

## Appendix 2    CKL Design Plans

# AGRIVOLTAIC FACILITY

## 1352 HOMEBUSH ROAD, DARFIELD

### DARFIELD SOLAR AND ENERGY LTD



DRAWING INDEX							
SHEET NUMBER		SHEET TITLE	REVISION AND ISSUE DATE (YY.MM.DD)				
			11.06.24	30.07.24	-	-	-
A23288	2000	EARTHWORKS TOPSOIL STRIP & RESPREAD	0	1			
A23288	2001	EARTHWORKS TOPSOIL STRIP & RESPREAD	0				
A23288	2002	EARTHWORKS HARDSTAND AREA EROSION SEDIMENT C	0				
A23288	3000	ROAD LAYOUT LAYOUT OVERVIEW PLAN	0	1			
A23288	3001	ROAD LAYOUT ACCESS TRACKS SHEET 1	0	1			
A23288	3002	ROAD LAYOUT ACCESS TRACKS SHEET 2	0				
A23288	3003	ROAD LAYOUT ACCESS TRACKS SUBSTATION AREA	0				
A23288	3004	ROAD LAYOUT ACCESS TRACKS TYPICAL SECTIONS	0				

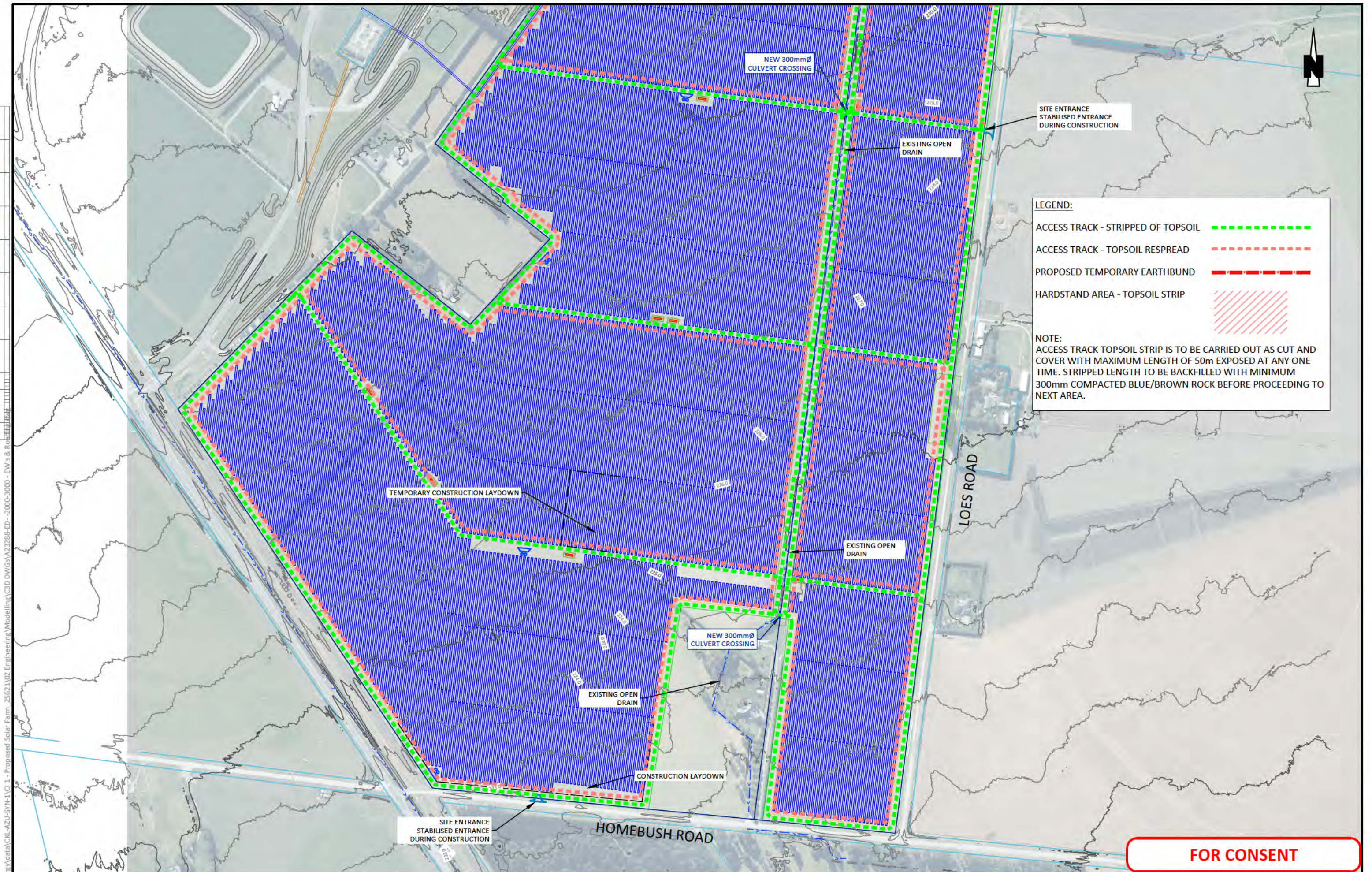


Planning | Surveying | Engineering | Environmental

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CKL PROJECT NUMBER : **A23288**  
DATE OF ISSUE : **11-06-24**  
ISSUED FOR : **RESOURCE CONSENT**





**LEGEND:**

ACCESS TRACK - STRIPPED OF TOPSOIL ---

ACCESS TRACK - TOPSOIL RESPREAD ---

PROPOSED TEMPORARY EARTHBOUND ---

HARDSTAND AREA - TOPSOIL STRIP / / / / /

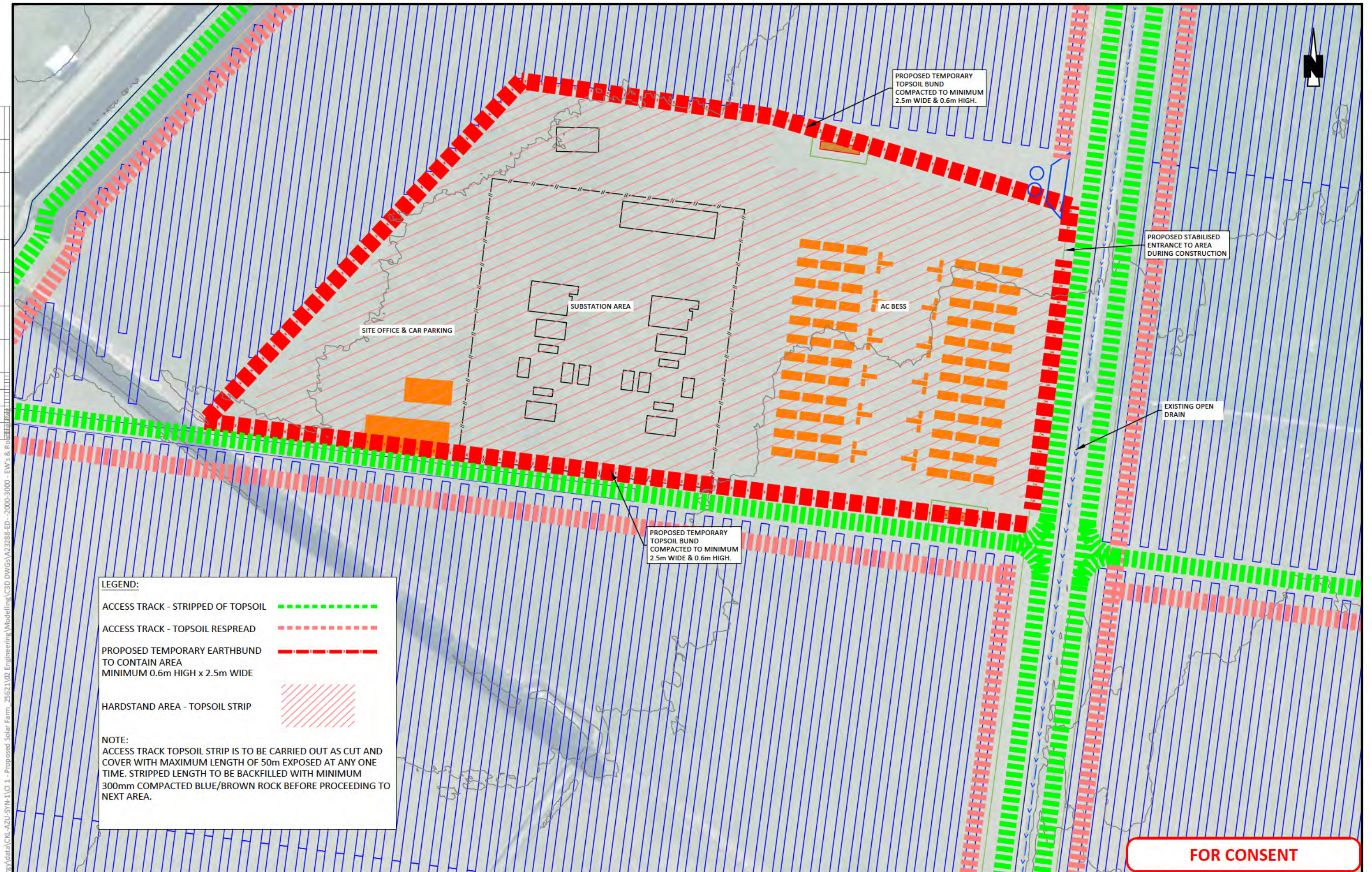
**NOTE:**  
ACCESS TRACK TOPSOIL STRIP IS TO BE CARRIED OUT AS CUT AND COVER WITH MAXIMUM LENGTH OF 50m EXPOSED AT ANY ONE TIME. STRIPPED LENGTH TO BE BACKFILLED WITH MINIMUM 300mm COMPACTED BLUE/BROWN ROCK BEFORE PROCEEDING TO NEXT AREA.

**FOR CONSENT**









**LEGEND:**

ACCESS TRACK - STRIPPED OF TOPSOIL ---

ACCESS TRACK - TOPSOIL RESPREAD ---

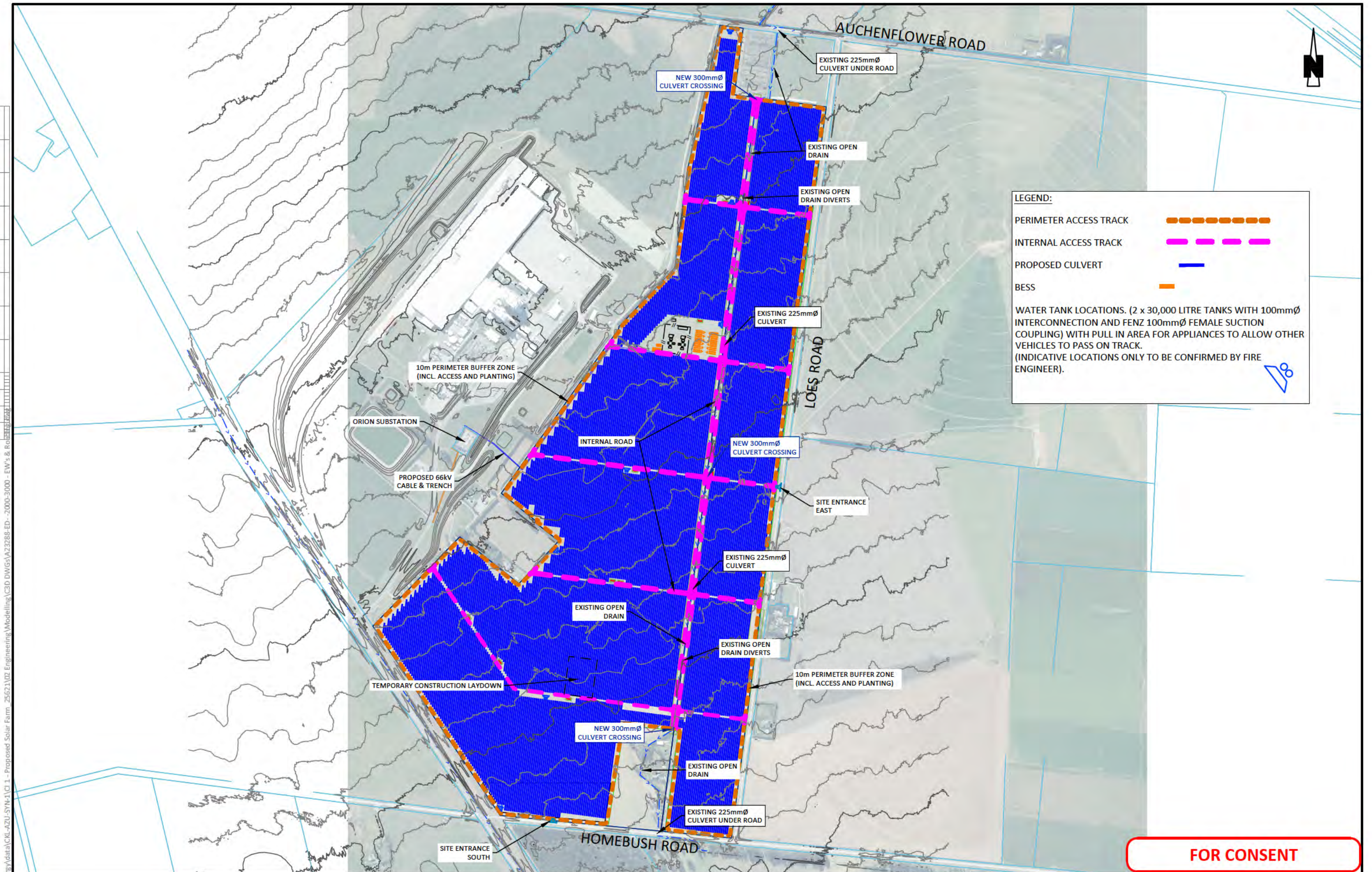
PROPOSED TEMPORARY EARTH BUND TO CONTAIN AREA  
MINIMUM 0.6m HIGH x 2.5m WIDE ---

HARDSTAND AREA - TOPSOIL STRIP / / / /

**NOTE:**  
ACCESS TRACK TOPSOIL STRIP IS TO BE CARRIED OUT AS CUT AND COVER WITH MAXIMUM LENGTH OF 50m EXPOSED AT ANY ONE TIME. STRIPPED LENGTH TO BE BACKFILLED WITH MINIMUM 300mm COMPACTED BLUE/BROWN ROCK BEFORE PROCEEDING TO NEXT AREA.

