

SOLAR PV ROOFTOP MOUNTED SYSTEM AT

1063.68KWp - 800.00KWAC



SITE OVERVIEW PLAN
SCALE:1:4000

- GENERAL NOTES:**
- THIS NEW SYSTEM SHALL COMPLY WITH ALL APPLICABLE REGULATIONS AND CODES, ALL MANUFACTURERS'S LISTING AND INSTALLATION INSTRUCTIONS.
 - DRAWINGS INDICATE GENERAL ARRANGEMENT OF SYSTEM AND WORK. FOLLOW DRAWINGS ALONG WITH OTHER TRADES TO VERIFY INSTALLATION CONDITIONS AND CLEARANCE,
 - ALL DIMENSIONS MUST BE VERIFIED PRIOR TO WORK.
 - REFER TO MODULES INSTALLATION MANUAL FOR BETTER UNPACKING, HANDLING,AND INSTALLATION.
 - ALL NEW ELECTRICAL EQUIPMENTS SHALL HAVE SHORT CIRCUIT CURRENT RATING GREATER THAN OR EQUAL TO THE EXISTING EQUIPMENTS IN THE SITE.
 - ALL MATERIALS USED DURING INSTALLATION SHALL BE MADE FROM CORROSION RESISTANT MATERIALS SUITABLE FOR THE LIFETIME OF THE SYSTEM.
 - ANY CHANGES IN THE MODULES LAYOUT DUE TO UNFORSEEN OBSTRUCTION ON THE SITE SHALL BE REPORTED TO THE DESIGN ENGINEER, AND SHOULD BE MADE WITHOUT CHANGES IN STRINGS SIZE CONNECTED TO INVERTERS.
 - ALL PV MODULES IN THE SAME STRINGS SHALL BE WITHIN SMAE ORIENTATION AND TILT ANGLE AND MAX. DIFFERENCE IS ±5°.
 - ALL PV WIRES SHALL BE AT LEAST 1000V RATED , FLEXIBLE DOUBLE ISOLATION, RESISTANCE TO UV AND O3, AND HALOGEN-FREE CERTIFIED.
 - THE EQUIPMENTS USED ON THE DC SIDE SHALL BE CLASS II OR EQUIVALENT INSULATION.
 - MINIMUM SIZE OF 6mm² COPPER CONDUCTOR TO BE USED FOR GROUNDING EXPOSED METALLIC FRAMES OF THE PV ARRAY.
 - PV ARRAY WIRING SHOULD BE LAID IN SUCH A WAY THAT MINIMIZE CONDUCTIVE LOOPS TO REDUCE THE MAGNITUDE OF LIGHTING-INDUCED OVERVOLTAGES.
 - ALL REQUIRED SAFETY SIGNS AND LABELS SHALL BE COMPLIANCE TO IEC REQUIREMENTS AND LOCAL REGULATION.

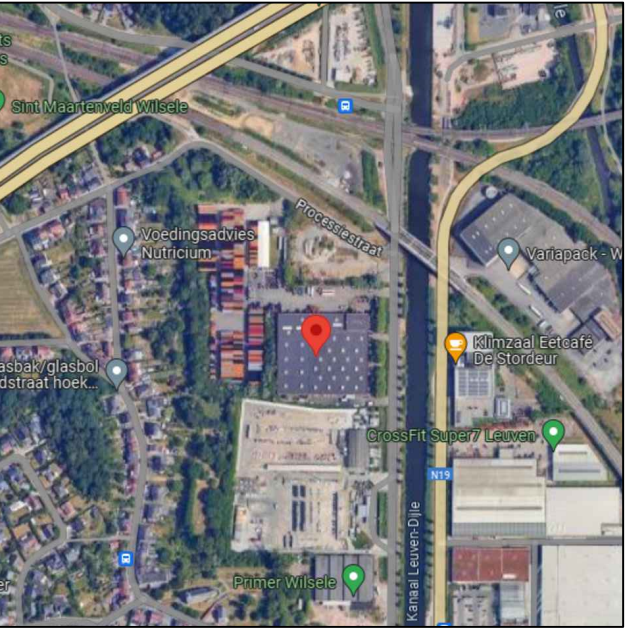
- SYSTEM DESCRIPTION & OVERVIEW:**
- THIS PROJECT IS A ROOF MOUNTED SOLAR PHOTOVOLTAIC (PV) GRID-INTERCONNECTED SYSTEM WITH TOTAL CAPACITY OF 1063.68 KWP AND 800.00 KWAC. (AT CONNECTION POINT)
 - THE SYSTEM TO BE INSTALLED ON ROOFTOPS AT -. THE ENERGY PRODUCTION WILL SUPPLY LOADS IN THESE BUILDINGS, AND REMAINING GENERATED ENERGY TO BE CONTROLLED ACCORDING TO EXPORT/IMPORT REGULATION OF NEW METERING SYSTEM, WITH APPLICABILITY TO FEED INTO THE UTILITY GRID IN THE FUTURE.
 - THE SYSTEM DOES NOT INCLUDE ANY BACKUP SYSTEM (E.G. BATTERY, GENERATOR).

- SCOPE OF WORK:**
- SUPPLY AND INSTALL PV MODULES WITH A NEW MOUNTING SYSTEM.
 - SUPPLY AND INSTALL NEW PV INVERTERS AND ELECTRICAL EQUIPMENT TO CONNECT THE NEW SYSTEM TO EXISTING LV SWITCHBOARD.
 - WORKS INCLUDES ALL REQUIRED PROTECTION AND CONTROL EQUIPMENTS AND SYSTEMS TO FULLY OPERATE THE SYSTEM ACCORDING TO LOCAL REGULATIONS AND CODES

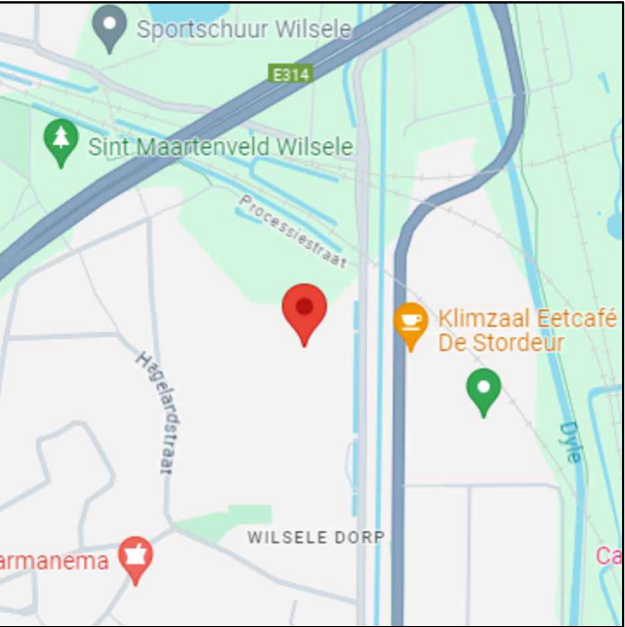
PROJECT ADDRESS	
PROJECT LOCATION	
TOTAL ROOF AREA	~ 8922.50 SQMT
MODULES COVERAGE AREA	~ 4786.56 SQMT
MODULES AREA COVERAGE PERCENTAGE	53.65%
MOUNTING SYSTEM	VALKPRO+ (EAST-WEST RACKING)
MODULE ORIENTATION	LANDSCAPE
AZIMUTH ANGLE	90° , 270°
TILT ANGLE	10°
MODULE WEIGHT	23 KG
MIN. ANNUAL TEMP.	-8.5°C
MAX. ANNUAL TEMP.	33°C
TOTAL STC DC SYSTEM SIZE	1063.68 KWP
TOTAL AC SYSTEM SIZE	800.00 KWAC
DC/AC RATIO	1.33
PV MODULES MAKE	LEAPTON SOLAR LP182*182-M-60-NH 480W
MODULES AREA COVERAGE PERCENTAGE	53.65%
PV MODULES STC RATING	480 WP
TOTAL PV MODULES QTY.	2216
INVERTERS MAKE	HUAWEI
INVERTERS TYPE/QTY.	(8) SUN2000-100KTL-M2
DC SYSTEM VOLTAGE	1100 VDC
AC SYSTEM VOLTAGE	400 VAC @ POI

SHEET INDEX:	
G001	COVER PAGE
G100	OVERALL SITE PLAN
G200	ROOF LAYOUT
E100	SINGLE LINE DIAGRAM
E200	SCHEDULE AND CALCULATION
E300	STRINGS WIRING PLAN
E600	ELECTRICAL DETAILS ELEVATION
E700-E701	LIST OF MATERIALS
E800-E802	DATASHEETS

APPLICABLE CODES & REGULATIONS:	
ISO 9001-	QUALITY MANAGEMENT SYSTEM
ISO 45001-	OCCUPATIONAL HEALTH & SAFETY
IEC 62548-	PHOTOVOLTAIC (PV ARRAYS)- DESIGN REQUIREMENTS
IEC 60364 -	ELECTRICAL INSTALLATION OF BUILDINGS
IEC 60947-	LOW VOLTAGE SWITCHGEAR AND CONTROL GEAR



