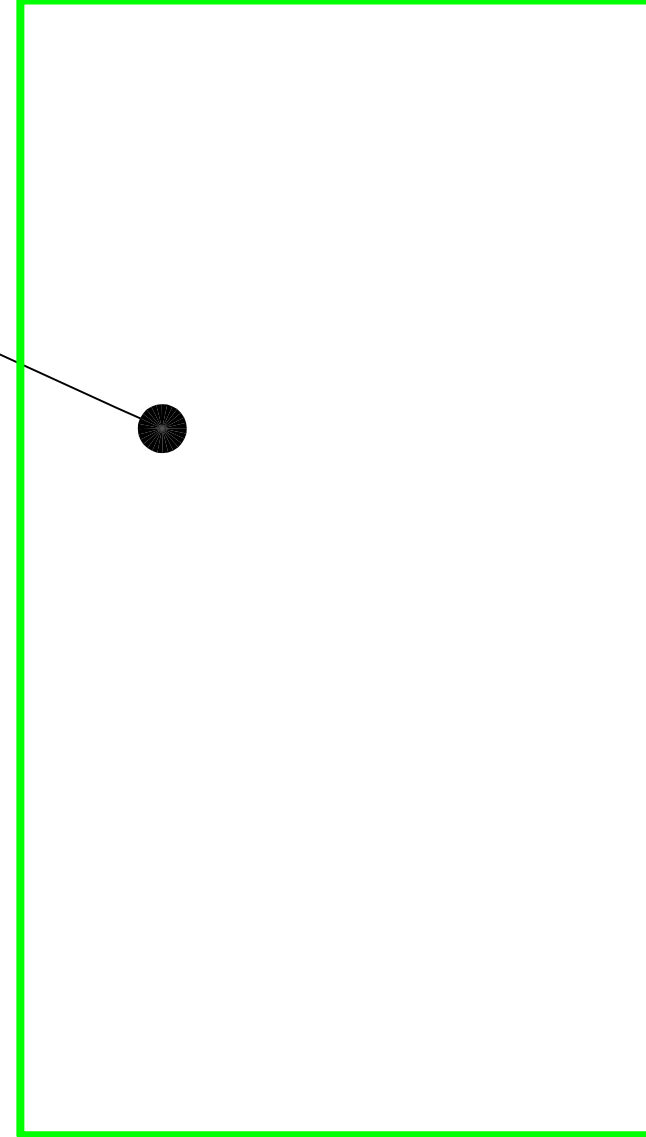


PROJECT COORDINATES
Lat = 13°33'58.58"N Lon = 43°0'27.70"E

Al-Thawra Health Center



PROJECT LOCATION



Supply & Install Solar System
for Al-Thawra Health Center
توريد وتركيب منظومات طاقة
شمسية لمركز الثورة الصحي

DRAWING TITLE:
PROJECT LOCATION

مركز الثورة الصحي

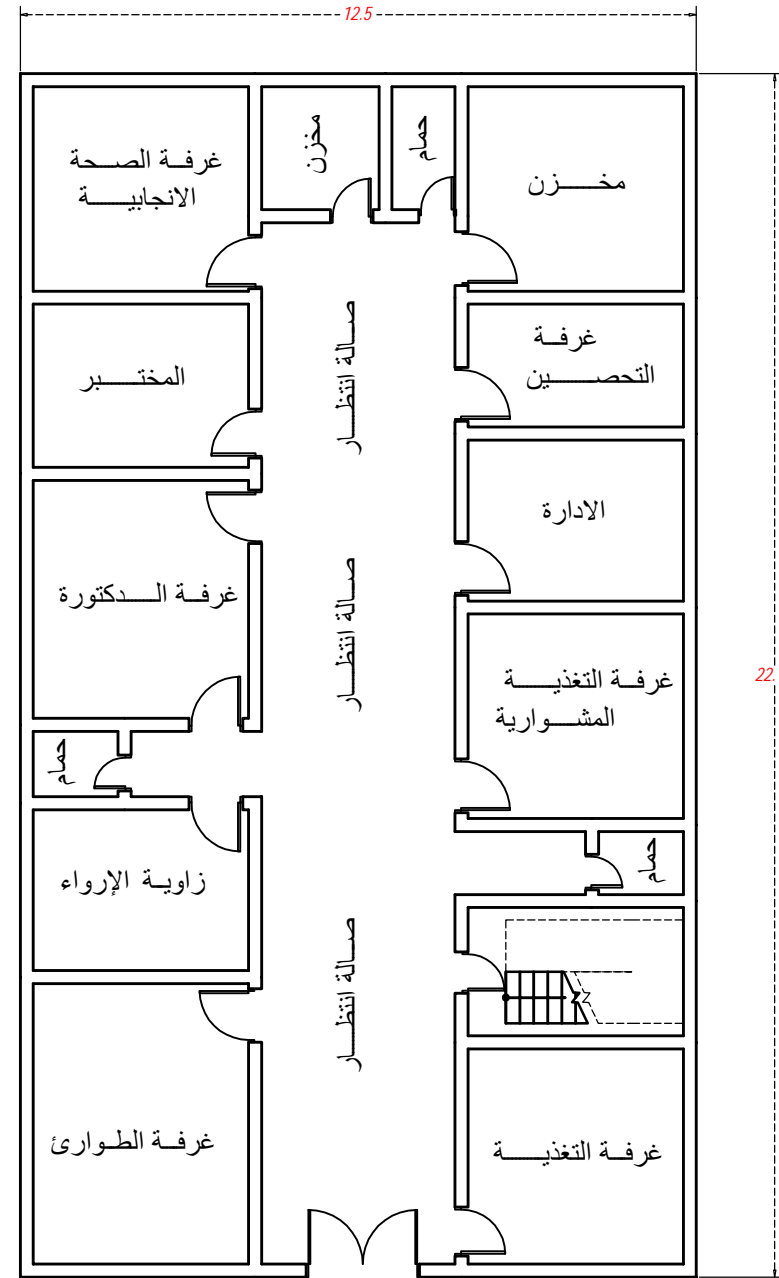
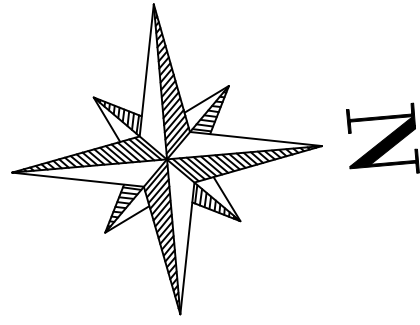
مسقط افقي

01

sheet
اسم اللوحة

Sheet No
رقم اللوحة

SCALE:
AS SHOWN.



Supply & Install Solar System
for Al-Thawra Health Center
توريد وتركيب منظومات طاقة
شمسية لمركز الثورة الصحي

DRAWING TITLE:
Floors Layouts

مركز الثورة الصحي

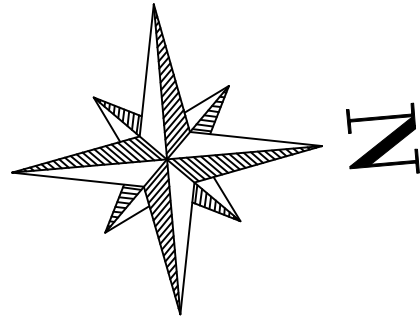
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02

sheet
اسم اللوحة

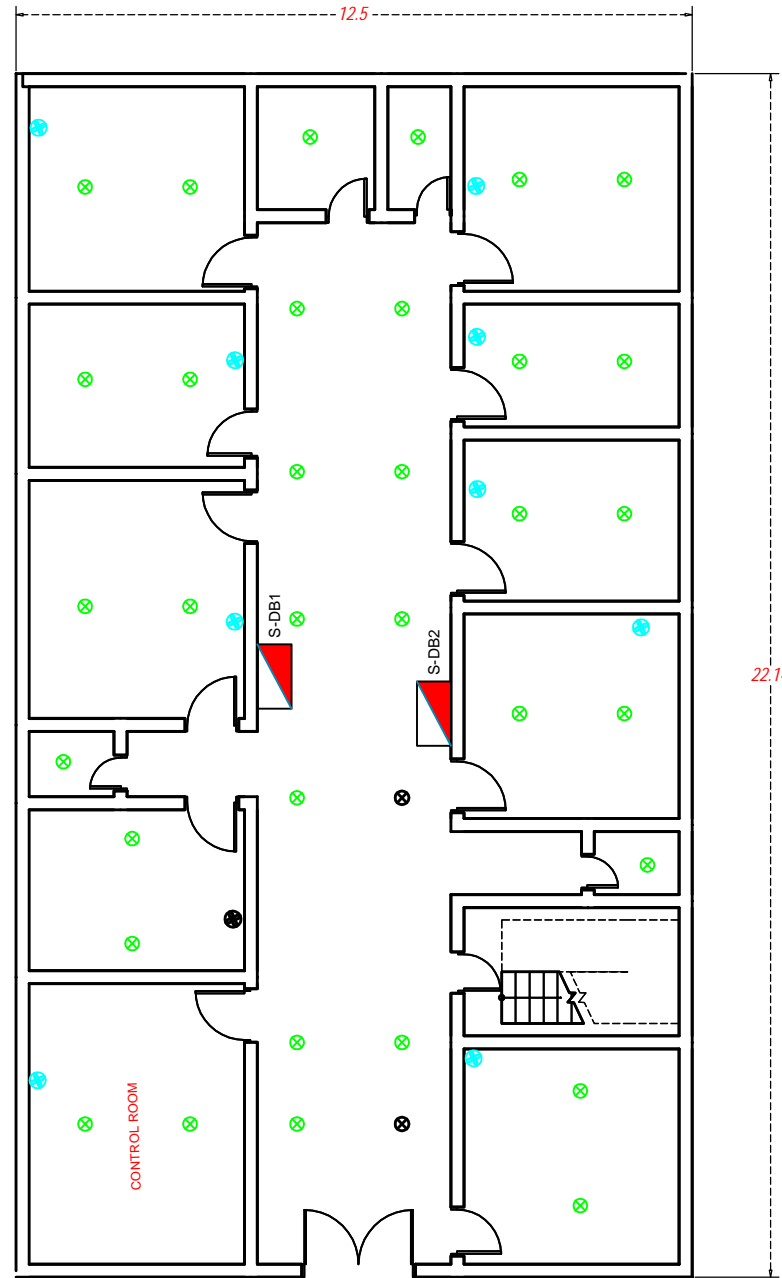
Sheet No
رقم اللوحة

SCALE:
AS SHOWN.



