220kV CIRCUIT 1 —
- Proposed Route for 220kV CIRCUIT 2 —
- Proposed 4 m Wide Access Path
Refer to Details on Drawing Proj_G-CSE-00-XX-DR-C-2550
- Proposed Cables ☯

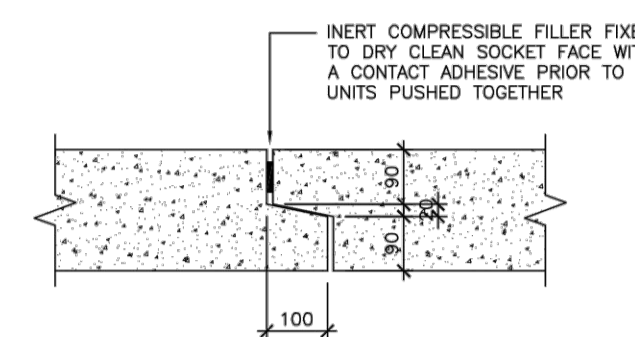
Rev	Description	Drawn	Checked	Date
P07	FOR PLANNING	ZS	HF	28/02/2020

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Clifton Scannell Emerson Associates		

Client	CRUISERATH 220 kV SUBSTATION & TRANSMISSION LINE		
Project	TYPICAL REINSTATEMENT DETAILS SHEET 2 OF 2		
Dwg. Title	SHEET 2 OF 2		
Drawn By	LT	Date	14_08_2019
Checked By	HF	Scale	1:10 @ A1
Project Code	Originator	Zone/Phase	Level Type Role Dwg. No.
PROJ_G - CSE - 00 - XX - DR - C - 2551			
Status Code	S2 FOR INFORMATION		
P07	PLANNING		

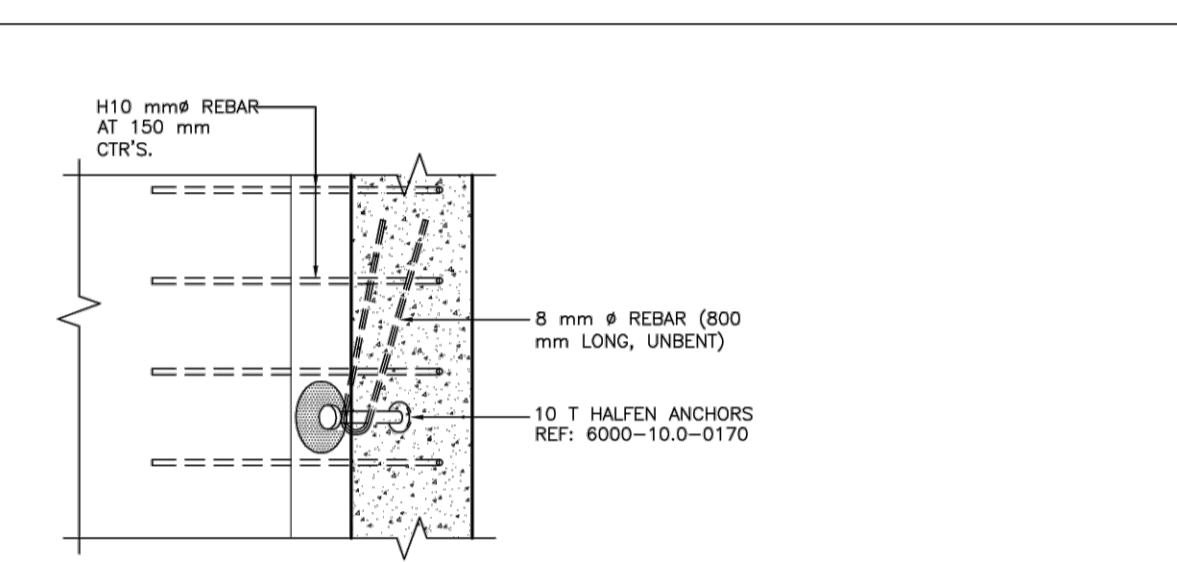


ISOMETRIC: JOINT BAY ARRANGEMENT
SCALE 1:25

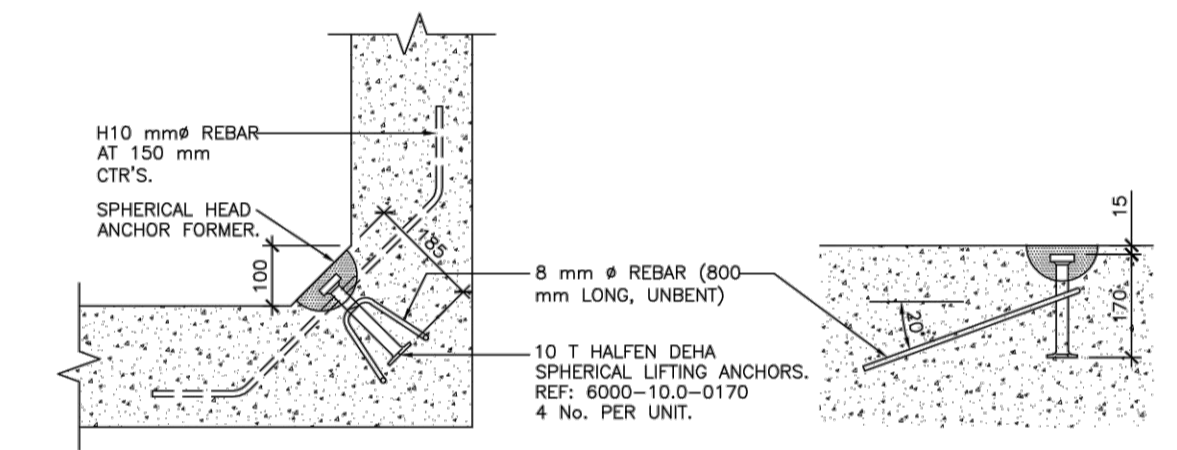


DETAIL 1
SCALE 1:10

[TYPICAL SOCKET & SPIGOT DETAIL IN WALL & FLOOR]