**FOR CONSENT**





**LEGEND:**

PERIMETER ACCESS TRACK     

INTERNAL ACCESS TRACK     

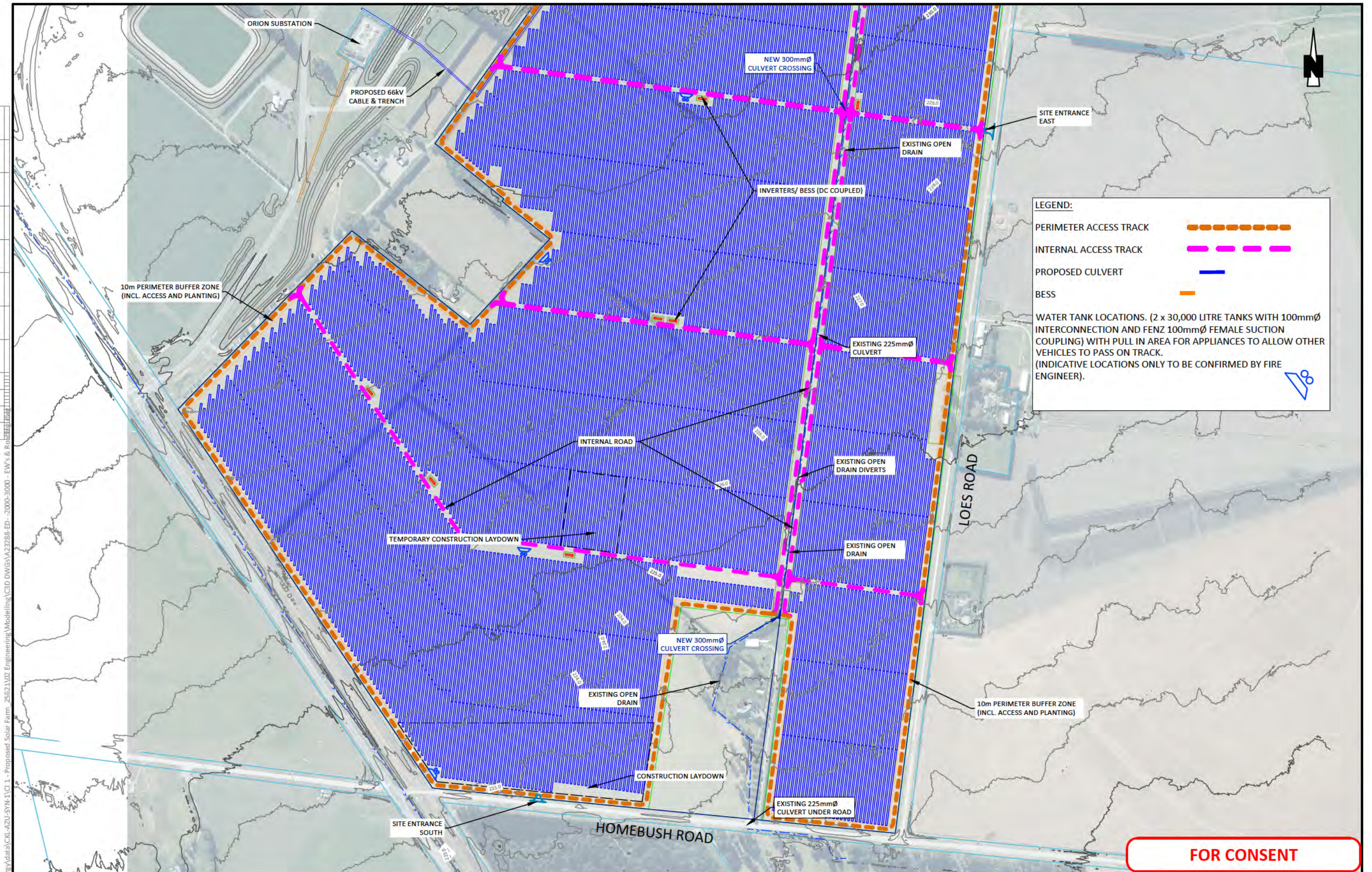
PROPOSED CULVERT     

BESS     

WATER TANK LOCATIONS. (2 x 30,000 LITRE TANKS WITH 100mmØ INTERCONNECTION AND FENZ 100mmØ FEMALE SUCTION COUPLING) WITH PULL IN AREA FOR APPLIANCES TO ALLOW OTHER VEHICLES TO PASS ON TRACK. (INDICATIVE LOCATIONS ONLY TO BE CONFIRMED BY FIRE ENGINEER).

**FOR CONSENT**





**LEGEND:**

PERIMETER ACCESS TRACK

INTERNAL ACCESS TRACK

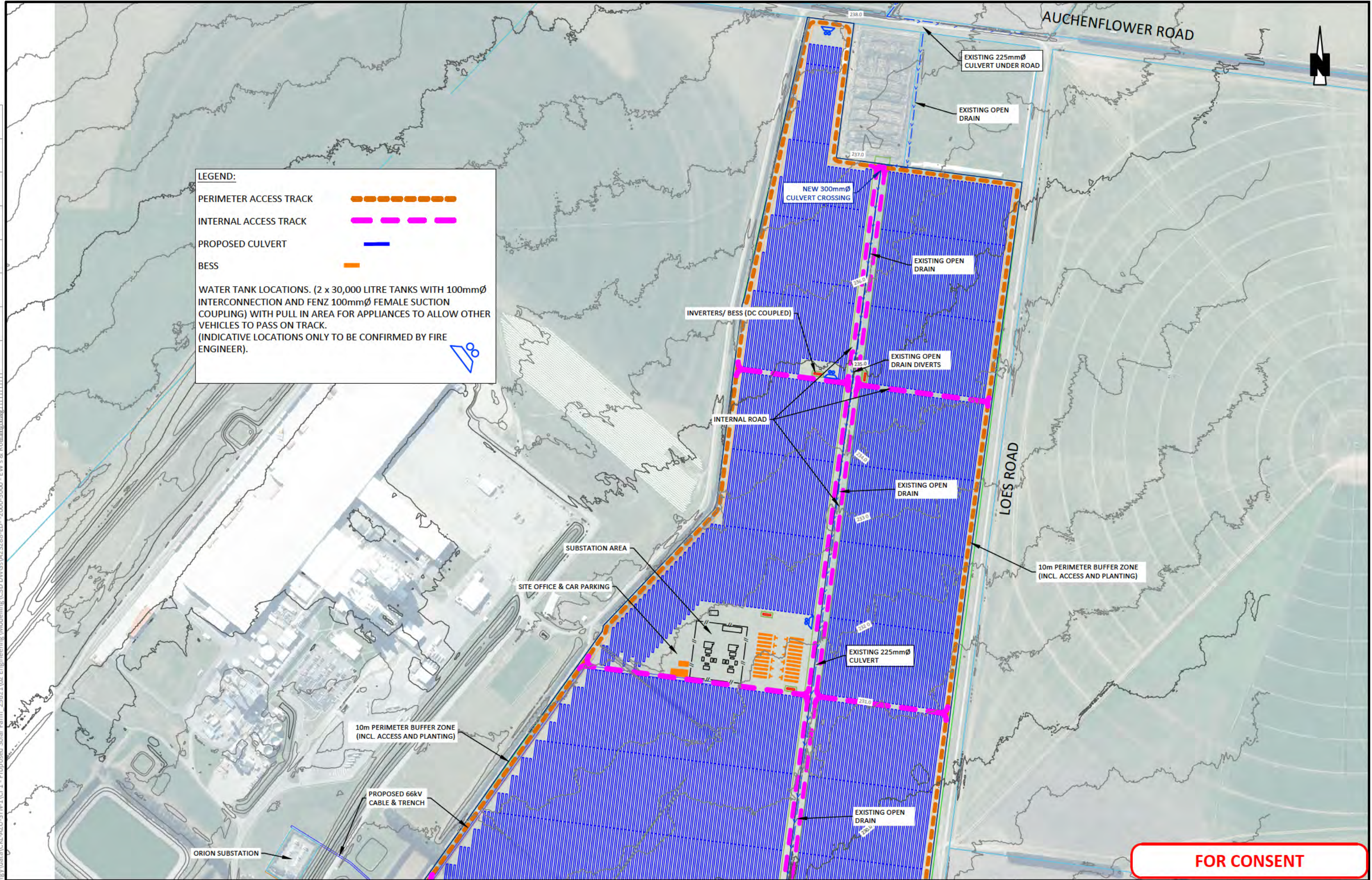
PROPOSED CULVERT

BESS

WATER TANK LOCATIONS. (2 x 30,000 LITRE TANKS WITH 100mmØ INTERCONNECTION AND FENZ 100mmØ FEMALE SUCTION COUPLING) WITH PULL IN AREA FOR APPLIANCES TO ALLOW OTHER VEHICLES TO PASS ON TRACK. (INDICATIVE LOCATIONS ONLY TO BE CONFIRMED BY FIRE ENGINEER).

**FOR CONSENT**





**FOR CONSENT**



Planning | Surveying | Engineering | Environmental

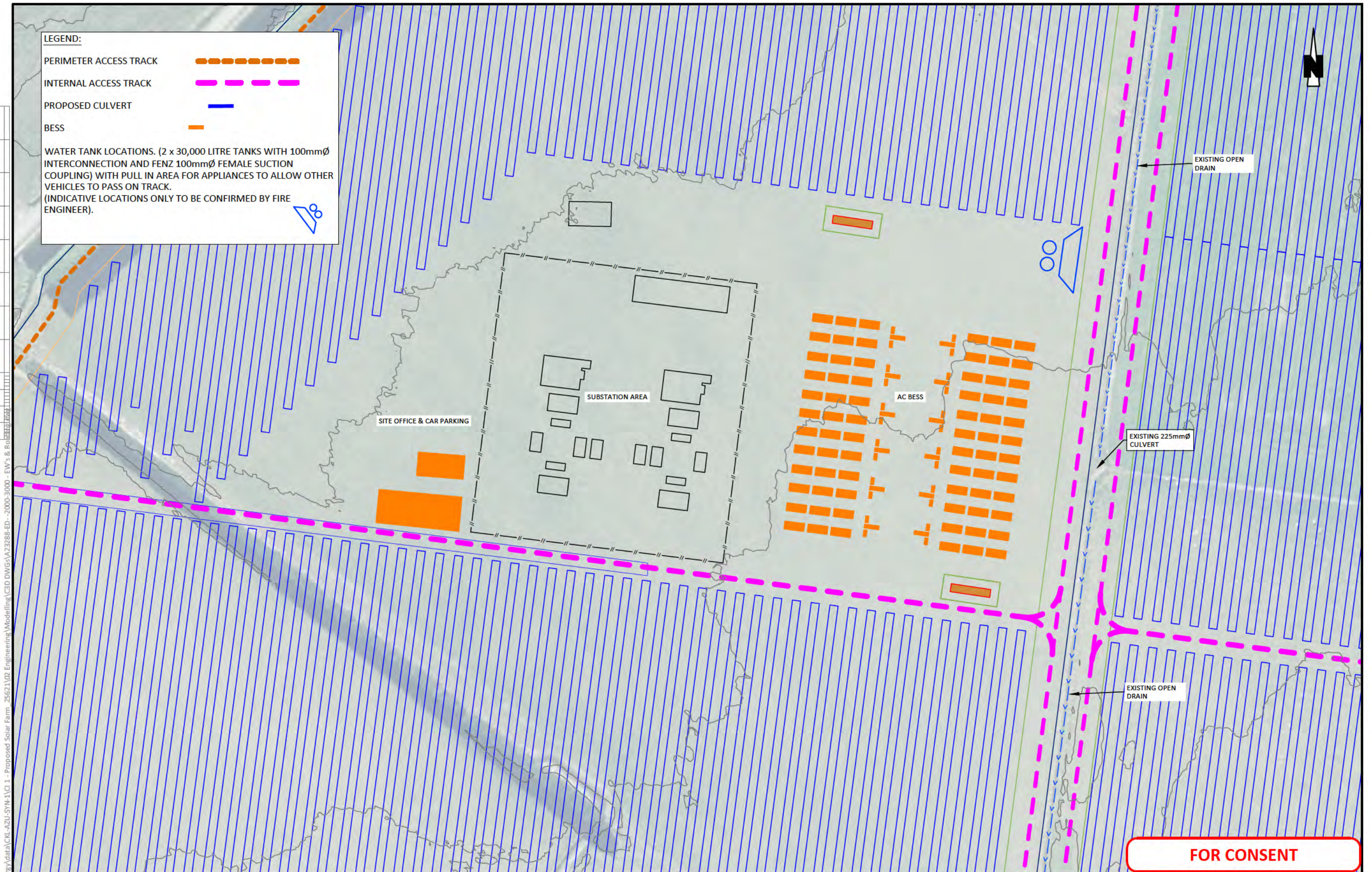
OFFICE  
AUCKLAND  
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**AGRIVOLTAIC FACILITY  
DARFIELD SOLAR AND ENERGY LTD  
1352 HOMEBUSH ROAD, DARFIELD**

**ROAD LAYOUT  
ACCESS TRACKS  
SHEET 2**

Issue	Description	Checked	Date	Designed:	Date	Scale:
0			11.06.24	GCW	11.06.24	1:5000
				Drawn:	GCW	11.06.24
				Checked:	11.06.24	(A3 Original)
			Job No:	Dwg No:	Rev:	
			A23288	3002	0	