LEGEND:

SYMBOL	DESCRIPTION
	Wall fan
	LED light (12 w)
	Ceiling fans
	DISTRIBUTION BOARD
	Battery Rack



الشوارع العام



Supply & Install Solar System
for Al-Thawra Health Center
توريد وتركيب منظومات طاقة
شمسية لمركز الثورة الصحي

DRAWING TITLE:
ELECTRICAL Plan

مركز الثورة الصحي

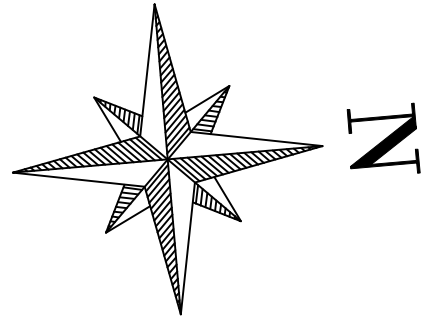
مسقط افقي

03



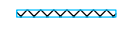



sheet
اسم اللوحة

Sheet No
رقم اللوحة

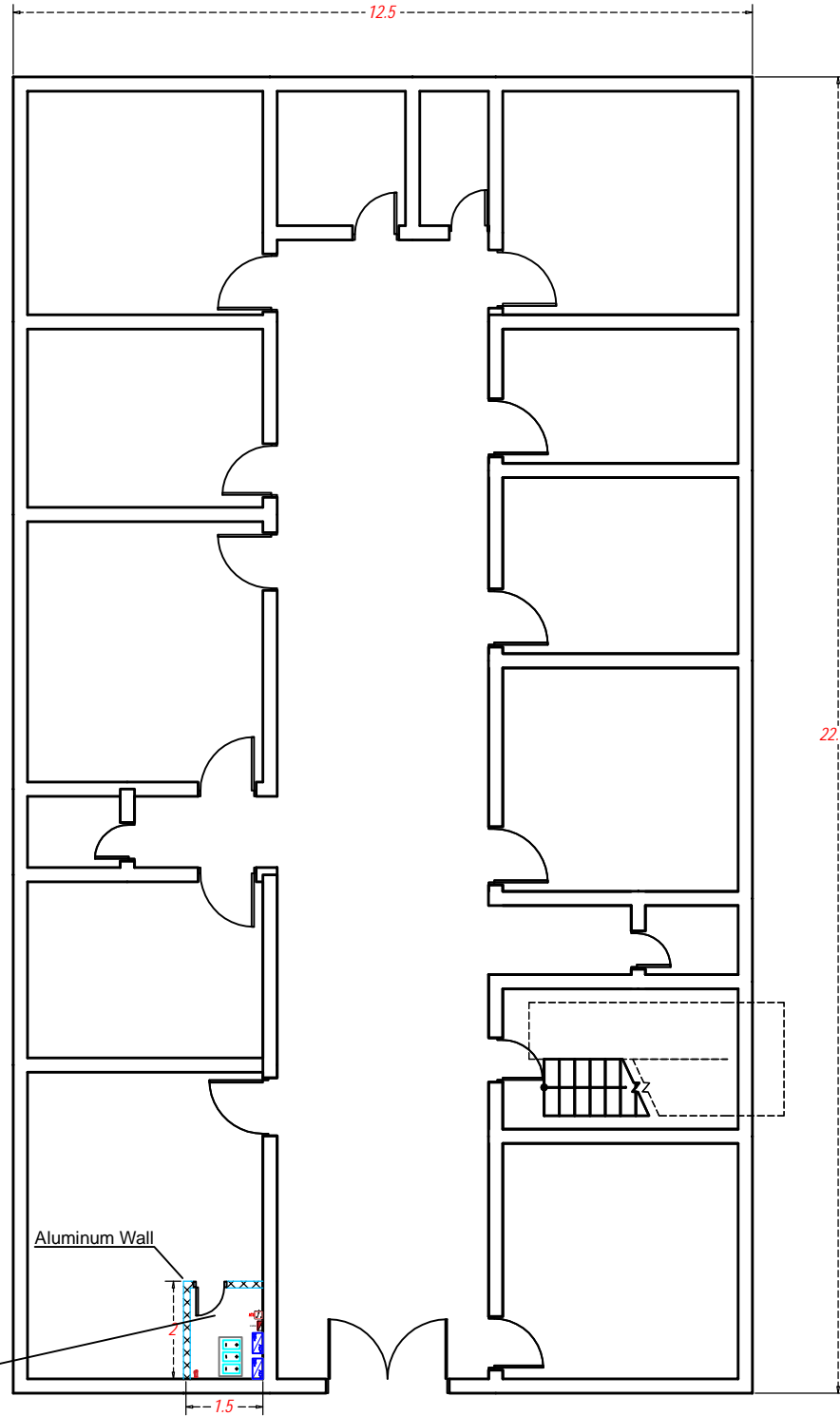
SCALE:
AS SHOWEN.



LEGEND:

SYMBOL	DESCRIPTION
 ATS	AUTOMATIC TRANSFER SWITCH
	HYBRID INVERTER
	Aluminum Wall
 DB	DISTRIBUTION BOARD
	Battery Rack
	FIRE EXTINGUISHER

Battery Room



Supply & Install Solar System
for Al-Thawra Health Center
توريد وتركيب منظومات طاقة
شمسية لمركز الثورة الصحي

DRAWING TITLE:
Battery Room Diagram

مركز الثورة الصحي

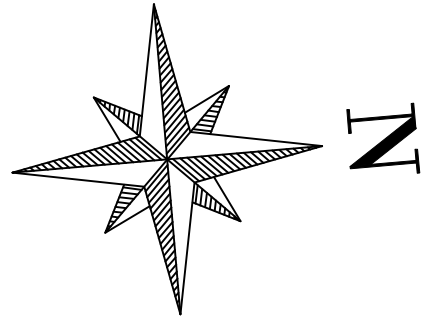
مسقط افقي

04

sheet
اسم اللوحة

Sheet No
رقم اللوحة

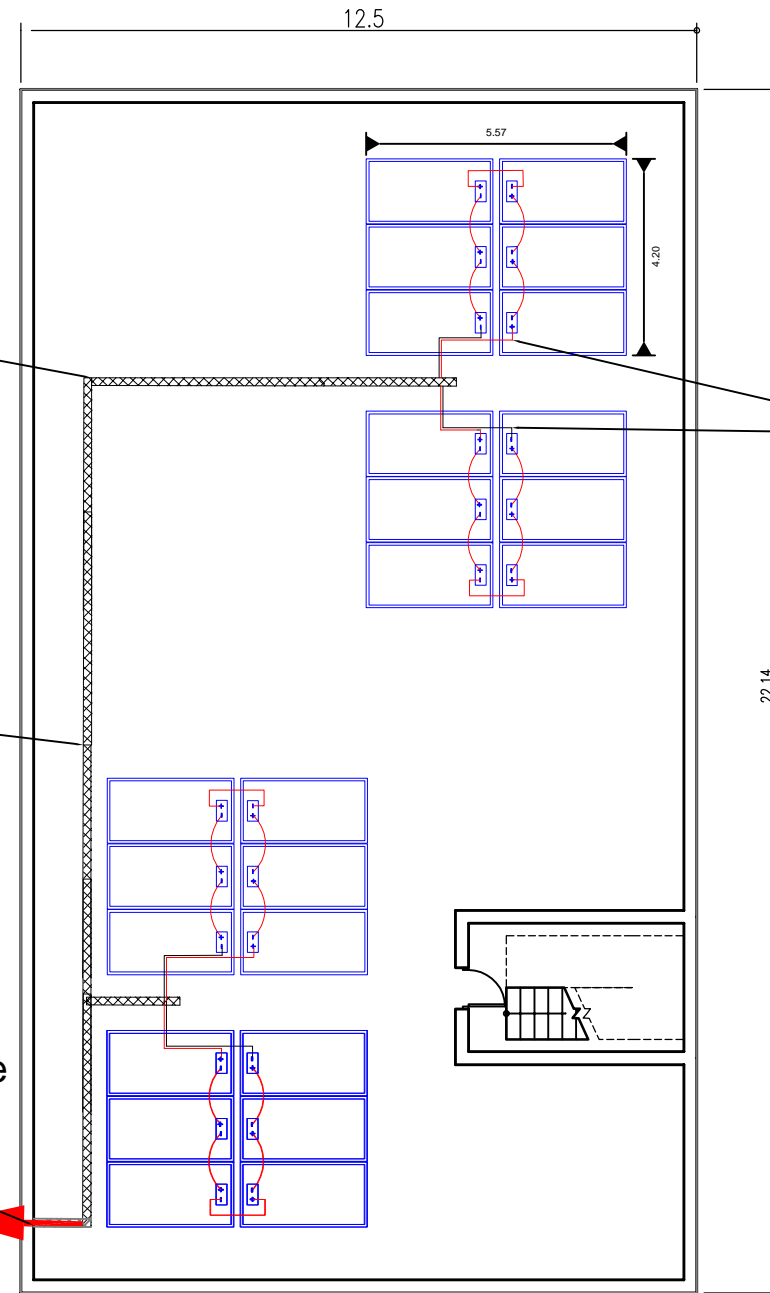
SCALE:
AS SHOWN.