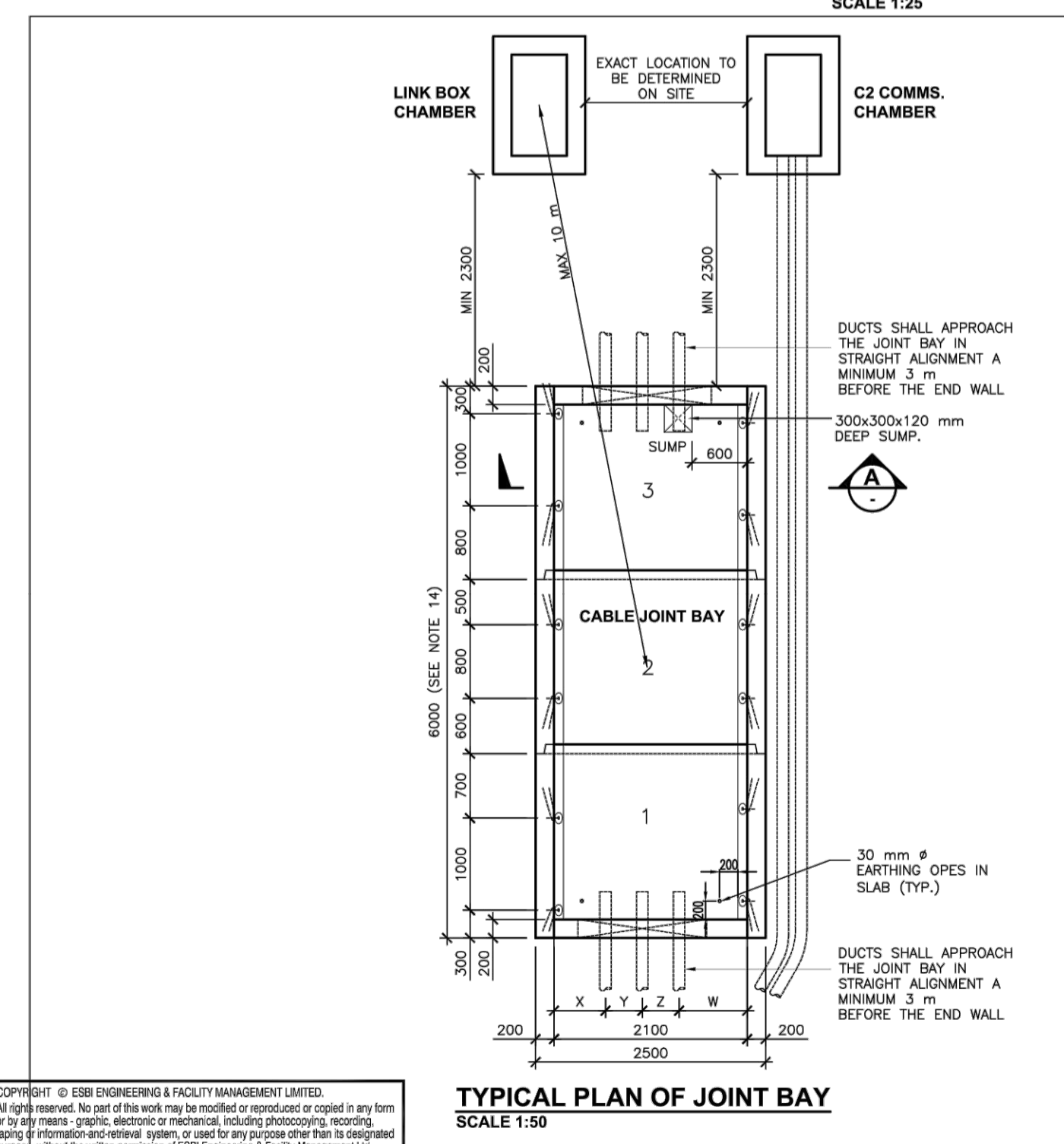
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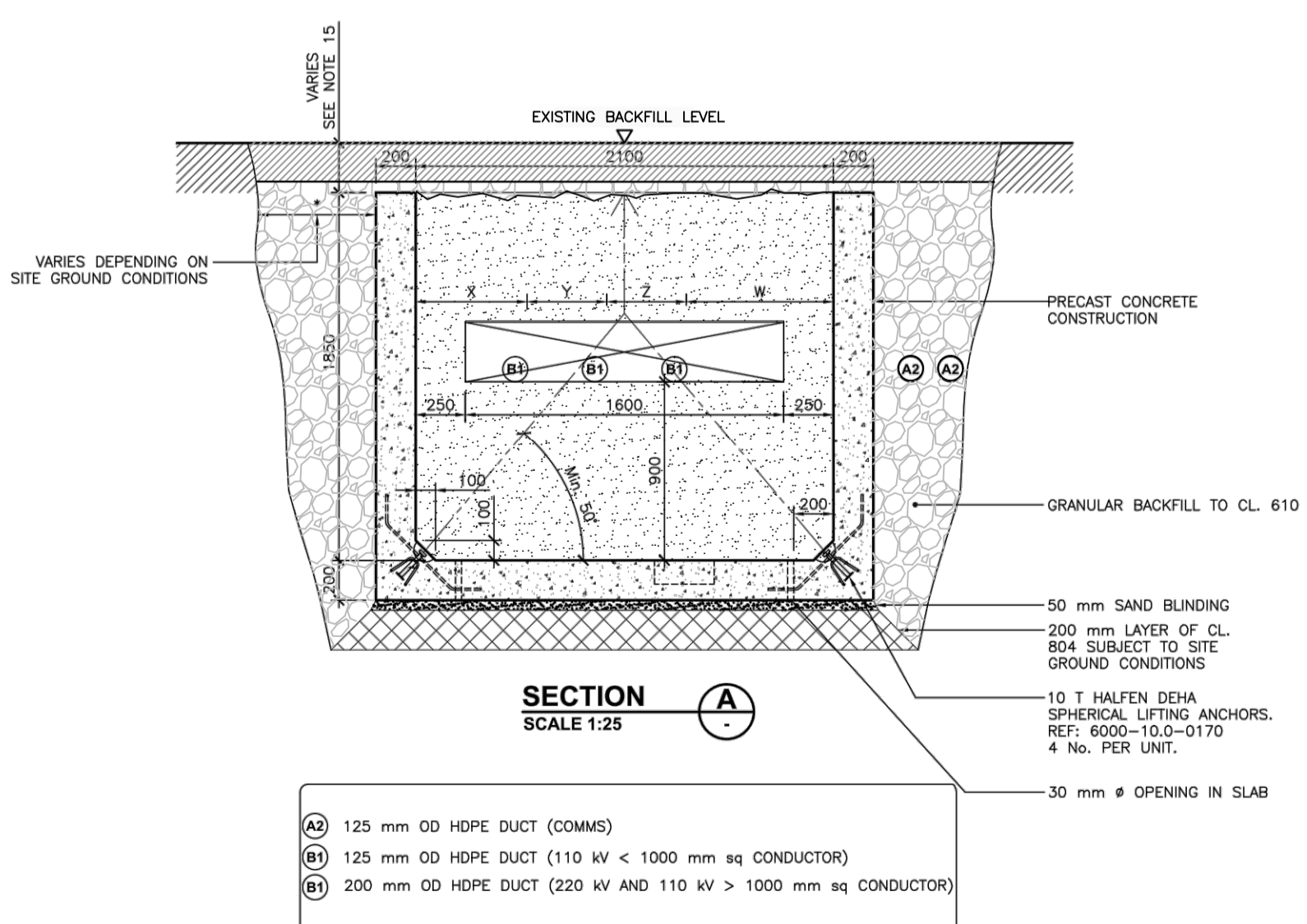
[SECTION]

DETAIL 2
SCALE 1:10

[LIFTING EYE DETAIL]
[DETAIL 3 HANDED]



TYPICAL PLAN OF JOINT BAY
SCALE 1:50



SECTION A
SCALE 1:25

- A2 125 mm OD HDPE DUCT (COMMS)
- B1 125 mm OD HDPE DUCT (110 kV < 1000 mm sq CONDUCTOR)
- B2 200 mm OD HDPE DUCT (220 kV AND 110 kV > 1000 mm sq CONDUCTOR)