**LEGEND:**

PERIMETER ACCESS TRACK

INTERNAL ACCESS TRACK

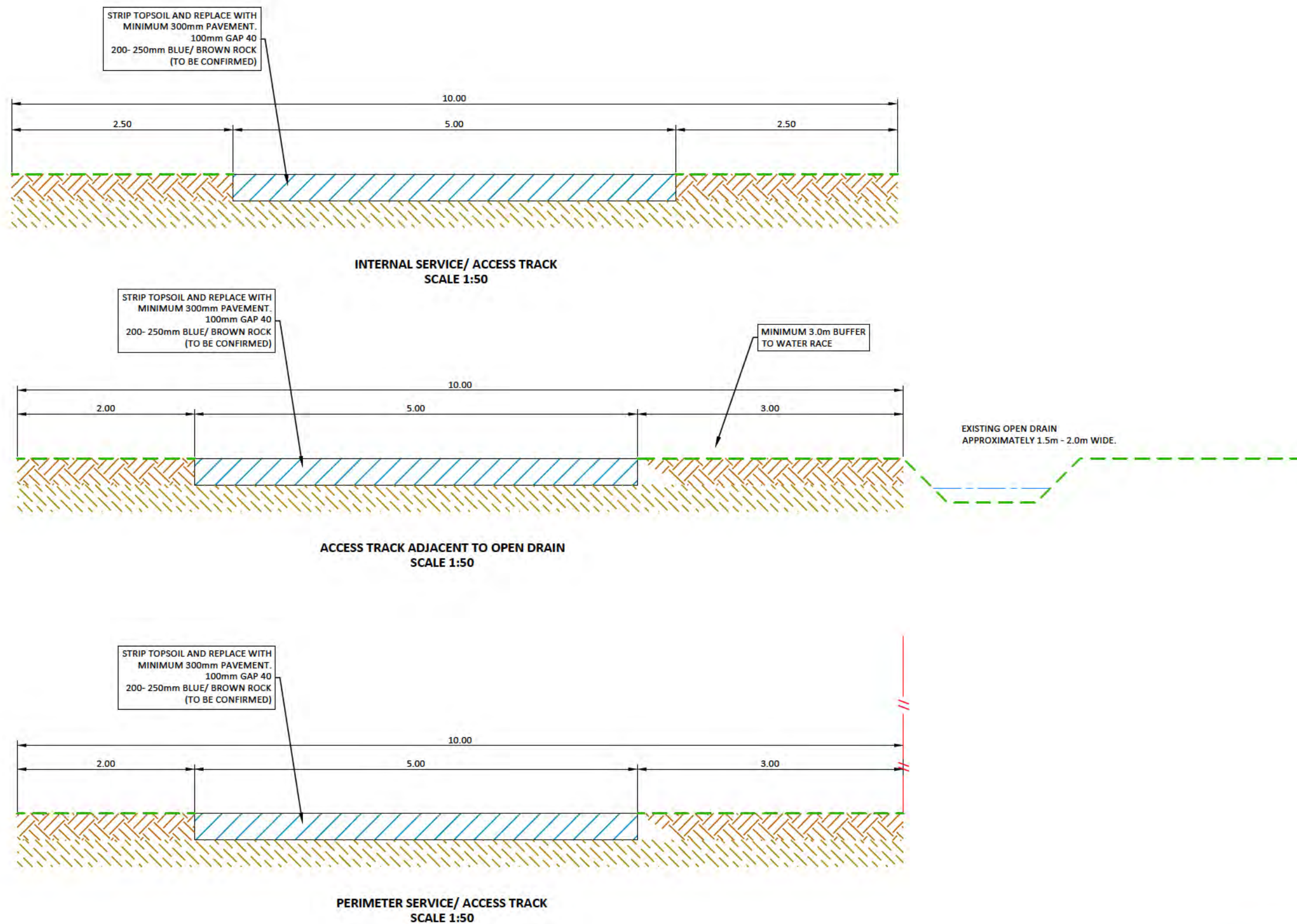
PROPOSED CULVERT

BESS

WATER TANK LOCATIONS. (2 x 30,000 LITRE TANKS WITH 100mmØ INTERCONNECTION AND FENZ 100mmØ FEMALE SUCTION COUPLING) WITH PULL IN AREA FOR APPLIANCES TO ALLOW OTHER VEHICLES TO PASS ON TRACK. (INDICATIVE LOCATIONS ONLY TO BE CONFIRMED BY FIRE ENGINEER).

**FOR CONSENT**





FOR CONSENT



Planning | Surveying | Engineering | Environmental

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E: Auckland@ckl.co.nz

AGRIVOLTAIC FACILITY  
DARFIELD SOLAR AND ENERGY LTD  
1352 HOMEBUSH ROAD, DARFIELD

ROAD LAYOUT  
ACCESS TRACKS  
TYPICAL SECTIONS

Issue	Description	Checked	Date	Designed	Date	Scale:
0			11.06.24	GCW	11.06.24	1:50
				Drawn: GCW	11.06.24	(A3 Original)
				Checked:	11.06.24	
				Job No:	Dwg No:	Rev:
				A23288	3004	0



## **Appendix 3      NZ Clean Energy Design Plans**





- Key:
- Outside fence
  - Install Setback
  - Water Race
  - Existing overhead line
  - New Underground Cable
  - Inverter Pairs
  - Perimeter Roadway
  - Internal Roadway

Yard

Culvert

Inverter Pairs

East Entrance

Culvert

10m perimeter buffer zone  
(incl. access and planting)

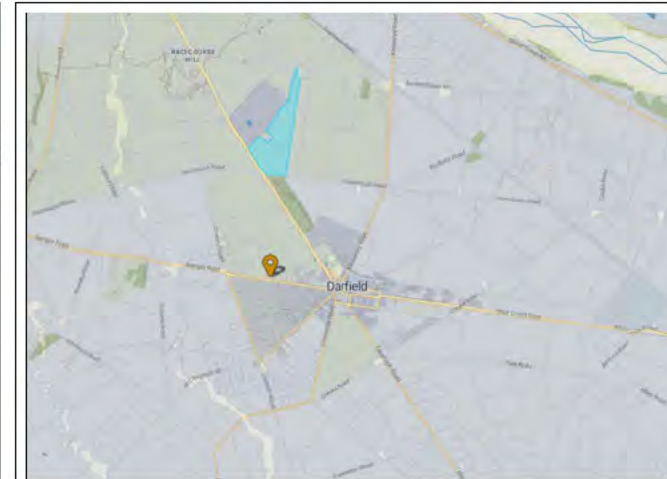
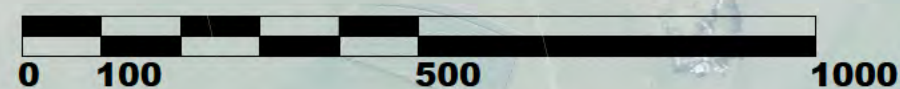
Culvert

South Entrance

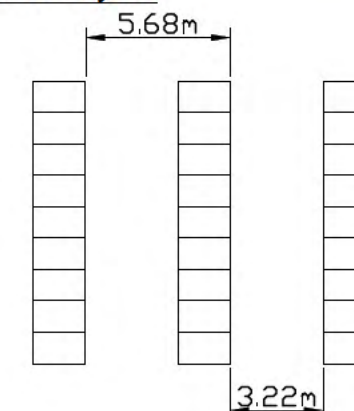
Route to Construction  
Laydown

Construction Laydown  
(Temporary)

NOT FOR CONSTRUCTION



### Panel Frame Layout



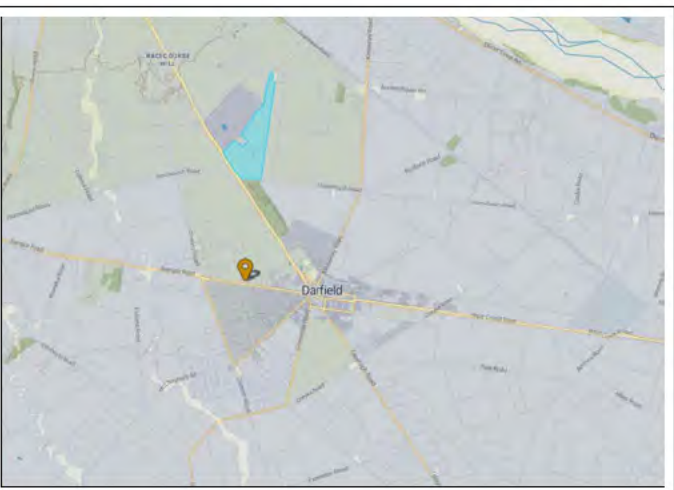
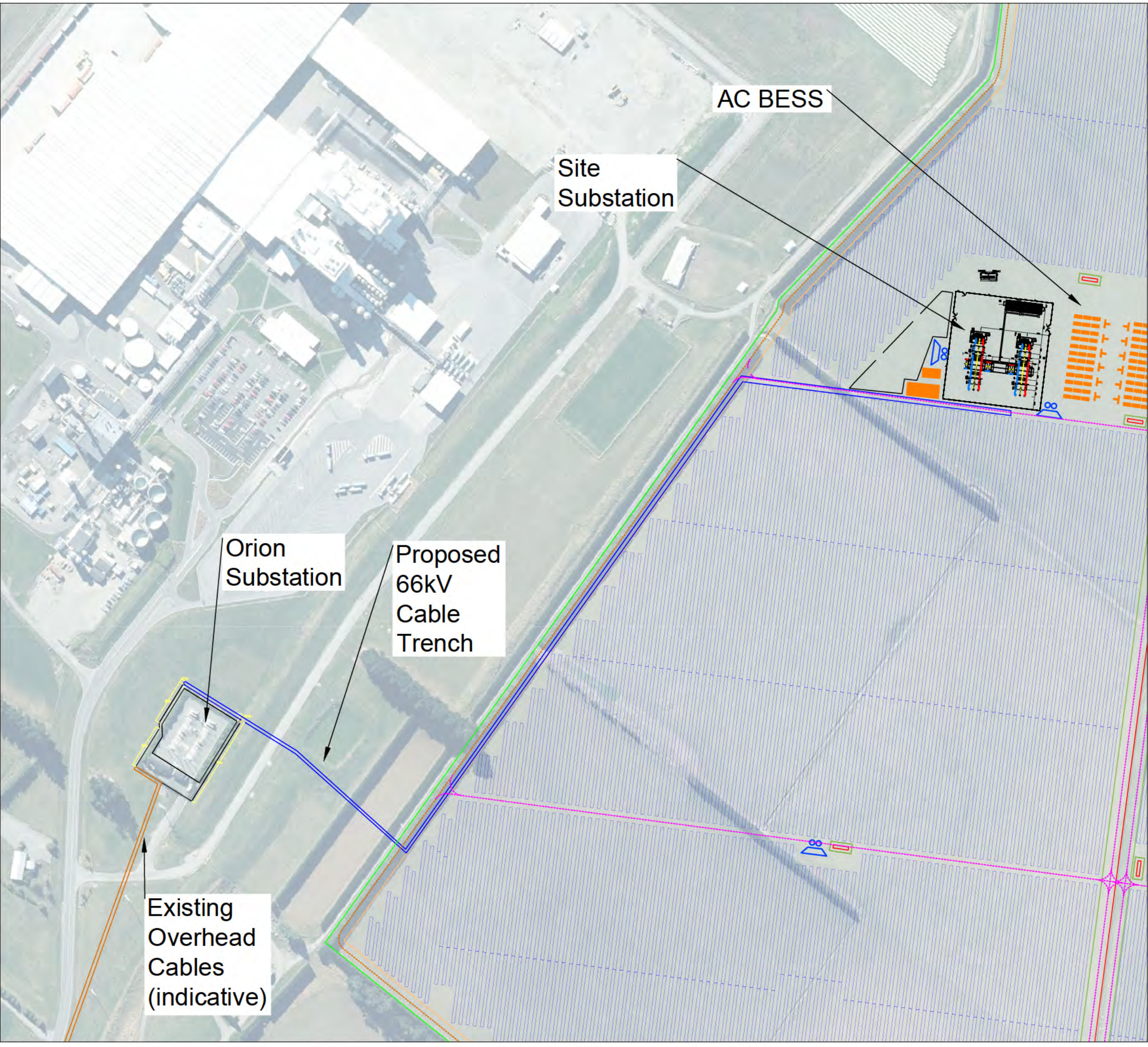
Title	Plot Plan
Project	Darfield Solar
Location	1352 Homebush Road Darfield New Zealand
DC Capacity	117.4 MW
Annual	210 GWh / Year



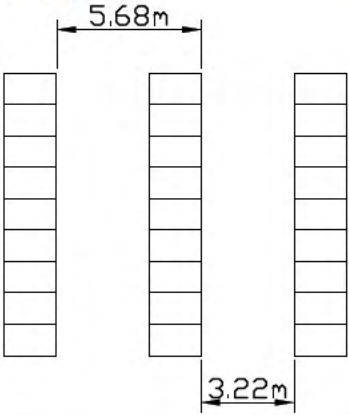
NZ Clean Energy  
Email: [projects@nzcleanenergy.nz](mailto:projects@nzcleanenergy.nz)  
Web: [www.nzcleanenergy.nz](http://www.nzcleanenergy.nz)

Drawing #: DAR-001  
Revision #: 9  
Date: 24/7/2024  
Status: DRAFT  
Design: SCOTT BURLING  
Drawn: SCOTT BURLING