AERIAL VIEW
SCALE:NTS



LOCATION MAP
SCALE:NTS

DESIGN AND ENGINEERING

NOTES

REVISION/RELEASE

NO	DESCRIPTION	DATE
#1	ORIGINAL	-

PROJECT

DC SYS.SIZE: 1063.68 KWDC
AC SYS.SIZE: 800.00 KWAC
MODULE TYPE: LEAPTON SOLAR LP182*182-M-60-NH 480W
MODULE QTY: 2216
INVERTER TYPE: (8) SUN2000-100KTL-M2

SHEET TITLE: COVER PAGE

SHEET SIZE: A2
PROJECT NO.:
DATE:-
DESIGN BY: VVP
CHECKED BY: MM
PM/PE:

SHEET NUMBER:
G001



NOTES:

- THERE ARE NO FALL ARREST SYSTEM IN TARGET BUILDINGS FOR INSTALLATION.
- ROOF ACCESS VIA MEWP AND TE

DESIGN AND ENGINEERING

NOTES

REVISION/RELEASE

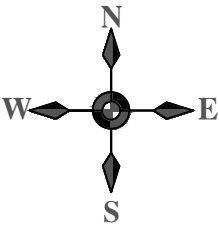
NO	DESCRIPTION	DATE
#1	ORIGINAL	-

PROJECT

DC SYS.SIZE: 1063.68 KWDC
AC SYS.SIZE: 800.00 KWAC
MODULE TYPE: LEAPTON SOLAR LP182*182-M-60-NH 480W
MODULE QTY: 2216
INVERTER TYPE: (8) SUN2000-100KTL-M2

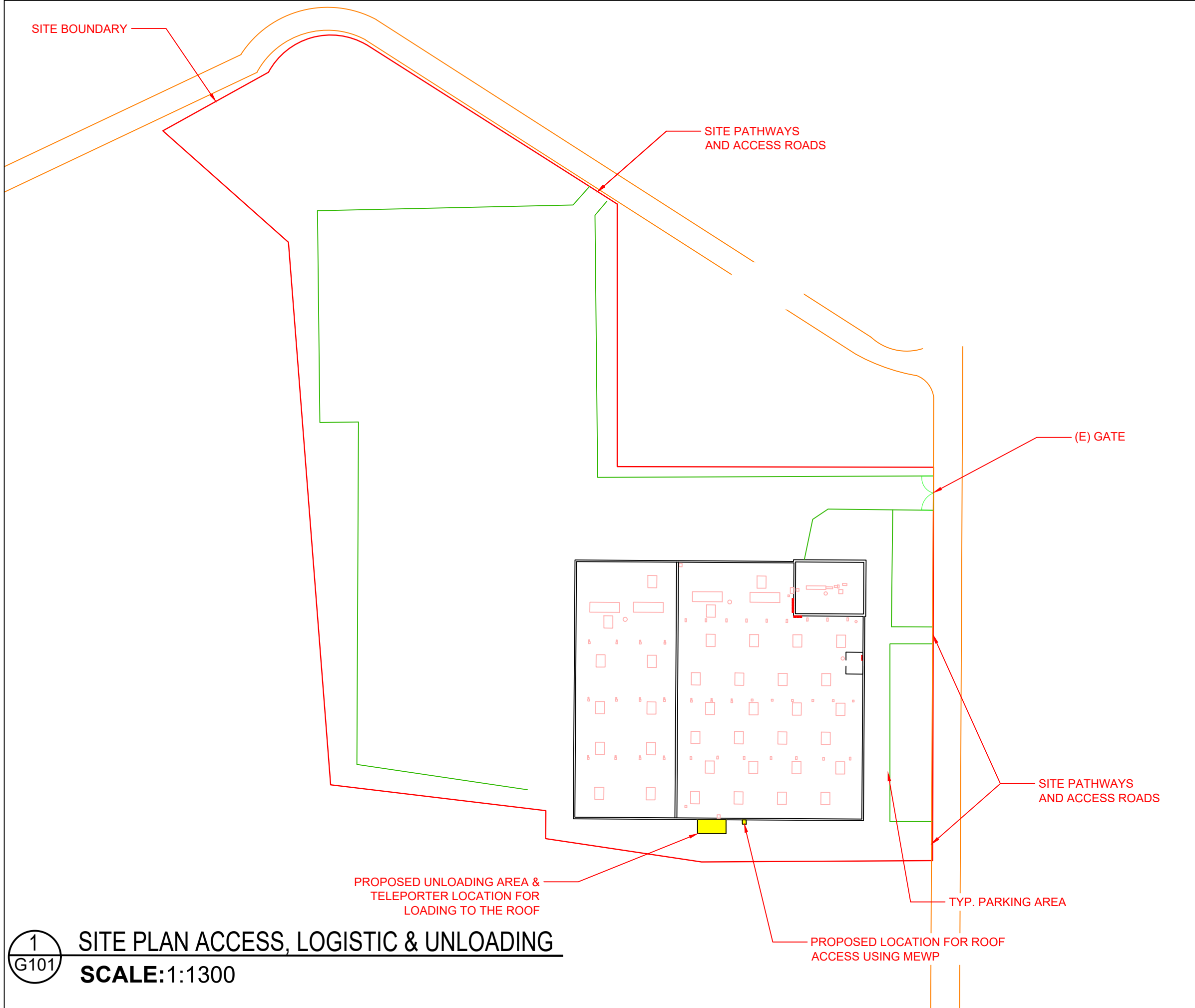
**SHEET TITLE:
SITE PLAN**

SHEET SIZE: A2
PROJECT NO.:
DATE:-
DESIGN BY: VVP
CHECKED BY: MM
PM/PE:
SHEET NUMBER: G100



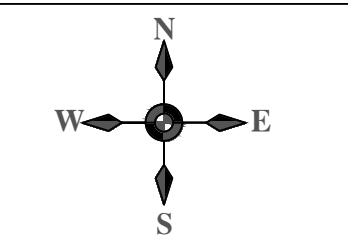
LEGENDS

- SITE BOUNDARY-
- CABLE TRAY-
- EXISTING FENCE LINE-
- ACCESS ROAD -
- ACCESS PATHWAY -
- OBSTRUCTIONS, SKYLIGHTS, VENTS -
- PV MODULES -
- TREES -
- SHRUBS, HEDGEROW -
- SKYLIGHTS -
- SETBACKS -
- EQUIPMENTS -



NOTES:

- THERE ARE NO FALL ARREST SYSTEM IN TARGET BUILDINGS FOR INSTALLATION.
- ROOF ACCESS VIA MEWP AND TE



LEGENDS

- SITE BOUNDARY-
- CABLE TRAY-
- EXISTING FENCE LINE-
- ACCESS ROAD -
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- OBSTRUCTIONS, SKYLIGHTS, VENTS -
- PV MODULES -
- TREES -
- SHRUBS, HEDGEROW -
- SKYLIGHTS -
- SETBACKS -
- EQUIPMENTS -