TABLE 1

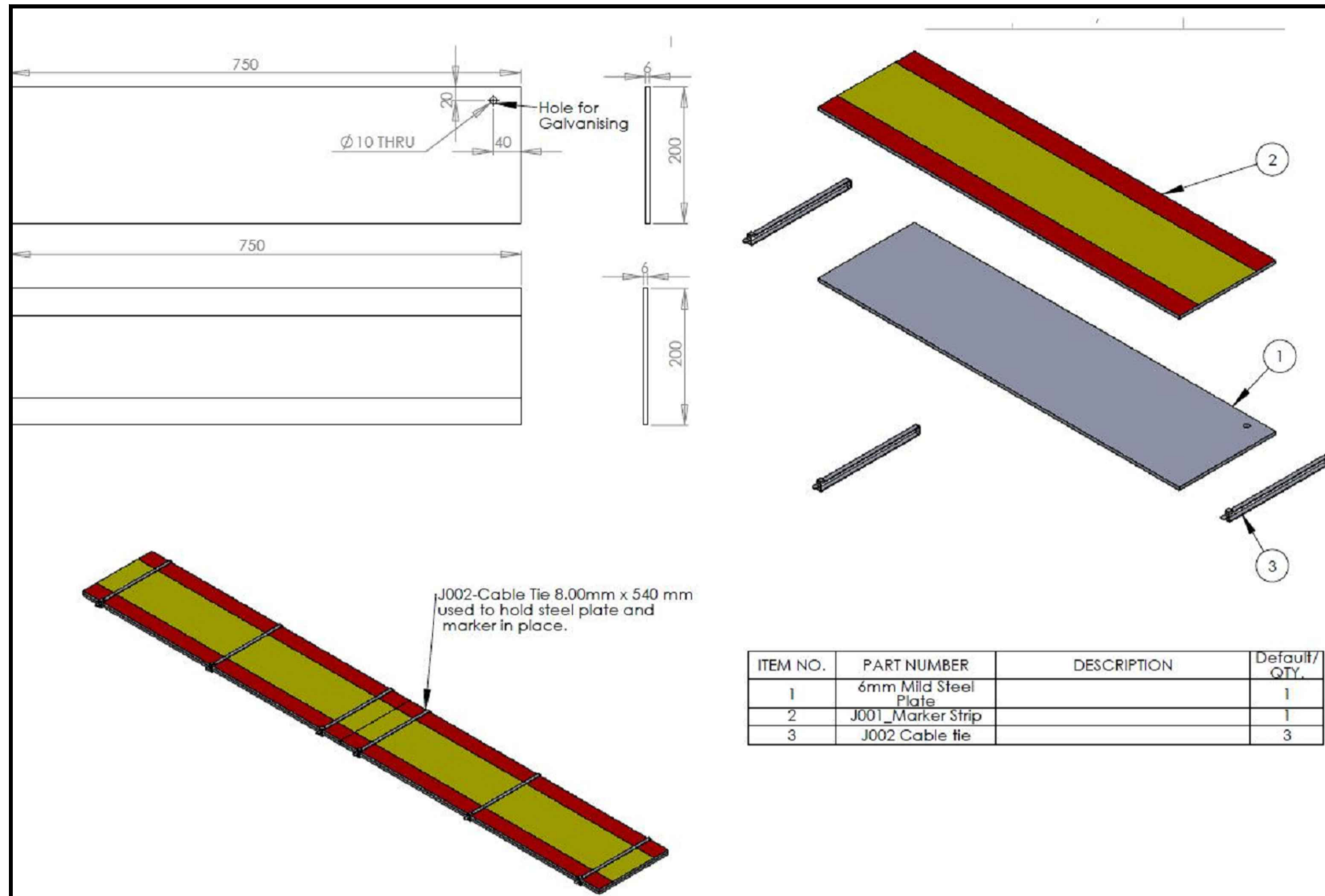
EXPOSURE CLASS	CONCRETE SPECIFICATION TO I.S. EN 206-1			
	BLINDING & MASS CONCRETE, DRAINAGE PIPE & MANHOLE SURROUNDINGS	FOUNDATIONS & WALLS	INTERNAL SLABS	EXTERNAL SLABS
	X0	XC2	XC1	XC4
MIN. CEMENT CONTENT (kg/m ³)	240	300	300	320
MAX. WATER/CEMENT RATIO	-	0.60	0.60	0.55
CEMENT TYPE TO I.S. EN 197-1	CEM 1 N	CEM 1 N	CEM 1 N	CEM 1 N
CHLORIDE CONTENT CLASS	CL 1.0	CL 0.40	CL 0.40	CL 0.40
MAX. AGGREGATE (mm)	16	20	20	20
MIN. COVER (mm)	-	40	30	40
*COMPRESSIVE STRENGTH CLASS	C16/20	C30/37	C28/35	C30/37

NOTES: 1. *C16/20 to be read as follows: 16 - Refers to min. characteristic cylinder strength (N/mm²), 20 - Refers to min. characteristic cube strength (N/mm²).
2. Design working life to be 50 years minimum.

TABLE 2- DUCT SEPARATION

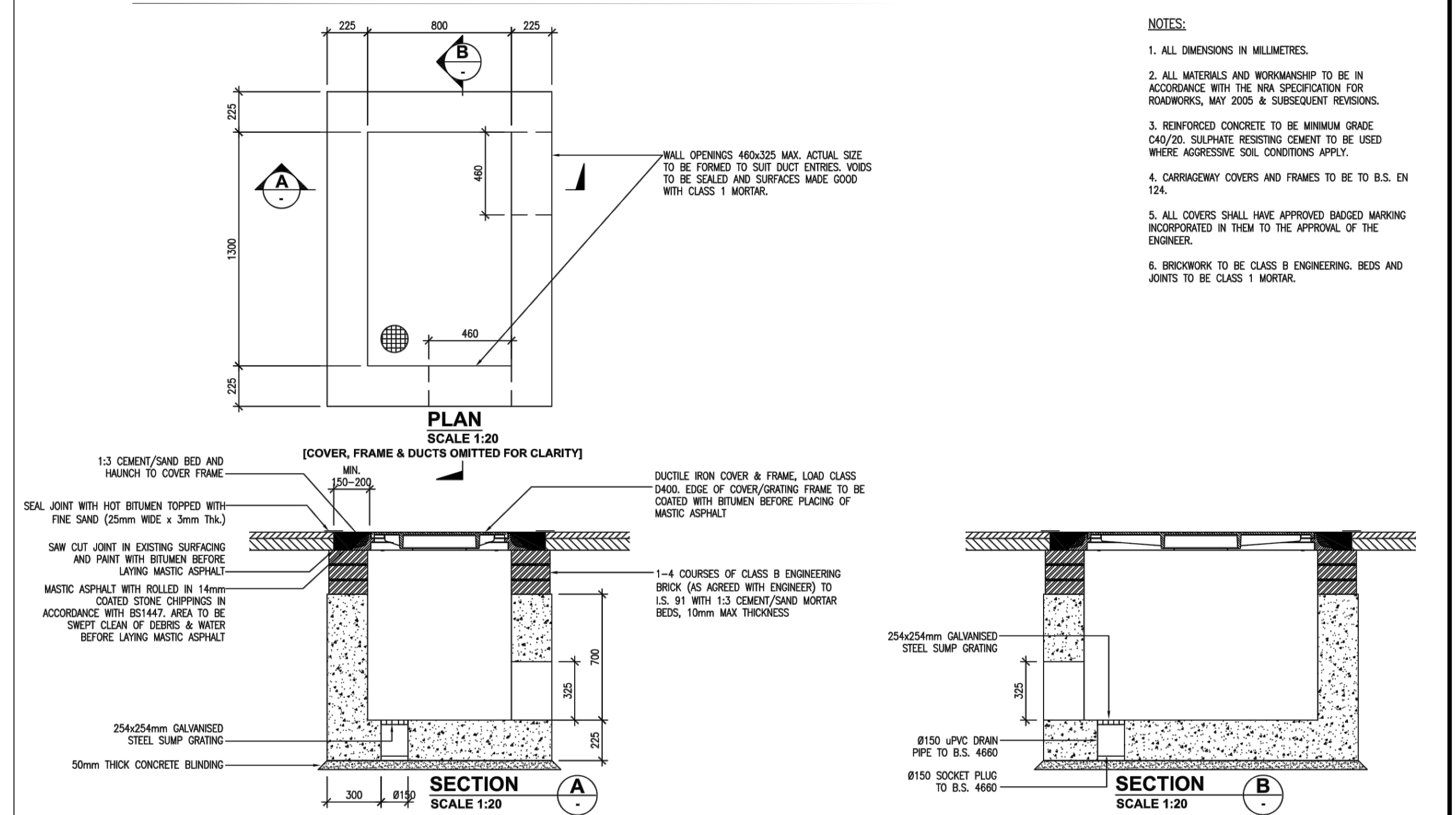
	X	Y	Z	W
110 kV	600	400	400	700
220 kV	375	675	675	375

