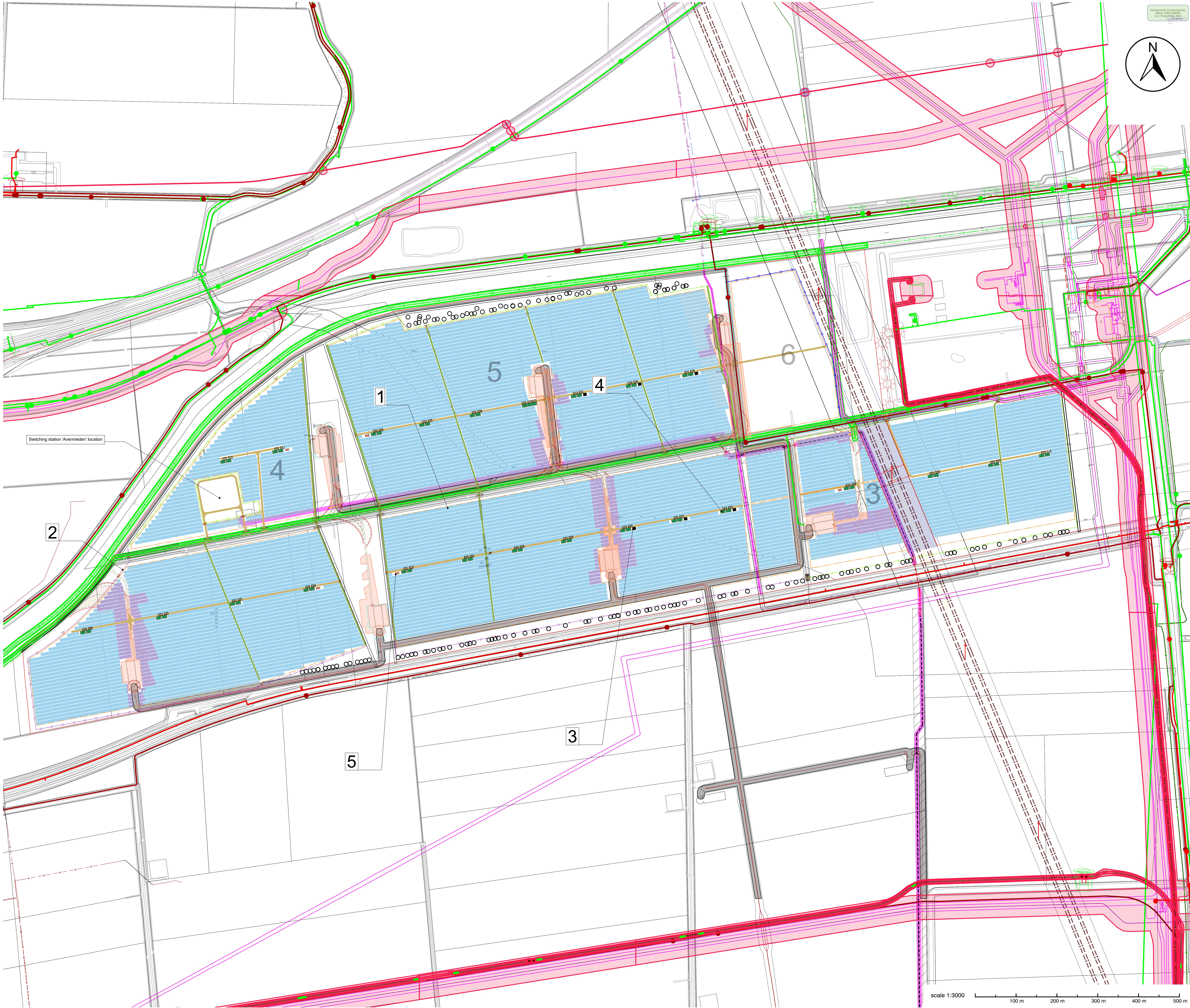




Geographical coordinates

Country: Netherlands
 Address: Eekerveen - Oldambt
 Latitude: 53.166193° N
 Longitude: 6.816458° E

	Fenced Area [m ²]	Fence Length [m]
Field 1	263,845 m ²	1,740 m
Field 2	364,825 m ²	1,395 m
Field 4	102,365 m ²	1,030 m
Field 3 & 5	614,070 m ²	3,635 m
Switchgear Fence	12,245 m ²	500 m
Windmills Fence	7,365 m ²	525 m
Total	1,468,730 m²	9,320 m

