Appendix D

TNSP Existing and Ultimate Potential Terminal Station Plans

ADVERTISED
PLAN

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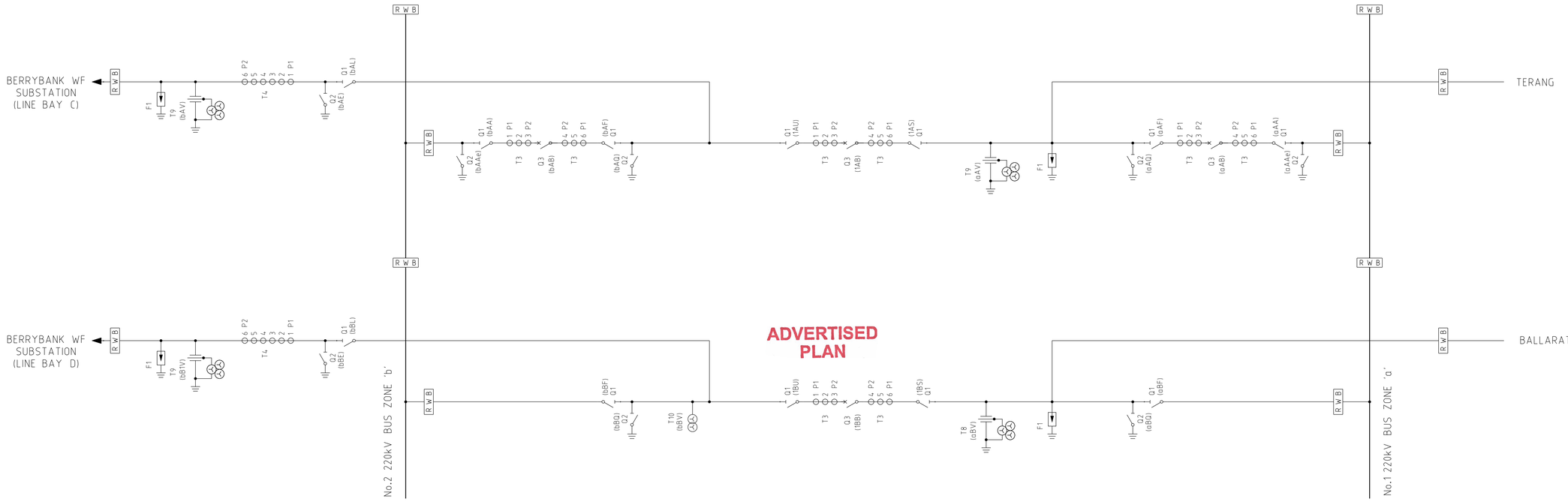

ADVERTISED PLAN

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NOTES:
1. DEVICE NUMBERING IS AS PER TRANSGRIDS NUMBERING SYSTEM

AMENDMENT	DNRRM	13-09-2022

STAGE 2 WORKS - WORK AS EXECUTED

REV	REVISION DETAILS	DRAWN	DRG CHK	DESIGNED	DES CHK	APPROVED	DATE
1	AS BUILT	RR	IW	AS	NM	MN	30.06.22
0	ISSUED FOR CONSTRUCTION	MOC	IW	AS	NM	MD	07.05.21
B	ISSEUD FOR 80% REVIEW	MOC	IW	AS	NM	MD	12.03.21
A	ISSUED FOR REVIEW	MOC	IW	AS	NM	MD	29.01.21

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BBS100102 GENERAL ARRANGEMENT

REFERENCE DRAWINGS

DRAWN	DNRCR	
REVIEWED	DNRRM	13-09-2022
VERIFIED	DNRRM	13-09-2022
APPROVED	DNRRM	13-09-2022

WORK AS EXECUTED
APPROVAL STATUS

SCALE

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BERRYBANK 220kV SWITCHING STATION
SINGLE LINE DIAGRAM
220kV SWITCHYARD

SINGLE LINE DIAGRAM

A1	PREFIX BBS	NUMBER 100001	SHEET 01	AMDT

INDEX CLASS'N 10-02

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ITEM	IDENTIFICATION	DESCRIPTION	CONTRACT	CONTRACT ITEM	MANUFACTURER	PRIMARY DRAWINGS	SECONDARY DRAWINGS	REMARKS	STAGE 1 - QTY	STAGE 2 - QTY P0021471
1	F1	SURGE ARRESTOR 216kV FREE ISSUED			TRIDELTA	SPE-859974.00			9	3
2	Q1	DISCONNECTOR 245kV 3150A 40kA/1s FREE ISSUED			EMSPEC	SPE-859952.00			9	3
3	Q2	EARTH SWITCH 245kV 40kA/1s COMES WITH ITEM 2 FREE ISSUED			EMSPEC	SPE-859950.00/SPE-859951.00		(R) SPE-859950.00, (L) SPE-859951.00	6	2
4	Q3	CIRCUIT BREAKER DEAD TANK 245kV 3150A 40kA/1s FREE ISSUED			MITSUBISHI ELECTRIC	SPE-860045			3	1
	T3	CURRENT TRANSFORMER 6 CORE COMES WITH ITEM 4								
	1	3000-2000/1A 0.06PX1100R5 ON 2000/1 (BUSBAR/BAY PROTECTION)								
	2	3000-2000/1A 0.06PX1100R5 ON 2000/1 (BUSBAR/BAY PROTECTION)								
	3	3000-2000-1600/1A 0.2FS10, 5VA ON 400/1, 15VA ON 1000/1 AND ABOVE (METERING)								
	4	3000-2000-1600/1A 0.2FS10, 5VA ON 400/1, 15VA ON 1000/1 AND ABOVE (METERING)								
	5	3000-2000/1A 0.06PX1100R5 ON 2000/1 (BUSBAR/BAY PROTECTION)								
	6	3000-2000/1A 0.06PX1100R5 ON 2000/1 (BUSBAR/BAY PROTECTION)								
5	T4	CURRENT TRANSFORMER 6 CORES SINGLE PHASE 245kV, 2500A, 50kA, 1s FREE ISSUED			KONCAR	SPE-859197.00			3	3
	1	2000/1000/1 0.06PX750R3 ON 1000/1								
	2	2000/1000/1 0.06PX750R3 ON 1000/1								
	3	2000/1000/1 0.06PX750R3 ON 1000/1								
	4	2000/1000/1 0.06PX750R3 ON 1000/1								
	5	2400/1200/800/200/1 0.5FS10 5VA ON 200/1, 0.5FS10 10VA ON 400/1, 0.2FS10 10VA ON 600/1 & 0.2FS 10 10VA ON 800/1 AND ABOVE (METERING)								
	6	2400/1200/800/200/1 0.5FS10 5VA ON 200/1, 0.5FS10 10VA ON 400/1, 0.2FS10 10VA ON 600/1 & 0.2FS 10 10VA ON 800/1 AND ABOVE (METERING)								
6	T8	VOLTAGE TRANSFORMER CAPACITIVE 245kV SINGLE PHASE FREE ISSUED			ARTECHE	SPE-859024.00		CVTs WITHOUT QoS MONITORING	3	
	1	220kV/sqrt3/110V/sqrt3 0.2M3P 25VA								
	2	220kV/sqrt3/110V/sqrt3 0.2M3P 25VA								
7	T9	VOLTAGE TRANSFORMER CAPACITIVE 245kV SINGLE PHASE WITH POWER QUALITY SENSOR FREE ISSUED			ARTECHE	SPE-859025.00		CVTs WITH QoS MONITORING	6	3
	1	220kV/sqrt3/110V/sqrt3 0.2M3P 25VA								
	2	220kV/sqrt3/110V/sqrt3 0.2M3P 25VA								
8	T10	POWER VOLTAGE TRANSFORMER 245kV 50kVA SINGLE PHASE FREE ISSUED			ARTECHE	4286561/405003542-B			3	
9	-	INSULATOR POST STATION 245kV 1050kV 15kN FREE ISSUED			SUZHOU	SPE-859321.00		* QTY EXCLUDES 9 OFF EXISTING INSULATORS TO BE REUSED	120	21*
10	-	INSULATOR POST STATION 245kV 1050kV 6kN			SUZHOU	SPE-859118.00			4	
11	-	INSULATOR LONG ROD 160kN ASSEMBLY FREE ISSUED			PFISTERER	SPE-859271			6	6

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AMENDMENT: DNRRM 13-09-2022

STAGE 2 WORKS - WORK AS EXECUTED

REV	REVISION DETAILS	DRAWN	DRG CHK	DESIGNED	DES CHK	APPROVED	DATE
2	AS BUILT	RR	IW	AS	NM	MN	30.06.22
1	RE-ISSUED FOR CONSTRUCTION	MOC	IW	AS	NM	MO	30.06.21
0	ISSUED FOR CONSTRUCTION	MOC	IW	AS	NM	MO	07.05.21
B	ISSUED FOR 80% REVIEW	MOC	IW	AS	NM	MO	12.03.21
A	ISSUED FOR REVIEW	MOC	IW	AS	NM	MO	29.01.21

Downer

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BBW100001 SINGLE LINE DIAGRAM