P06 FOR PLANNING		ZS	HF	21/02/2020
Rev	Description	Drawn	Checked	Date
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Client: CRUISERATH 220 kV SUBSTATION & TRANSMISSION LINE				
Project: TYPICAL DETAILS FOR JOINT BAY				
Dwg. Title: 17_014				
Drawn By: LT	Date: 15/08/2019			
Checked By: HF	Scale: AS SHOWN @ A1			
Project Code: PROJ_G - CSE - 00 - XX - DR - C - 2554		CSEA Job No.		
S2 FOR INFORMATION				
Status Code: P06	Suitability Description: PLANNING			
Revision: P06	Project Status: PLANNING			



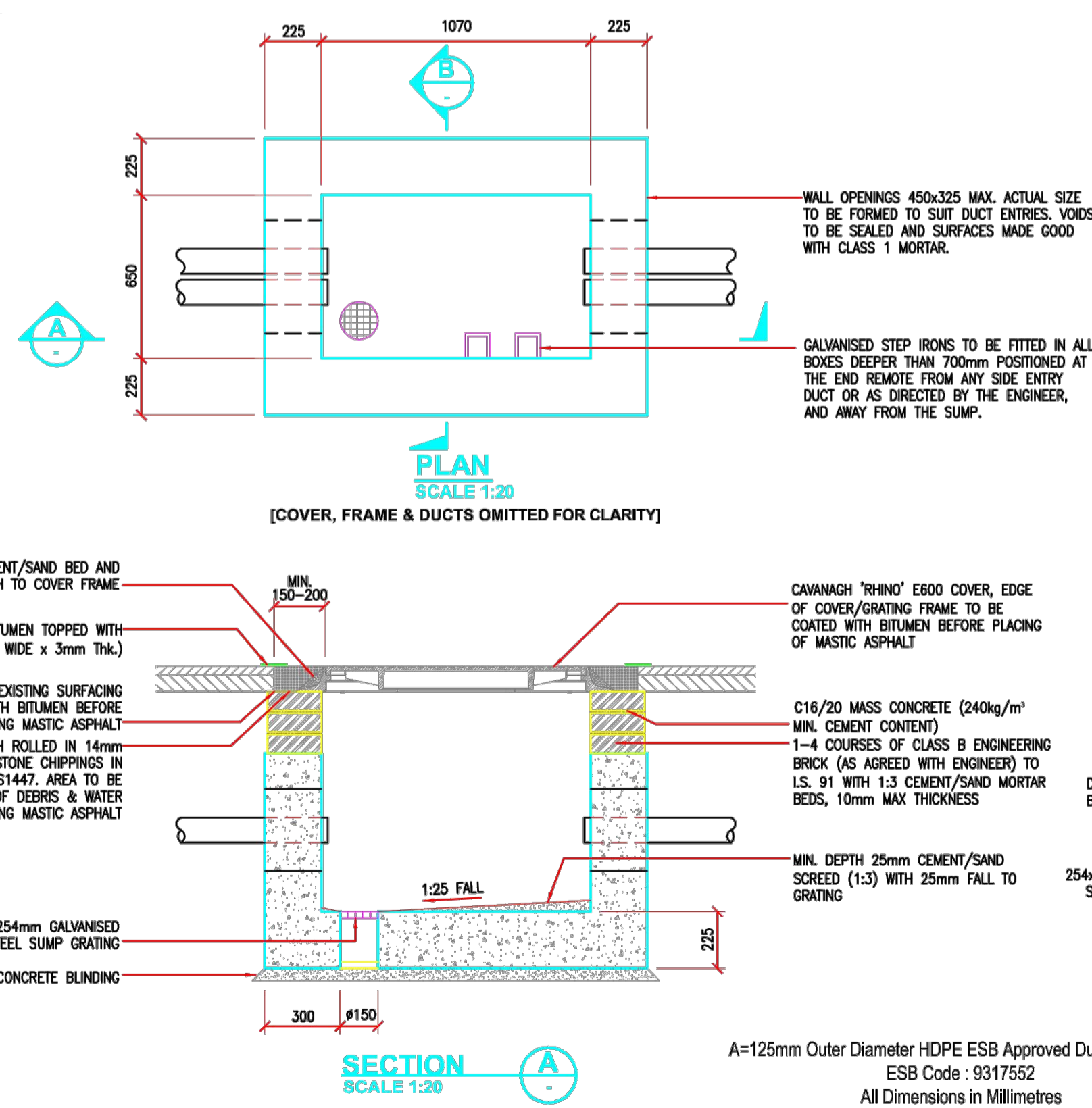
TYPICAL DETAILS FOR STEEL PLATE
SCALE 1:50

ITEM NO.	PART NUMBER	DESCRIPTION	Default QTY.
1	6mm Mild Steel Plate		1
2	J001_Marker Strip		1
3	J002 Cable tie		3