DESIGN AND ENGINEERING

NOTES

REVISION/RELEASE

NO	DESCRIPTION	DATE
#1	ORIGINAL	-

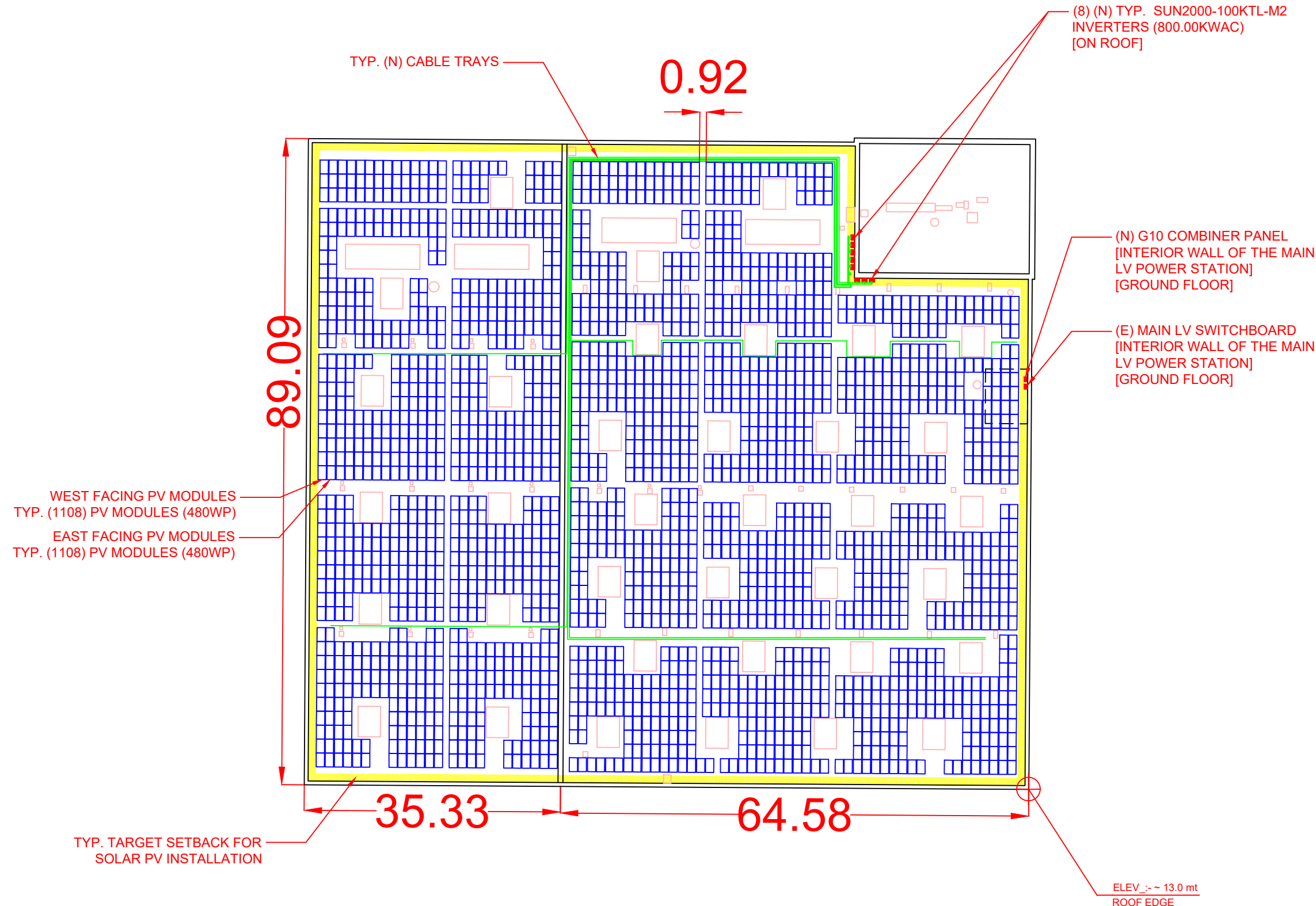
PROJECT

DC SYS.SIZE: 1063.68 KWDC
AC SYS.SIZE: 800.00 KWAC
MODULE TYPE: LEAPTON SOLAR LP182*182-M-60-NH 480W
MODULE QTY: 2216
INVERTER TYPE: (8) SUN2000-100KTL-M2

SHEET TITLE:
SITE PLAN ACCESS,
LOGISTIC, & UNLOADING

SHEET SIZE: A2
PROJECT NO.:
DATE:-
DESIGN BY: VVP
CHECKED BY: MM
PM/PE:

SHEET NUMBER: G101



NOTES:

- THERE ARE NO FALL ARREST SYSTEM IN TARGET BUILDINGS FOR INSTALLATION.
- ROOF ACCESS VIA MEWP AND TE

DESIGN AND ENGINEERING

NOTES

REVISION/RELEASE

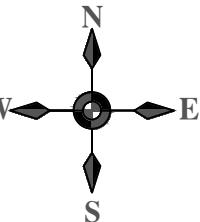
NO	DESCRIPTION	DATE
#1	ORIGINAL	-

PROJECT

DC SYS.SIZE: 1063.68 KWDC
AC SYS.SIZE: 800.00 KWAC
MODULE TYPE: LEAPTON SOLAR LP182*182-M-60-NH 480W
MODULE QTY: 2216
INVERTER TYPE: (8) SUN2000-100KTL-M2

SHEET TITLE:
ROOF LAYOUT

SHEET SIZE: A2
PROJECT NO.:
DATE:-
DESIGN BY: VVP
CHECKED BY: MM
PM/PE:
SHEET NUMBER: G200

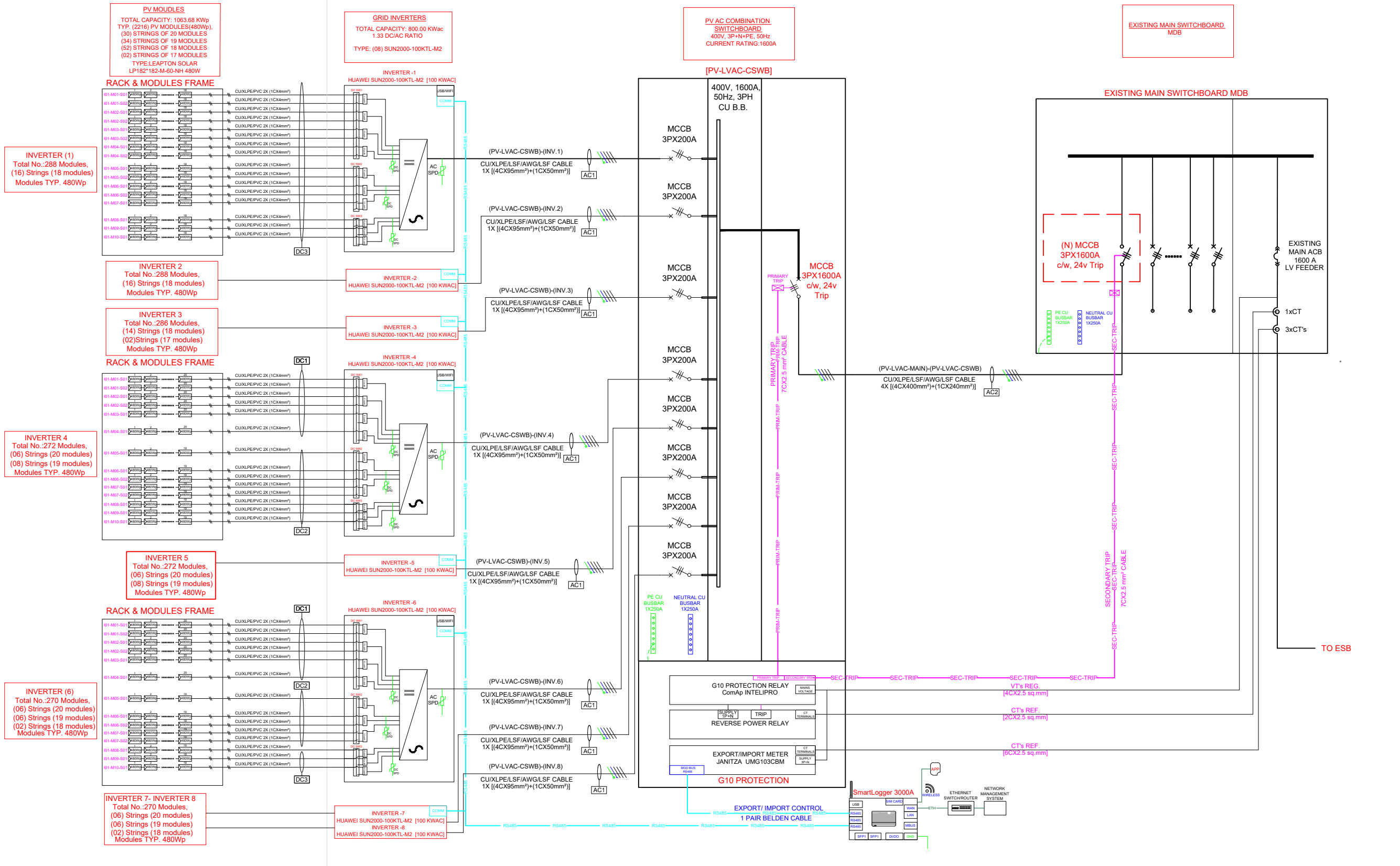


LEGENDS

- SITE BOUNDARY- [Red line]
- EXISTING FENCE LINE- [Green line with circle]
- ACCESS ROAD - [Orange line]
- ACCESS PATHWAY - [Green line]
- OBSTRUCTIONS, SKYLIGHTS, VENTS - [Pink rectangle, Pink circle]
- PV MODULES - [Blue rectangle]
- TREES - [Green tree symbol]
- SHRUBS, HEDGEROW - [Green circle with cross]
- SKYLIGHTS - [Pink rectangle]
- SETBACKS - [Yellow grid]
- EQUIPMENTS - [Red rectangle]

LOCATION: INSIDE ROOF INSTALLATION
(EAST-WEST)

LOCATION: INSIDE MAIN POWER STATION [GROUND FLOOR]