REFERENCE DRAWINGS

DRAWN	DNRRM	
REVIEWED	DNRRM	13-09-2022
VERIFIED	DNRRM	13-09-2022
APPROVED	DNRRM	13-09-2022

WORK AS EXECUTED
APPROVAL STATUS

SCALE

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BERRYBANK 220kV SWITCHING STATION
MATERIAL LIST
220kV SWITCHYARD
ITEM 1-100
EQUIPMENT SCHEDULE

A2 | BBS100010/1 | 01

PREFIX NUMBER SHEET | AMDT

400x566

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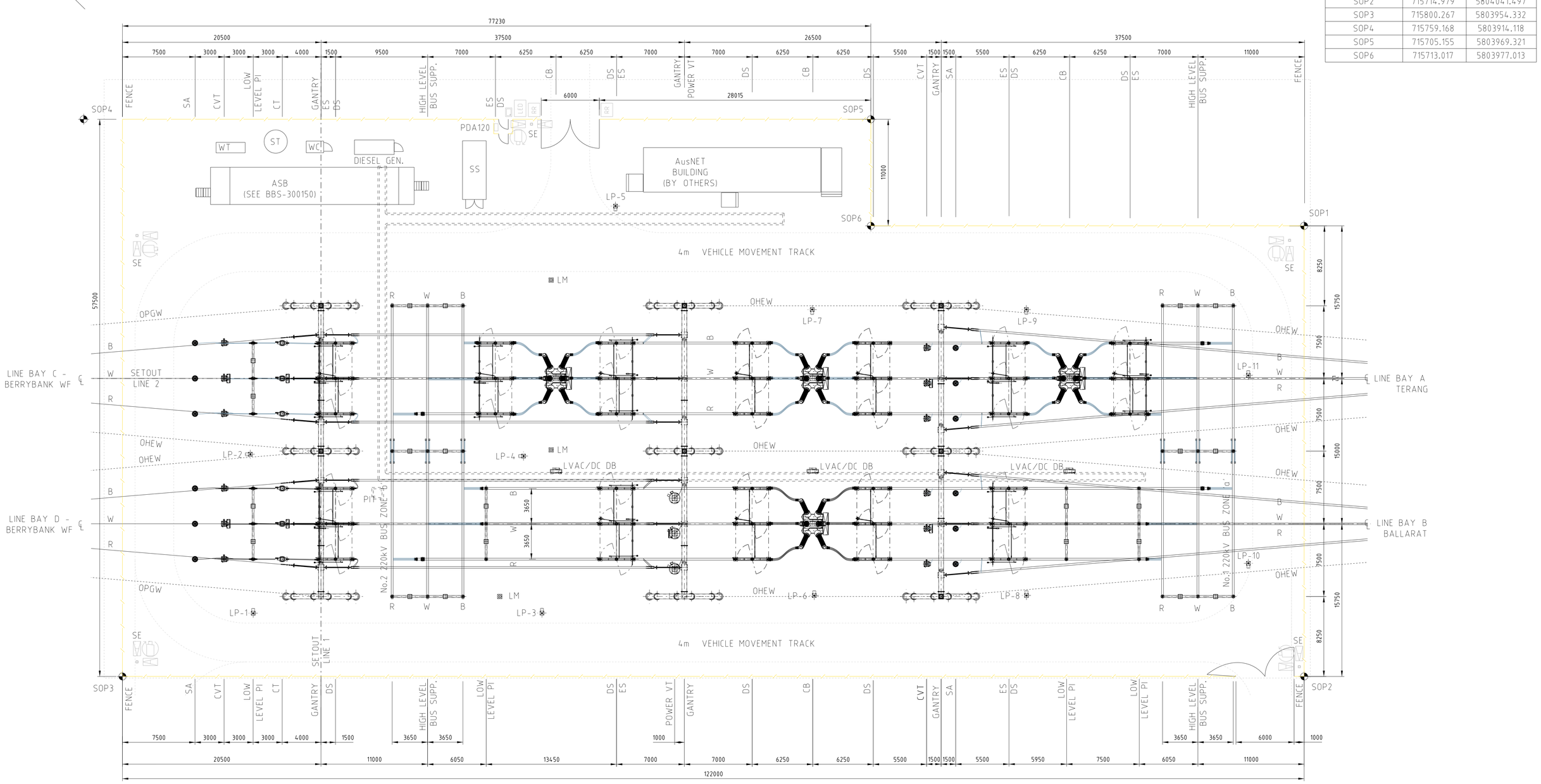
INDEX CLASS'N 27-08

ADVERTISED PLAN

SET OUT POINTS		
SET OUT POINT	EASTING	NORTHING
SOP1	715681.743	5804008.976
SOP2	715714.979	5804041.497
SOP3	715800.267	5803954.332
SOP4	715759.168	5803914.118
SOP5	715705.155	5803969.321
SOP6	715713.017	5803977.013



NOTES:

1. THE FOLLOWING MINIMUM CLEARANCES SHALL BE MAINTAINED:
   - 220kV PHASE TO EARTH = 2100
   - 220kV PHASE TO PHASE = 2415
   - 220kV GROUND SAFETY CLEARANCE = 2440mm
   - 220kV SECTION SAFETY CLEARANCE = 4665mm
   - 220kV HORIZONTAL SAFETY CLEARANCE = 4125mm
   - 220kV VERTICAL SAFETY CLEARANCE = 3565mm
2. HIGH AND LOW LEVEL BUSBAR SHALL BE 200x12 AND 160x10mm ALUMINUM RESPECTIVELY.
3. ALL LIGHT POLE SHALL BE 4m HIGH.
4. FINAL TRENCH LOCATION AS PER AUSNET BUILDING DESIGN RECOMMENDATION.
5. LIGHTNING RODS OF LENGTH 2m TO BE INSTALLED ON TOP OF LIGHTNING MASTS

LEGEND:

ASB	AUX. SERVICES BUILDING
SS	STORAGE SHED
ST	SEPTIC TANK
WC	WATER CLOSET
WT	WATER TANK
OHEW	OVERHEAD EARTH WIRE
LM	LIGHTNING MAST
LP	LIGHT POLE
SE	SECURITY EQUIPMENT

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SCALE 1:200

AMENDMENT	DNRRM	13-09-2022

STAGE 2 WORKS - WORK AS EXECUTED

REV	REVISION DETAILS	DRAWN	DRG CHK	DESIGNED	DES CHK	APPROVED	DATE
1	AS BUILT	RR	IW	AS	NM	MN	30.06.22
0	ISSUED FOR CONSTRUCTION	MOC	IW	AS	NM	MD	07.05.21
B	ISSUED FOR 80% REVIEW	MOC	IW	AS	NM	MD	12.03.21
A	ISSUED FOR REVIEW	MOC	IW	AS	NM	MD	29.01.21

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BBS100001	SINGLE LINE DIAGRAM
BBS100103	ULTIMATE LAYOUT
BBS100201	PLAN AND ELEVATION LINE BAY'A'
BBS100202	PLAN AND ELEVATION LINE BAY'B'
BBS100203	PLAN AND ELEVATION LINE BAY'C'
BBS100204	PLAN AND ELEVATION LINE BAY'D'
BBS100205	HIGH LEVEL BUSBAR
BBS100301	CONDUIT LAYOUT
BBS100401	EARTHING LAYOUT
BBS100505	AUXILIARY SERVICES - SECURITY

REFERENCE DRAWINGS

DRAWN	DNRRM	
REVIEWED	DNRRM	13-09-2022
VERIFIED	DNRRM	13-09-2022
APPROVED	DNRRM	13-09-2022

WORK AS EXECUTED
APPROVAL STATUS

SCALE 1:200

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BERRYBANK 220kV SWITCHING STATION
220kV INSTALLATION
220kV SWITCHYARD