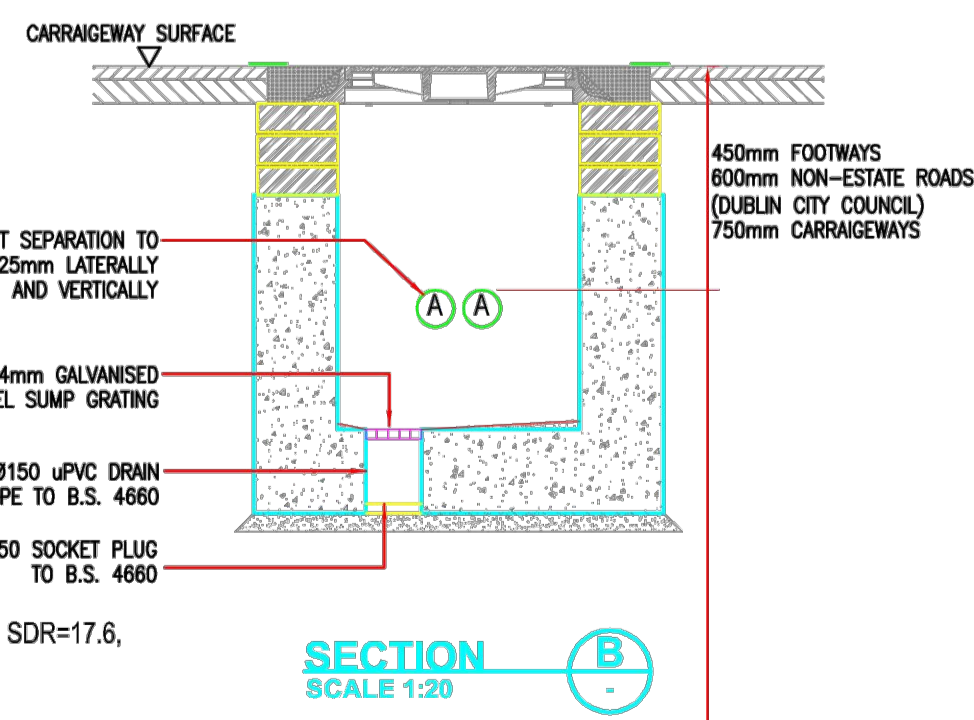
1300 x 800 LINK BOX CHAMBER GENERAL ARRANGEMENT
SCALE 1:20

- NOTES:
1. ALL DIMENSIONS IN MILLIMETRES.
 2. ALL MATERIALS AND WORKMANSHIP TO BE IN ACCORDANCE WITH THE NRA SPECIFICATION FOR ROADWORKS, MAY 2005 & SUBSEQUENT REVISIONS.
 3. REINFORCED CONCRETE TO BE MINIMUM GRADE C40/20. SULPHATE RESISTING CEMENT TO BE USED WHERE AGGRESSIVE SOIL CONDITIONS APPLY.
 4. CARRIAGEWAY COVERS AND FRAMES TO BE TO B.S. EN 124.
 5. ALL COVERS SHALL HAVE APPROVED BADGED MARKING INCORPORATED IN THEM TO THE APPROVAL OF THE ENGINEER.
 6. BRICKWORK TO BE CLASS B ENGINEERING. BEDS AND JOINTS TO BE CLASS 1 MORTAR.



C2 COMMUNICATIONS CHAMBER GENERAL ARRANGEMENT
SCALE 1:20

- NOTES:
1. ALL DIMENSIONS IN MILLIMETRES.
 2. REINSTATEMENT TO COMPLY WITH REQUIREMENTS OF THE RELEVANT LOCAL AUTHORITY.
 3. END DUCTS TO BE IN LINE.
 4. ALL MATERIALS AND WORKMANSHIP TO BE IN ACCORDANCE WITH THE NRA SPECIFICATION FOR ROADWORKS, MAY 2005 & SUBSEQUENT REVISIONS.
 5. REINFORCED CONCRETE TO BE MINIMUM GRADE C32/40 TO I.S. EN 206. SULPHATE RESISTING CEMENT TO BE USED WHERE AGGRESSIVE SOIL CONDITIONS APPLY, REFER TO TABLE 6.1 OF B.S. 8110.
 6. CARRIAGEWAY COVERS AND FRAMES TO BE TO B.S. EN 124.
 7. ALL COVERS SHALL HAVE 'ESB' LOGO INCORPORATED IN THEM TO THE APPROVAL OF THE ENGINEER.
 8. STEP IRONS TO BE HOT DIPPED GALVANISED TO B.S. 729 AND POSITIONED AS SHOWN ON ANY CHAMBER DEEPER THAN 700mm ON THE END REMOTE FROM ANY SIDE ENTRY DUCT.
 9. BRICKWORK TO BE CLASS B ENGINEERING. BEDS AND JOINTS TO BE CLASS 1 MORTAR.



P06	FOR PLANNING	ZS	HF	21/02/2020
Rev	Description	Drawn	Checked	Date

Client: CRUISERATH 220 kV SUBSTATION & TRANSMISSION LINE
Project: TYPICAL DETAILS FOR STEEL PLATE, LINK BOX & C2 CHAMBERS
Dwg. Title: LT
Date: 15/08/2019
Checked By: HF
Scale: NTS @ A1
CSEA Job No.: 17_014