Panel Frame Layout



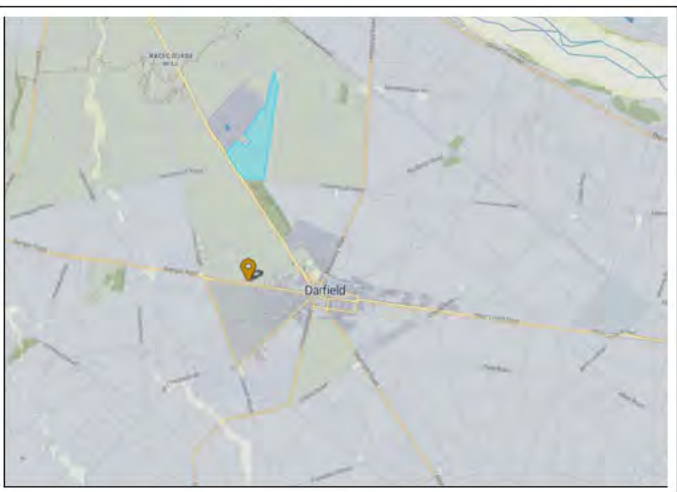
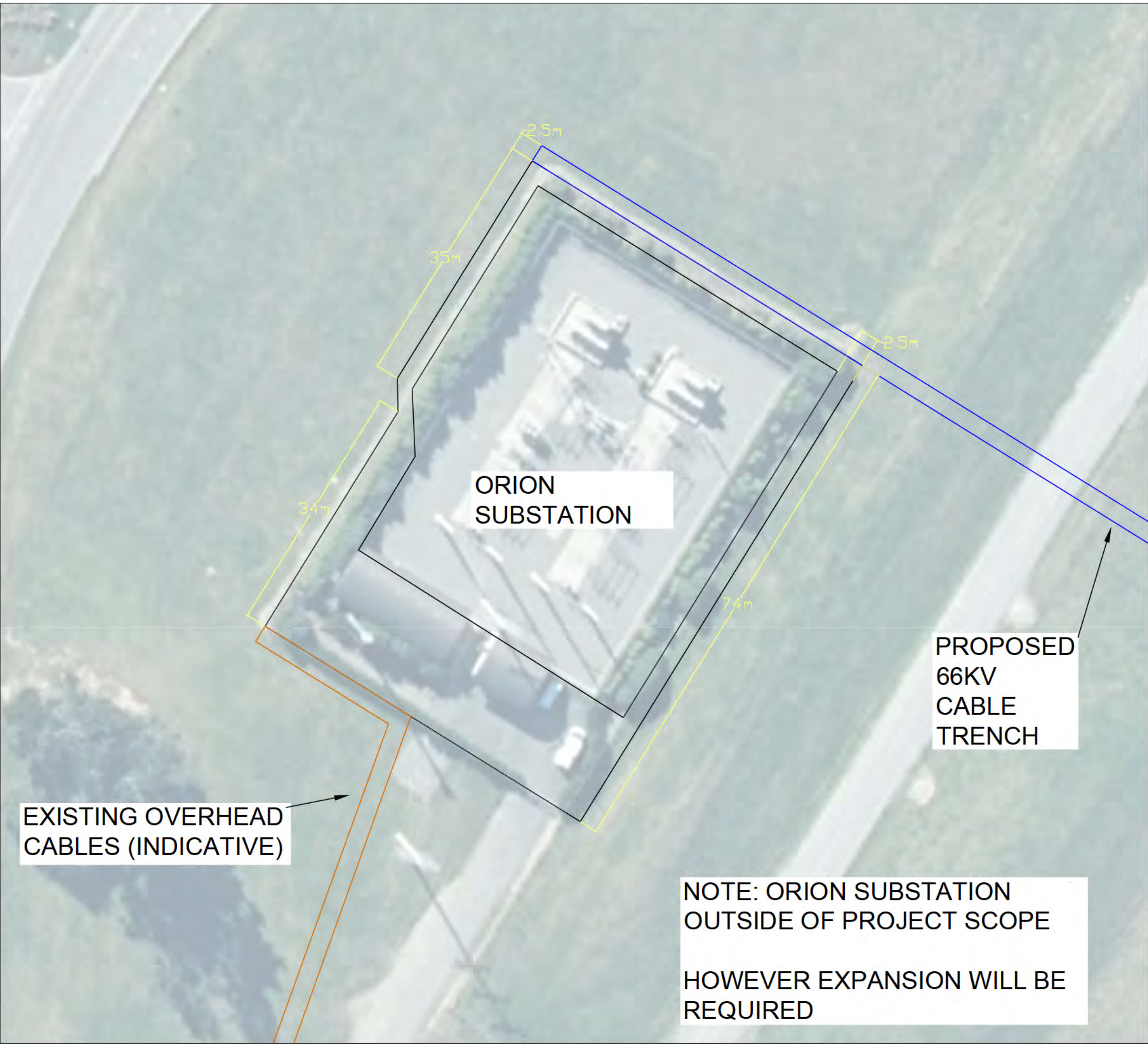
Title	CABLE ROUTE
Project	Darfield Solar
Location	1352 Homebush Road Darfield New Zealand
DC Capacity	117.4 MW
Annual	210 GWh / Year



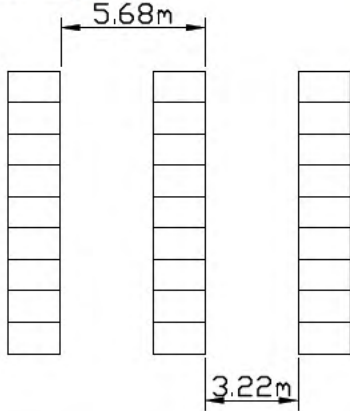
NZ Clean Energy  
Email: [projects@nzcleanenergy.nz](mailto:projects@nzcleanenergy.nz)  
Web: [www.nzcleanenergy.nz](http://www.nzcleanenergy.nz)

Drawing #: DAR-002  
Revision #: 9  
Date: 24/7/2024  
Status: DRAFT  
Design: SCOTT BURLING  
Drawn: SCOTT BURLING





Panel Frame Layout



Title	Orion Substation
Project	Darfield Solar
Location	1352 Homebush Road Darfield New Zealand
DC Capacity	117.4 MW
Annual	210 GWh / Year



NZ Clean Energy  
Email: [projects@nzcleanenergy.nz](mailto:projects@nzcleanenergy.nz)  
Web: [www.nzcleanenergy.nz](http://www.nzcleanenergy.nz)

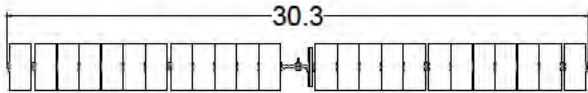
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Revision #: 9  
Date: 24/7/2024  
Status: DRAFT  
Design: SCOTT BURLING  
Drawn: SCOTT BURLING







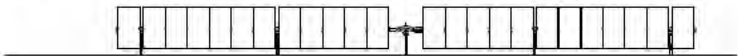
1 STRING (24 MODULES) PLAN: 0 DEG



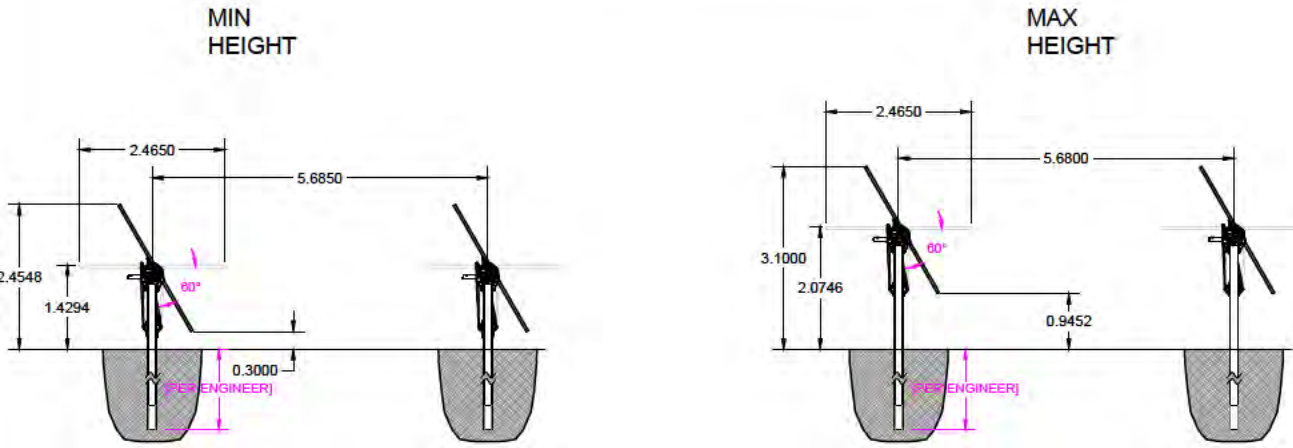
1 STRING (24 MODULES) ELEVATION: 0 DEG



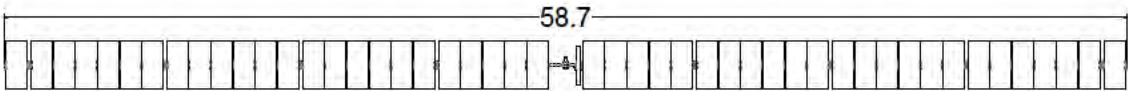
1 STRING (24 MODULES) ELEVATION: 60 DEG



HEIGHT VARIATION BASED ON GROUND CONDITIONS



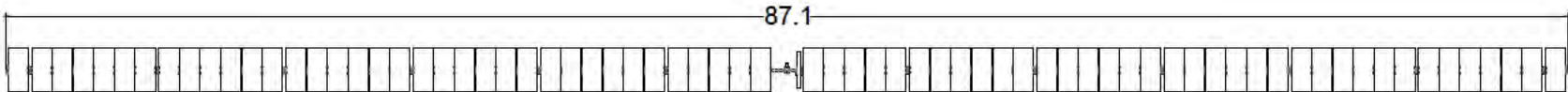
2 STRINGS (48 MODULES) PLAN



2 STRINGS (48 MODULES) ELEVATION



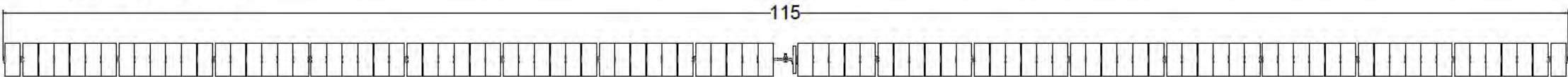
3 STRINGS (72 MODULES) PLAN



3 STRINGS (72 MODULES) ELEVATION



4 STRINGS (96 MODULES) PLAN



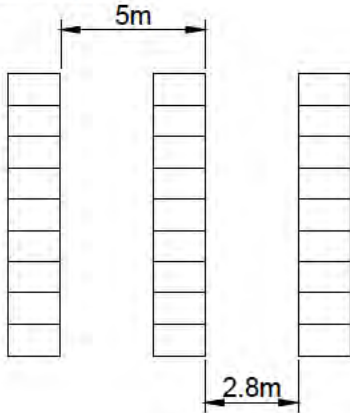
4 STRINGS (96 MODULES) ELEVATION



STRING LENGTH = 24 MODULES  
DIMENSIONS IN METERS

MODULE / TRACKER CONFIGURATION  
INDICATIVE ONLY

Panel Frame Layout



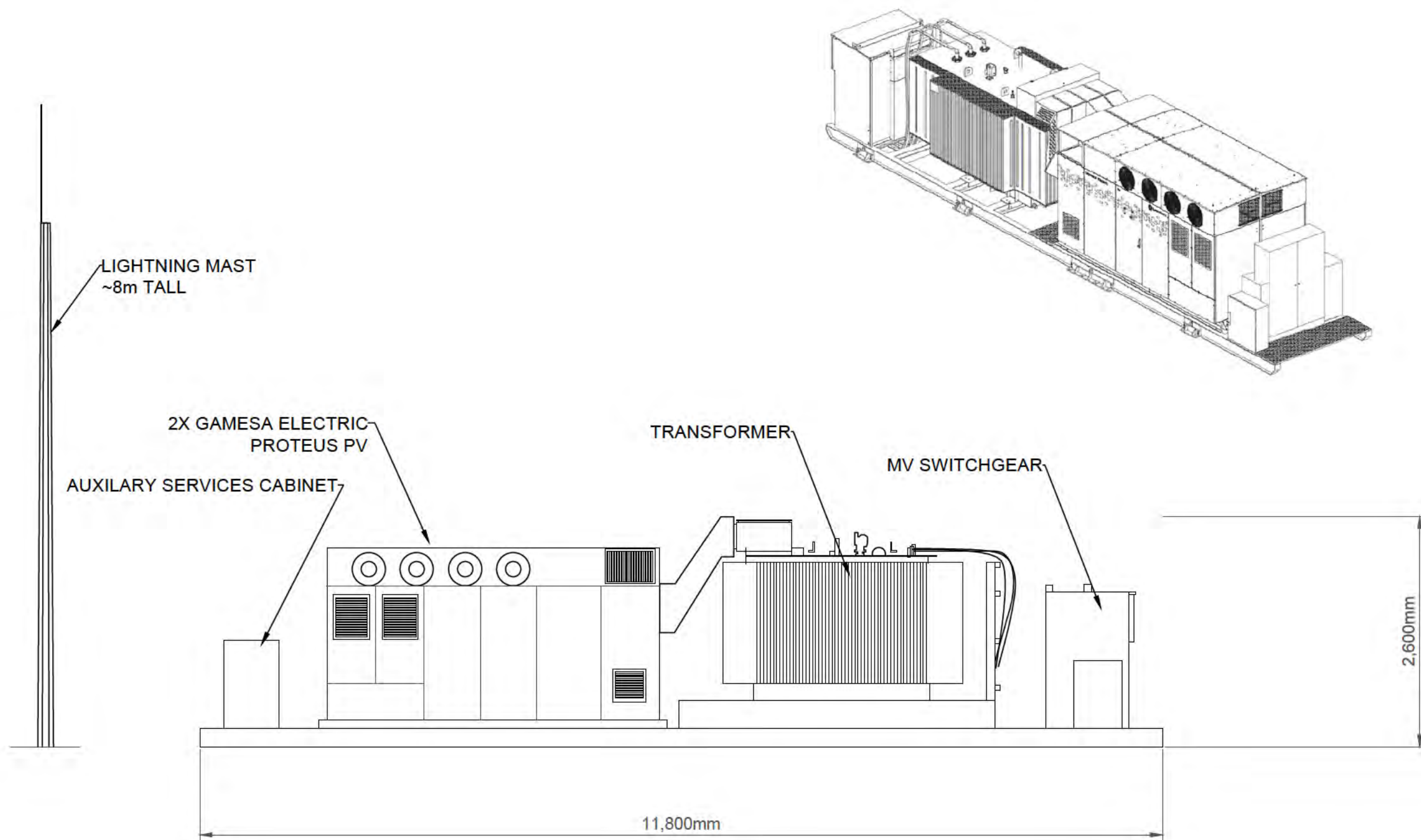
Title	TRACKER CONFIGURATION
Project	Darfield Solar
Location	1352 Homebush Road Darfield New Zealand



NZ Clean Energy  
Email: [projects@nzcleanenergy.nz](mailto:projects@nzcleanenergy.nz)  
Web: [www.nzcleanenergy.nz](http://www.nzcleanenergy.nz)

Drawing #: DAR-101  
Revision #: 1  
Date: 28 MAY 2024  
Status: FOR CONSENT APPLICATION  
Design: SCOTT BURLING  
Drawn: SCOTT BURLING