DESIGN AND ENGINEERING

NOTES

REVISION/RELEASE

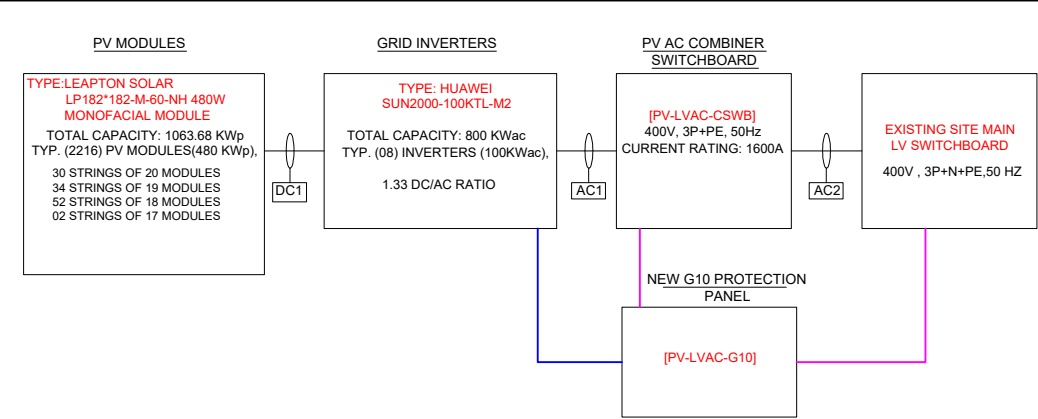
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PROJECT

DC SYS.SIZE: 1063.68 KWDC
AC SYS.SIZE: 800.00 KWAC
MODULE TYPE: LEAPTON SOLAR LP182*182-M-60-NH 480W
MODULE QTY: 2216
INVERTER TYPE: (8) SUN2000-100KTL-M2

SHEET TITLE:
SINGLE LINE DIAGRAM

SHEET SIZE: A2
PROJECT NO.:
DATE:-
DESIGN BY: VVP
CHECKED BY: MM
PM/PE:
SHEET NUMBER:



PV Modules Specifications			
Model Number:	LEAPTON SOLAR LP182*182-M-60-NH-480W		
Power @ STC (Wp):	480	Voc Temp. Coef. (%/°C):	-0.25
Module efficiency STC:	22.17%	Isc Temp. Coeff. (%/°C)	+0.046
Voc (Vdc):	42.79	Max. System Voltage (Vdc):	1500
Vmp (Vdc):	35.44	Power Tolerance(W):	0→+5
Isc (A):	14.29	Max. series fuse(A):	25
Imp (A):	13.55	Weight (Kg):	23
Dimensions (mm):	1909X1134X30		

Grid Inverters Specifications			
Model Number:	SUN2000-100KTL-M2		
Nominal Power (KW ac):	100	Max. DC Voltage (V):	1100
Max. App. Power (KW ac):	110	DC Start Voltage (V)	200
Nominal AC Voltage (V):	400	MPPT Operating Voltage (V):	200-1000
Rated AC grid freq.	50/60 Hz	Min. MPPT Voltage (V):	600
Max. Output Current (A):	144.4	Max. Current per MPPT (A):	30
CEC Weighted Efficiency:	98.6	Max. Isc per MPPT (A):	40
Output Phases /line Connection	3W+N+PE	MPPT/Strings per MPPT:	10/20

ARRAY CONFIGURATION					
Inverters IDs:	INV.1-INV.2	INV.3	INV.4-INV.5	INV.6-INV.8	TOTAL
Inverters QTY.:	2	1	2	3	8
Inverter AC Power (KW):	100	100	100	100	800
PV Power STC (KW)	138.24	1372.80	130.56	129.60	1063.68
Inverter DC:AC Ration:	1.38	1.37	1.31	1.30	1.33
Modules QTY:	288	286	272	270	2216
Strings QTY:	16	16	14	14	118
QTY(Modules/Strings):	16(18)	14(18), 2(17)	6(20), 08(19)	6(20), 6(19), 2(18)	52(18), 34(19), 30(20), 2(17).
Corrected Voc(@-8.5°C):	46.37	46.37	46.37	46.37	46.37
Max. Voc (V) [i.e. corrected Voc]:	834.66	834.66	927.40	927.40	927.40
Min. Operating Voltage (V) [Vmp]:	637.92	637.92	708.80	708.80	708.80
Max. Isc per MPPT	35.73	35.73	35.73	35.73	35.73
Max Operating Current per MPPT	33.88	33.88	33.88	33.88	33.88

1

E200

SYSTEM SCHEMATIC BLOCKS

SCALE: NTS

2

E200

SPECIFICATION AND CONFIGURATION

SCALE: NTS

DC WIRES SCHEDULE FOR SOLAR PV SYSTEM											
LOCATION	TAG	STRINGS QUANTITY	# OF MODULES PER STRINGS	AVERAGE ESTIMATED WIRE LENGTH (mt)	MAXIMUM ESTIMATED WIRE LENGTH (mt)	TOTAL Vmp (Vdc)	Imp (Adc)	CABLE CROSS SECTION AREA (mm2)	Max. TEMP. OF CABLE	AVERAGE VD (V)	AVERAGE. VD (%)
MAIN BUILDING	DC1	30	20	100.00	160	708.80	13.55	4	100	16.863	1.818
MAIN BUILDING	DC2	34	19	84.39	142.95	673.36	13.55	4	100	14.231	1.615
MAIN BUILDING	DC3	52	18	109.14	146.91	637.92	13.55	4	100	18.404	2.205
MAIN BUILDING	DC4	2	17	100.13	100.89	602.48	13.55	4	100	16.883	2.142

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E200

DC WIRES SCHEDULE & CONFIGURATION

SCALE: NTS

AC CABLE SCHEDULE															
TAG	LABEL	FROM	TO	INSTALLATION TYPE	"INSTALLATION SPECIFICATION"	CABLE TYPE	CABLE SIZE	NO. OF SETS	SYSTEM VOLTAGE(V)	MAX FULL LOAD CURRENT(AMP)	BREAKER/DSCONNECT SIZE(AMP)	ESTIMATED LENGTH(MT)	VOLTAGE DROP(V)	VOLTAGE DROP(%)	
AC-1	AC-PV-CSWB)-(INV.1)	INV.1	(AC-PV-CSWB)	HORIZONTAL/VERTICAL PERFORATED TRAY	SPACE=CABLE DIAMETER	CU/XLPE/AWG/PVC	(4CX95mm²)+(1CX50mm²)	1	400	144.4	200	60	3.88	0.97	
AC-1	AC-PV-CSWB)-(INV.2)	INV.2	(AC-PV-CSWB)	HORIZONTAL/VERTICAL PERFORATED TRAY	SPACE=CABLE DIAMETER	CU/XLPE/AWG/PVC	(4CX95mm²)+(1CX50mm²)	1	400	144.4	200	60	3.88	0.97	
AC-1	AC-PV-CSWB)-(INV.3)	INV.3	(AC-PV-CSWB)	HORIZONTAL/VERTICAL PERFORATED TRAY	SPACE=CABLE DIAMETER	CU/XLPE/AWG/PVC	(4CX95mm²)+(1CX50mm²)	1	400	144.4	200	60	3.88	0.97	
AC-1	AC-PV-CSWB)-(INV.4)	INV.4	(AC-PV-CSWB)	HORIZONTAL/VERTICAL PERFORATED TRAY	SPACE=CABLE DIAMETER	CU/XLPE/AWG/PVC	(4CX95mm²)+(1CX50mm²)	1	400	144.4	200	60	3.88	0.97	
AC-1	AC-PV-CSWB)-(INV.5)	INV.5	(AC-PV-CSWB)	HORIZONTAL/VERTICAL PERFORATED TRAY	SPACE=CABLE DIAMETER	CU/XLPE/AWG/PVC	(4CX95mm²)+(1CX50mm²)	1	400	144.4	200	60	3.88	0.97	
AC-1	AC-PV-CSWB)-(INV.6)	INV.6	(AC-PV-CSWB)	HORIZONTAL/VERTICAL PERFORATED TRAY	SPACE=CABLE DIAMETER	CU/XLPE/AWG/PVC	(4CX95mm²)+(1CX50mm²)	1	400	144.4	200	55	3.56	0.89	
AC-1	AC-PV-CSWB)-(INV.7)	INV.7	(AC-PV-CSWB)	HORIZONTAL/VERTICAL PERFORATED TRAY	SPACE=CABLE DIAMETER	CU/XLPE/AWG/PVC	(4CX95mm²)+(1CX50mm²)	1	400	144.4	200	55	3.56	0.89	
AC-1	AC-PV-CSWB)-(INV.8)	INV.8	(AC-PV-CSWB)	HORIZONTAL/VERTICAL PERFORATED TRAY	SPACE=CABLE DIAMETER	CU/XLPE/AWG/PVC	(4CX95mm²)+(1CX50mm²)	1	400	144.4	200	55	3.56	0.89	
AC-2	(PV-LVAC-MAIN)	[PV-LVAC-CSWB]	PV-LVAC-MAIN	HORIZONTAL/VERTICAL PERFORATED TRAY	SPACE=CABLE DIAMETER	CU/XLPE/AWG/PVC	(4CX400mm²)+(1CX240mm²)	4	400	1155.2	1600	10	0.47	0.12	