GENERAL ARRANGEMENT

A1	PREFIX	NUMBER	SHEET	AMDT
	BBS	100102	01	

INDEX CLASS'N 06-09

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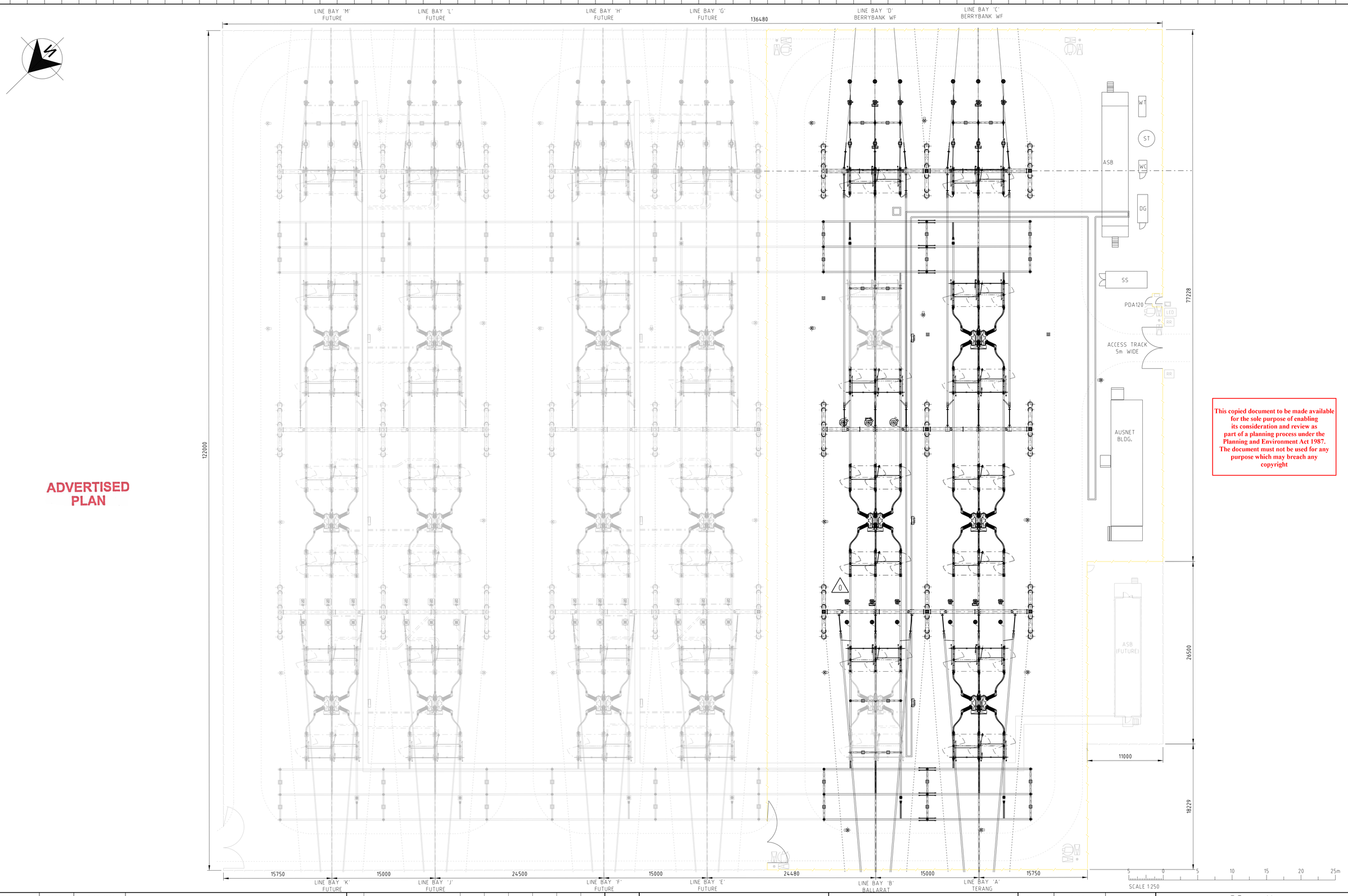

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AMENDMENT		
	DNRRM	13-09-2022

STAGE 2 WORKS - WORK AS EXECUTED

REV	REVISION DETAILS	DRAWN	DRG CHK	DESIGNED	DES CHK	APPROVED	DATE
1	AS BUILT	RR	IW	AS	NM	MN	30.06.22
0	ISSUED FOR CONSTRUCTION	MOC	IW	AS	NM	MD	07.05.21
A	ISSUED FOR 80% REVIEW	MOC	IW	AS	NM	MD	12.03.21

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BBS100102 GENERAL ARRANGEMENT

REFERENCE DRAWINGS

DRAWN	DNRRM	
REVIEWED	DNRRM	13-09-2022
VERIFIED	DNRRM	13-09-2022
APPROVED	DNRRM	13-09-2022

WORK AS EXECUTED

APPROVAL STATUS

SCALE 1:250

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BERRYBANK 220kV SWITCHING STATION
220KV INSTALLATION
220kV SWITCHYARD
ULTIMATE
GENERAL ARRANGEMENT

A1	PREFIX	NUMBER	SHEET	AMDT
		BBS100103	01	

INDEX CLASS'N 06-09

566x801mm

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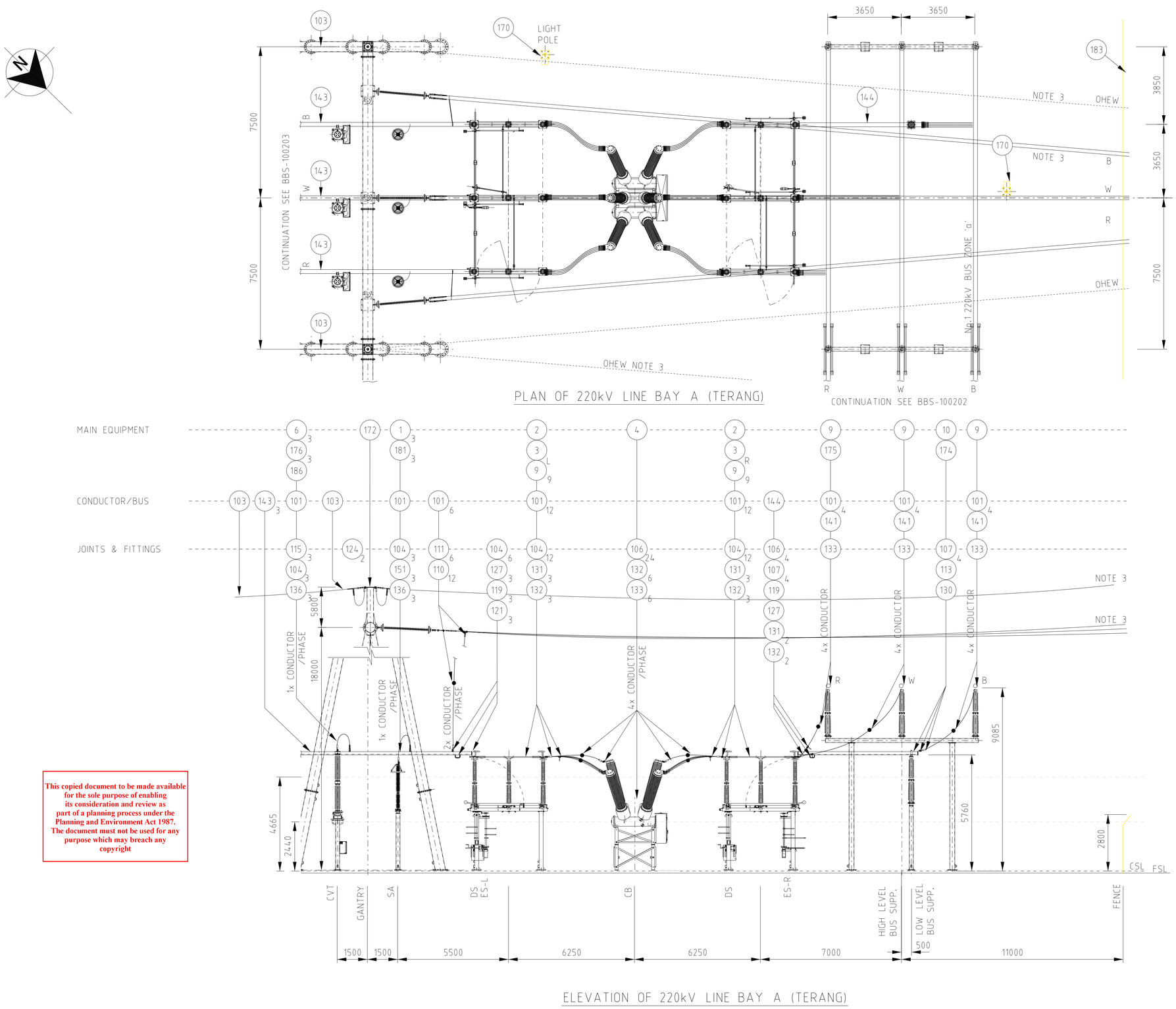

PLAN OF 220kV LINE BAY A (TERANG)

ELEVATION OF 220kV LINE BAY A (TERANG)

SCALE 1:100

NOTES:

1. THE FOLLOWING MINIMUM CLEARANCES SHALL BE MAINTAINED:
   - 220kV PHASE TO EARTH = 2100
   - 220kV PHASE TO PHASE = 2415
   - 220kV GROUND SAFETY CLEARANCE = 2440mm
   - 220kV SECTION SAFETY CLEARANCE = 4665mm
   - 220kV HORIZONTAL SAFETY CLEARANCE = 4125mm
   - 220kV VERTICAL SAFETY CLEARANCE = 3565mm
2. HIGH AND LOW LEVEL BUSBAR SHALL BE 200x12mm AND 160x10mm RESPECTIVELY.
3. OUTGOING LINE CONDUCTORS, OVERHEAD EARTHWIRES, STRING INSULATORS AND ASSOCIATED FITTINGS SUPPLIED AND INSTALLED BY OTHERS.
4. INSULATORS AND DISCONNECTORS SUPPLIED SEPARATELY, TO BE ASSEMBLED ON SITE.
5. OPERATING POINTS ARE AS PER EARTH MAT LOCATIONS. REFER TO DRAWING BBS100401

LEGEND:

CB	CIRCUIT BREAKER
CVT	CAPACITOR VOLTAGE TRANSFORMER
DS	DISCONNECTOR SWITCH
ES	EARTHING SWITCH
CSL	CONCRETE SURFACE LEVEL 100mm NOMINAL (EXCLUDING 40mm GROUT)
FSL	FINISHED SURFACE LVEL
OHEW	OVERHEAD EARTH WIRE
SA	SURGE ARRESTER

ADVERTISED PLAN

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AMENDMENT:

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BBS100102 GENERAL ARRANGEMENT
BBS100203 PLAN AND ELEVATION LINE BAY'C'
BBS100501 MATERIAL LIST

REFERENCE DRAWINGS

DRAWN	DNRRM	
REVIEWED	DNRRM	06-11-2020
VERIFIED	DNRRM	06-11-2020
APPROVED	DNRRM	06-11-2020

APPROVED
APPROVAL STATUS

SCALE 1:100

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BERRYBANK 220kV SWITCHING STATION
220KV INSTALLATION
220kV SWITCHYARD
LINE BAY 'A'
PLAN AND ELEVATION

A1	PREFIX	NUMBER	SHEET	AMDT
		BBS100201		00

INDEX CLASS'N 06-09

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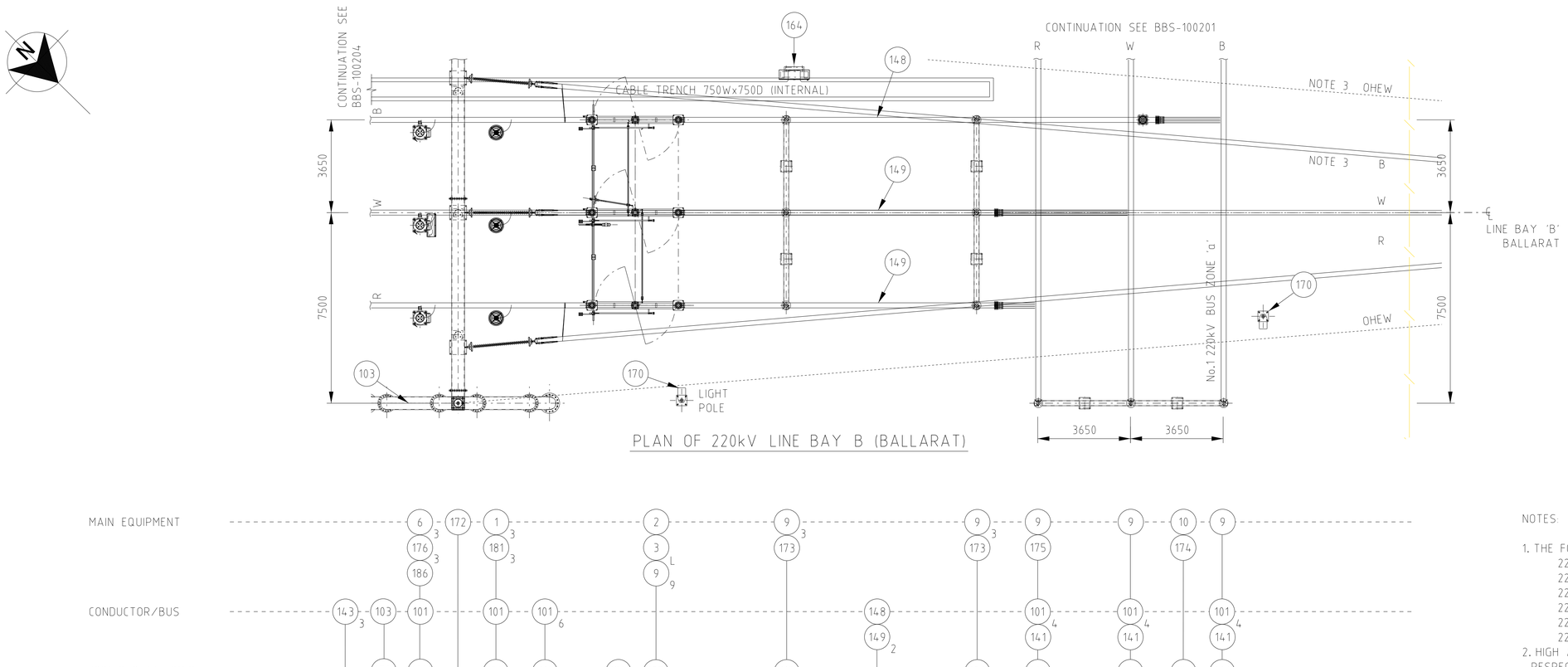
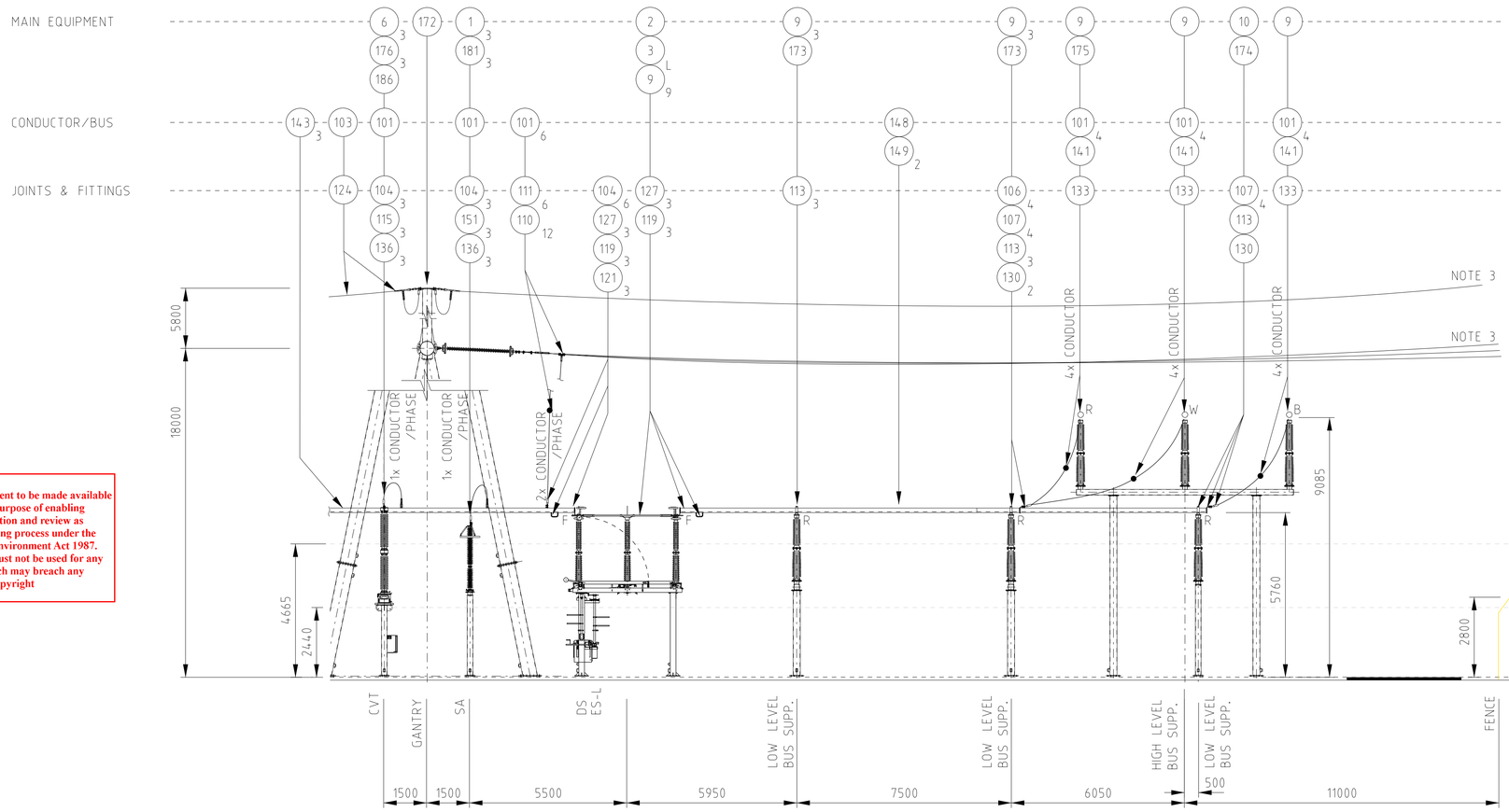


PLAN OF 220kV LINE BAY B (BALLARAT)



ELEVATION OF 220kV LINE BAY B (BALLARAT)

ADVERTISED PLAN

NOTES:

1. THE FOLLOWING MINIMUM CLEARANCES SHALL BE MAINTAINED:
   - 220kV PHASE TO EARTH = 2100
   - 220kV PHASE TO PHASE = 2415
   - 220kV GROUND SAFETY CLEARANCE = 2440mm
   - 220kV SECTION SAFETY CLEARANCE = 4665mm
   - 220kV HORIZONTAL SAFETY CLEARANCE = 4125mm
   - 220kV VERTICAL SAFETY CLEARANCE = 3565mm
2. HIGH AND LOW LEVEL BUSBAR SHALL BE 200x12mm AND 160x10mm RESPECTIVELY.
3. OUTGOING LINE CONDUCTORS, OVERHEAD EARTHWIRES, STRING INSULATORS AND ASSOCIATED FITTINGS SUPPLIED AND INSTALLED BY OTHERS.
4. INSULATORS AND DISCONNECTORS SUPPLIED SEPARATELY, TO BE ASSEMBLED ON SITE.
5. OPERATING POINTS ARE AS PER EARTH MAT LOCATIONS. REFER TO DRAWING BBS100401