1 Typical Substructure

not to scale
 equator-facing racks

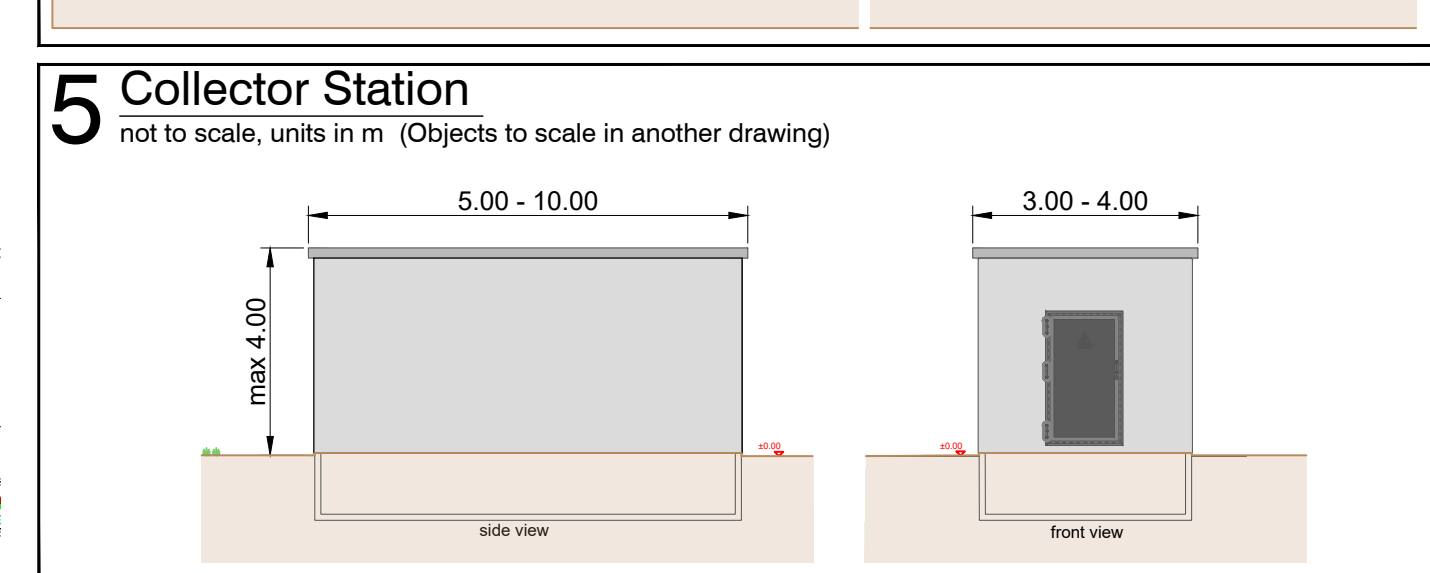
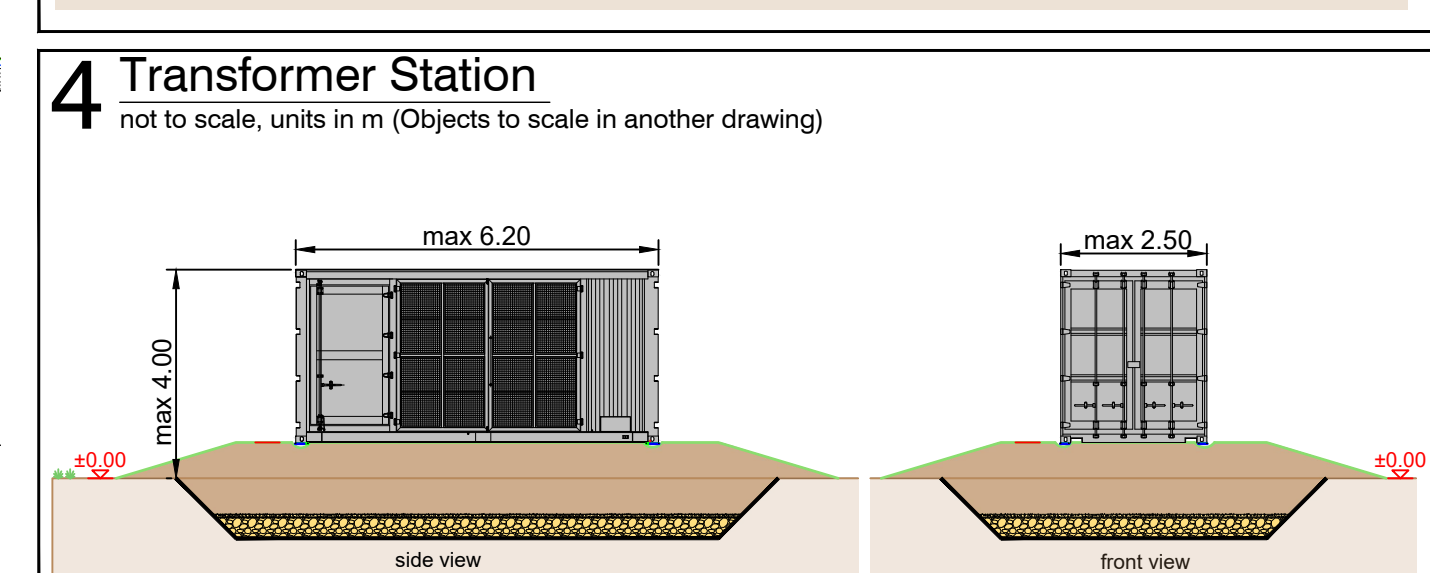
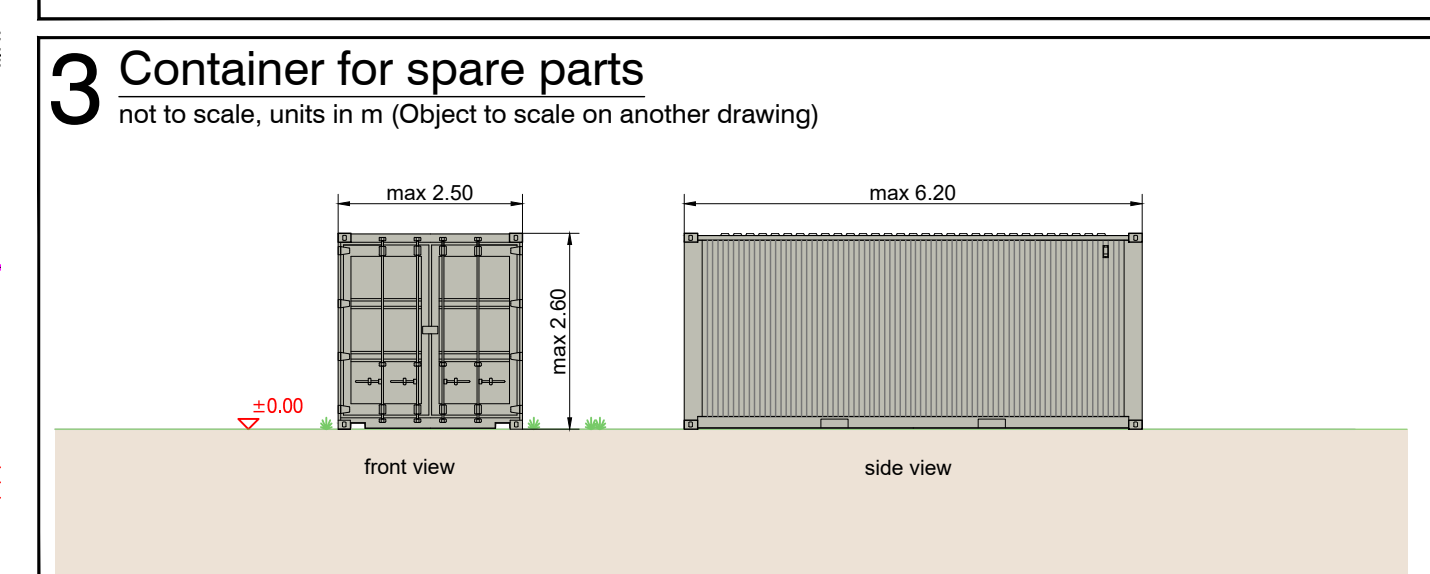
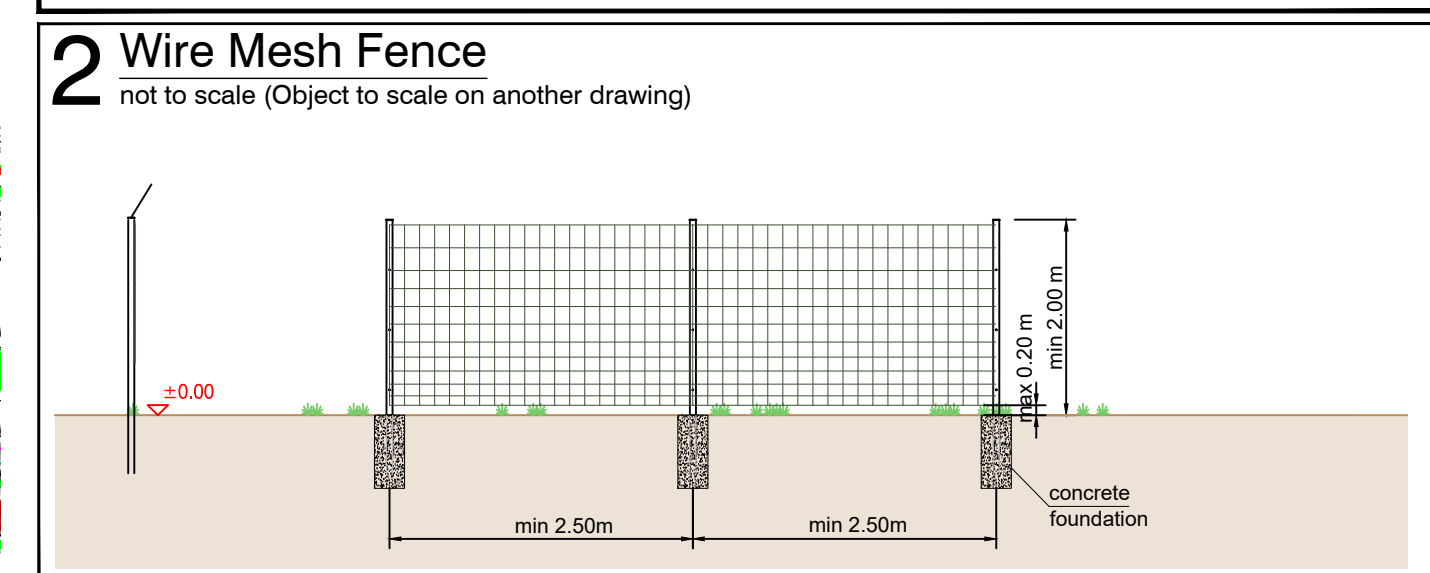
The diagram illustrates a typical substructure for solar panels, showing two rows of panels tilted at an angle. Key dimensions and components are labeled:

- W₁**: Width of the first row of panels.
- W₂**: Width of the second row of panels.
- W₃**: Width of the aisle between the rows.
- W₄**: Total width of the substructure.
- W₅**: Width of the panel projection.
- W₆**: Width of the panel projection.
- W₇**: Width of the panel projection.
- W₈**: Width of the panel projection.
- W₉**: Width of the panel projection.
- W₁₀**: Width of the panel projection.
- W₁₁**: Width of the panel projection.
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- W₉₇**: Width of the panel projection.
- W₉₈**: Width of the panel projection.
- W₉₉**: Width of the panel projection.
- W₁₀₀**: Width of the panel projection.

Orientation	2P/3P South
Module dimensions [mm]	min.2200 x min.1100
Plane Tilt β [°]	10
Azimuth γ [°]	-11
Clearance c [m]	min. 0.70
Height h [m]	max. 2.50
Pitch p [m]	min.6.35/min. 8.20
Aisle width a [m]	min. 1.80
Width w [m]	min. 4.62 min.6.64
Proj. width w _p [m]	min. 4.55/min. 6.40

No. of panels

146,973



LEGEND	
	Application Boundary
	PV Boundary
	Fence Oldambt
	Fence Groningen
	Fence Oldambt Field 6
	Gate
	Existing road
	Fire Truck Route 3.25m
	Maintenance road < 4 m wide
	Collector Station
	NAM Pipe
	High Pressure NAM
	NAM Pipe
	Water crossing/ Culvert
	PV Rack
	Newly added PV Rack
	Newly added PV Rack (concrete shoes)
	Leading A
	Inverter / Transformer station
	Spare Parts Container
	Waterschap Hunze en Aa's - Roofoleiding
	Enexis - Middenspanning
	Data cable clearance - total 12 m
	Designated Areas Buffer
	Windmills requirement for maintenance
	Windmill Clearance

Please note that all drawing contents have to be checked on the contractor's own responsibility prior to construction start. Discrepancies have to be communicated to the contractual partner or to the responsible technical planners. Drawing numbers and index have to be observed. With release of new drawing, previous drawings lose their validity and will not be withdrawn.

Rev.	Date	Des.	Check	Appr.	Revision Description
X	16 Feb 23	DWU			Access route for fire brigade, removal and modification of panel placement, implementation 2P for edge alignment.
W	07 Feb 23	AKA			Racks removed from field 4. PV boundaries adjusted for field 6, windmills clearances updated to consider corner.
U	11 Jan 23	SGA			This revision includes both panels of Oldambt and Groningen. Field 6 was added again. Gridlines (lines) for windmills were filled with solar panels to concrete details.
T	11 Nov 22	ZDO			New Kic file with clearance pipe
S	16 Oct 22	ZDO			Fence and Landscaping plan including waterways updates. Culvert crossing between field 2 was added
R	05 May 22	ZDO			Racks were removed from the northern east corner in field 5, smaller racks were added to fill the gap
Q	22 Mar 22	ZDO			Amendments on fence in fields 1, 2, & 3. Racks were added to the eastern edge of field 1
P	31 Jan 22	MCA			Amendments on transformer, fence, substructure, & spare parts Details
O	03 Jan 22	ZDO			Waterways revised with 5m width. Collector station shifted in field 4. Fence in field 1 moved up
N	08 Dec 21	ZDO			Fence updated around the solar park. New waterways plan
M	25 Nov 21	ZDO			Fence added around the solar park. Racks were removed from the east edge of field 3
L	27 Oct 21	ZDO			Updated landscaping plan