Cable Tray 200 mm wide

Cable Tray 200 mm wide

To Proposed Battery Room In The
Ground Floor



(1x10mm²) CU/PVC/PVC
Cable (Red & Black)



Supply & Install Solar System
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توريد وتركيب منظومات طاقة
شمسية لمركز الثورة الصحي

DRAWING TITLE:
PV DISTRIBUTION

مركز الثورة الصحي

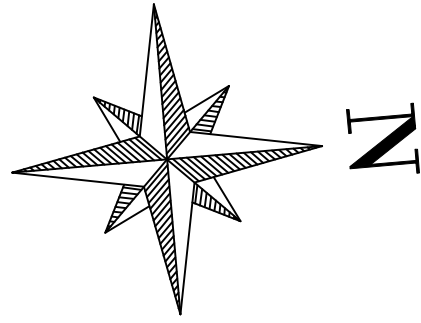
مسقط افقي

05

sheet
اسم اللوحة

Sheet No
رقم اللوحة

SCALE:
AS SHOWN.



Cable Tray 200 mm wide

1CX6 SQ.MM

MIN DISTANCE IS 6TIME LENGTH OF EARTH ROR

TO LIGHTNING ARRESTER 1CX 25SQ.MM

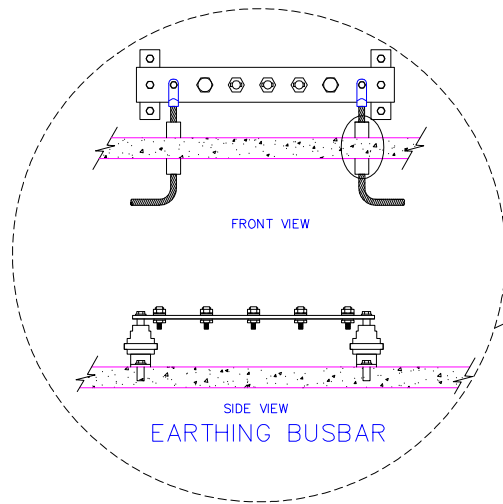
TO EARTHING BUSBAR NO 2. 1CX 16SQ.MM

LIGHTNING PIT

TO EARTHING BUSBAR NO1 2.CX 25SQ.MM

EARTHING BUSBAR NO1.

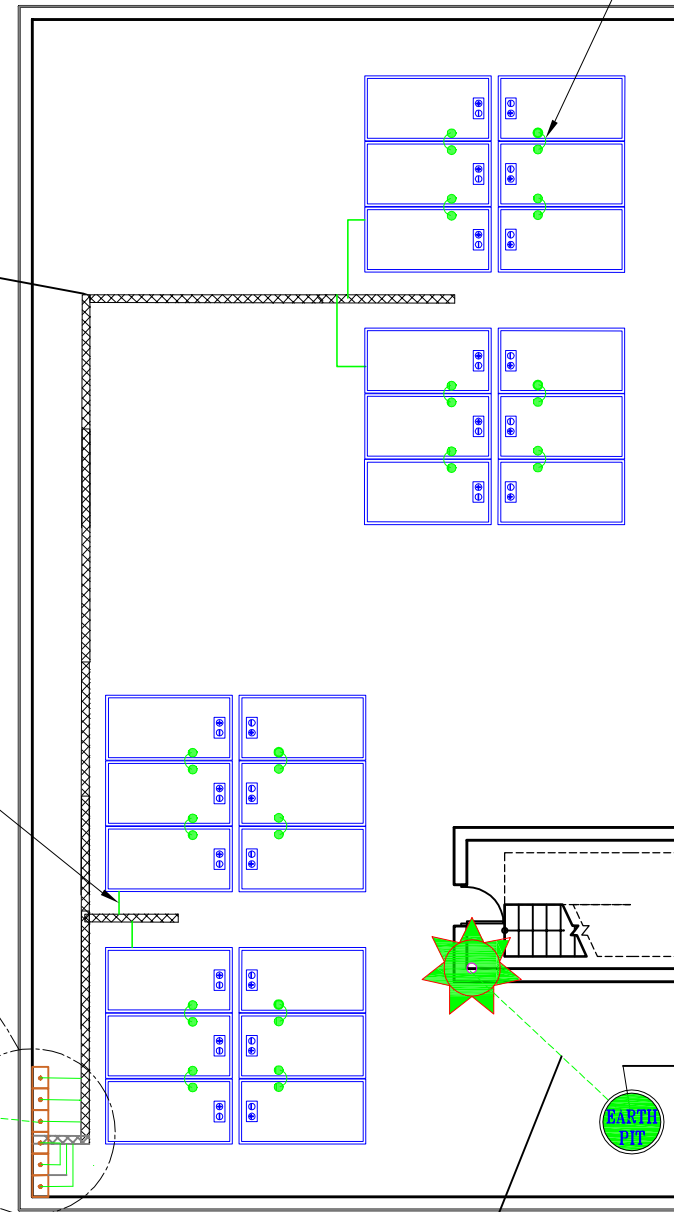
EARTHING PIT



1CX10 SQ.MM

EARTHING PIT

25 sqmm bare CU
Inside 1 inch UPVC



LIGHTNING PIT

25 sqmm bare CU
Inside 1 inch UPVC



Supply & Install Solar System
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توريد وتركيب منظومات طاقة
شمسية لمركز الثورة الصحي

DRAWING TITLE:
**EARTHING &
LIGHTNING PLAN**

مركز الثورة الصحي

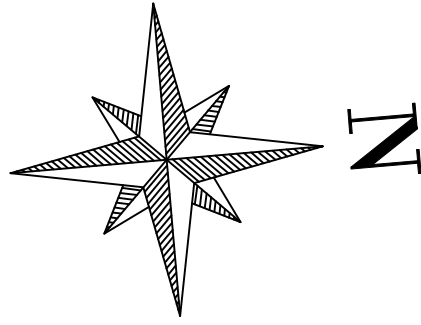
مسقط افقي

06

sheet
اسم اللوحة

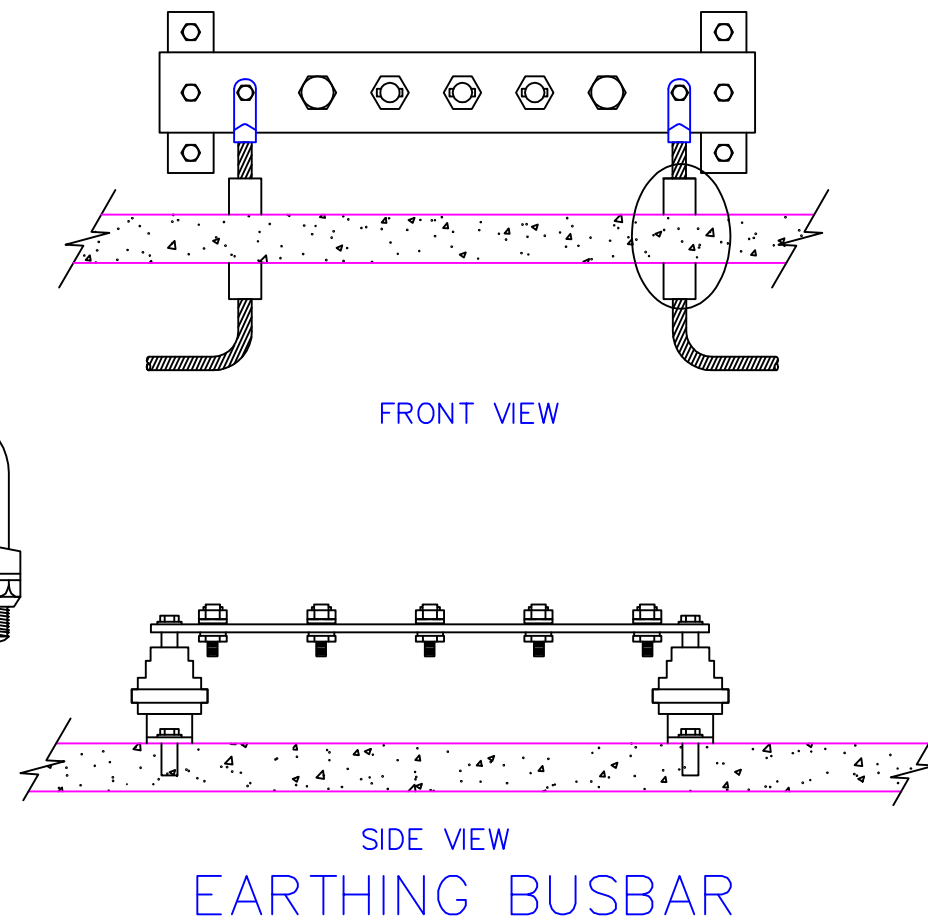
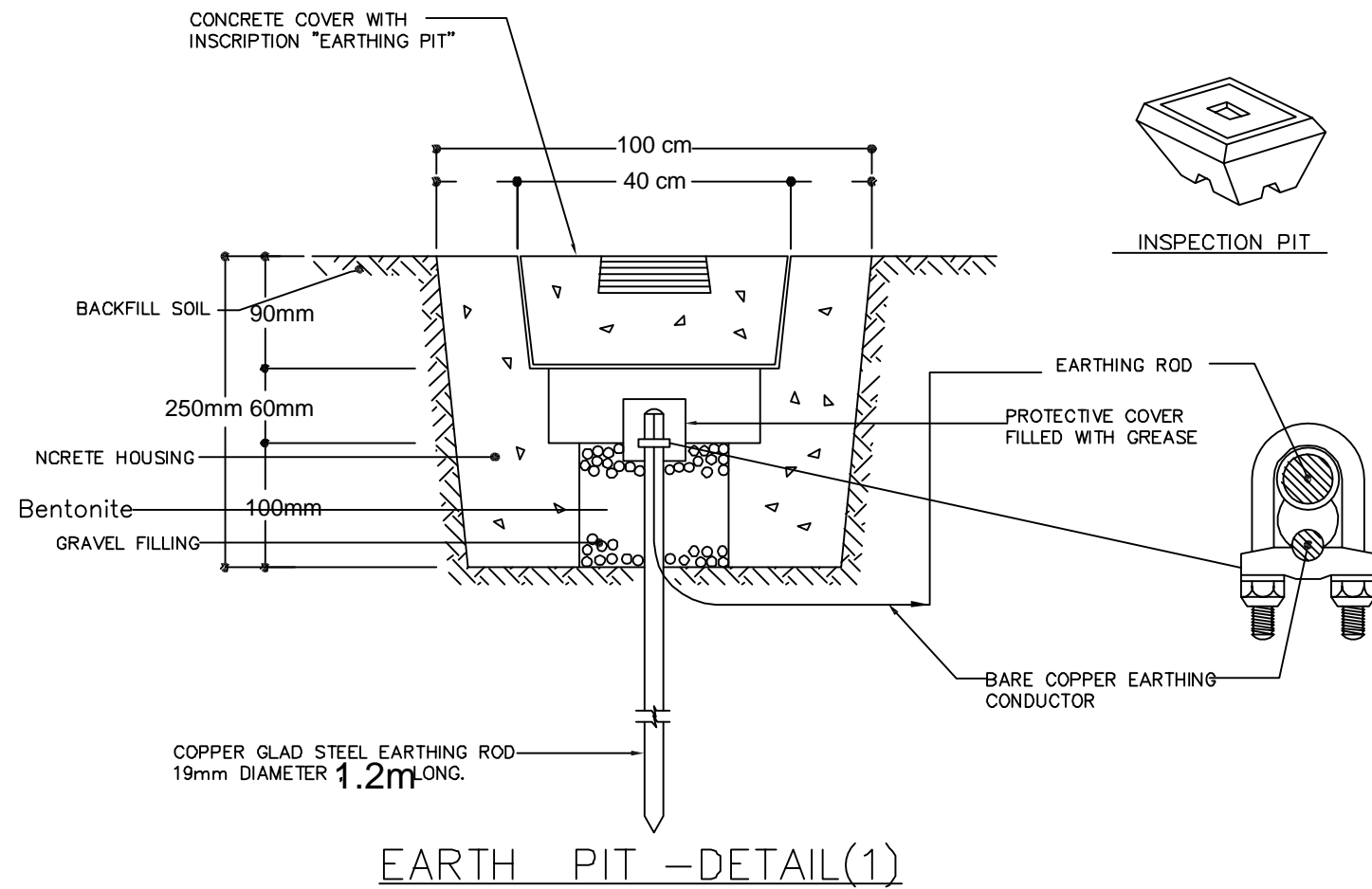
Sheet No
رقم اللوحة