TYPICAL INVERTER PAIR + MV TRANSFORMER  
GAMISA ELECTRIC PROTEUS PV SHOWN

LIGHTNING MAST ONLY REQUIRED FOR FEILD  
MOUNTED INVERTERS, NOT INVERTERS NEAR THE  
SUBSTATION

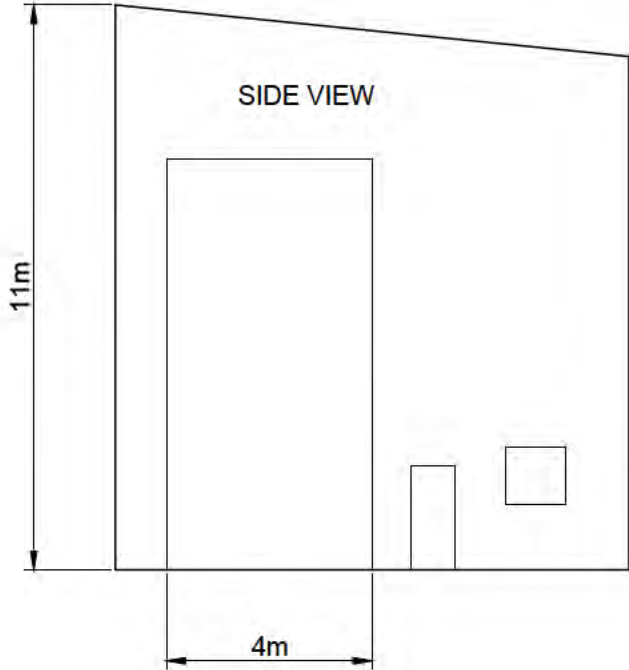
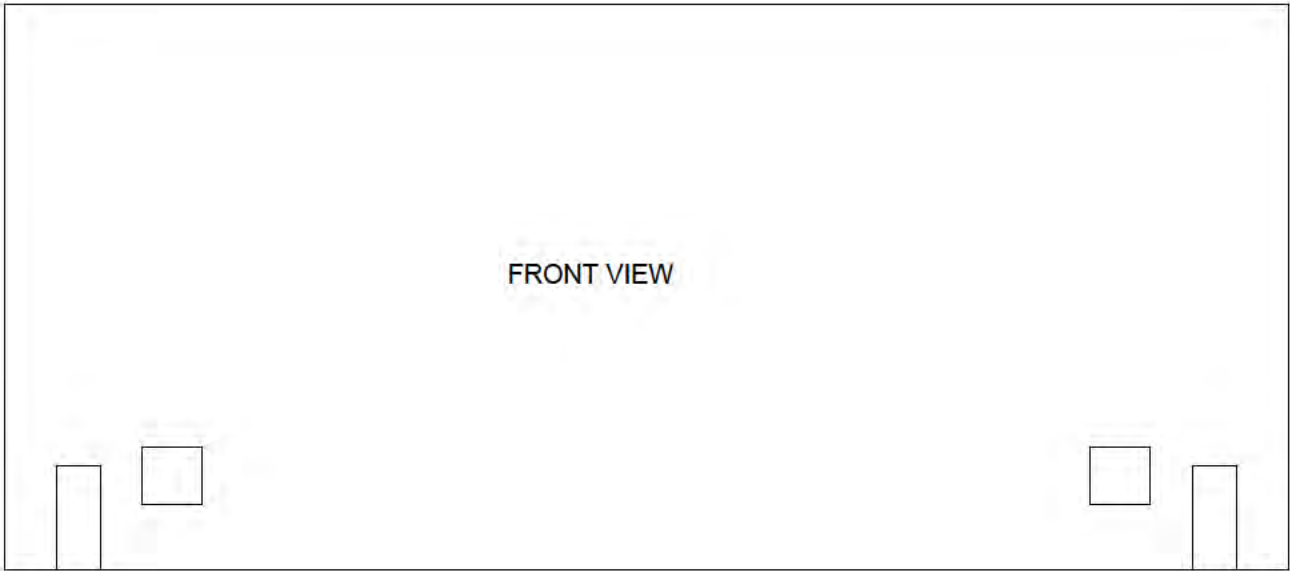
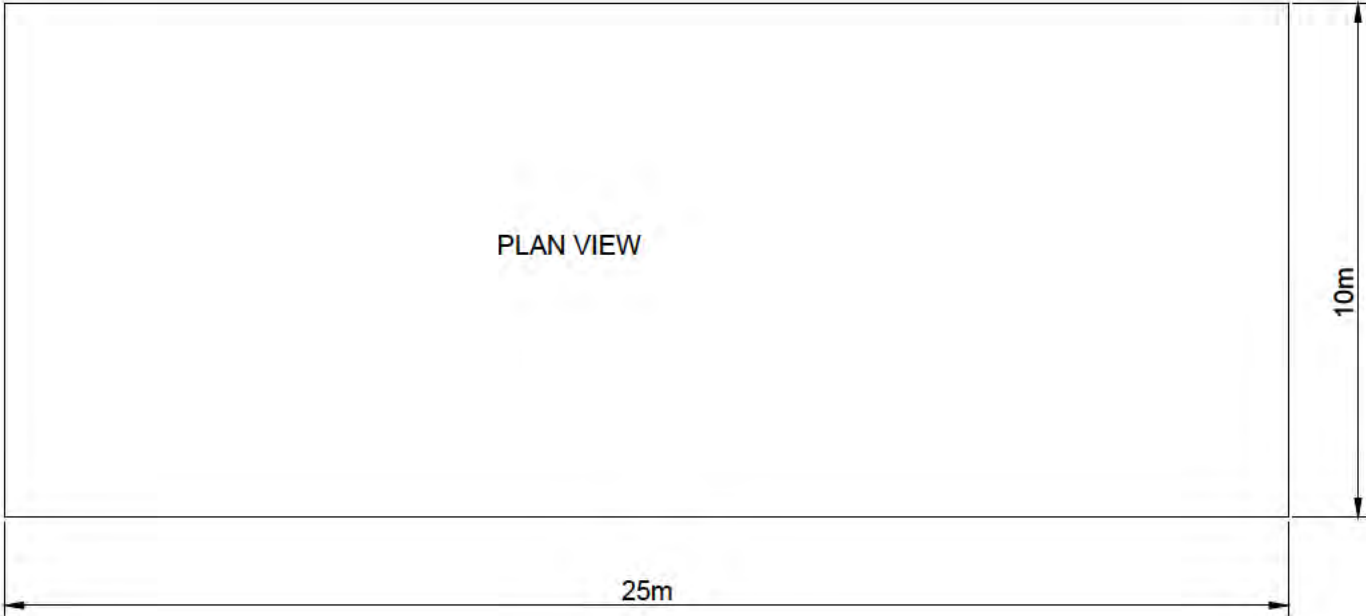
Title	INVERTER + MV TRANSFORMER
Project	Darfield Solar
Location	1352 Homebush Road Darfield New Zealand



NZ Clean Energy  
Email: [projects@nzcleanenergy.nz](mailto:projects@nzcleanenergy.nz)  
Web: [www.nzcleanenergy.nz](http://www.nzcleanenergy.nz)

Drawing #: DAR-102  
Revision #: 1  
Date: 28 MAY 2024  
Status: FOR CONSENT APPLICATION  
Design: SCOTT BURLING  
Drawn: SCOTT BURLING





TYPICAL PARTS WAREHOUSE  
GENERIC 25M X 10M SHOWN

Title	WELFARE BUILDING / OFFICE
Project	Darfield Solar
Location	1352 Homebush Road Darfield New Zealand

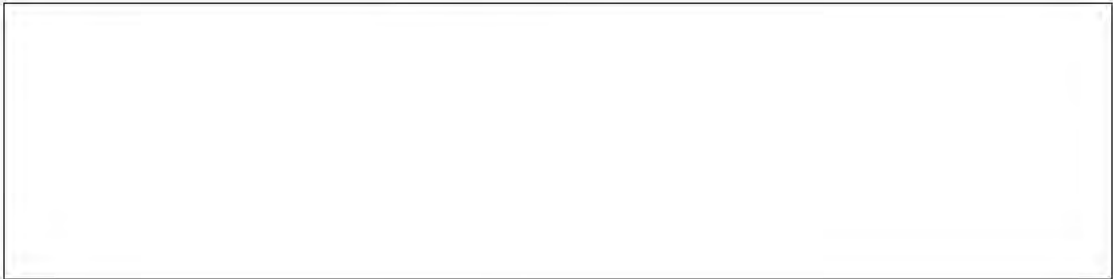


NZ Clean Energy  
Email: [projects@nzcleanenergy.nz](mailto:projects@nzcleanenergy.nz)  
Web: [www.nzcleanenergy.nz](http://www.nzcleanenergy.nz)

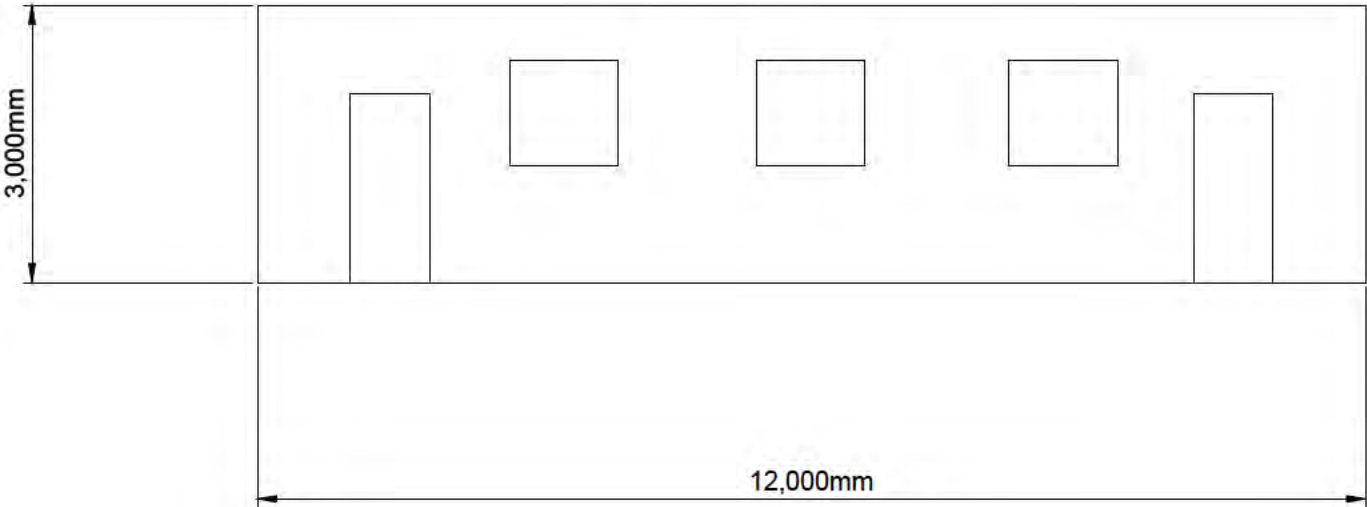
Drawing #: DAR-103  
Revision #: 1  
Date: 28 MAY 2024  
Status: FOR CONSENT APPLICATION  
Design: SCOTT BURLING  
Drawn: SCOTT BURLING



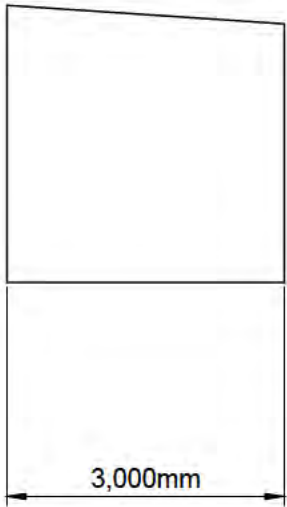
PLAN VIEW



FRONT VIEW



SIDE VIEW



TYPICAL WELFARE BUILDING / OFFICE.  
GENERIC 12M X 3.0M SHOWN

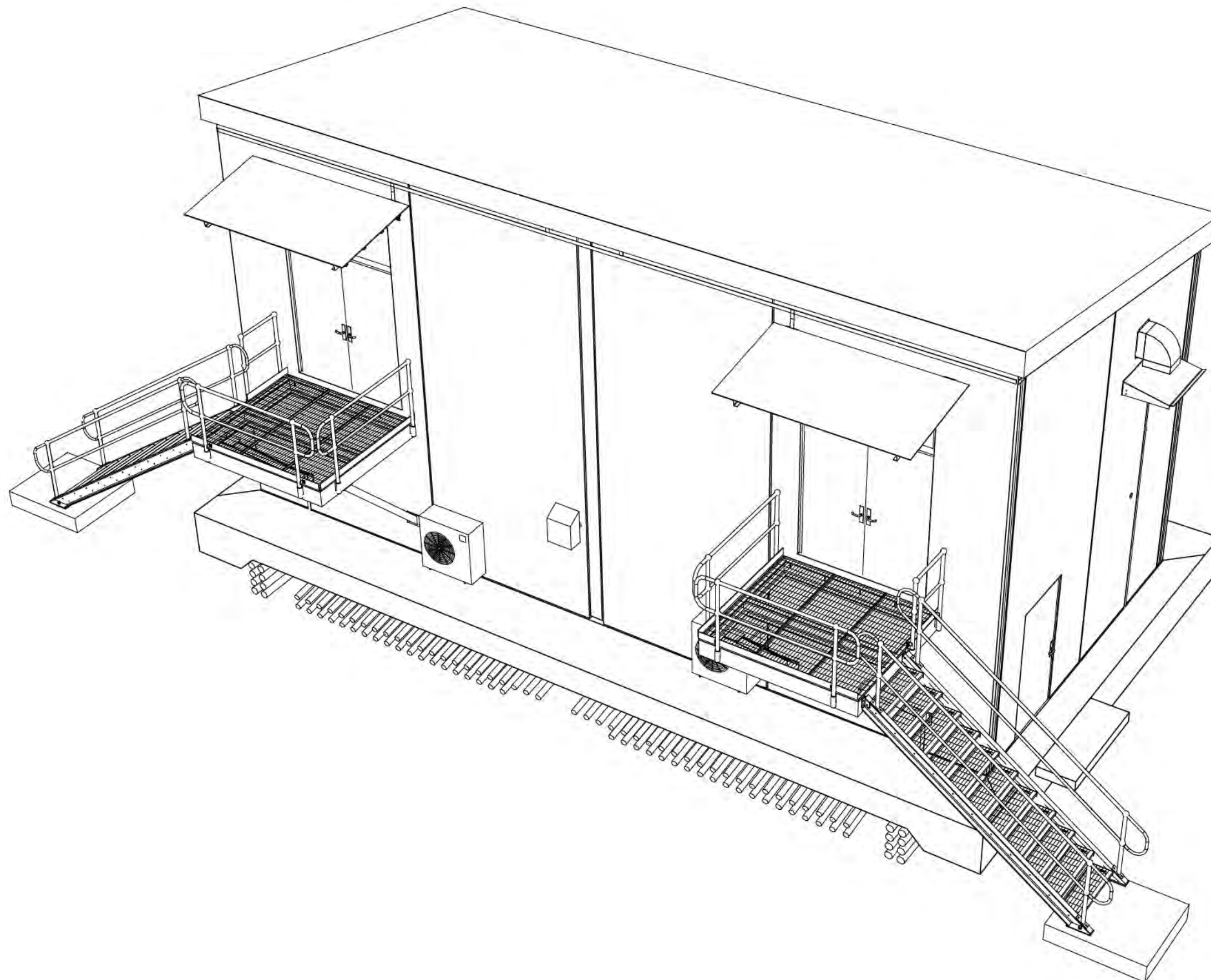
Title	WELFARE BUILDING / OFFICE
Project	Darfield Solar
Location	1352 Homebush Road Darfield New Zealand