Client: **ibvogt**

Version: **1** Metric: **European** Proj. **ibvogt**

Designed by: **21 Jul 2020** **Schult** Page: **1** Drawing Scale: **1:3000**

Checked by: **01** Size: **A0** 1189a41

Approved by: **2**

Engineering Design: **ibvogt**

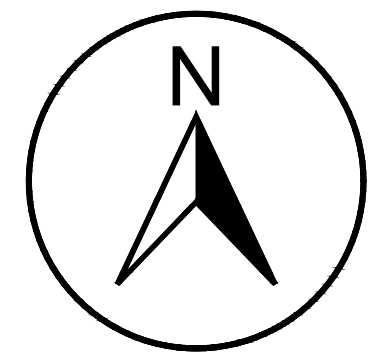
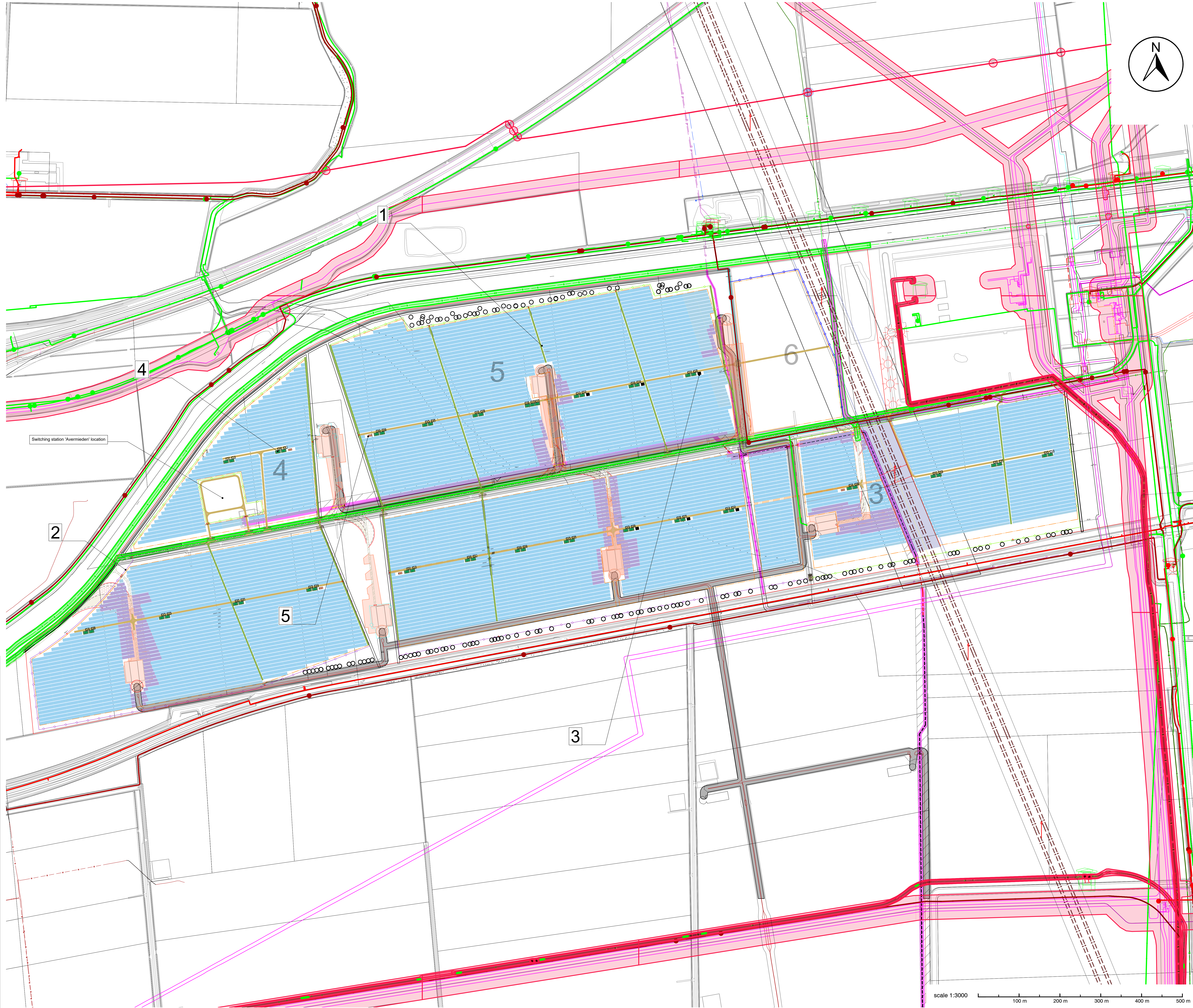
Supplier: **ibvogt**