SCALE:
AS SHOWEN.



REMARKS:

1. ALL DIMENSIONS AND ELEVATIONS ARE IN CENTIMETERS AND METERS RESPECTIVELY, UNLESS OTHERWISE MENTIONED.
2. ALL DIMENSIONS TO BE CHECKED AND CONFIRMED ON SITE BEFORE COMMENCEMENT OF ANY WORK.
3. ANY DISCREPANCY TO BE REPORTED TO THE SITE ENGINEER/ PROJECT MANAGER PROMPTLY BEFORE PROCEEDING.
4. EARTHING PIT SHALL BE CARRY OUT AS BE SITE ENGINEER INSTRUCTION.



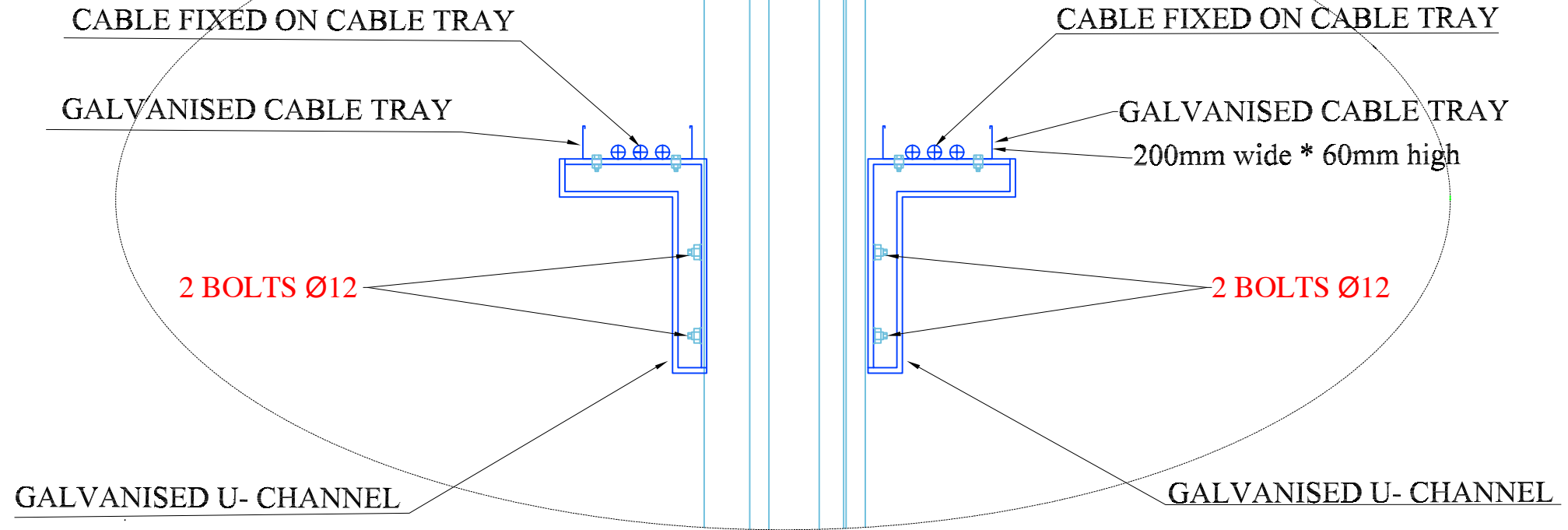
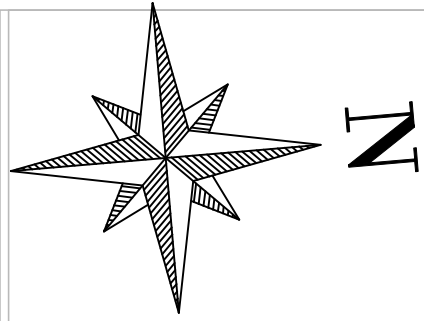
Supply & Install Solar System for Al-Thawra Health Center
 توريد وتركيب منظومات طاقة شمسية لمركز الثورة الصحي

DRAWING TITLE:
EARTHING DETAILS

مركز الثورة الصحي
 مسقط افقي
 07

SCALE:
 AS SHOWN.

sheet
 اسم اللوحة
 Sheet No
 رقم اللوحة



10 **INSTALL CABLE TRAY - DETAIL A**
STRUCTURE DETAILS



Supply & Install Solar System
for Al-Thawra Health Center
توريد وتركيب منظومات طاقة
شمسية لمركز الثورة الصحي

DRAWING TITLE:
GENERAL DETAILS

مركز الثورة الصحي

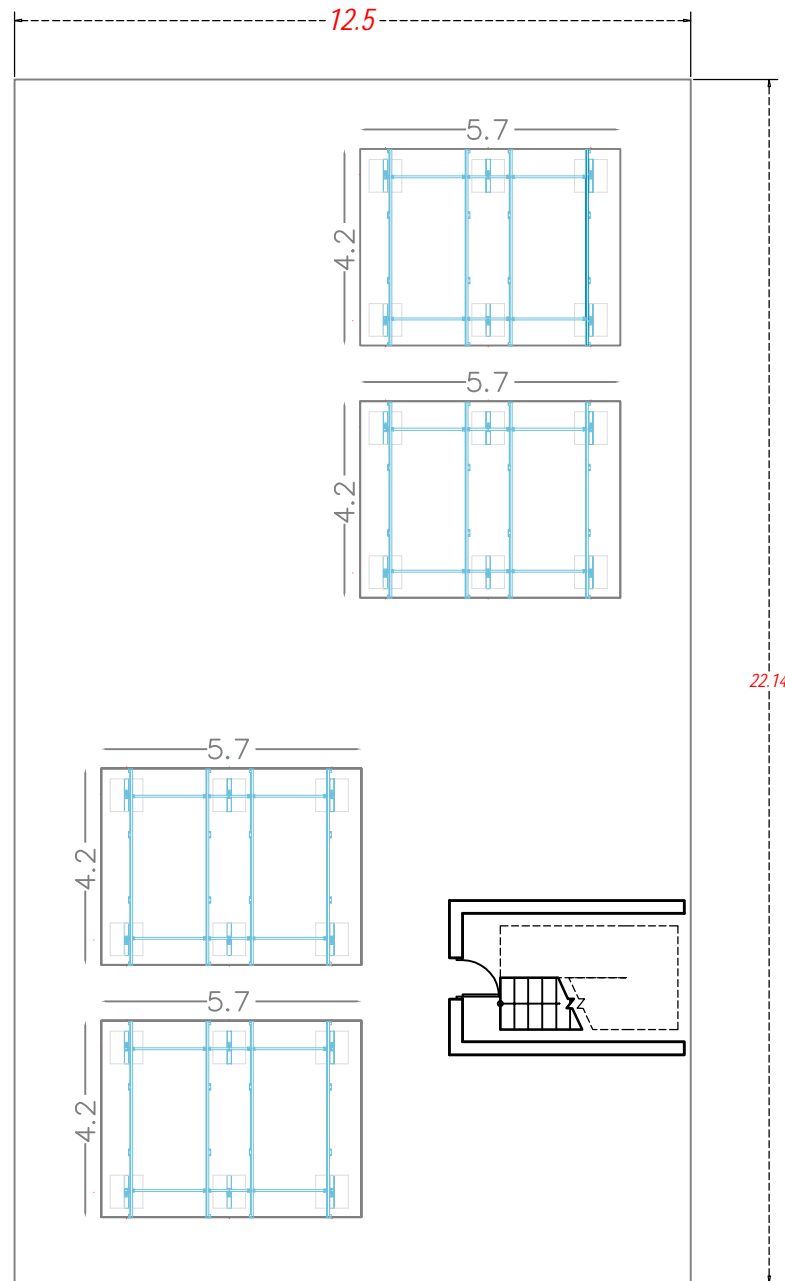
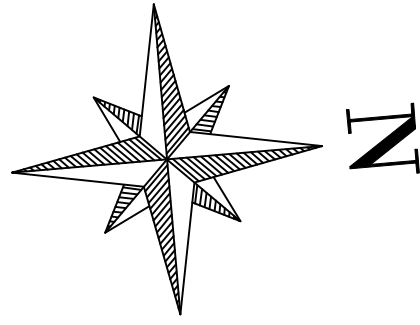
مسقط افقي

08

sheet
اسم اللوحة

Sheet No
رقم اللوحة

SCALE:
AS SHOWN.