LEGEND:

CB	CIRCUIT BREAKER
CVT	CAPACITOR VOLTAGE TRANSFORMER
DS	DISCONNECTOR SWITCH
ES	EARTHING SWITCH
CSL	CONCRETE SURFACE LEVEL 100mm NOMINAL (EXCLUDING 40mm GROUT)
FSL	FINISHED SURFACE LVEL
OHEW	OVERHEAD EARTH WIRE
SA	SURGE ARRESTER
F	FIXED BUSBAR SUPPORT
R	ROLLER BUSBAR SUPPORT
E	BUSBAR EXPANSION SUPPORT

2 1 0 2 4 6 8 10m
SCALE 1:100

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AMENDMENT:	DNRRM	13-09-2022

STAGE 2 WORKS - WORK AS EXECUTED

REV	REVISION DETAILS	DRAWN	DRG CHK	DESIGNED	DES CHK	APPROVED	DATE
1	AS BUILT	RR	IW	AS	NM	MN	30.06.22
0	ISSUED FOR CONSTRUCTION	MOC	IW	AS	NM	MO	07.05.21
A	ISSUED FOR 80% REVIEW	MOC	IW	AS	NM	MO	12.03.21

Downer

Transgrid

REFERENCE DRAWINGS
BBS100102 GENERAL ARRANGEMENT
BBS100204 PLAN AND ELEVATION LINE BAY 'D'
BBS100501 MATERIAL LIST

DRAWN	DNRRM	
REVIEWED	DNRRM	13-09-2022
VERIFIED	DNRRM	13-09-2022
APPROVED	DNRRM	13-09-2022

WORK AS EXECUTED
APPROVAL STATUS

SCALE 1:100

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BERRYBANK 220kV SWITCHING STATION
220kV INSTALLATION
220kV SWITCHYARD
LINE BAY 'B'
PLAN AND ELEVATION

A1	BBS100202	01
	PREFIX NUMBER SHEET	AMDT

INDEX CLASS'N 06-09

566x801mm

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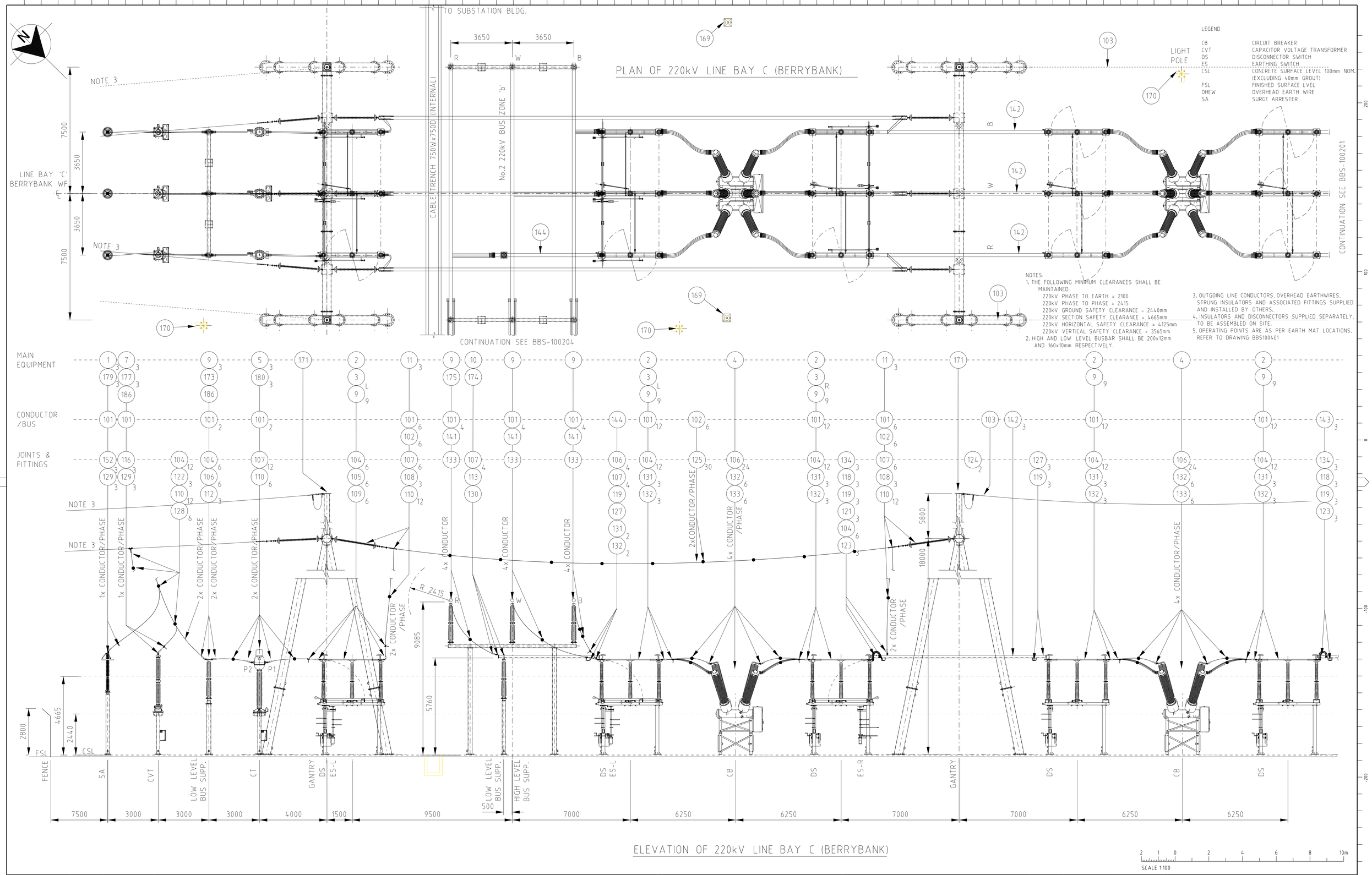

ELEVATION OF 220kV LINE BAY C (BERRYBANK)

AMENDMENT:

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BBS100102	GENERAL ARRANGEMENT
BBS100201	PLAN AND ELEVATION LINE BAY'A'
BBS100204	LOW LEVEL BUSBAR
BBS100501	MATERIAL LIST

REFERENCE DRAWINGS

DRAWN	DNRRM	
REVIEWED	DNRRM	06-11-2020
VERIFIED	DNRRM	06-11-2020
APPROVED	DNRRM	06-11-2020

APPROVED

APPROVAL STATUS

SCALE 1:100

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BERRYBANK 220kV SWITCHING STATION
220KV INSTALLATION
220kV SWITCHYARD
LINE BAY 'C'
PLAN AND ELEVATION

A1 | BBS100203 | 00

PREFIX NUMBER SHEET AMDT

PLOT ISSUE DATE 22/01/2021 3:08:26 PM

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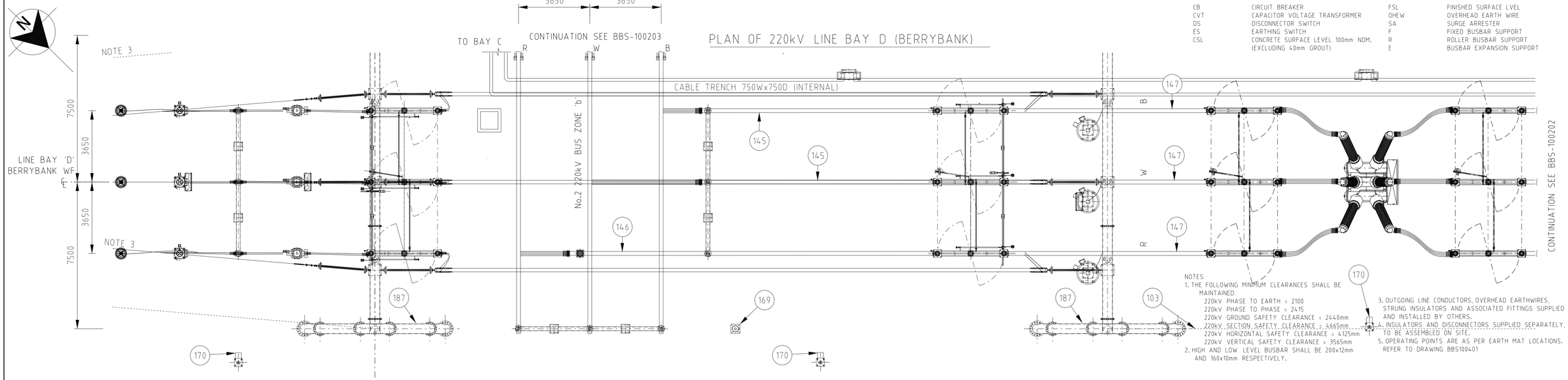
PLAN OF 220kV LINE BAY D (BERRYBANK)