NZ Clean Energy  
Email: [projects@nzcleanenergy.nz](mailto:projects@nzcleanenergy.nz)  
Web: [www.nzcleanenergy.nz](http://www.nzcleanenergy.nz)

Drawing #: DAR-104  
Revision #: 1  
Date: 28 MAY 2024  
Status: FOR CONSENT APPLICATION  
Design: SCOTT BURLING  
Drawn: SCOTT BURLING





MV SWITCHBUILDING  
TRANSPower EXAMPLE SHOWN

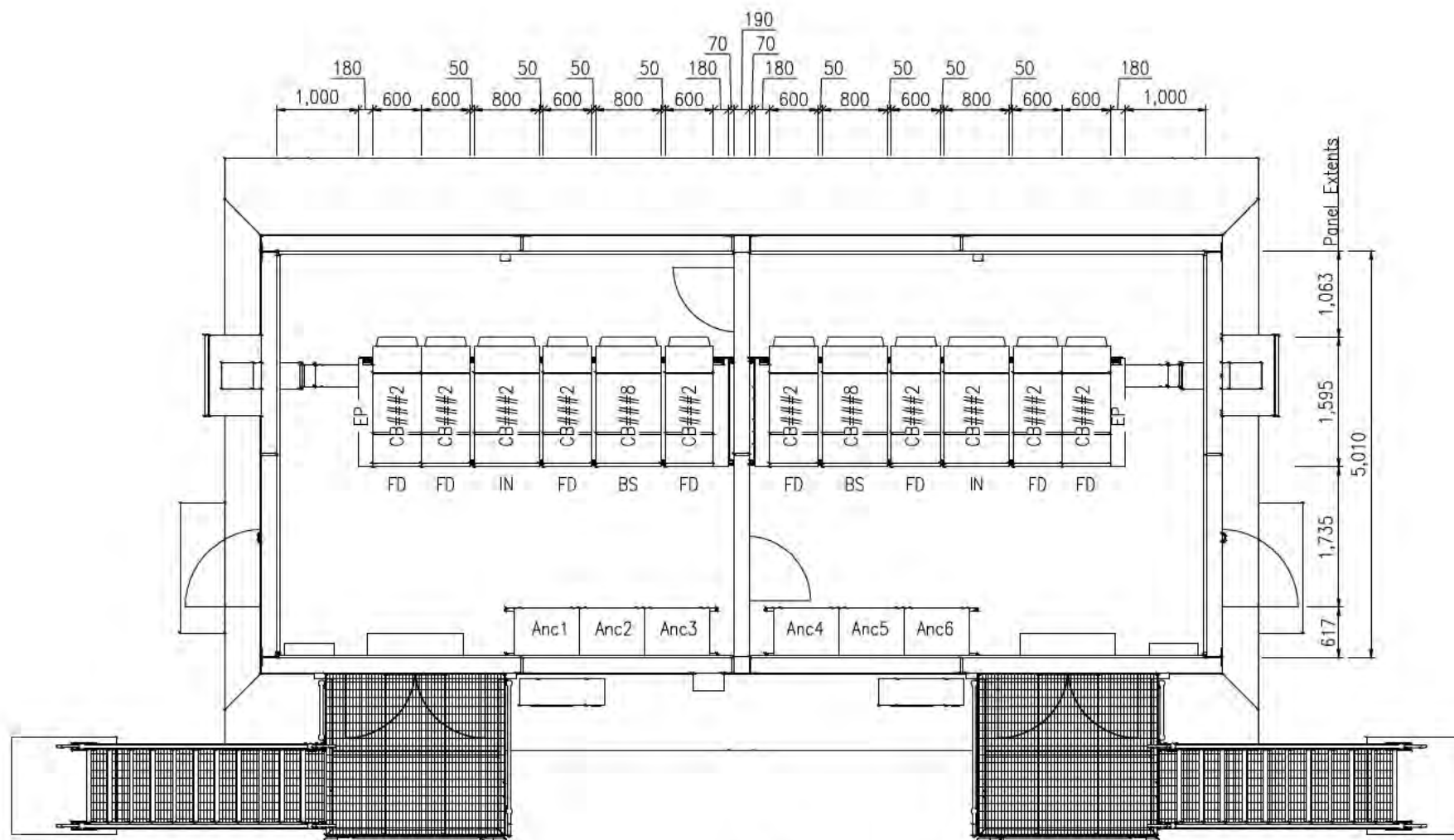
Title	MV Switchgear building (1 of 2)
Project	Darfield Solar
Location	1352 Homebush Road Darfield New Zealand



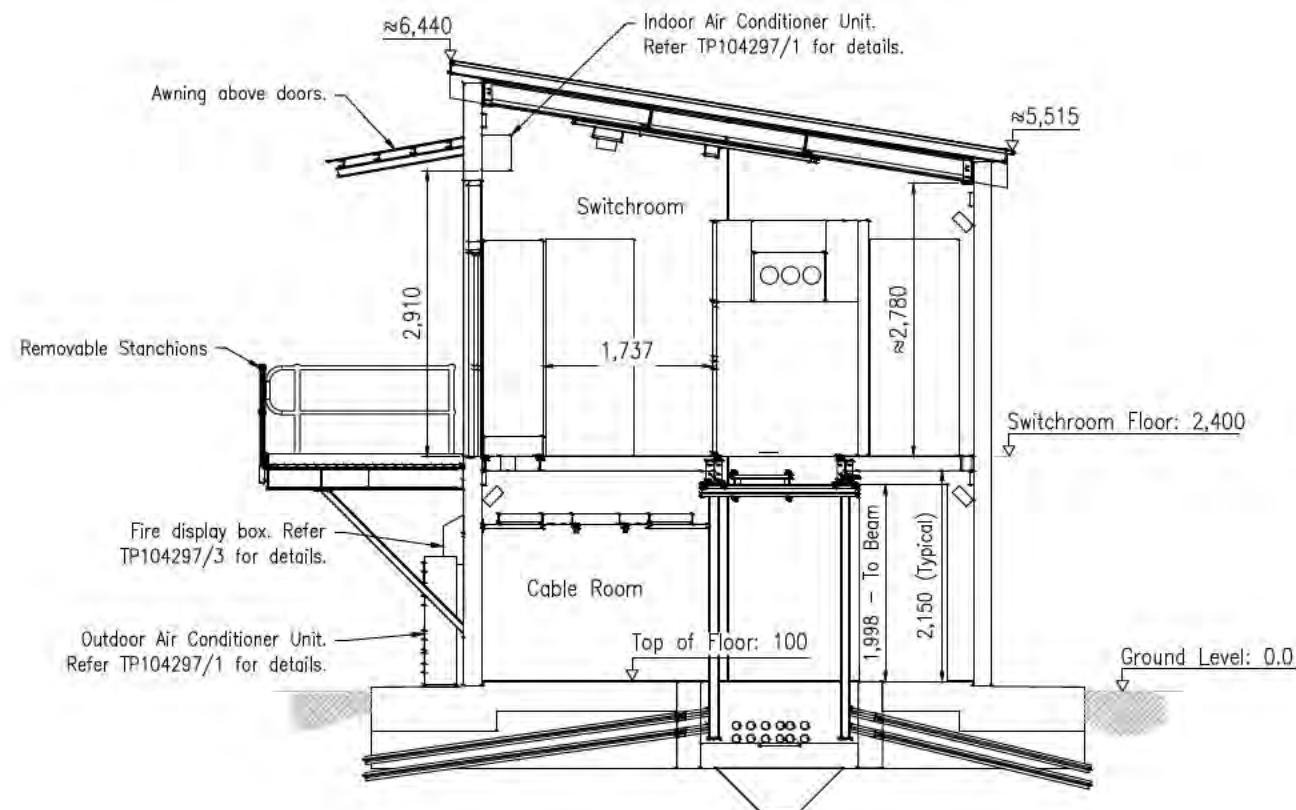
NZ Clean Energy  
Email: [projects@nzcleanenergy.nz](mailto:projects@nzcleanenergy.nz)  
Web: [www.nzcleanenergy.nz](http://www.nzcleanenergy.nz)

Drawing #: DAR-105  
Revision #: 1  
Date: 28 MAY 2024  
Status: FOR CONSENT APPLICATION  
Design: SCOTT BURLING  
Drawn: SCOTT BURLING





Plan



Typical Section

NOTE: DIMENSIONS IN MM

MV SWITCHBUILDING  
TRANSPOWER EXAMPLE SHOWN

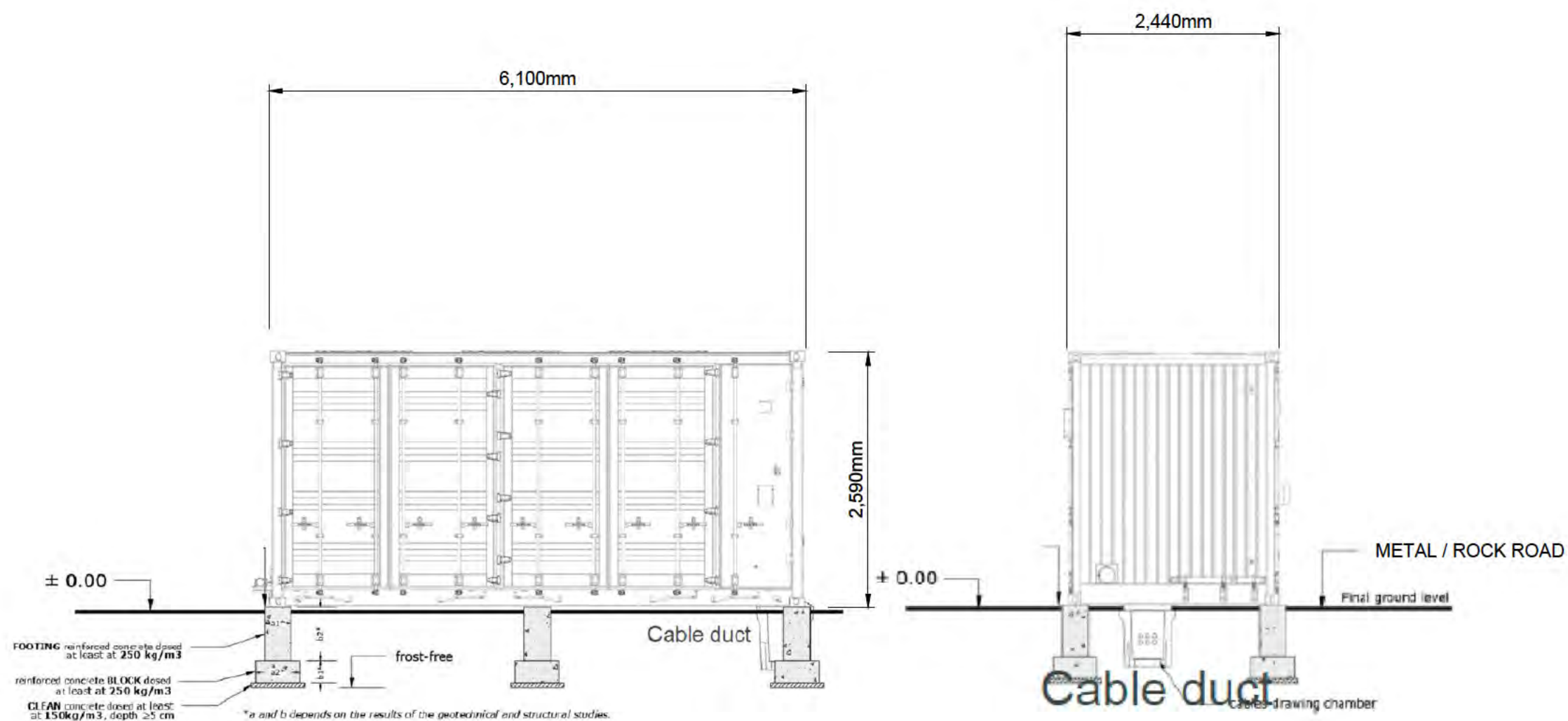
Title	MV Switchgear building (2 of 2)
Project	Darfield Solar
Location	1352 Homebush Road Darfield New Zealand



NZ Clean Energy  
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Drawing #: DAR-106  
Revision #: 1  
Date: 28 APRIL 2024  
Status: FOR CONSENT APPLICATION  
Design: SCOTT BURLING  
Drawn: SCOTT BURLING