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E200

AC CABLE SCHEDULE & CONFIGURATION

SCALE: NTS

DESIGN AND ENGINEERING

NOTES

REVISION/RELEASE

NO	DESCRIPTION	DATE
#1	ORIGINAL	-

PROJECT

DC SYS.SIZE: 1063.68 KWDC
AC SYS.SIZE: 800.00 KWAC
MODULE TYPE: LEAPTON SOLAR LP182*182-M-60-NH 480W
MODULE QTY: 2216
INVERTER TYPE: (8) SUN2000-100KTL-M2

SHEET TITLE: SCHEDULE AND CALCULATION

SHEET SIZE: A2
PROJECT NO.:
DATE:-
DESIGN BY: VVP
CHECKED BY: MM
PM/PE:

SHEET NUMBER: E200

PV AC COMBINER SWITCHBOARD			
Label:	[PV-LVAC-CSWB]		
Location:	OPPOSITE LV INCOMER		
Installation:	INDOOR	Busbar Rating (A):	1600
Cable Entry (Incoming):	Top	Main Breaker Type:	MCCB
Cable Entry (Outgoing):	Top	Main Breaker Current Rating (A):	1600
Rated Voltage (V):	400	Main Cable Size (sq.mm):	(4Cx400mm²)+(1Cx240mm²)
Rated Current (A):	1600	No. Of Parallel Cables:	4
Frequency (Hz):	50	Branch Breakers Type:	MCCB
Earthing System:	TNC-S	Branch Breakers QTY.:	8
Wiring:	3P+N+PE	Branch Breakers Current Rating(A):	200
		Branch Cable Size (sq.mm):	(4x95mm²)+(1x50mm²)
		No. Of Branch Cables:	8

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E201

SWITCHBOARDS SPECIFICATION

SCALE: NTS

DESIGN AND ENGINEERING

NOTES

REVISION/RELEASE

NO	DESCRIPTION	DATE
#1	ORIGINAL	-

PROJECT

DC SYS.SIZE: 1063.68 KWDC

AC SYS.SIZE: 800.00 KWAC

MODULE TYPE: LEAPTON SOLAR LP182*182-M-60-NH 480W

MODULE QTY: 2216

INVERTER TYPE: (8) SUN2000-100KTL-M2

SHEET TITLE: SCHEDULE AND CALCULATION

SHEET SIZE: A2

PROJECT NO.:

DATE:-

DESIGN BY: VVP

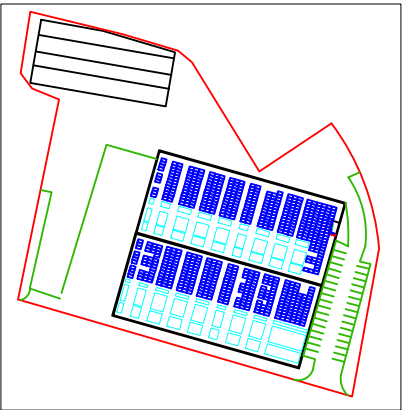
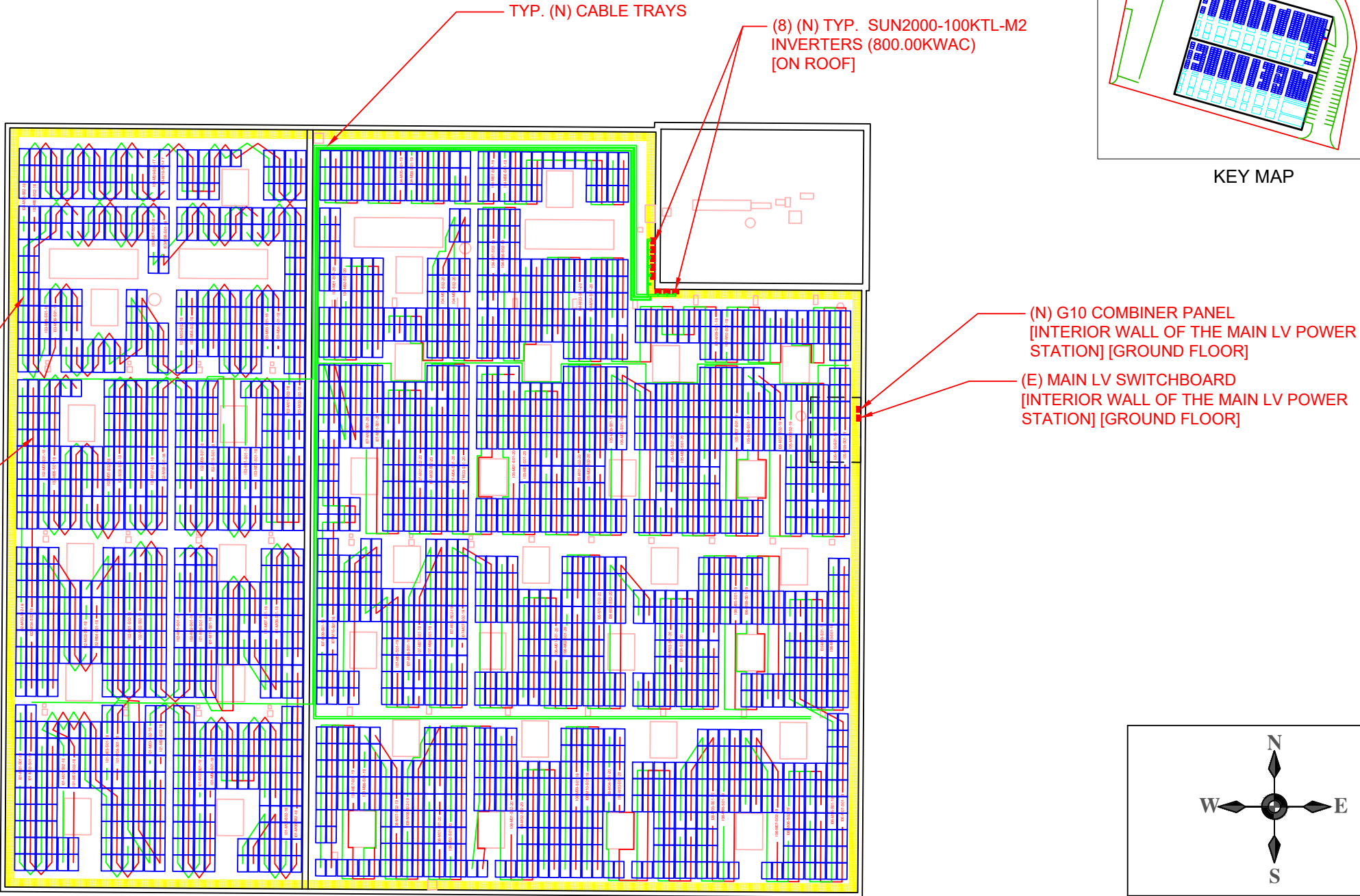
CHECKED BY: MM

PM/PE:

SHEET NUMBER: E201

NOTES:

- THERE ARE NO FALL ARREST SYSTEM IN TARGET BUILDINGS FOR INSTALLATION.
- ROOF ACCESS VIA MEWP AND TELEPORTER.



KEY MAP

DESIGN AND ENGINEERING

NOTES

REVISION/RELEASE

NO	DESCRIPTION	DATE
#1	ORIGINAL	-

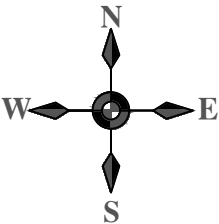
PROJECT

DC SYS.SIZE: 1063.68 KWDC
AC SYS.SIZE: 800.00 KWAC
MODULE TYPE: LEAPTON SOLAR LP182*182-M-60-NH 480W
MODULE QTY: 2216
INVERTER TYPE: (8) SUN2000-100KTL-M2

SHEET TITLE:
STRINGS WIRING PLAN

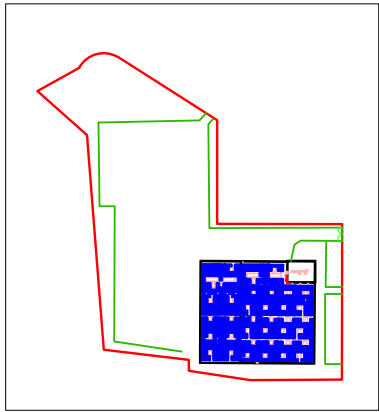
SHEET SIZE: A2
PROJECT NO.:
DATE:-
DESIGN BY: VVP
CHECKED BY: MM
PM/PE:

SHEET NUMBER:
E300



LEGENDS

SITE BOUNDARY-	
CABLE TRAY-	
ACCESS ROAD -	
ACCESS PATHWAY -	
OBSTRUCTIONS, SKYLIGHTS, VENTS -	
PV MODULES -	
TREES -	
SHRUBS, HEDGEROW -	
SKYLIGHTS -	
SETBACKS -	
EQUIPMENTS -	



KEY MAP

NOTES:

- THERE ARE NO FALL ARREST SYSTEM IN TARGET BUILDINGS FOR INSTALLATION.
- ROOF ACCESS VIA MEWP AND TELEPORTER.