Project Code: PROJ_G - CSE - 00 - XX - DR - C - 2555

Status Code: S2 FOR INFORMATION
Suitability Description: FOR INFORMATION

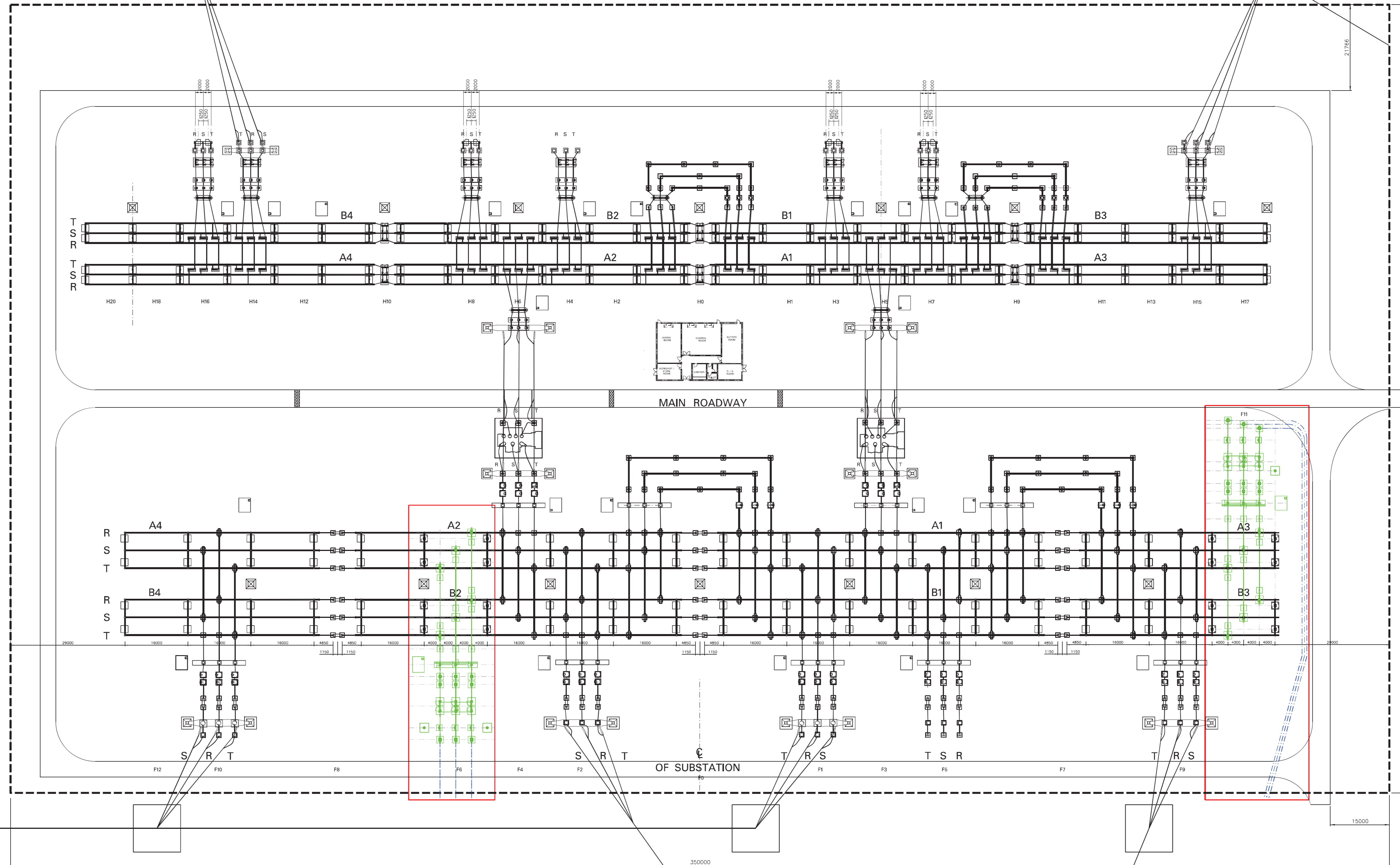
P06 Revision
PLANNING Project Status


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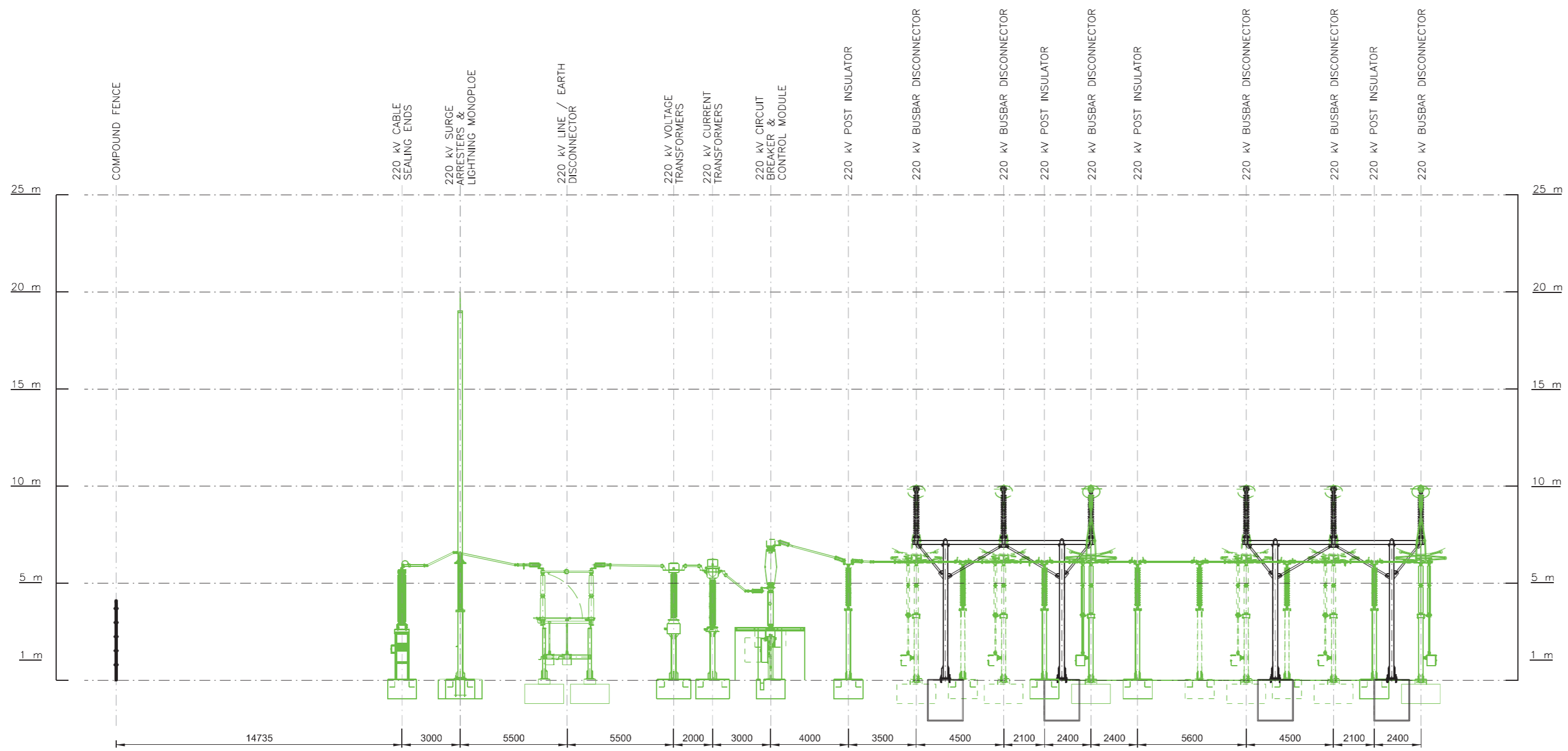
LEGEND	
EXISTING EQUIPMENT	—
PROPOSED EQUIPMENT	—
PROPOSED CABLE ROUTE	—
PLANNING BOUNDARY	---

NOTES:
 1. ALL DIMENSIONS ARE SHOWN IN MM UNLESS OTHERWISE STATED.
 NB. THIS DRAWING MUST BE PRINTED IN COLOUR.



001	1:1 & F1: DISTANCE BETWEEN CB AND TRANSFORMER BUSHINGS (SEE DRAWING)								
002	1:1 & F1: DISTANCE BETWEEN TRANSFORMER BUSHINGS & CB								
003	1:1 & F1: DISTANCE BETWEEN TRANSFORMER BUSHINGS & CB								
004	1:1 & F1: DISTANCE BETWEEN TRANSFORMER BUSHINGS & CB								
005	1:1 & F1: DISTANCE BETWEEN TRANSFORMER BUSHINGS & CB								
REV	DATE	INITIAL VERSION	REVISION DESCRIPTION	DRN	PRG	VER	APP		
PURPOSE OF ISSUE - PRELIMINARY UNLESS INDICATED									
CLIENT APPROVAL	<input type="checkbox"/>	PLANNING	<input checked="" type="checkbox"/>	TENDER	<input type="checkbox"/>	CONSTRUCTION	<input type="checkbox"/>	AS-BUILT	<input type="checkbox"/>
Client	EIRGRID								
Project	CORDUFF 220 kV SUBSTATION								
Contract	CP1009								
Drawing Title	CORDUFF 220 kV SUBSTATION PLANNING PERMISSION APPLICATION 220 kV LINE BAYS F0 & F1 SUBSTATION LAYOUT								
Production Unit	Networks Engineering								
 Engineering and Major Projects 1 One Dublin Square, Dublin, Dublin Airport, Clonsilla, Co. Dublin, A47 A77E, Ireland. Tel: +353 (0)1 4042000 Web: www.esb.ie Planning and Major Projects is a division of ESB.									
Drawn	Checked	Issued	Approved	Approved Date					
E.Curtin	A.Holt	A.Mulvey	C.Pearce	08/10/2019					
Centre	TC221940	Scale	AD	N/A					
Drawing Number	PE610-D040-003-001-001								