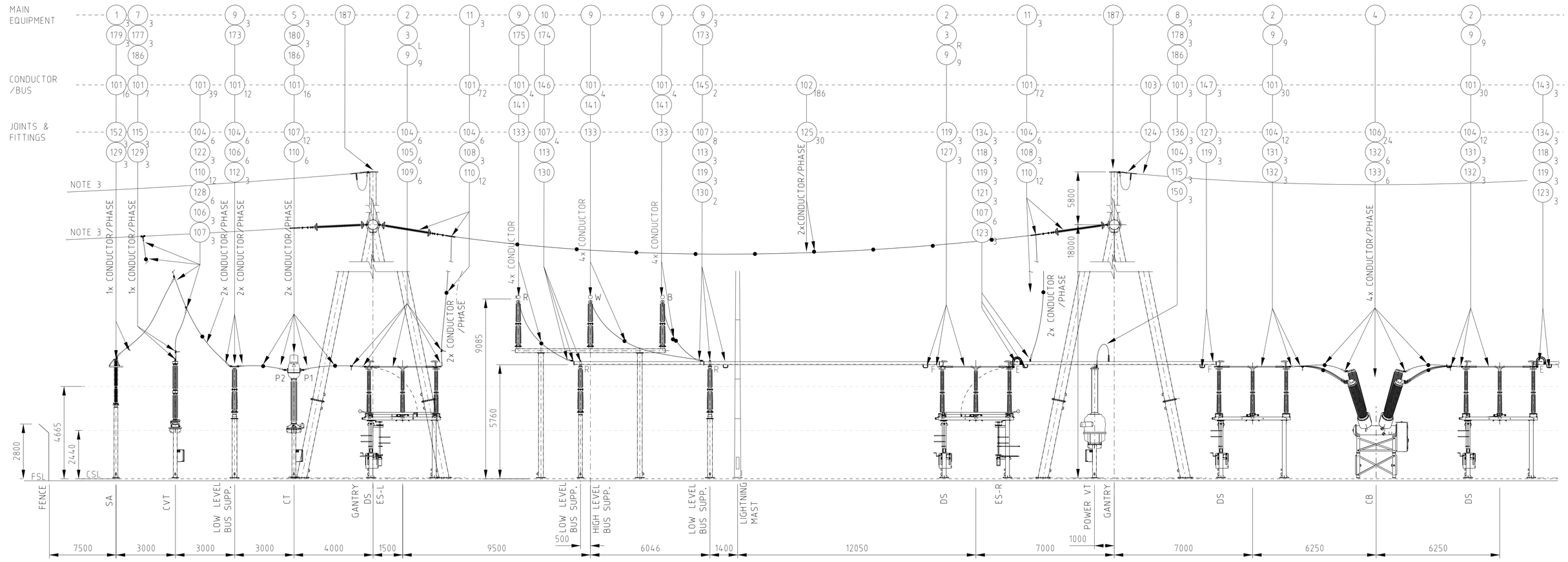


LEGEND:

CB	CIRCUIT BREAKER	FSL	FINISHED SURFACE LVEL
CVT	CAPACITOR VOLTAGE TRANSFORMER	OHEW	OVERHEAD EARTH WIRE
DS	DISCONNECTOR SWITCH	SA	SURGE ARRESTER
ES	EARTHING SWITCH	F	FIXED BUSBAR SUPPORT
CSL	CONCRETE SURFACE LEVEL 100mm NOM. (EXCLUDING 40mm GROUT)	R	ROLLER BUSBAR SUPPORT
		E	BUSBAR EXPANSION SUPPORT

NOTES

1. THE FOLLOWING MINIMUM CLEARANCES SHALL BE MAINTAINED
   - 220kV PHASE TO EARTH = 2100
   - 220kV PHASE TO PHASE = 2415
   - 220kV GROUND SAFETY CLEARANCE = 2440mm
   - 220kV SECTION SAFETY CLEARANCE = 4665mm
   - 220kV HORIZONTAL SAFETY CLEARANCE = 4125mm
   - 220kV VERTICAL SAFETY CLEARANCE = 3565mm
2. HIGH AND LOW LEVEL BUSBAR SHALL BE 200x12mm AND 160x10mm RESPECTIVELY.
3. OUTGOING LINE CONDUCTORS, OVERHEAD EARTHWIRES, STRUNG INSULATORS AND ASSOCIATED FITTINGS SUPPLIED AND INSTALLED BY OTHERS.
4. INSULATORS AND DISCONNECTORS SUPPLIED SEPARATELY, TO BE ASSEMBLED ON SITE.
5. OPERATING POINTS ARE AS PER EARTH MAT LOCATIONS, REFER TO DRAWING BBS100401



ELEVATION OF 220kV LINE BAY D (BERRYBANK)

SCALE 1:100

ADVERTISED PLAN

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AMENDMENT		
STAGE 2 WORKS - WORK AS EXECUTED	DNRRM	13-09-2022

REV	REVISION DETAILS	DRAWN	DRG CHK	DESIGNED	DES CHK	APPROVED	DATE
1	AS BUILT	RR	IW	AS	NM	MN	30.06.22
0	ISSUED FOR CONSTRUCTION	MOC	IW	AS	NM	MD	07.05.21
A	ISSUED FOR 80% REVIEW	MOC	IW	AS	NM	MD	12.03.21

Downer

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BBS100102	GENERAL ARRANGEMENT
BBS100204	PLAN AND ELEVATION LINE BAY D
BBS100512	BUSBAR DETAIL
BBS100501	MATERIAL LIST

REFERENCE DRAWINGS

DRAWN	DNRRM	
REVIEWED	DNRRM	13-09-2022
VERIFIED	DNRRM	13-09-2022
APPROVED	DNRRM	13-09-2022

WORK AS EXECUTED

APPROVAL STATUS

SCALE 1:100

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BERRYBANK 220kV SWITCHING STATION
220KV INSTALLATION
220kV SWITCHYARD
LOW LEVEL BUSBAR
PLAN AND ELEVATION

A1	BBS100204	01
	PREFIX NUMBER SHEET	AMDT

INDEX CLASS'N 06-09

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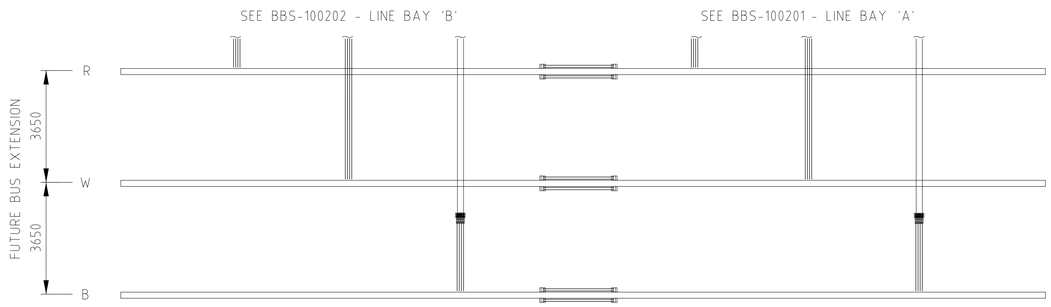
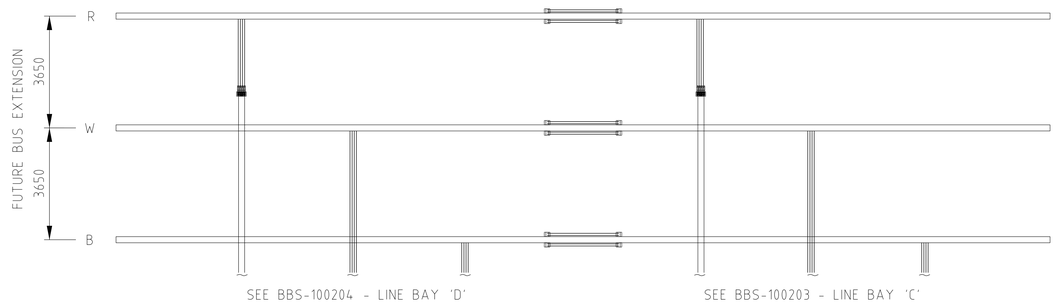
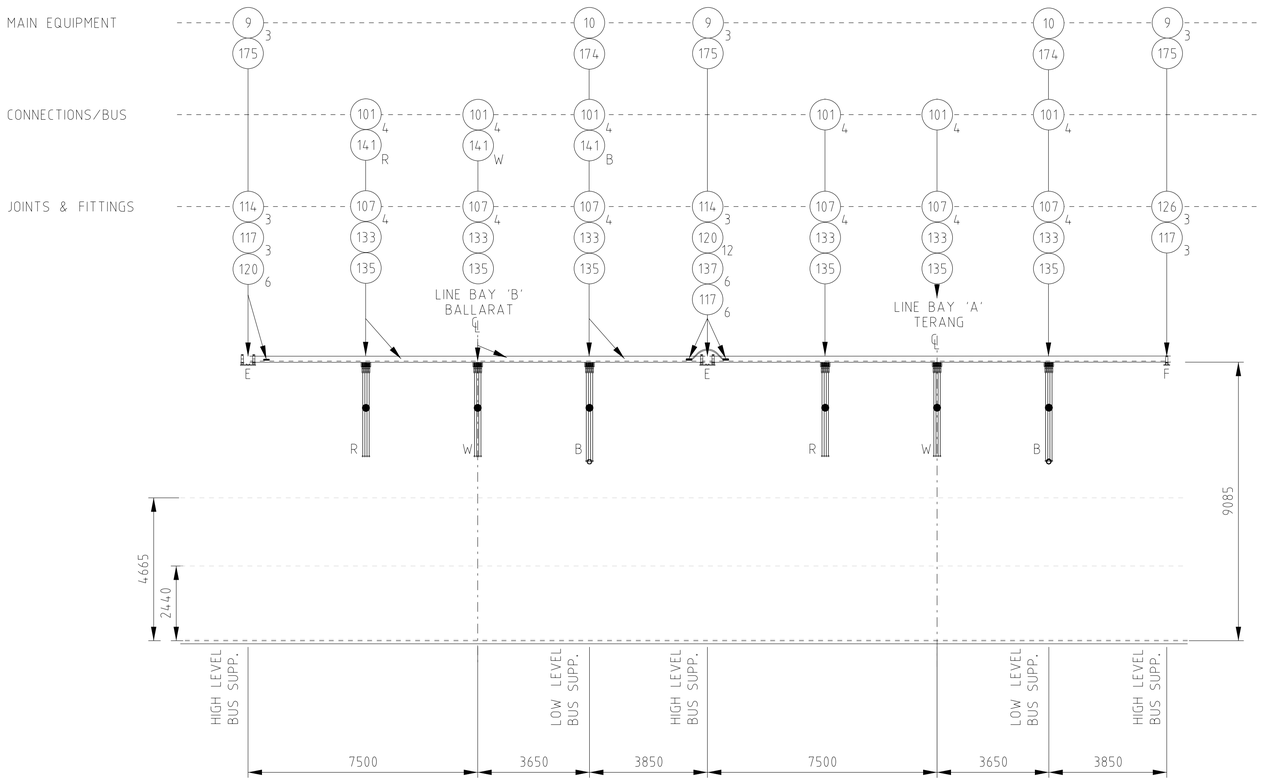