TYPICAL BESS UNIT  
SAFT INTENSIMUM SHIFT SHOWN

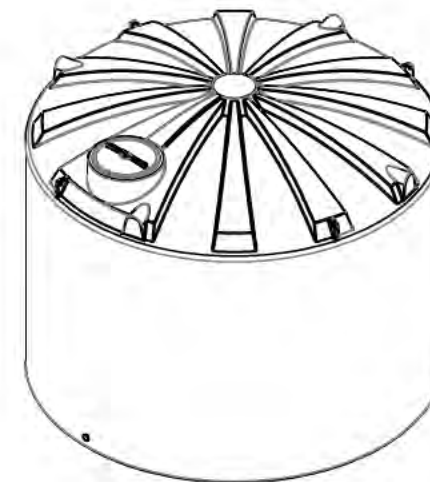
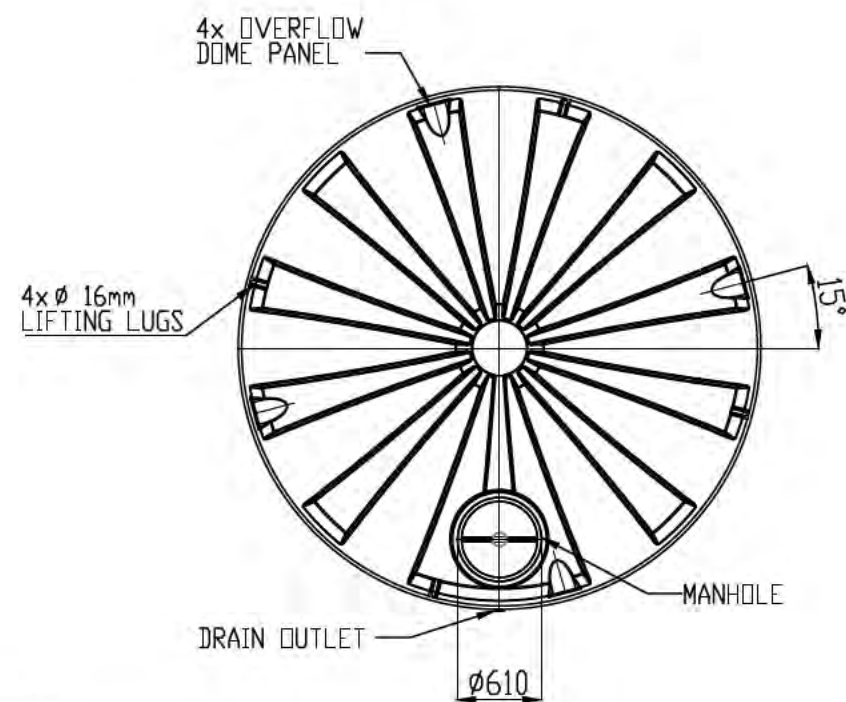
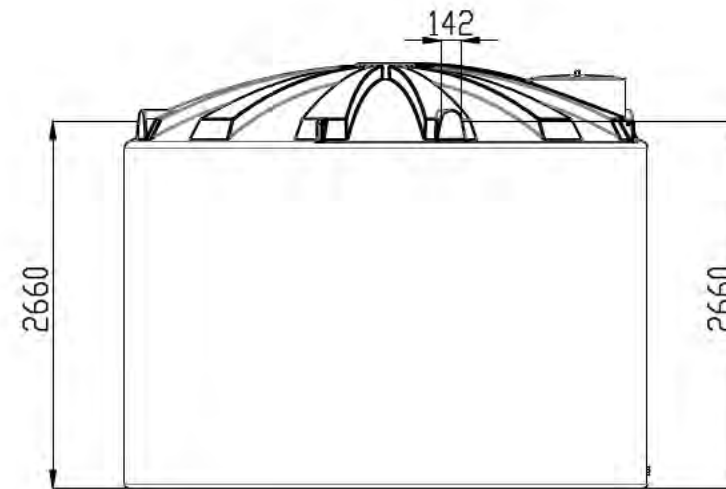
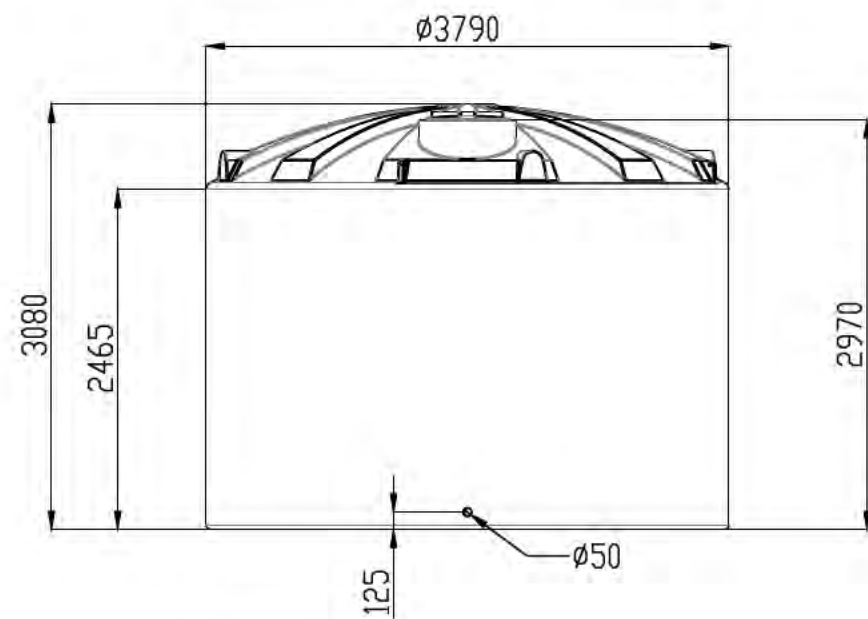
Title	BESS (Typical)
Project	Darfield Solar
Location	1352 Homebush Road Darfield New Zealand



NZ Clean Energy  
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Web: [www.nzcleanenergy.nz](http://www.nzcleanenergy.nz)

Drawing #: DAR-107  
Revision #: 1  
Date: 28 MAY 2024  
Status: FOR CONSENT APPLICATION  
Design: SCOTT BURLING  
Drawn: SCOTT BURLING





**NOTE:**

1. ALL DIMENSIONS ARE IN mm
2. TOLERANCE: 3%

TYPICAL 30,000L PLASTIC WATER TANK  
PROMAX 30,000L SHOWN

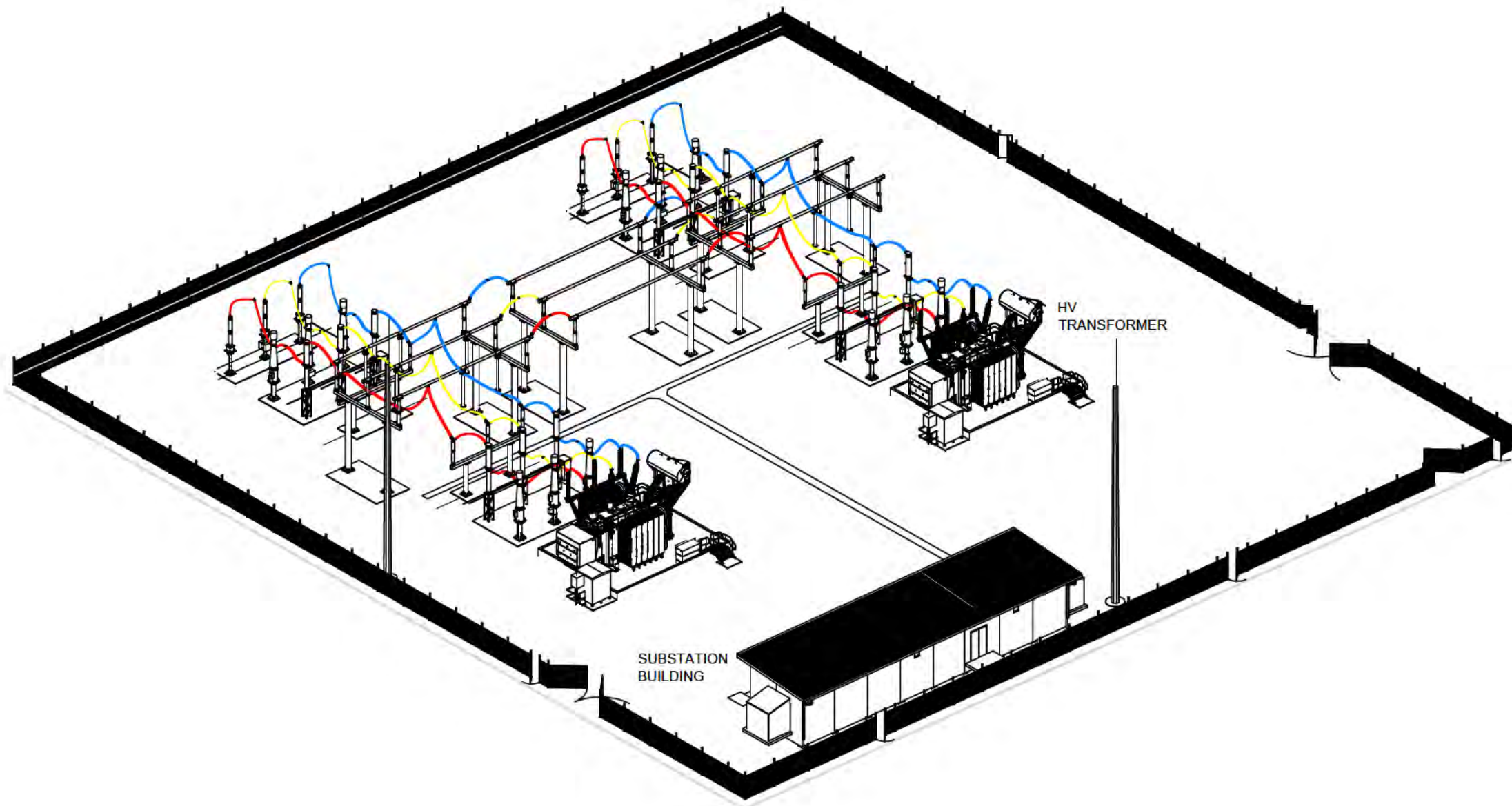
Title	Water Tank
Project	Darfield Solar
Location	1352 Homebush Road Darfield New Zealand



NZ Clean Energy  
Email: [projects@nzcleanenergy.nz](mailto:projects@nzcleanenergy.nz)  
Web: [www.nzcleanenergy.nz](http://www.nzcleanenergy.nz)

Drawing #: DAR-108  
Revision #: 1  
Date: 28 MAY 2024  
Status: FOR CONSENT APPLICATION  
Design: SCOTT BURLING  
Drawn: SCOTT BURLING





SUBSTATION  
GENERIC EXAMPLE SHOWN

Title	Substation
Project	Darfield Solar
Location	1352 Homebush Road Darfield New Zealand

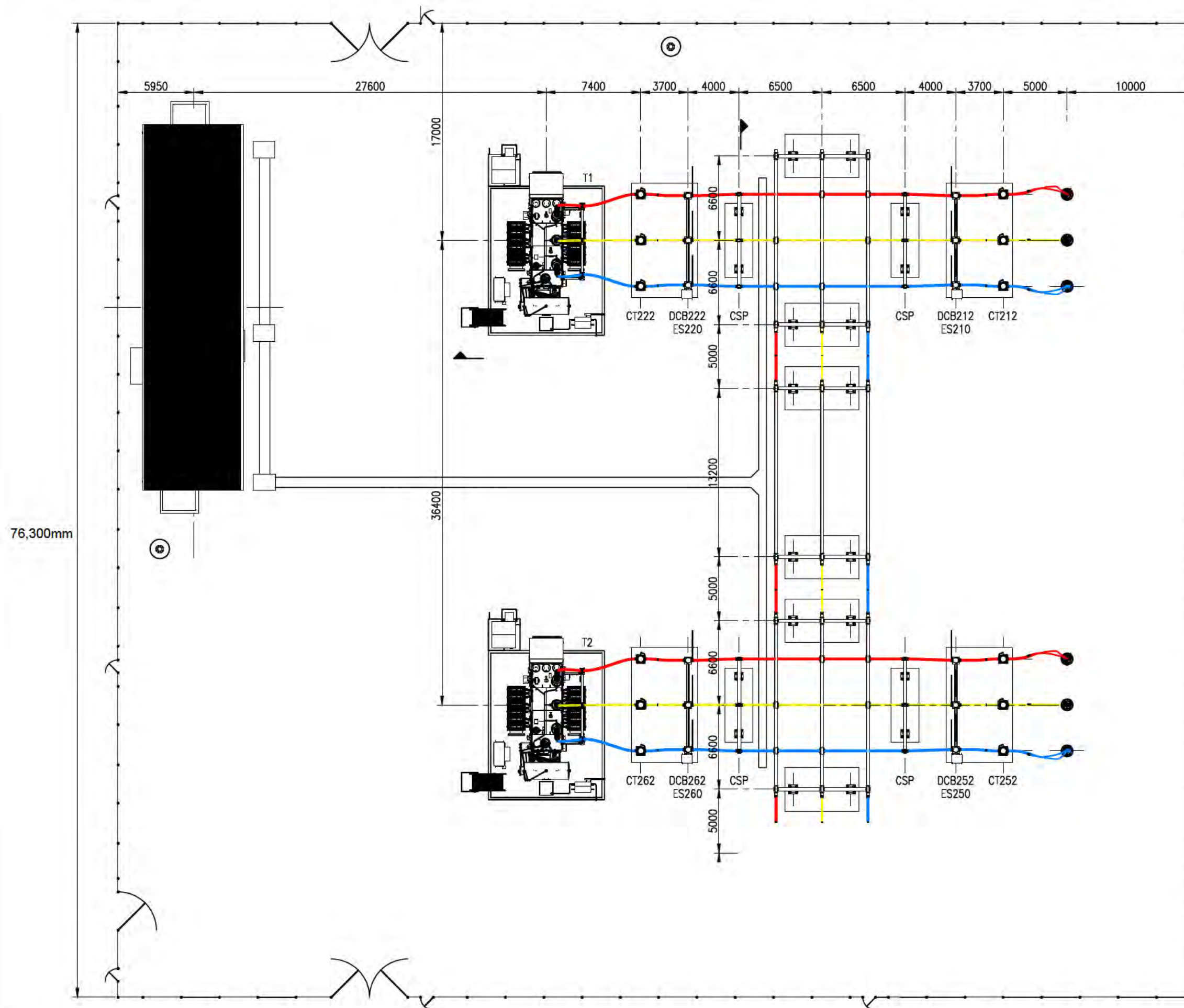


NZ Clean Energy  
Email: [projects@nzcleanenergy.nz](mailto:projects@nzcleanenergy.nz)  
Web: [www.nzcleanenergy.nz](http://www.nzcleanenergy.nz)

Drawing #: DAR-109  
Revision #: 1  
Date: 28 MAY 2024  
Status: FOR CONSENT APPLICATION  
Design: SCOTT BURLING  
Drawn: SCOTT BURLING