DESIGN AND ENGINEERING

NOTES

REVISION/RELEASE

NO	DESCRIPTION	DATE
#1	ORIGINAL	-

PROJECT

DC SYS.SIZE: 1063.68 KWDC
AC SYS.SIZE: 800.00 KWAC
MODULE TYPE: LEAPTON SOLAR LP182*182-M-60-NH 480W
MODULE QTY: 2216
INVERTER TYPE: (8) SUN2000-100KTL-M2

SHEET TITLE:DC WIRE ROUTING

SHEET SIZE: A2
PROJECT NO.:
DATE:-
DESIGN BY: VVP
CHECKED BY: MM
PM/PE:
SHEET NUMBER: E400

CABLE TRAY 450X25mm FOR DC WIRES ROUTING (TOTAL 24 STRINGS)

CABLE TRAY 450X25mm FOR DC WIRES ROUTING (TOTAL 24 STRINGS)

(8) (N) TYP. SUN2000-100KTL-M2 INVERTERS (800.00KWAC) [ON ROOF]

RS485 CABLE

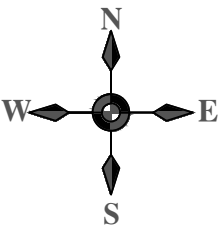
CABLE TRAY 600X25mm FOR DC WIRES ROUTING (TOTAL 32 STRINGS)

(N) G10 COMBINER PANEL [INTERIOR WALL OF THE MAIN LV POWER STATION] [GROUND FLOOR]

(E) MAIN LV SWITCHBOARD [INTERIOR WALL OF THE MAIN LV POWER STATION] [GROUND FLOOR]

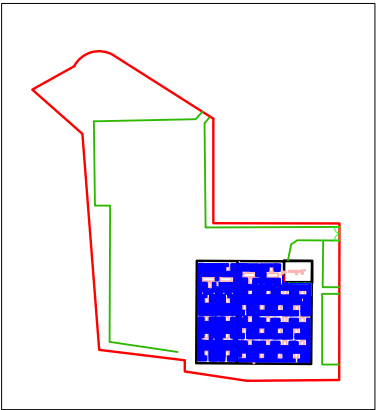
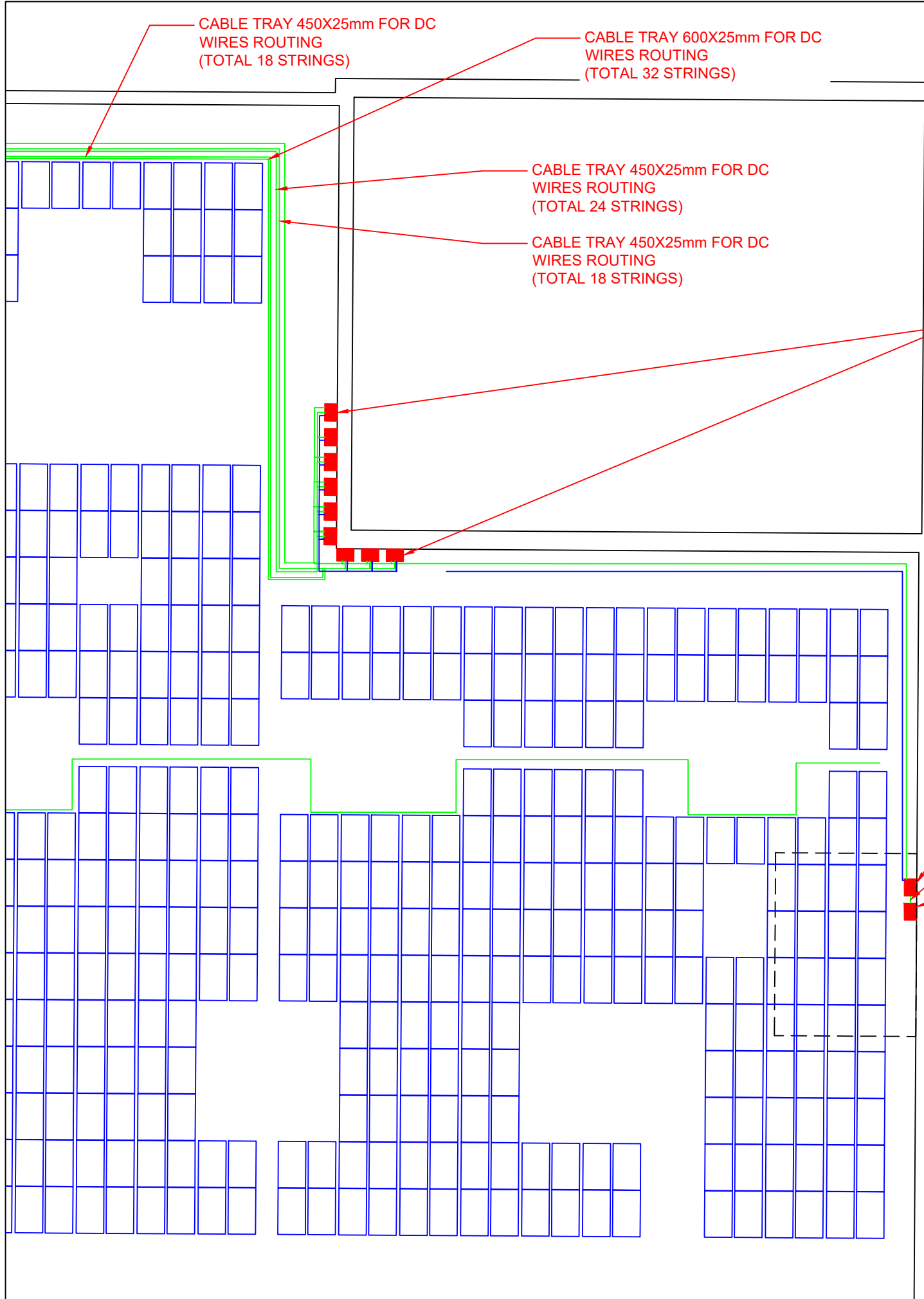
CABLE TRAY 450X25mm FOR DC WIRES ROUTING (TOTAL 18 STRINGS)

CABLE TRAY 450X25mm FOR DC WIRES ROUTING (TOTAL 20 STRINGS)



LEGENDS

- SITE BOUNDARY- [Red line]
- CABLE TRAY- [Green line]
- ACCESS ROAD - [Orange line]
- ACCESS PATHWAY - [Dark green line]
- OBSTRUCTIONS, SKYLIGHTS, VENTS - [Pink rectangle]
- PV MODULES - [Blue rectangle]
- TREES - [Green circle]
- SHRUBS, HEDGEROW - [Green circle]
- SKYLIGHTS - [Pink rectangle]
- SETBACKS - [Yellow grid]
- EQUIPMENTS - [Red rectangle]



KEY MAP

NOTES:

- THERE ARE NO FALL ARREST SYSTEM IN TARGET BUILDINGS FOR INSTALLATION.
- ROOF ACCESS VIA MEWP AND TELEPORTER.

DESIGN AND ENGINEERING

NOTES

REVISION/RELEASE

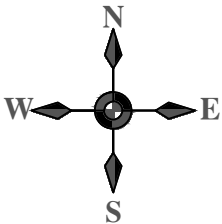
NO	DESCRIPTION	DATE
#1	ORIGINAL	-

PROJECT

DC SYS.SIZE: 1063.68 KWDC
AC SYS.SIZE: 800.00 KWAC
MODULE TYPE: LEAPTON SOLAR LP182*182-M-60-NH 480W
MODULE QTY: 2216
INVERTER TYPE: (8) SUN2000-100KTL-M2