الشارع العام



Supply & Install Solar System
for Al-Thawra Health Center
توريد وتركيب منظومات طاقة
شمسية لمركز الثورة الصحي

DRAWING TITLE:
BASES DISTRIBUTION

مركز الثورة الصحي

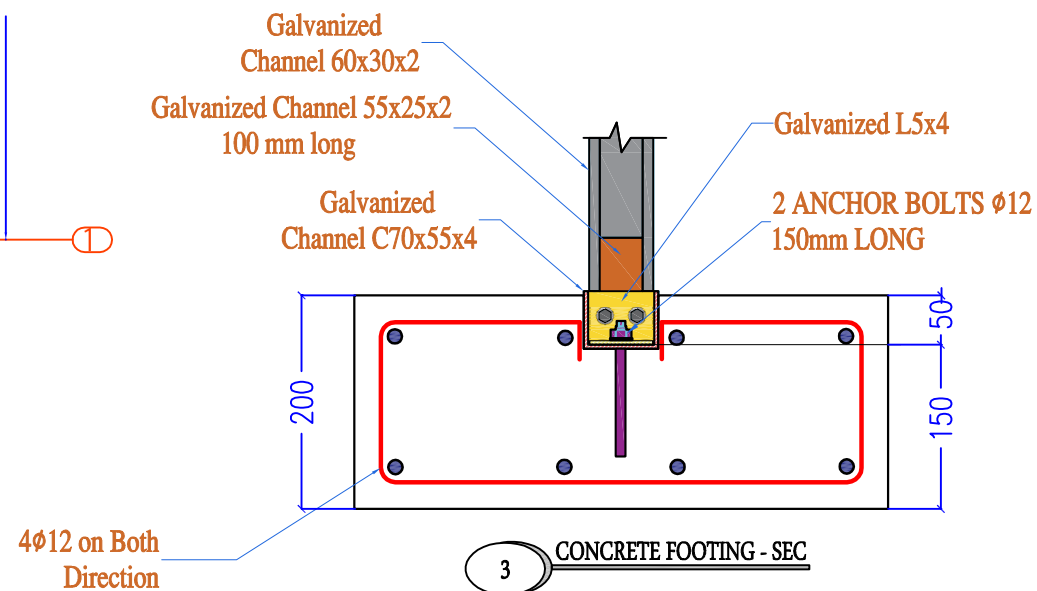
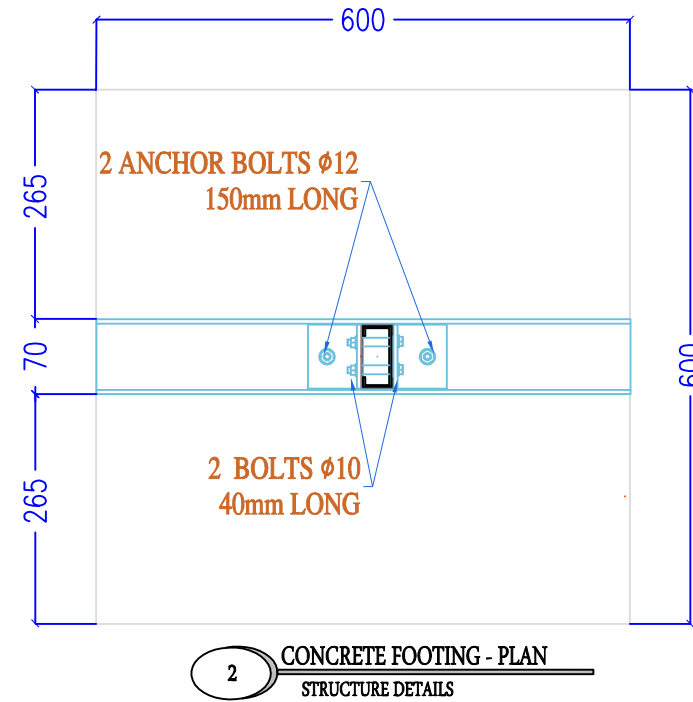
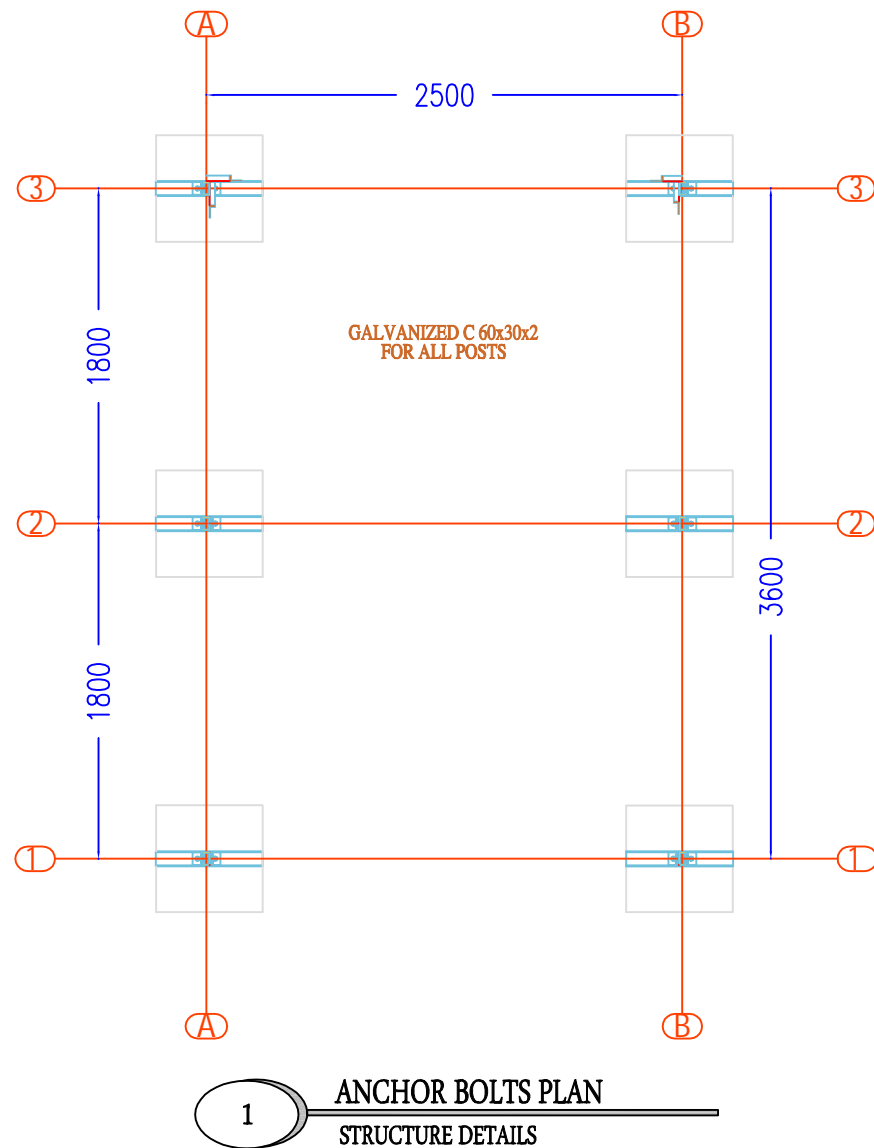
مسقط افقي

09

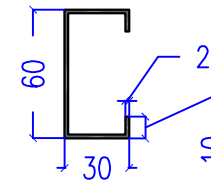
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اسم اللوحة

Sheet No
رقم اللوحة

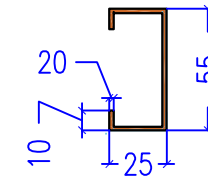
SCALE:
AS SHOWN.



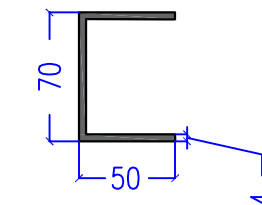
Channel C 60x30x2



Channel C 55x25x2



Channel C 70x50x4



Supply & Install Solar System
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توريد وتركيب منظومات طاقة
شمسية لمركز الثورة الصحي

DRAWING TITLE:
ANCHOR POLTS PLAN.