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NOTES :
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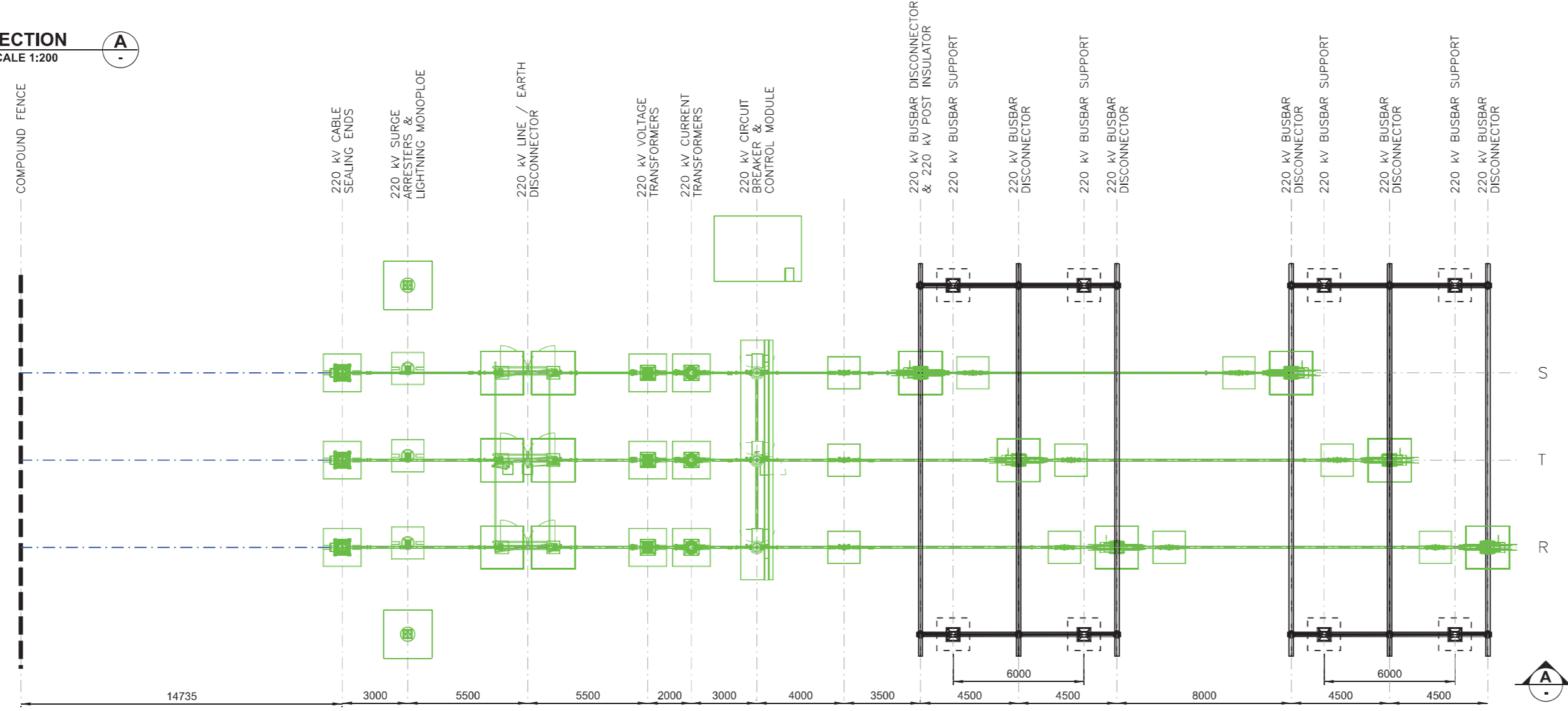
LEGEND

EXISTING EQUIPMENT

PROPOSED EQUIPMENT

PROPOSED 220 kV CABLE

SECTION
 SCALE 1:200



PLAN
 SCALE 1:200

001		F6 DISTANCE BETWEEN CB AND PANTOGRAPH INCREASED, DISTANCE BETWEEN VT & L/E DISCONNECTOR INCREASED, DISTANCE BETWEEN L/E DISCONNECTOR & SA INCREASED IN LINE WITH STANDARD LAYOUT.						
000	02/10/19	INITIAL VERSION	EC	AG	AM/CA	CT		
Rev.	Date	Revision Description	Dr.	Proc.	Ver.	App.		
Purpose of Issue - Preliminary unless indicated								
Client Approval <input type="checkbox"/> Planning <input checked="" type="checkbox"/> Tender <input type="checkbox"/> Construction <input type="checkbox"/> As-built <input type="checkbox"/>								

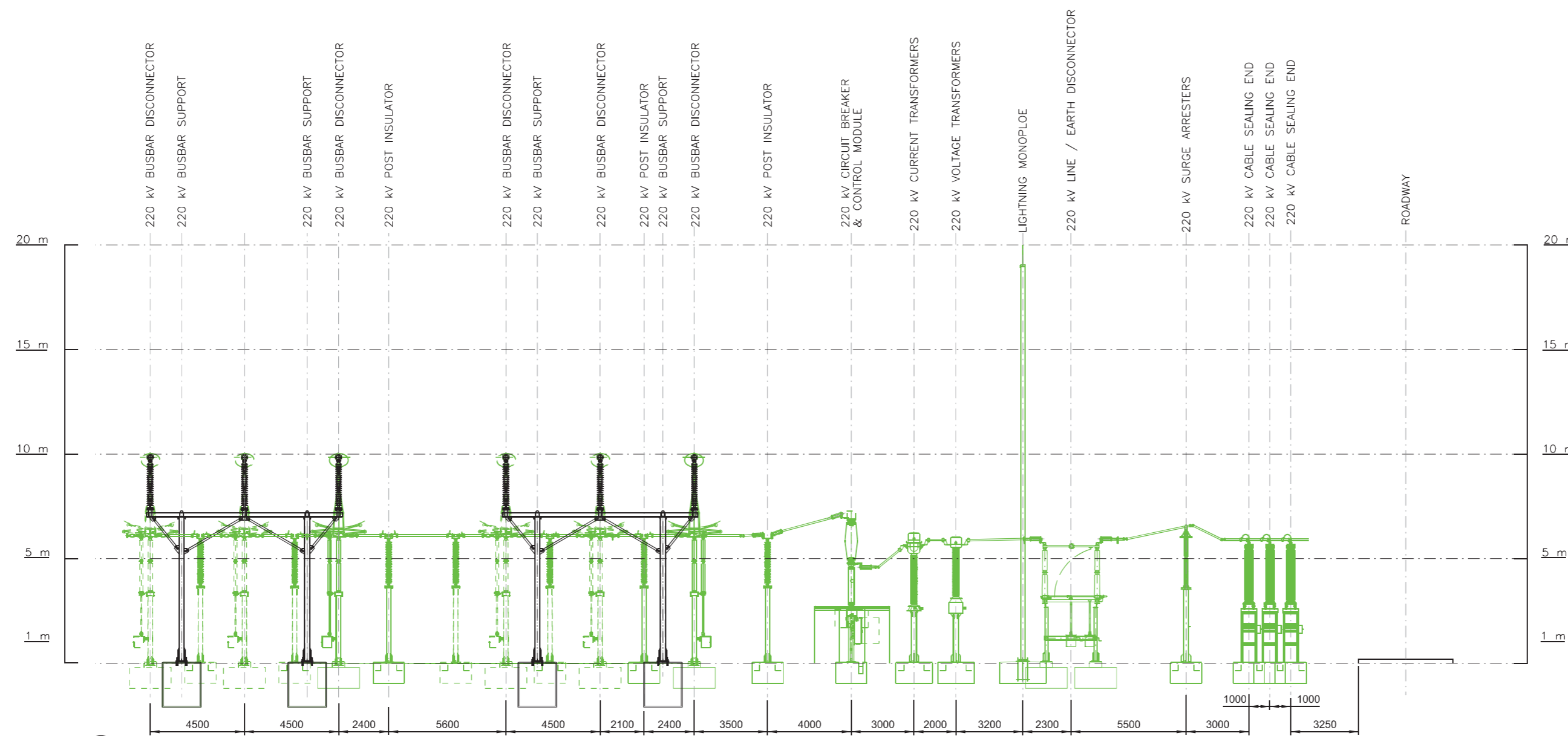
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 One Dublin Airport Central,
 Dublin Airport, Changeman,
 Co. Dublin, K18T K1ZL, Ireland.
 Tel: +353 (0)1 709 8000. Web: www.es3.ie
 Engineering and Major Projects is a division of ESB.