Planning Phase: **AD, 1189a41** Status: **16 Feb 23**

Approval Design: **16 Feb 23**

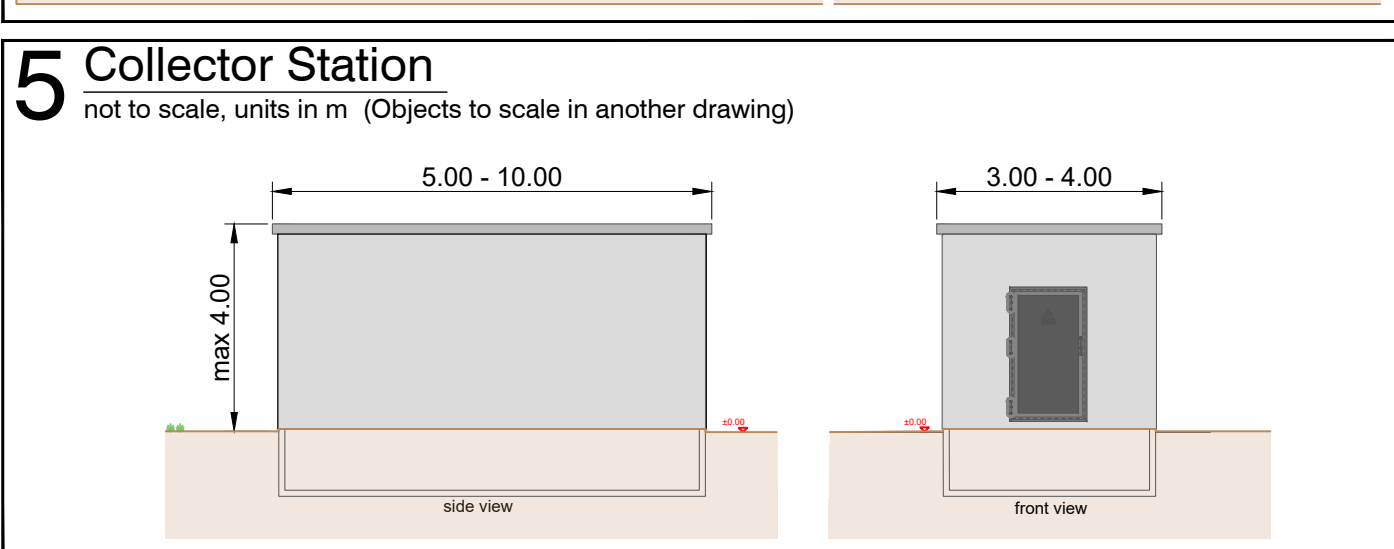
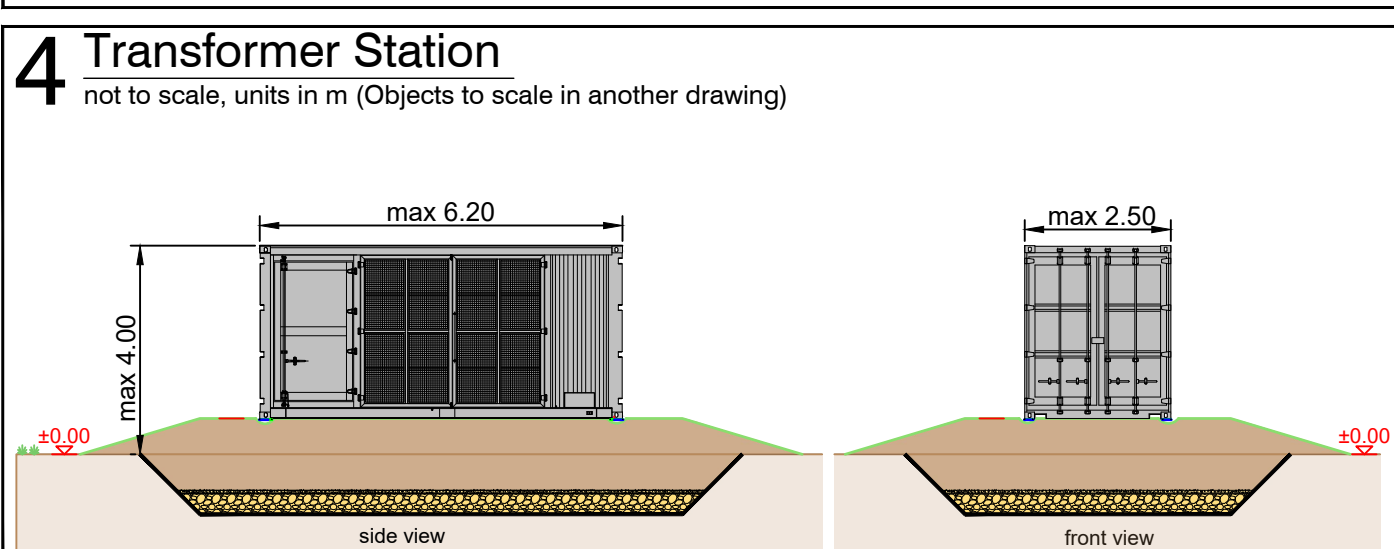