مركز الثورة الصحي

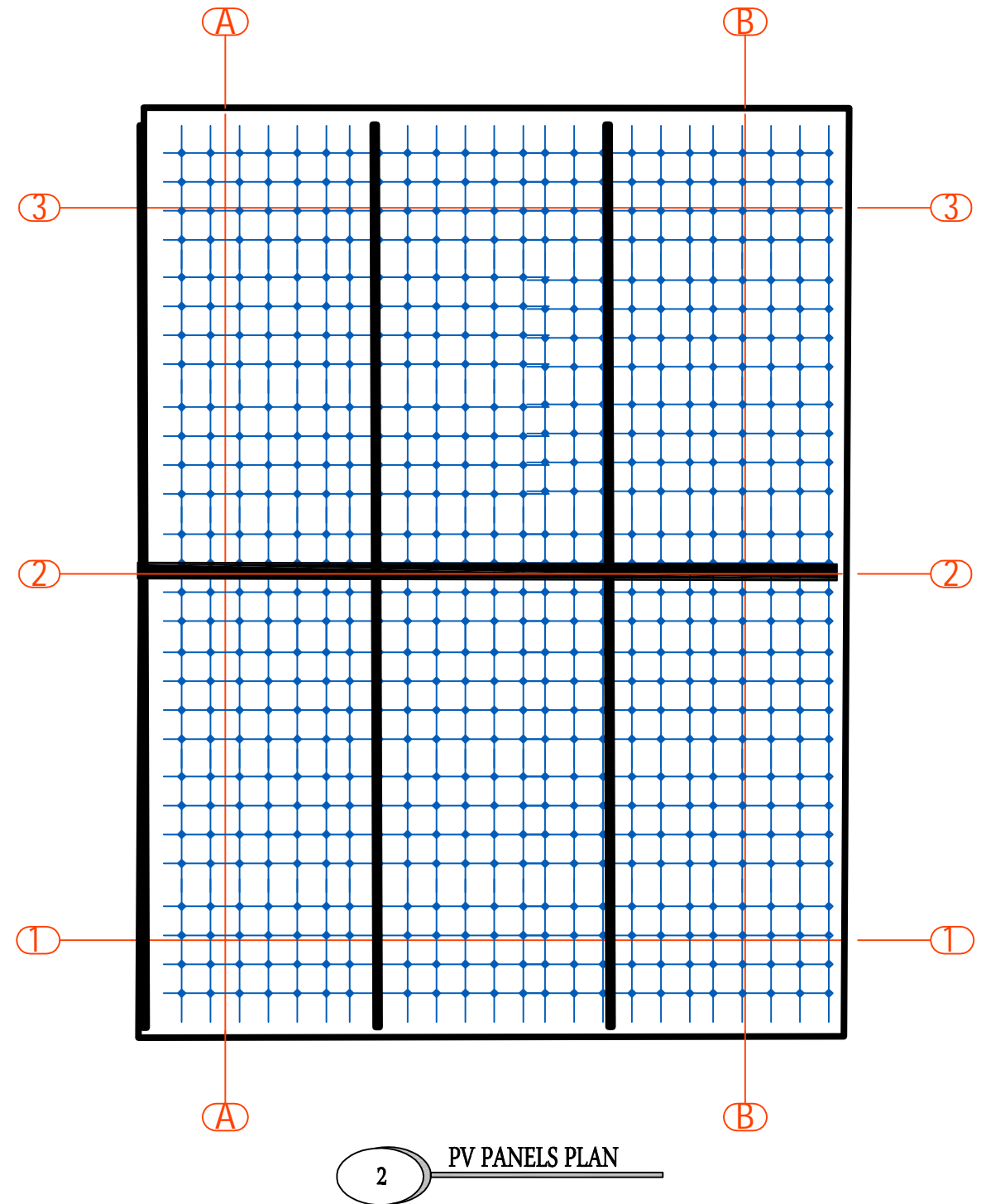
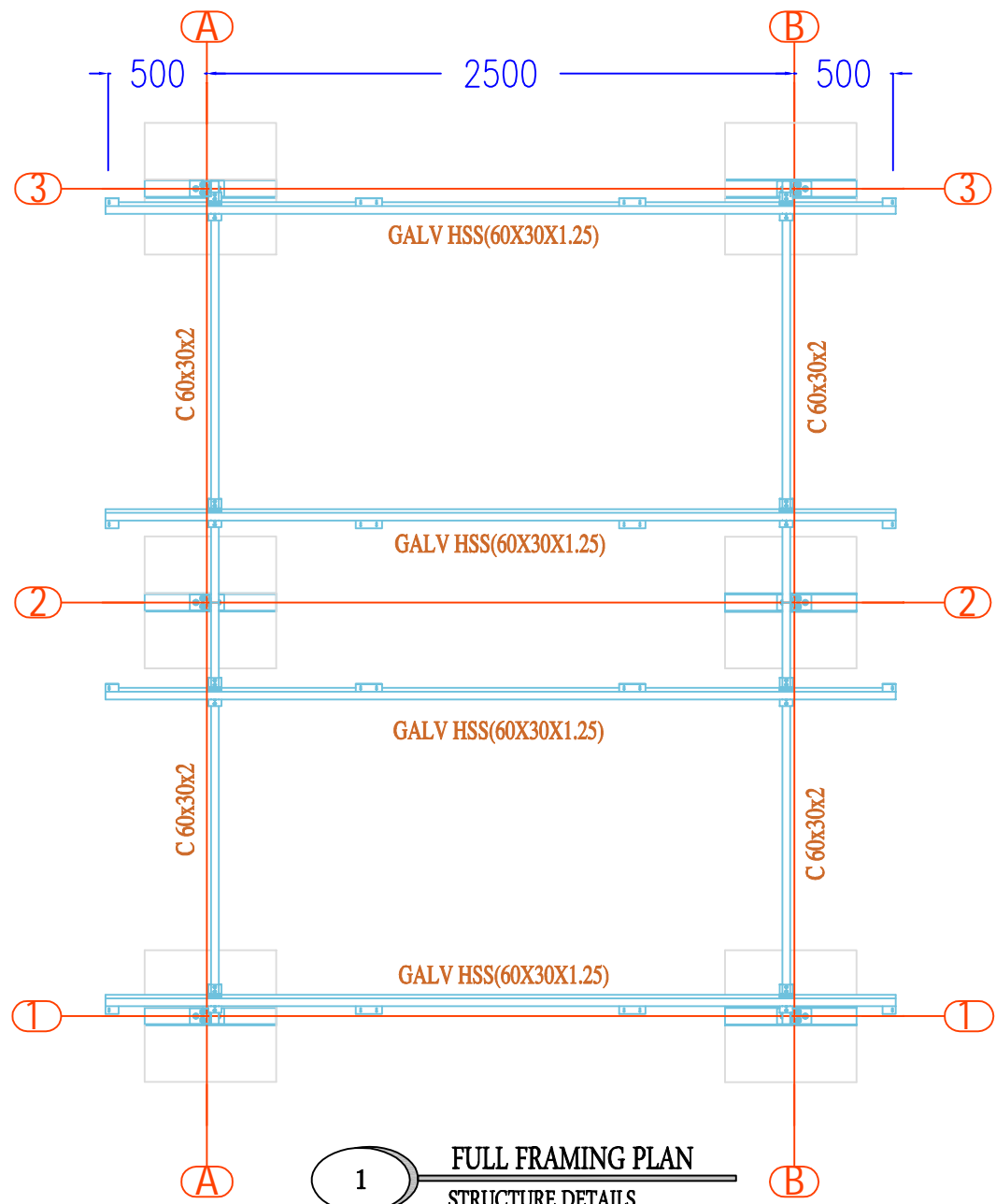
مسقط افقي

10

sheet
اسم اللوحة

Sheet No
رقم اللوحة

SCALE:
AS SHOWN.



Supply & Install Solar System
for Al-Thawra Health Center
توريد وتركيب منظومات طاقة
شمسية لمركز الثورة الصحي