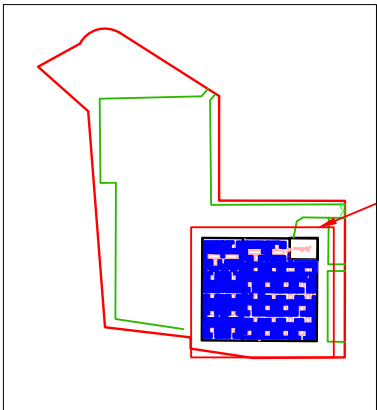
SHEET TITLE:
OVERALL CABLE ROUTING

SHEET SIZE: A2
PROJECT NO.:
DATE:-
DESIGN BY: VVP
CHECKED BY: MM
PM/PE:
SHEET NUMBER: E410



LEGENDS

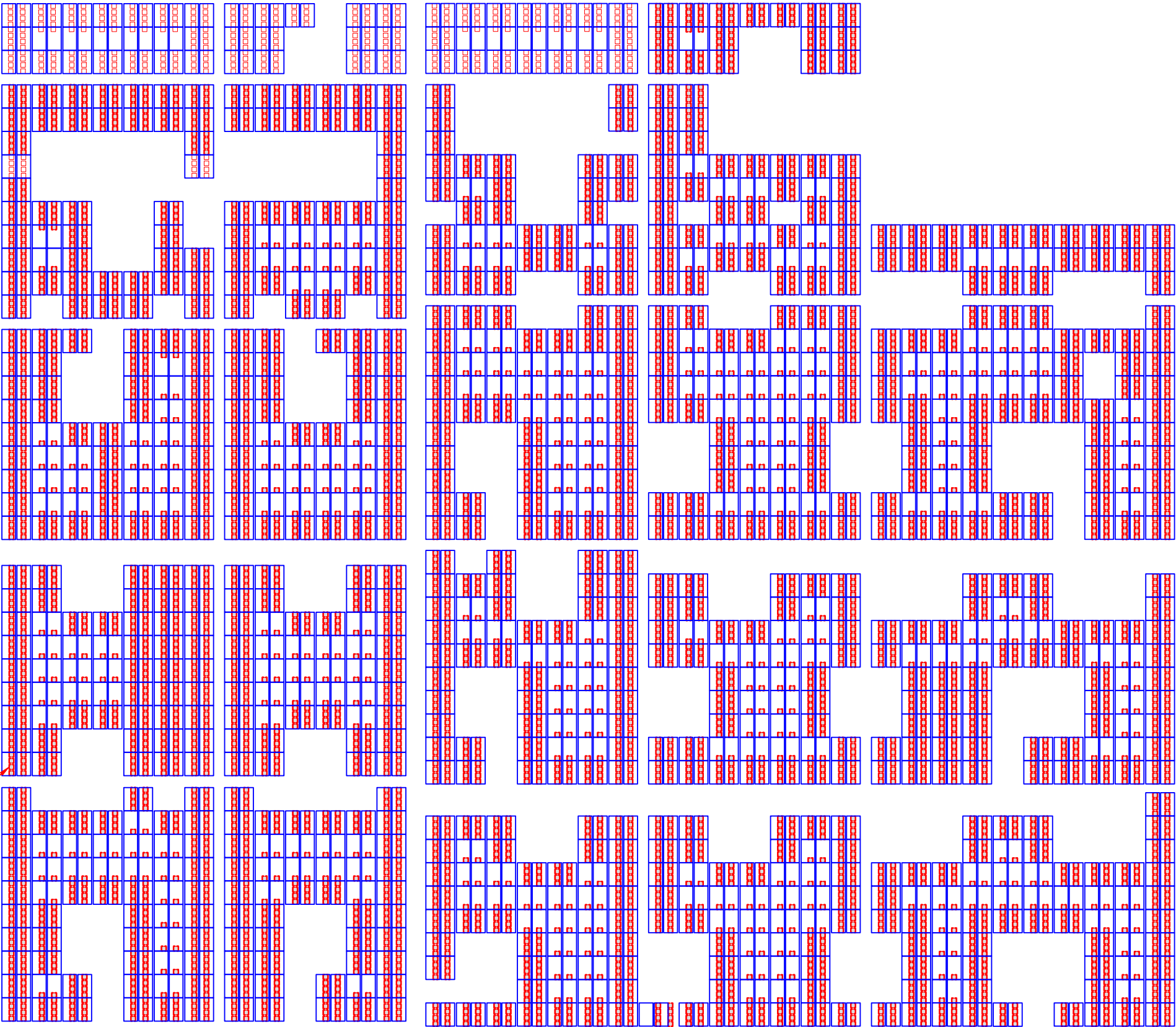
- SITE BOUNDARY-
- CABLE TRAY-
- ACCESS ROAD -
- ACCESS PATHWAY -
- OBSTRUCTIONS, SKYLIGHTS, VENTS -
- PV MODULES -
- TREES -
- SHRUBS, HEDGEROW -
- SKYLIGHTS -
- SETBACKS -
- EQUIPMENTS -



KEY MAP

ARRAY 1

1m



NOTES

REVISION/RELEASE

NO	DESCRIPTION	DATE
#1	ORIGINAL	-

PROJECT

DC SYS.SIZE: 1063.68 KWDC
AC SYS.SIZE: 800.00 KWAC
MODULE TYPE: LEAPTON SOLAR LP182*182-M-60-NH 480W
MODULE QTY: 2216
INVERTER TYPE: (8) SUN2000-100KTL-M2

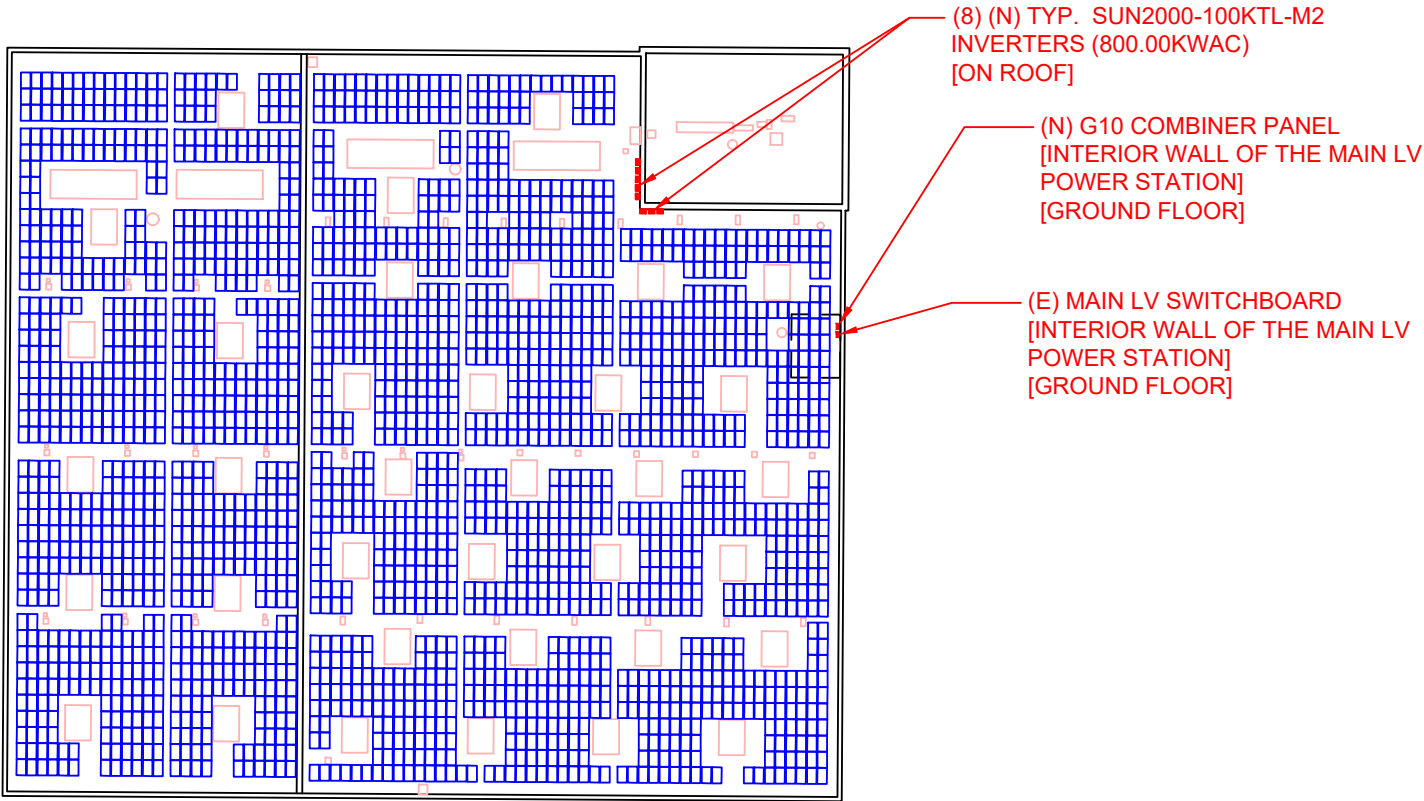
SHEET TITLE:
MOUNTING SYSTEM DETAILS

SHEET SIZE: A2
PROJECT NO.:
DATE:-
DESIGN BY: VVP
CHECKED BY: MM
PM/PE:

SHEET NUMBER:
E510

ELECTRICAL PLAN WITH NEW PV EQUIPMENTS

SCALE:1:900



N
W
E
S

LEGENDS

SITE BOUNDARY-
EXISTING FENCE LINE-
ACCESS ROAD -
ACCESS PATHWAY -
OBSTRUCTIONS, SKYLIGHTS, VENTS -
PV MODULES -
TREES -
SHRUBS, HEDGEROW -
SKYLIGHTS -
SETBACKS -
EQUIPMENTS -

DESIGN AND ENGINEERING

NOTES

REVISION/RELEASE

NO	DESCRIPTION	DATE
#1	ORIGINAL	-

PROJECT

DC SYS.SIZE: 1063.68 KWDC
AC SYS.SIZE: 800.00 KWAC
MODULE TYPE: LEAPTON SOLAR LP182*182-M-60-NH 480W
MODULE QTY: 2216
INVERTER TYPE: (8) SUN2000-100KTL-M2