PLAN No.1 220kV BUS ZONE 'a'

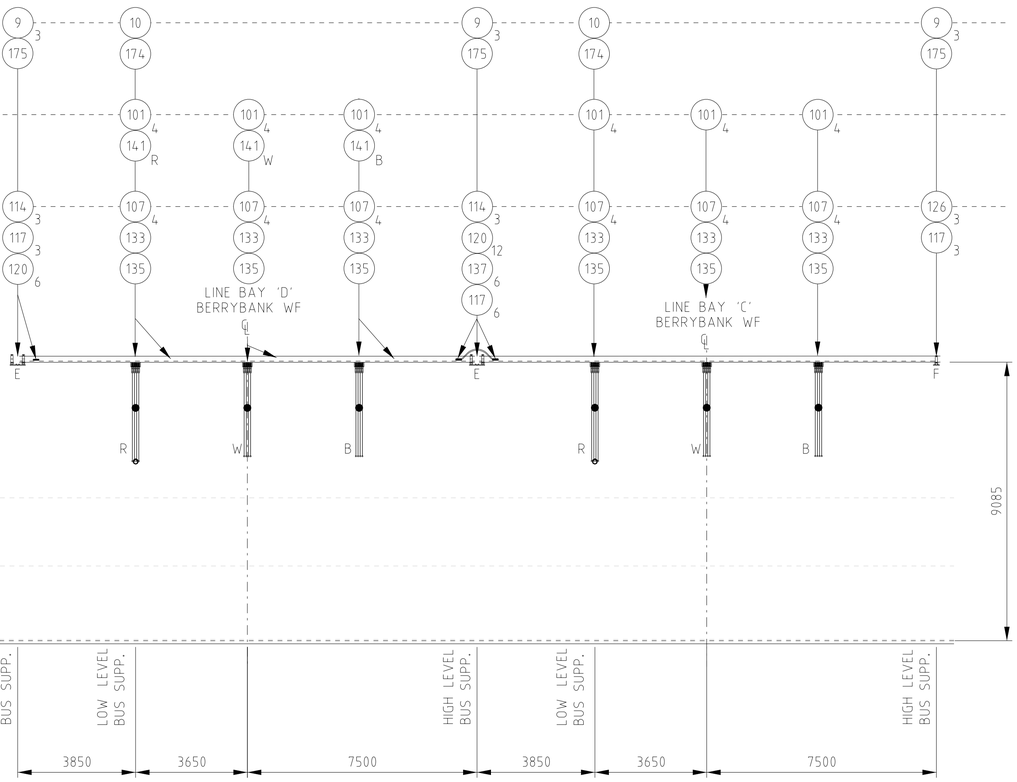


PLAN No.2 220kV BUS ZONE 'b'

ADVERTISED PLAN



ELEVATION No.1 220kV BUS ZONE 'a'



ELEVATION No.2 220kV BUS ZONE 'b'

NOTES:

1. THE FOLLOWING MINIMUM CLEARANCES SHALL BE MAINTAINED:
   - 220kV PHASE TO EARTH = 2100
   - 220kV PHASE TO PHASE = 2415
   - 220kV GROUND SAFETY CLEARANCE = 2440mm
   - 220kV SECTION SAFETY CLEARANCE = 4665mm
   - 220kV HORIZONTAL SAFETY CLEARANCE = 4125mm
   - 220kV VERTICAL SAFETY CLEARANCE = 3565mm
2. HIGH AND LOW LEVEL BUSBAR SHALL BE 200x12mm AND 160x10mm RESPECTIVELY.
3. OUTGOING LINE CONDUCTORS, OVERHEAD EARTHWIRES, STRING INSULATORS AND ASSOCIATED FITTINGS SUPPLIED AND INSTALLED BY OTHERS.

LEGEND:

CB	CIRCUIT BREAKER
CVT	CAPACITOR VOLTAGE TRANSFORMER
DS	DISCONNECTOR SWITCH
ES	EARTHING SWITCH
CSL	CONCRETE SURFACE LEVEL 100mm NOMINAL (EXCLUDING 40mm GROUT)
FSL	FINISHED SURFACE LVEL
OHEW	OVERHEAD EARTH WIRE
SA	SURGE ARRESTER
F	FIXED BUSBAR SUPPORT
R	ROLLER BUSBAR SUPPORT
E	BUSBAR EXPANSION SUPPORT

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2 1 0 2 4 6 8 10m
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AMENDMENT:	DNRRM	13-09-2022

STAGE 2 WORKS - WORK AS EXECUTED

REV	REVISION DETAILS	DRAWN	DRG CHK	DESIGNED	DES CHK	APPROVED	DATE
2	AS BUILT	RR	IW	AS	NM	MN	30.06.22
1	RE-ISSUED FOR CONSTRUCTION	MOC	IW	AS	NM	MD	30.06.21
0	ISSUED FOR CONSTRUCTION	MOC	IW	AS	NM	MD	07.05.21
A	ISSUED FOR 80% REVIEW	MOC	IW	AS	NM	MD	12.03.21

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BBS100102 GENERAL ARRANGEMENT
BBS100501 MATERIAL LIST
BBS100510 BUSBAR DETAIL - BUS ZONE a/b

REFERENCE DRAWINGS

DRAWN	DNRRM	
REVIEWED	DNRRM	13-09-2022
VERIFIED	DNRRM	13-09-2022
APPROVED	DNRRM	13-09-2022

WORK AS EXECUTED
APPROVAL STATUS

SCALE 1:100

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BERRYBANK 220kV SWITCHING STATION
220KV INSTALLATION
220kV SWITCHYARD
HIGH LEVEL BUSBAR
PLAN AND ELEVATION