DRAWING TITLE:
FULL PLAN

مركز الثورة الصحي

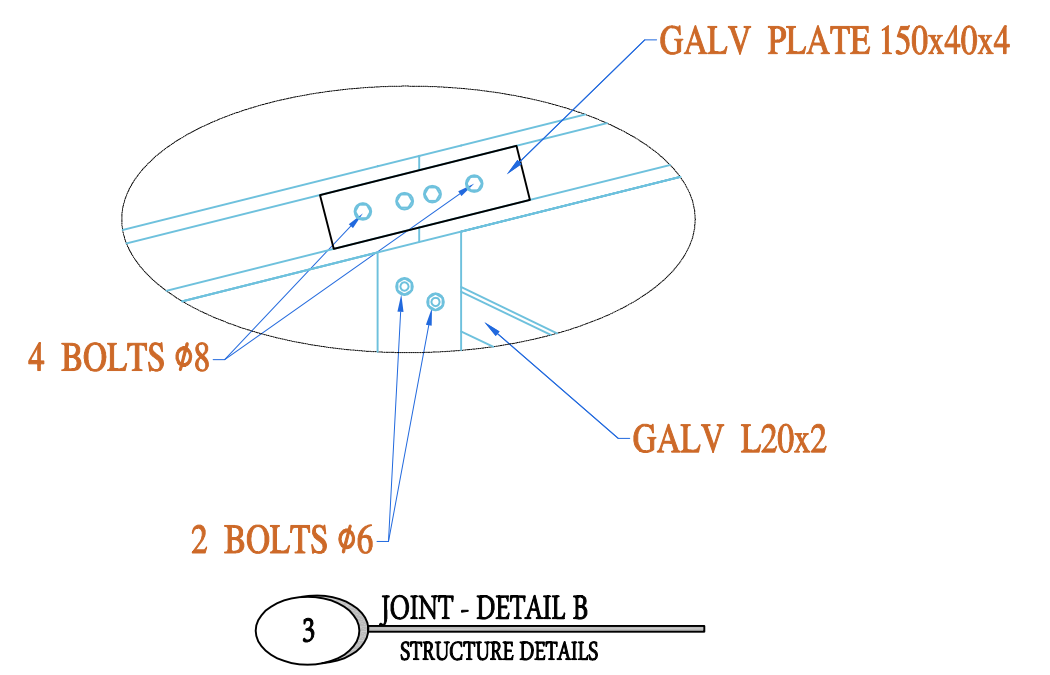
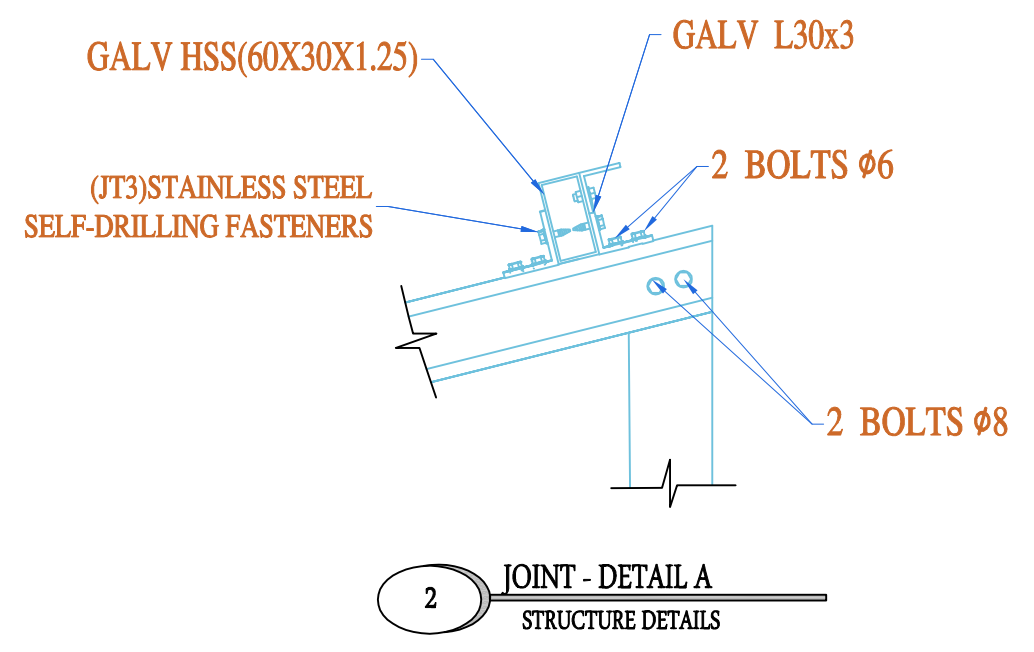
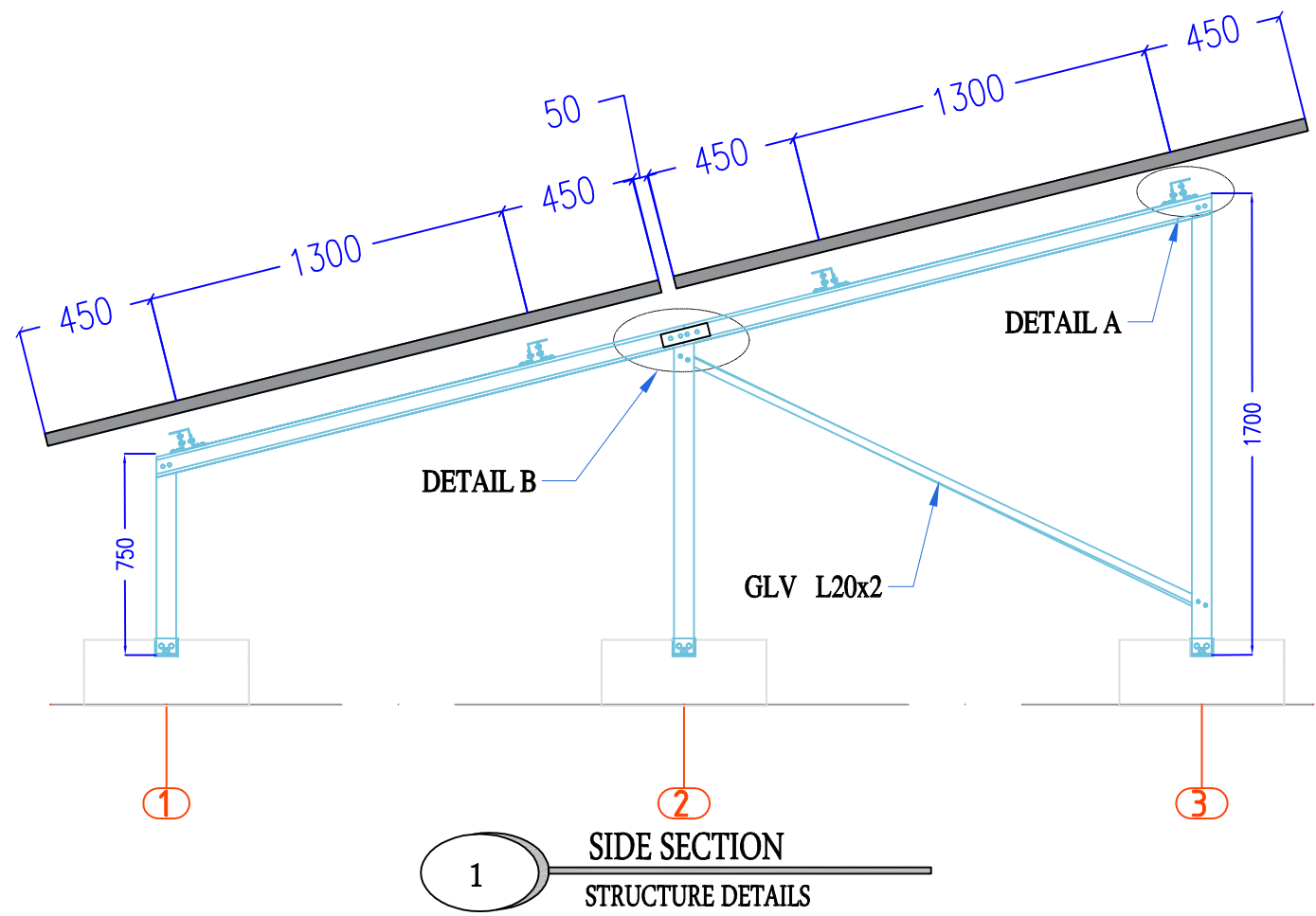
مسقط افقي

11

sheet
اسم اللوحة

Sheet No
رقم اللوحة

SCALE:
AS SHOWN.



Supply & Install Solar System
for Al-Thawra Health Center
توريد وتركيب منظومات طاقة
شمسية لمركز الثورة الصحي

DRAWING TITLE:
SIDE ELEVATION

مركز الثورة الصحي

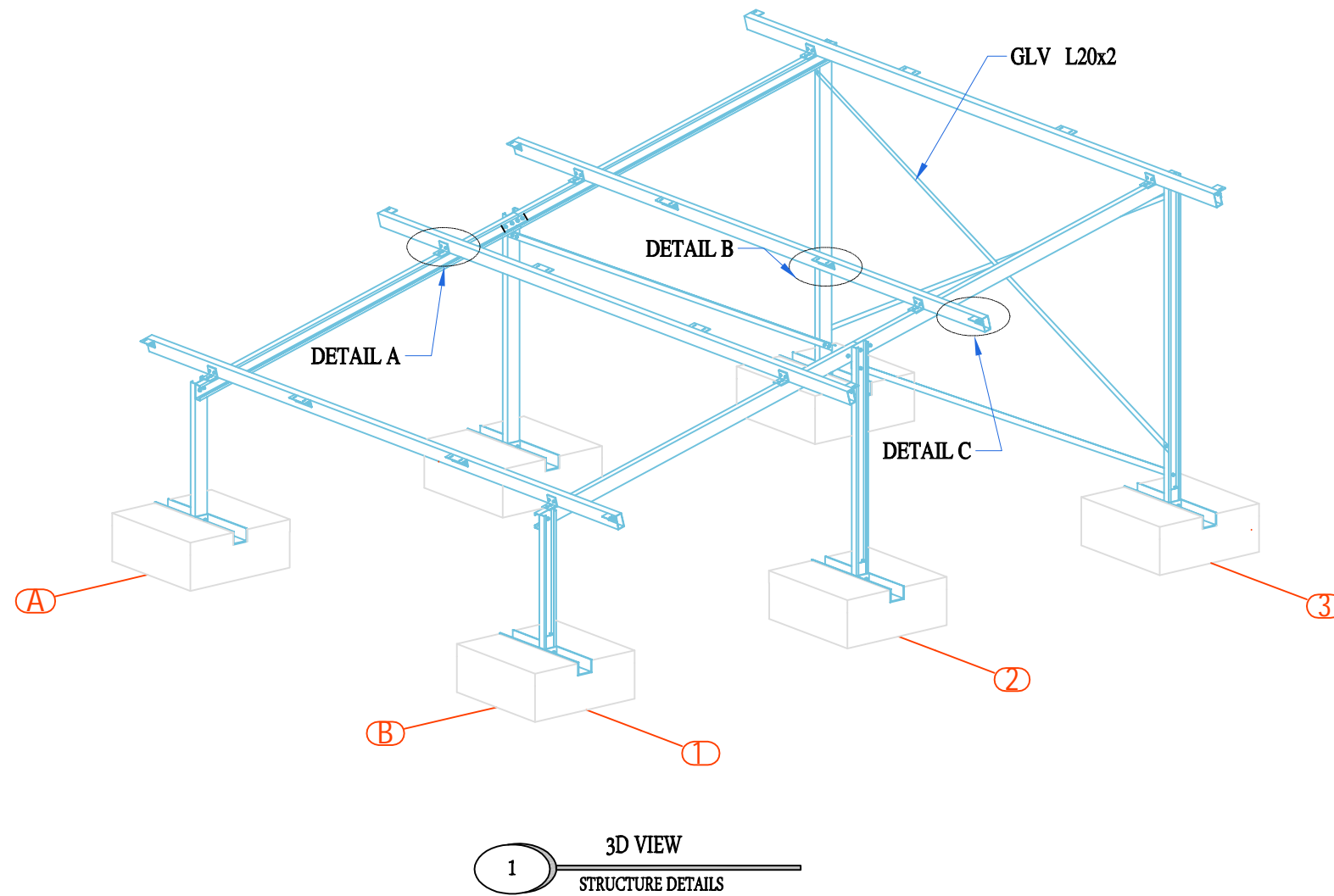
مسقط افقي

12

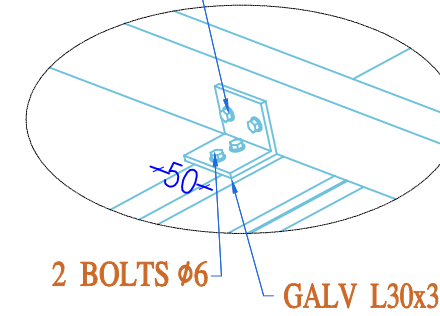
sheet
اسم اللوحة

Sheet No
رقم اللوحة

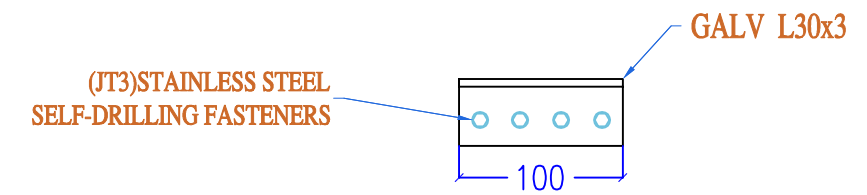
SCALE:
AS SHOWN.