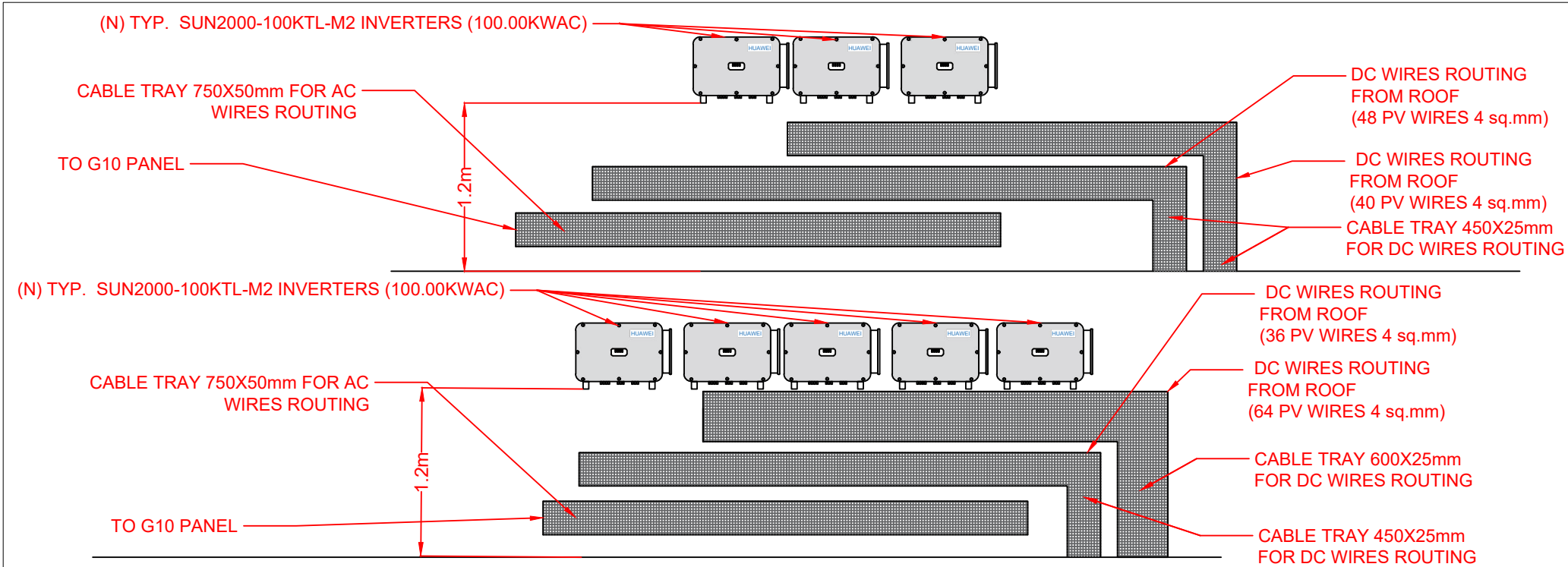
SHEET TITLE:
ELECTRICAL DETAILS
ELEVATION

SHEET SIZE: A2
PROJECT NO.:
DATE:-
DESIGN BY: VVP
CHECKED BY: MM
PM/PE:

SHEET NUMBER:
E600

NEW PV EQUIPMENT DETAILS ELEVATION

SCALE:Custom



ELECTRICAL EQUIPMENTS							
#	TYPE/CATEGORY	MAKE	MODEL	UNIT	QTY.	DESCRIPTION	NOTES
1.1	PV MODULES	LEAPTON SOLAR	LP182*182-M-60-NH-480W	No.	2216	480Wp(STC), MONO-CRYSTALLINE, 120CELLS (1909X1134X30)mm	
1.2	INVERTER	HUAWEI SOLAR	HUAWEI SUN2000-100KTL-M2	No.	8	100KWAC, 400VAC, 144.4A, 1100VDC, (10) MPPT, (20) INPUTS	
1.3	PV AC COMBINATION & G10 PANEL	TBD	TBD	No.	1	400V, 3P+N+PE, 50Hz, 1600A RATED CURRENT (1) 3PX1600A MCCB c/w 24V TRIP, (08) 3PX200A MCCB WITH EXPORT/IMPORT METER & REVERSE POWER RELAY INDOOR INSTALLATION	
1.4	BREAKER	TBD	TBD	No.	1	3PX1600A MCCB c/w 24V TRIP	
1.5	SCADA DEVICE	HUAWEI SOLAR	SMART LOGGER 3000A	No.	1	COMMUNICATION PROTOCOL : RS485 NETWORK	

CABLES AND RACEWAY							
#	TYPE/CATEGORY	MAKE	MODEL	UNIT	QTY.	DESCRIPTION	NOTES
2.1	PV WIRES	TBD	TBD	mt.	11775	PV DC WIRE CU/PVC, 4mm², U0/U=0.9/1.5KV	
2.2	AC LV CABLE	TBD	TBD	mt.	465	LV AC CU/XLPE/LSF/AWG/LSF,0.6/1KV CABLE , (4CX95mm²)	
2.3	AC LV CABLE	TBD	TBD	mt.	40	LV AC CU/XLPE/LSF/AWG/LSF,0.6/1KV CABLE , (4CX400mm²)	
2.4	GROUND WIRE	TBD	TBD	mt.	465	CU/XLPE/PVC,0.6/1KV CABLE (1CX50mm²)	
2.5	GROUND WIRE	TBD	TBD	mt.	40	CU/XLPE/PVC,0.6/1KV CABLE (1CX240mm²)	
2.6	RS485	BELDEN	3105A	mt.	65	RS-485, 1 PR, 22AWG,PVC JKT	
2.7	CONTROL/TRIPPING	TBD	TBD	mt.	15	7CX2.5mm² CYLSZH/LiHCH, 0.6/1KV CABLE	
2.8	CABLE TRAY	TBD	TBD	mt.	170	600X25 mm CABLE TRAY (FOR DC)	
2.9	CABLE TRAY	TBD	TBD	mt.	675	450X25 mm CABLE TRAY (FOR DC)	
2.10	CABLE TRAY	TBD	TBD	mt.	60	750X50 MM CABLE TRAY (FOR AC)	

	TYPE/CATEGORY	MAKE	UNIT	QTY.	MODEL	DESCRIPTION	NOTES
3.1	RUBBER TILE CARRIER	VAN DER VALK	NO	3445	729622	RUBBER TILE CARRIER - CLICK - VALKPRO+	
3.2	GALV ROOF CARRIER	VAN DER VALK	NO	0	741801200	GALV ROOF CARRIER L=1200X1,5MM	
3.3	GALV ROOF CARRIER	VAN DER VALK	NO	1366	741802300	GALV ROOF CARRIER L=2300X1,5MM	
3.4	SS HAMMERHEAD BOLT	VAN DER VALK	NO	1045	774221	SS HAMMERHEAD BOLT M8X20MM + LOCK NUT	
3.5	ALU REAR FOOT MIDDLE	VAN DER VALK	NO	1700	724650	ALU REAR FOOT VALKPRO+ L10° MIDDLE	
3.6	ALU REAR FOOT SIDE	VAN DER VALK	NO	1032	724651	ALU REAR FOOT VALKPRO+ L10° SIDE	
3.7	ALU FRONT FOOT MIDDLE	VAN DER VALK	NO	1700	724660	ALU FRONT FOOT VALKPRO+ P/L10° MIDDLE	
3.8	ALU FRONT FOOT SIDE	VAN DER VALK	NO	1032	724661	ALU FRONT FOOT VALKPRO+ P/L10° SIDE	
3.9	GALV BACK PLATE	VAN DER VALK	NO	0	742512	GALV BACK PLATE VALKPRO+ L10° L=1980MM	
3.10	GALV MASS CARRIER	VAN DER VALK	NO	3080	742564	GALV MASS CARRIER VALKPRO+ L=1979MM	
3.11	SS THREAD-FORMING BOLT	VAN DER VALK	NO	0	773320	SS THREAD-FORMING BOLT M6X20MM - T30	
3.12	GALV SIDE PLATE	VAN DER VALK	NO	0	742540	GALV SIDE PLATE VALKPRO+ L10° UNIVERSAL	

DESIGN AND ENGINEERING

NOTES

REVISION/RELEASE

NO	DESCRIPTION	DATE
#1	ORIGINAL	-

PROJECT

DC SYS.SIZE: 1063.68 KWDC
AC SYS.SIZE: 800.00 KWAC
MODULE TYPE: LEAPTON SOLAR LP182*182-M-60-NH 480W
MODULE QTY: 2216
INVERTER TYPE: (8) SUN2000-100KTL-M2

SHEET TITLE: LIST OF MATERIAL

SHEET SIZE: A2

PROJECT NO.:

DATE:-

DESIGN BY: VVP

CHECKED BY: MM

PM/PE:

SHEET NUMBER: E700