Client	EIRGRID
Project	CORDUFF 220 kV SUBSTATION
Contract	CP1009

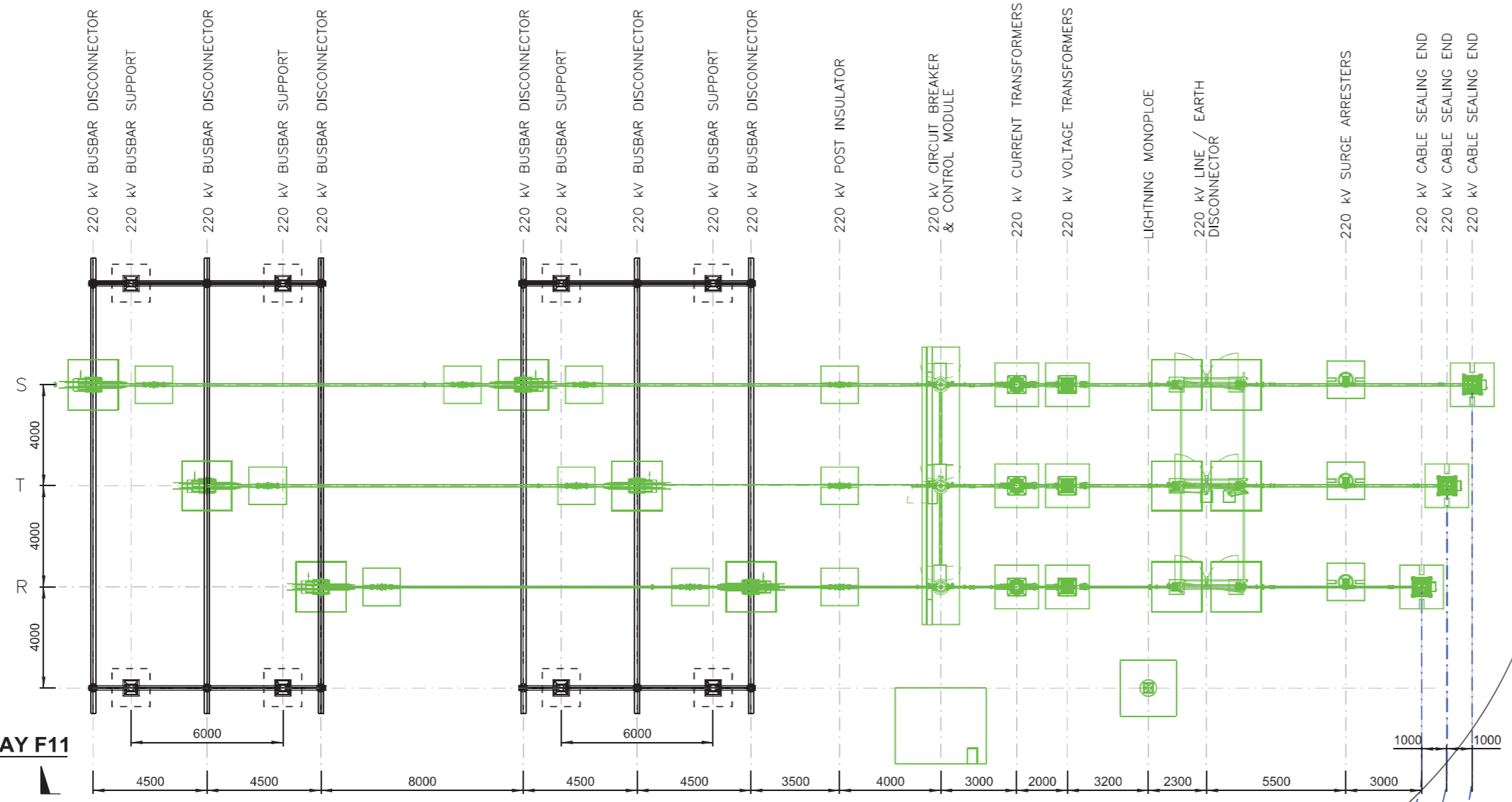
Production Unit	Networks Engineering
Drawing Title	CORDUFF 220 kV SUBSTATION PLANNING PERMISSION APPLICATION 220 kV LINE BAYS F6 & F11
	F6 PLAN & ELEVATION

DRAWN: E.Cunningham					PRODUCED: A.Harte					VERIFIED: A.McAuley					APPROVED: C.Tormey					APPROVAL DATE: 08/10/2019									
CLIENT REF: TC221940										No. OF SHEETS: -					SIZE: A2					SCALE: N/A									
Drawing Number															SHEET REV														
															PE610-D040-003-002-001														

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SECTION A
SCALE 1:200



PLAN - 220 kV LINE BAY F11
SCALE 1:200

NOTES :
1. ALL DIMENSIONS ARE SHOWN IN mm UNLESS OTHERWISE STATED.
NB. THIS DRAWING MUST BE PRINTED IN COLOUR.

LEGEND

- EXISTING EQUIPMENT
- PROPOSED EQUIPMENT
- PROPOSED 220 kV CABLE



001		F11 DISTANCE BETWEEN CB AND PANTOGRAPH INCREASED, DISTANCE BETWEEN VT & L/E DISCONNECTOR INCREASED, DISTANCE BETWEEN L/E DISCONNECTOR & SA INCREASED IN LINE WITH STANDARD LAYOUT, SPACING BETWEEN CSE INCREASED ON F11.						
000	02/10/19	INITIAL VERSION	EC	AH	AM:CA	CT		
Rev.	Date	Revision Description	Dm.	Proc.	Ver.	App.		
Purpose of Issue - Preliminary unless indicated								
Client Approval <input type="checkbox"/> Planning <input checked="" type="checkbox"/> Tender <input type="checkbox"/> Construction <input type="checkbox"/> As-built <input type="checkbox"/>								

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Client	EIRGRID
Project	CORDUFF 220 kV SUBSTATION
Contract	CP1009

Production Unit	Networks Engineering
Drawing Title	CORDUFF 220 kV SUBSTATION PLANNING PERMISSION APPLICATION 220 kV LINE BAYS F6 & F11 F11 PLAN & ELEVATION

DRAWN: E.Cunningham					PRODUCED: A.Harte					VERIFIED: A.McAuley					APPROVED: C.Tormey					APPROVAL DATE: 08/10/2019				
CLIENT REF: TC221940										No. OF SHETS: -					SIZE: A2					SCALE: 1:200				
Drawing Number: PE610-D040-003-003-001																								