# PLAN VIEW



NOTE: DIMENSIONS IN MM

SUBSTATION  
GENERIC EXAMPLE SHOWN

Title	Substation
Project	Darfield Solar
Location	1352 Homebush Road Darfield New Zealand

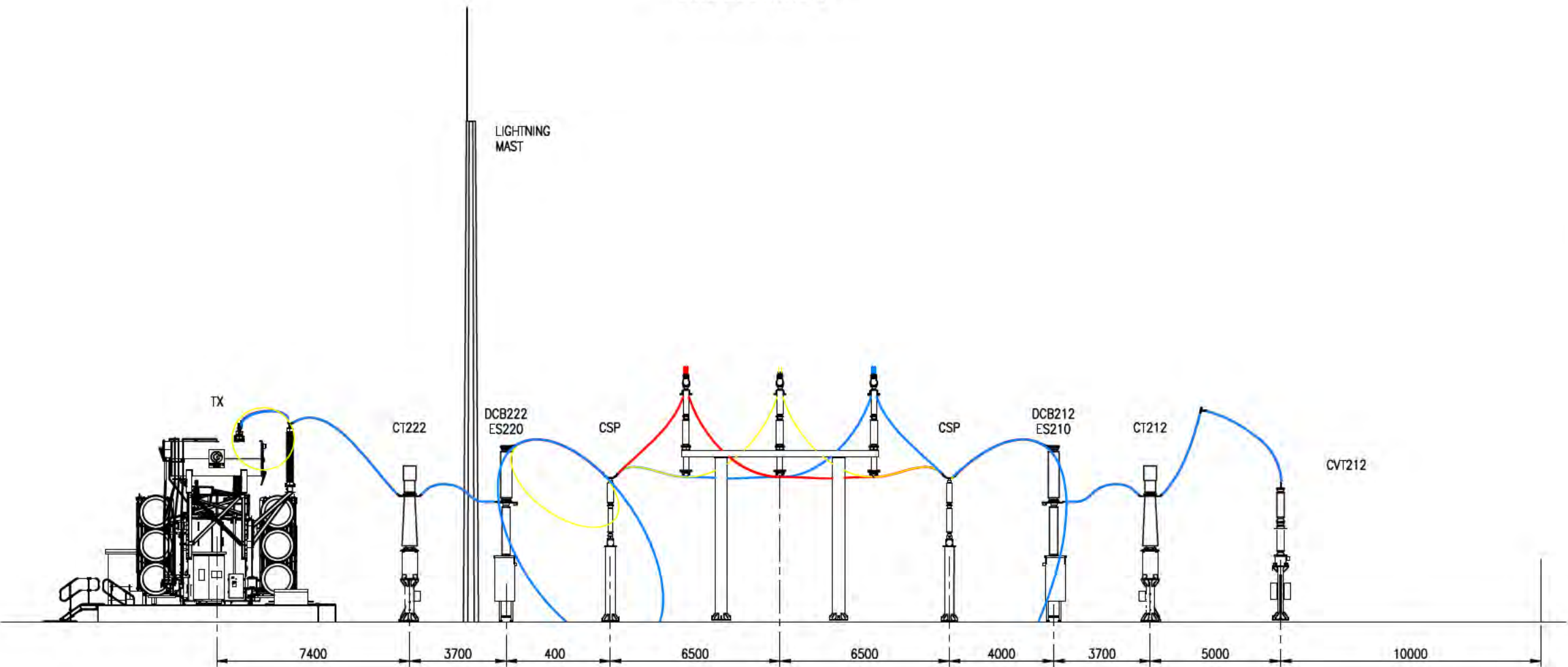


NZ Clean Energy  
Email: [projects@nzcleanenergy.nz](mailto:projects@nzcleanenergy.nz)  
Web: [www.nzcleanenergy.nz](http://www.nzcleanenergy.nz)

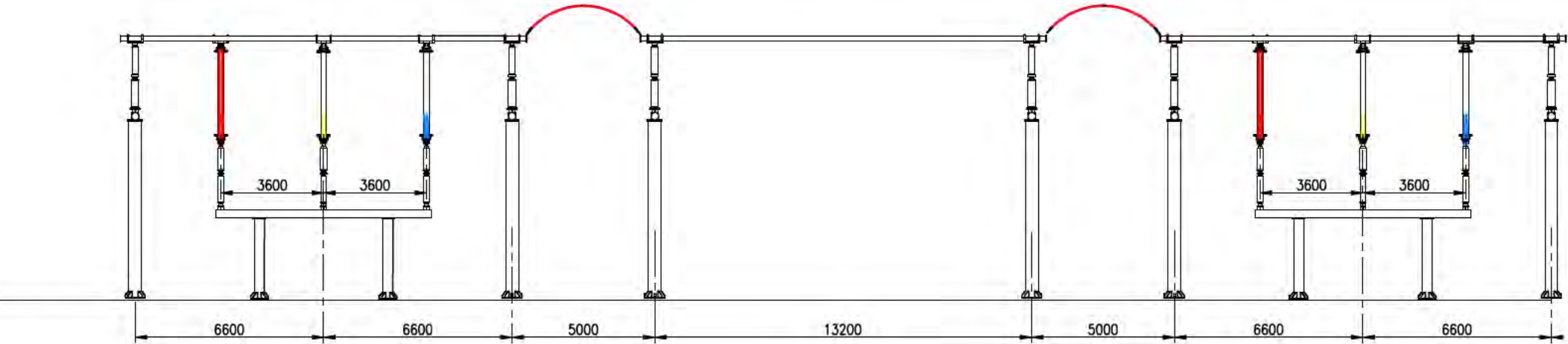
Drawing #: DAR-110  
Revision #: 1  
Date: 28 MAY 2024  
Status: FOR CONSENT APPLICATION  
Design: SCOTT BURLING  
Drawn: SCOTT BURLING



SIDE ELEVATION



END ELEVATION



NOTE: DIMENSIONS IN MM

SUBSTATION  
GENERIC EXAMPLE SHOWN

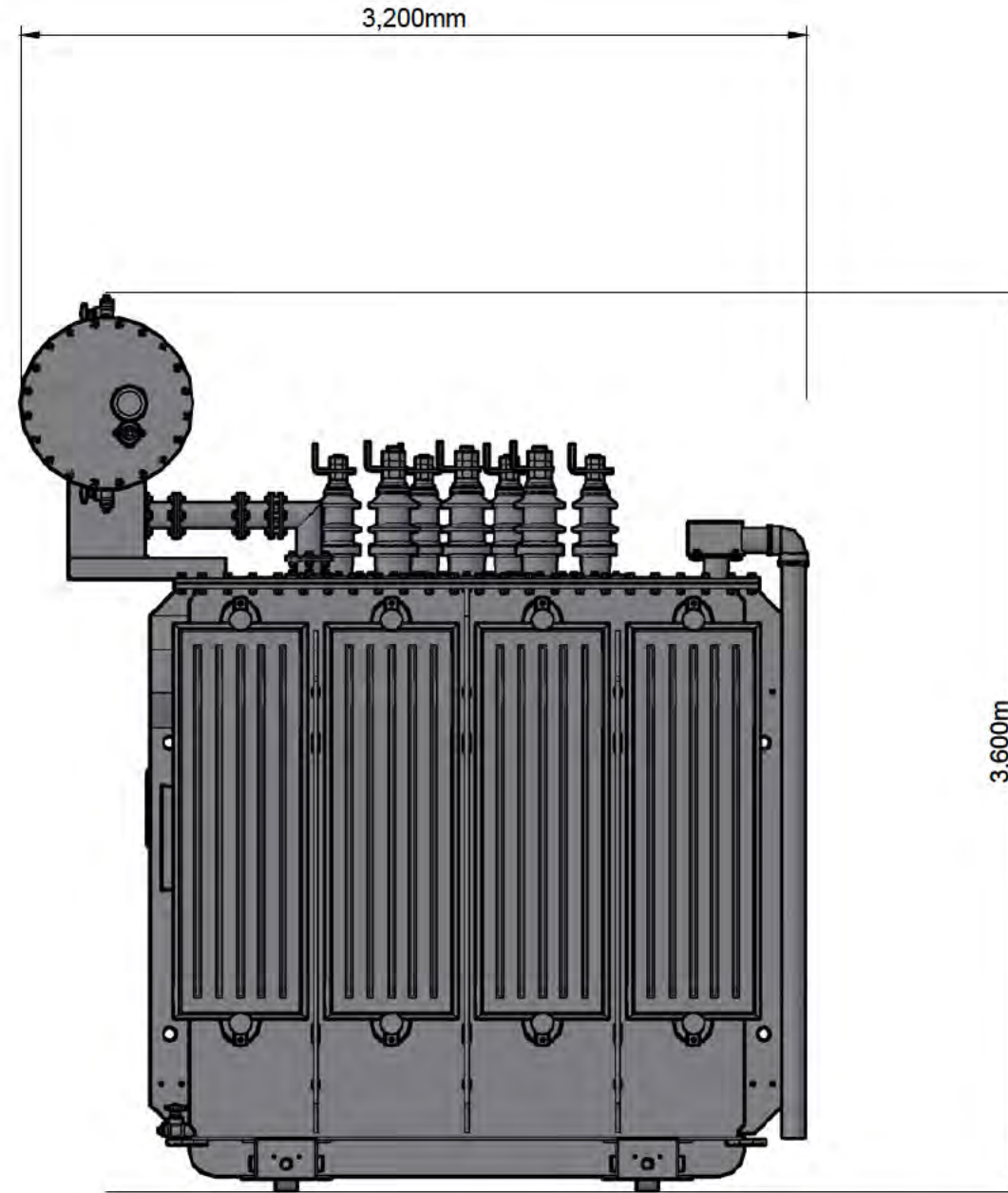
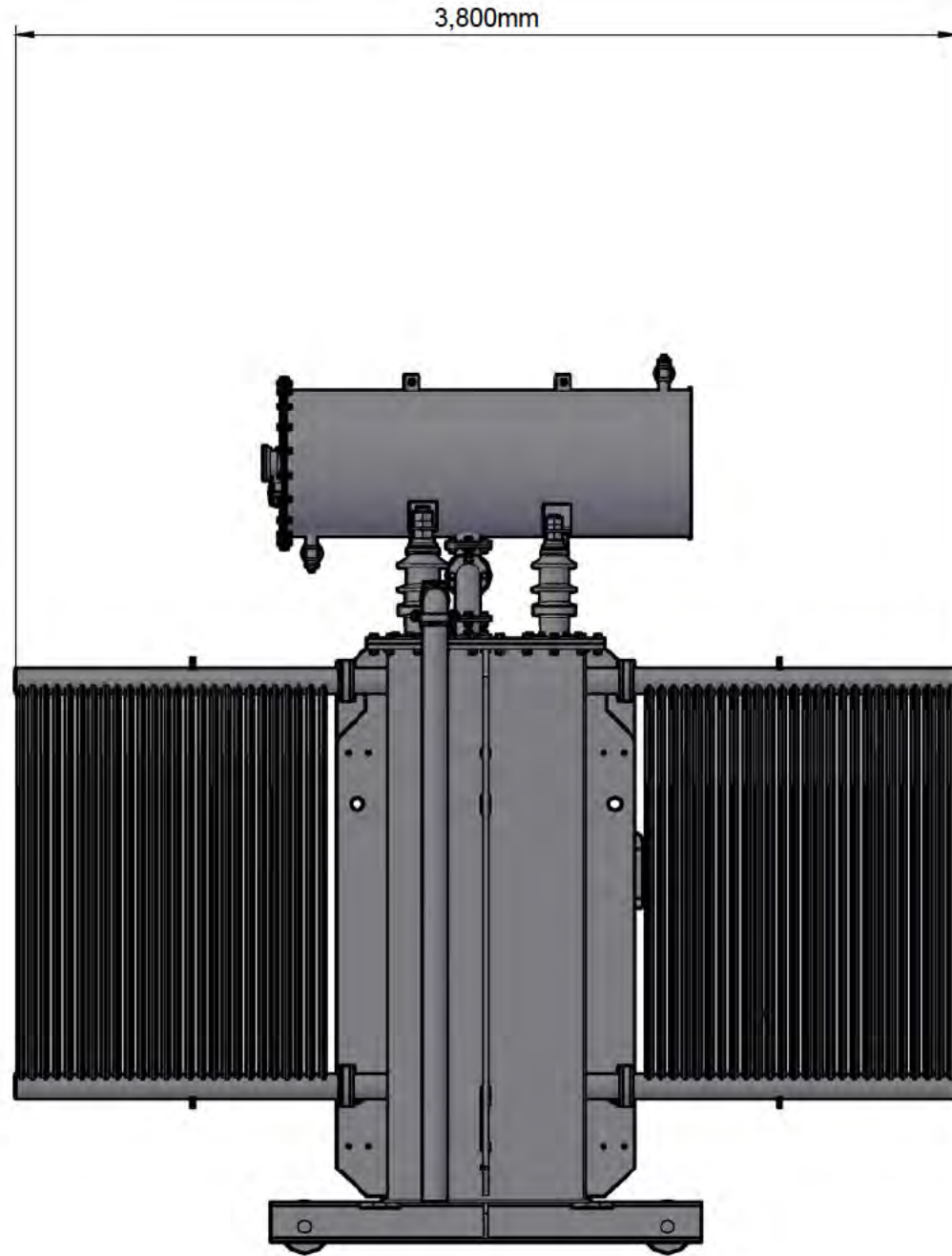
Title	Substation
Project	Darfield Solar
Location	1352 Homebush Road Darfield New Zealand



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Web: [www.nzcleanenergy.nz](http://www.nzcleanenergy.nz)

Drawing #: DAR-111  
Revision #: 1  
Date: 28 APRIL 2024  
Status: FOR CONSENT APPLICATION  
Design: SCOTT BURLING  
Drawn: SCOTT BURLING





HV TRANSFORMER  
GENERIC EXAMPLE SHOWN

Title	HV Transformer
Project	Darfield Solar
Location	1352 Homebush Road Darfield New Zealand



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Email: [projects@nzcleanenergy.nz](mailto:projects@nzcleanenergy.nz)  
Web: [www.nzcleanenergy.nz](http://www.nzcleanenergy.nz)

Drawing #: DAR-112  
Revision #: 1  
Date: 28 MAY 2024  
Status: FOR CONSENT APPLICATION  
Design: SCOTT BURLING  
Drawn: SCOTT BURLING