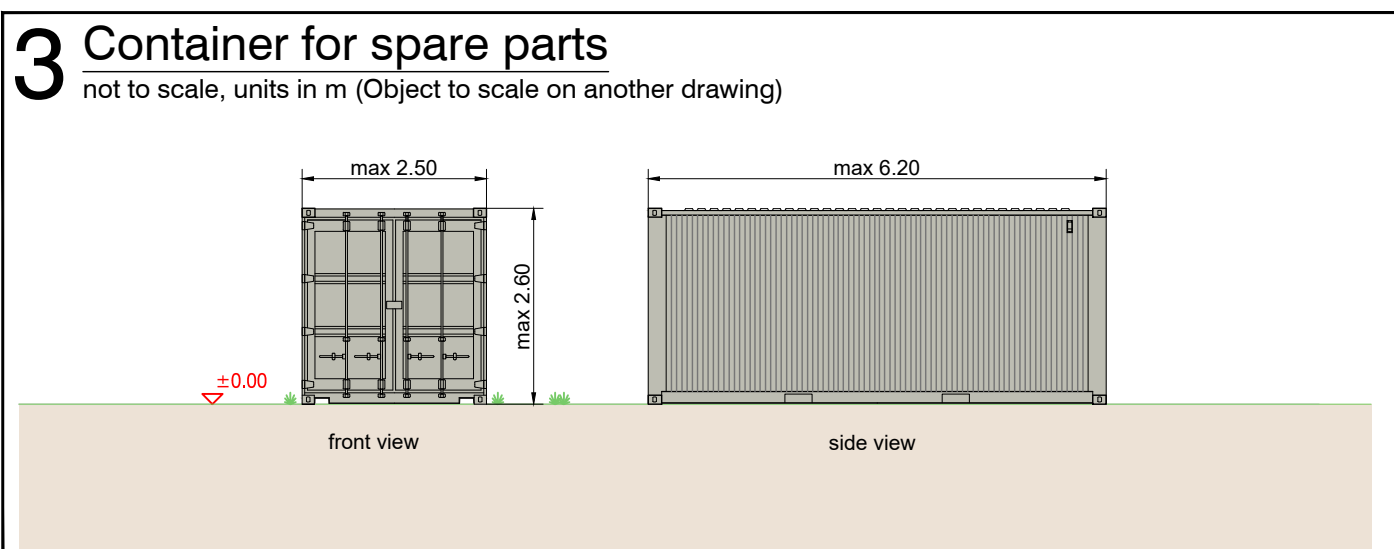
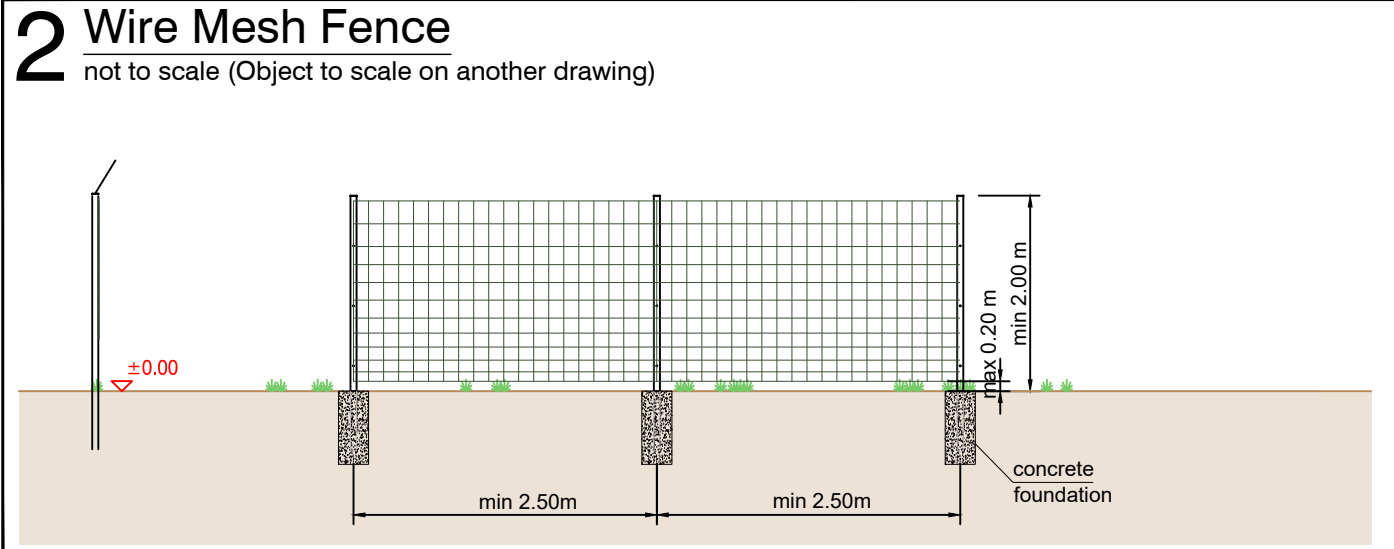
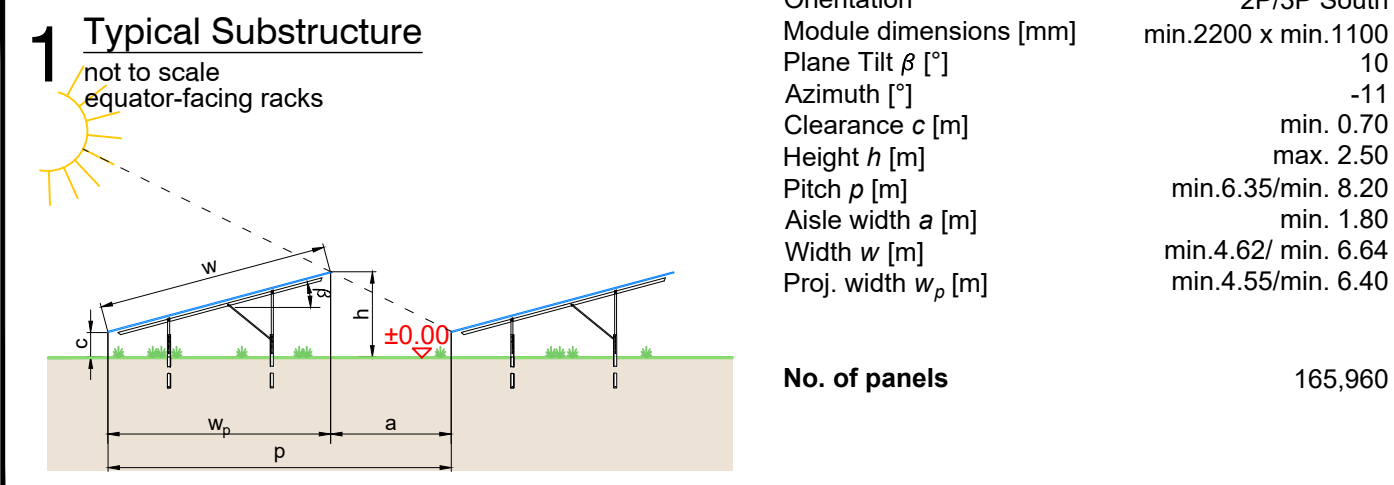
Document No: **NLD0006.M4.001.0.X** Revision Index: **X**