A1 | BBS100205 | 01
PREFIX NUMBER SHEET AMDT

INDEX CLASS'N 06-09

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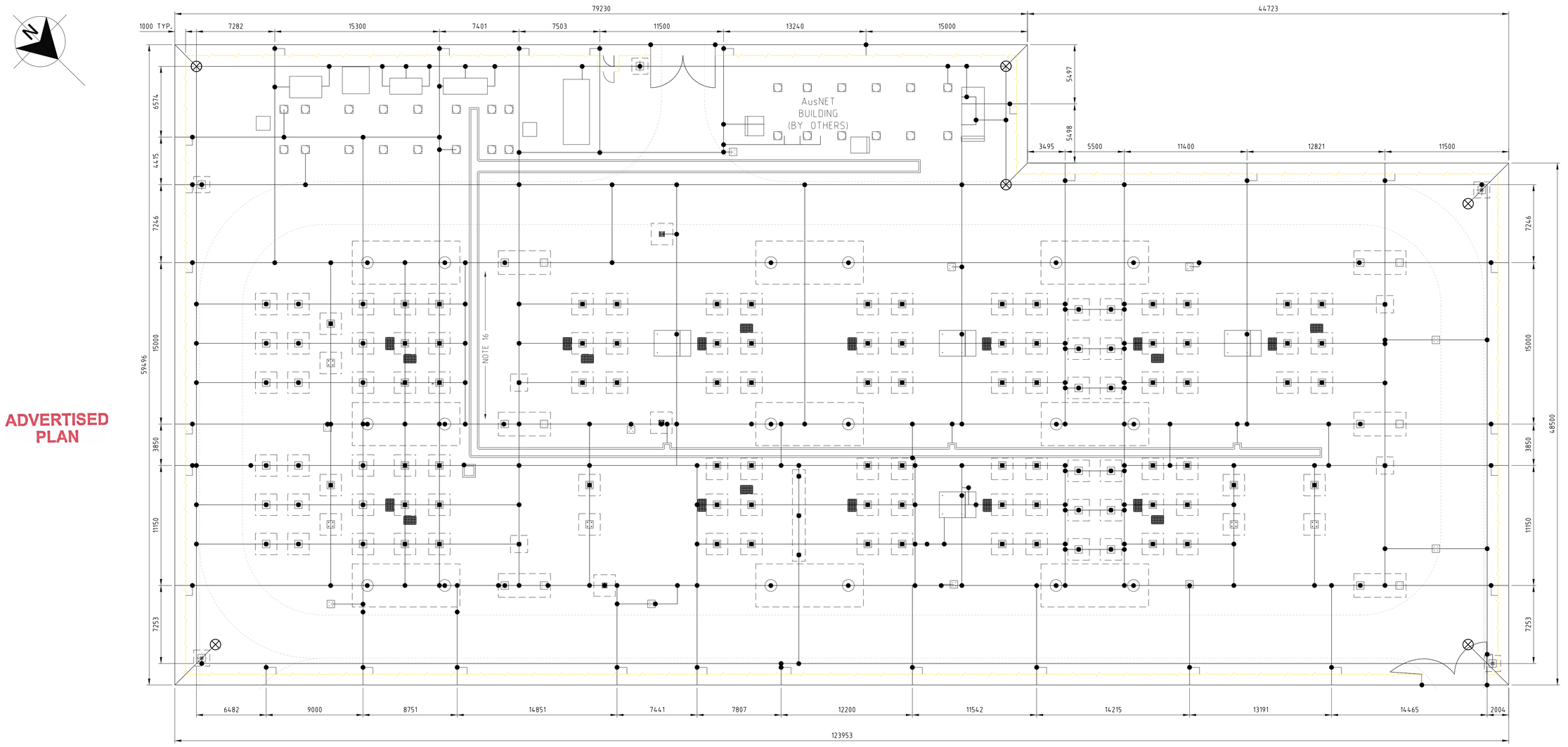

ADVERTISED PLAN

NOTES:

1. THE EARTH GRID SHALL BE INSTALLED AS PER THE REQUIREMENTS OF TRANSGRID STANDARD STD-147230_01.
2. THE MAIN EARTH GRID SHALL BE CONSTRUCTED USING ANNEALED COPPER STRIP OR BAR OF ALLOY TYPE DESIGNATION C11000 TO AS-1566.
3. JOINTS TO COPPER EARTHING STRIP SHALL BE EITHER BRAZED OR WELDED USING THE "CADWELD" PROCESS.
4. THE EARTHING RISER SHALL BE ATTACHED TO SUPPORT STRUCTURES AT 500 MM INTERVALS.
5. FOR STRUCTURE/PLANT EARTHING DETAILS REFER TO DRAWINGS BBS100402-405.
6. FOR CURRENT TRANSFORMERS, COUPLING CAPACITORS AND VOLTAGE TRANSFORMERS THE STRUCTURE SHALL ALSO BE CONNECTED TO AN EARTHING TERMINAL TO DRAWING STD-140528.
7. SECONDARY MARSHALLING BOXES FOR VOLTAGE TRANSFORMERS AND CURRENT TRANSFORMERS SHALL BE CONNECTED TO THE EARTH GRID.
8. EARTH MATS TO DRAWING STD-140527 SHALL BE POSITIONED NEAR THE OPERATING HANDLE OR OPERATING MECHANISM CUBICLE OF DISCONNECTORS AND EARTHING SWITCHES.
9. WHERE A TRANSMISSION LINE OVERHEAD EARTHWIRE TERMINATES AT A STEEL STRUCTURE WITHIN A SUBSTATION IT SHALL BE BONDED TO THE STRUCTURE AS SHOWN ON DRAWING TL-140079.
10. THE FENCE SHALL BE BONDED TO THE MAIN EARTH GRID WHERE IT PASSES UNDER THE FENCE. SEE DRAWINGS STD-140529, STD-140550 AND STD-140551.
11. NOT USED.
12. SURGE ARRESTER EARTHING SHALL BE DONE AS PER STD-806539 BY 40x2.5mm COPPER STRIP.
13. ALL GATES SHALL BE EARTHED THROUGH A FLEXIBLE COPPER BRAID OF 40 x 2.5mm CROSS SECTION CONNECTION TO THE EARTH GRID BY 40x2.5mm COPPER STRIP. REFER TO STD-140529.
14. EARTHGRID TO BE INSTALLED AT A NOMINAL DEPTH OF 500mm BELOW THE FINISHED EARTHWORKS LEVEL.

14a. EARTH GRID DEPTH MAY BE LESS THAN 500mm IN SOME LOCATIONS.

15. THE RISER LOCATIONS FOR AUSNET BUILDING IS INDICATIVE ONLY. THIS IS TO BE CONFIRMED WITH AUSNET BUILDING DRAWINGS.
16. THE EARTH GRID CONDUCTOR SHALL ENTER THE TRENCH THROUGH CONDUIT OR ALONG THE TRENCH WALL TO THE CONTROL AND AUSNET BUILDING.
17. EARTH TAILS SHALL BE TAKEN ALONG THE SLAB WALL AND SURFACE AND CONNECT TO EQUIPMENT STRUCTURES.
18. ALL EARTH RODS SHALL BE ENCAPSULATED IN EARTH ROD PROTECTION BOX AS PER DRAWING STD-140548.
19. THE EARTH GRID CONDUCTORS TO ALL MAJOR STRUCTURES SHALL GO OVER THE FOOTINGS AND FIXED TO SURFACE OF FOOTINGS TO FORM A CONTINUOUS CONDUCTOR PATH. THIS INCLUDES POWER TRANSFORMERS, CIRCUIT BREAKERS, DISCONNECTORS, CTs, VTs, SAs, BUS SUPPORTS, LIGHTNING MASTS AND GANTRIES. THIS IS NOT NECESSARY FOR MINOR STRUCTURES INCLUDING BUILDINGS, DIESEL GENERATOR, LVAC/DC DBs, STORAGE SHED, WATER CLOSET, WATER TANK, LIGHT POLES, SECURITY POLES, FENCES AND GATES.
20. MAIN EARTH GRID : 40 x 2.5mm COPPER STRIP
    MINOR EARTH GRID RISERS : 40 x 2.5mm COPPER STRIP
    MAJOR EARTH GRID RISERS : 40 x 5.0mm COPPER STRIP
21. STEEL REINFORCEMENT FOR CIRCUIT BREAKER FOOTING INSTALLED AS PART OF STAGE 2 SHALL BE BONDED TO EARTH GRID.
22. SURFACE MITIGATION IS REQUIRED AROUND SUBSTATION FENCE FOR TOUCH VOLTAGE CONSIDERATIONS.

STAGING:

LEGEND:

- MAIN EARTH GRID AND MINOR EARTH GRID RISERS
- EARTH STAKE - 15mm DIA. 2.4m LONG AS PER STD-146911
- EARTH GRID CONNECTION (CADWELD)
- EARTH MAT AS PER STD-140527
- LIGHTNING MAST

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4 2 0 4 8 12 16 20m
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AMENDMENT:	DNRRM	13-09-2022

STAGE 2 WORKS - WORK AS EXECUTED

REV	REVISION DETAILS	DRAWN	DRG CHK	DESIGNED	DES CHK	APPROVED	DATE
2	AS BUILT	RR	IW	AS	NM	MN	18.08.22
1	RE-ISSUED FOR CONSTRUCTION	MOC	IW	AS	NM	MO	30.06.21
0	ISSUED FOR CONSTRUCTION	MOC	IW	AS	NM	MO	07.05.21
A	ISSUED FOR 80% REVIEW	MOC	IW	AS	NM	MO	12.03.21

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BBS100402 EARTHING LAYOUT SHT. 1
BBS100403 EARTHING LAYOUT SHT. 2
BBS100404 EARTHING LAYOUT SHT. 3
BBS100405 EARTHING LAYOUT SHT. 4

REFERENCE DRAWINGS

DRAWN	DNRRM	
REVIEWED	DNRRM	13-09-2022
VERIFIED	DNRRM	13-09-2022
APPROVED	DNRRM	13-09-2022

WORK AS EXECUTED
APPROVAL STATUS

SCALE 1:200

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BERRYBANK 220kV SWITCHING STATION
EARTHING - LAYOUT
220kV SWITCHYARD
MAIN EARTH GRID
LAYOUT

A1 | BBS100401 | 01
PREFIX NUMBER SHEET AMDT

INDEX CLASS'N 08-01

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