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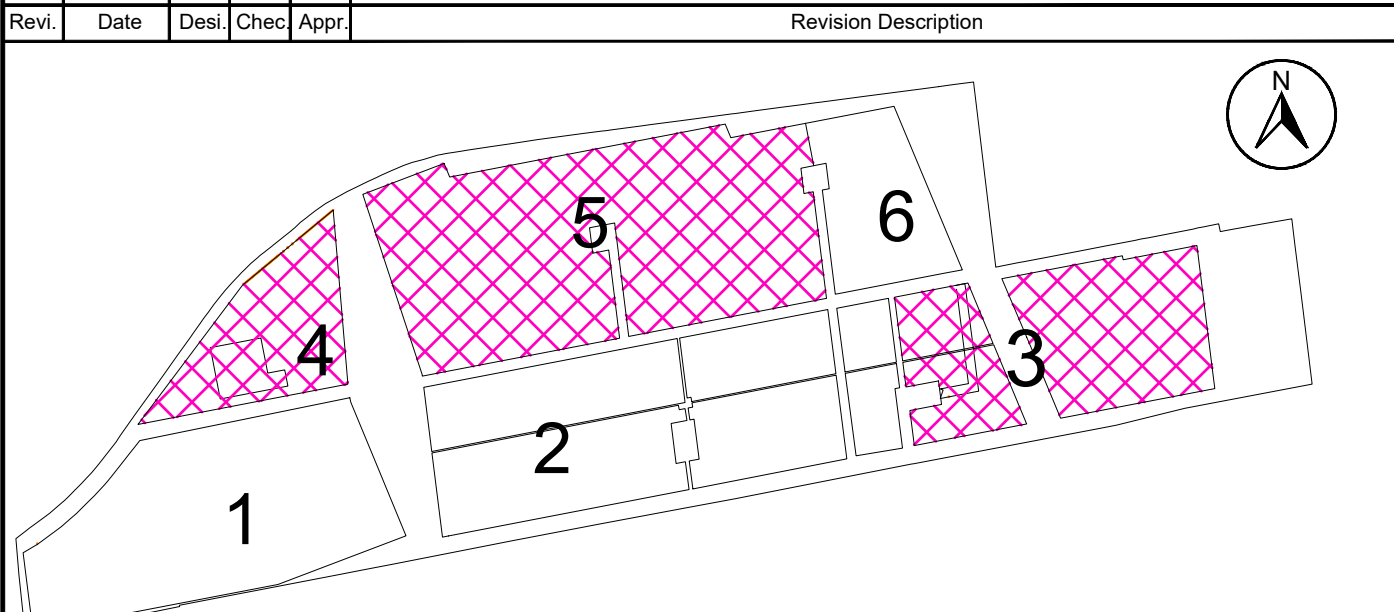
Geographical coordinates			Areas:	
			Fenced Area [m²]	Fence Length [m]
Country:	Netherlands	Field 1	263,845 m²	1,740 m
Address:	Eekerveeg - Oldambt	Field 2	364,825 m²	1,395 m
		Field 4	102,365 m²	1,030 m
		Field 3 & 5	614,070 m²	3,635 m
Latitude:	53.166193° N	Switchgear Fence	12,245 m²	500 m
Longitude:	6.916458° E	Windmill Fence	7,365 m²	525 m
		Total	1,468,730 m²	9,320 m

Orientation		2P/3P South
Module dimensions [mm]		min.2200 x min.1100
Plane Tilt β [°]		10
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Clearance c [m]		min. 0.70
Height h [m]		max. 2.50
Pitch p [m]		min.6.35/min. 8.20
Aisle width a [m]		min. 1.80
Width w [m]		min.4.60 min. 5.64
Proj. width w _p [m]		min.4.55/min. 6.40
No. of panels		165,960



LEGEND	
	Application Boundary
	PV Boundary
	Fence Oldambt
	Fence Groningen
	Fence Oldambt_Field 6
	Gate
	Existing road
	Fire Truck Route 3.25m
	Maintenance road < 4 m wide
	Collector Station
	OHL Clearance
	High Pressure NAM
	NAM Pipe
	Water crossing/ Culvert
	PV Rack
	Newly added PV Rack
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	Inverter / Transformer station
	Spare Parts Container
	Waterschap Hunze en Aa's - Roofoleiding
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	Data cable clearance - total 12 m
	Designated Areas Buffer
	Windmills requirement for maintenance
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Before undertaking any civil works, the location of overhead lines, buried cables, gas and water pipes are to be checked on site and also the corresponding owners of the utilities are to be contacted.	
Document-no: NLD0006.M4.001.0.X	
Project No. Descri. Serial No. Size Rev.	
X	06 Mar 23 SGJA DWL Access route for fire brigade, removal and modification of panel placement, implementation 2P for edge alignment.
W	07 Feb 23 ANA SGA Racks removed from field 4, PV boundaries adjusted for field 6, windmills clearances updated to consider corner
V	11 Jan 23 SGJA DWL This version includes both panels of Oldambt and Groningen. Field 6 was added again. Gridlines (lines) for windmills were filled with white circles to indicate details
U	23 Dec 22 ZDO DWL New Kic file with Gasunie pipe
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L	27 Oct 21 ZDO DWL Updated landscaping plan
Rev.	Date Descri. Check Appr.



Project Management / Engineering Design:		Client:	
ibvogt		Eekerveeg	
ib vogt GmbH Helmholtzstr. 2-9 10587 Berlin Tel. +49 30 397440-0 www.ibvogt.com		Midden Groningen Module Array Layout	
Engineering Design:		Supplier:	
ib vogt GmbH Helmholtzstr. 2-9 10587 Berlin Tel. +49 30 397440-0 www.ibvogt.com		Approval Design	
Version:		Status:	
Metric European Proj.		06 Mar 23	
Designed by 21 Jul 2020 Schult		Revision Index:	
Checked by		NLD 0006.M4.001.0.X	
Approved by		X	
Title:		Project No. Descri. Serial No. Size Rev.	
ibvogt		1 Project No. Descri. Serial No. Size Rev.	