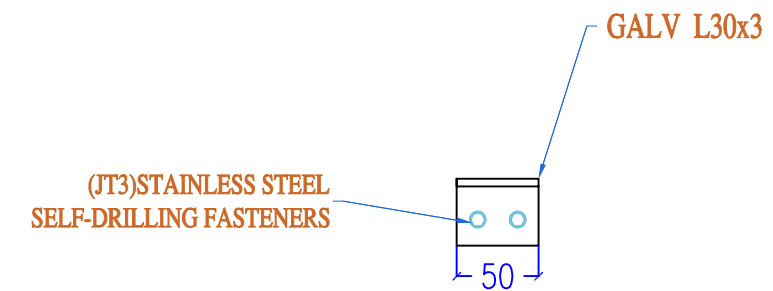
(J3)STAINLESS STEEL
SELF-DRILLING FASTENERS



2 JOINT - DETAIL A
STRUCTURE DETAILS



3 JOINT - DETAIL B
STRUCTURE DETAILS



4 JOINT - DETAIL C
STRUCTURE DETAILS



Supply & Install Solar System
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توريد وتركيب منظومات طاقة
شمسية لمركز الثورة الصحي

DRAWING TITLE:

3D VIEW

مركز الثورة الصحي

مسقط افقي

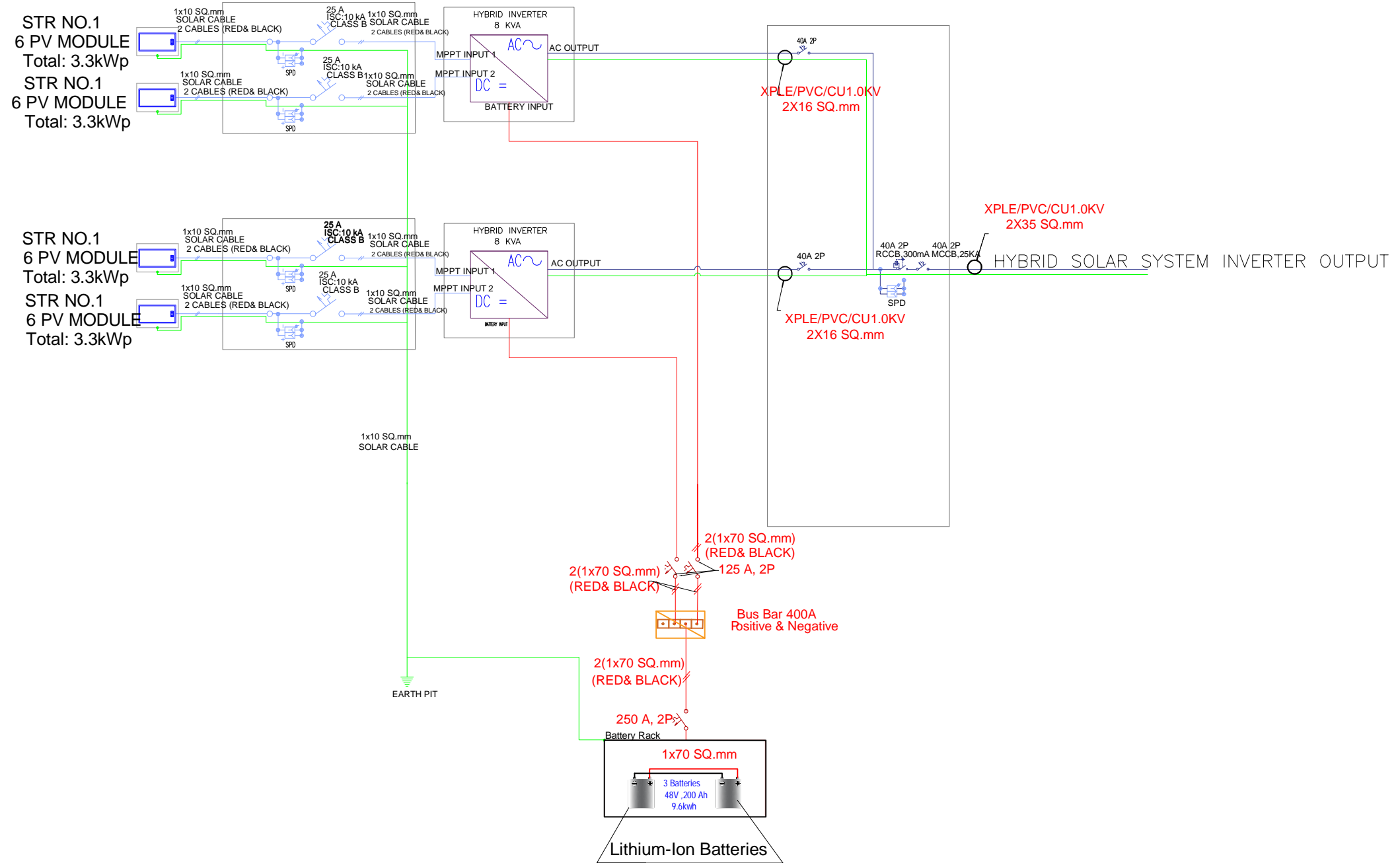
13

sheet
اسم اللوحة

Sheet No
رقم اللوحة

SCALE:
AS SHOWN.

PV Module Connection DC Circuit Breaker Box inverter Battery AC Coupling



Supply & Install Solar System for Al-Thawra Health Center
 توريد وتركيب منظومات طاقة شمسية لمركز الثورة الصحي

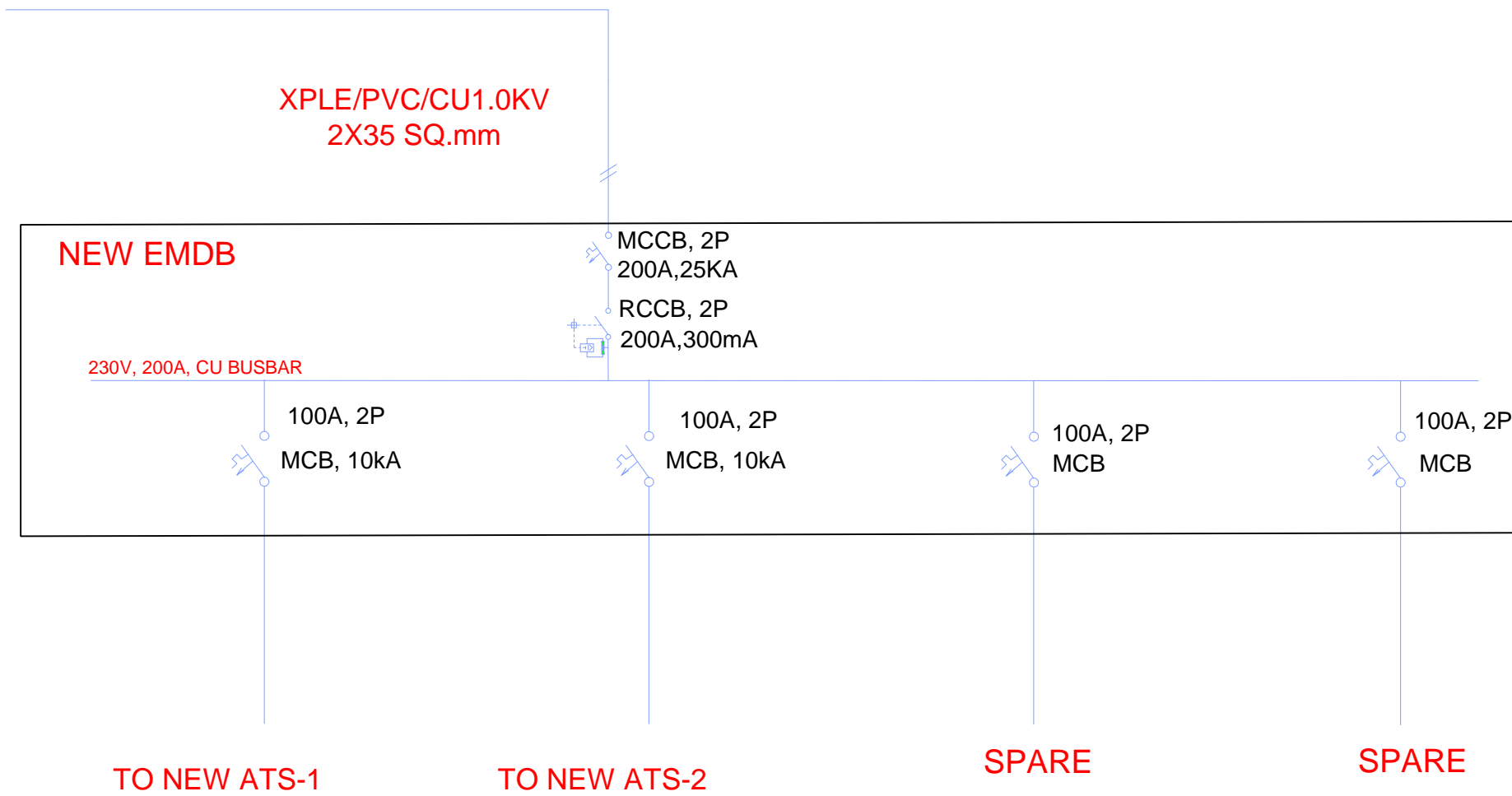
DRAWING TITLE:
SOLAR SYSTEM SCHEMATIC DIAGRAM

مركز الثورة الصحي
 مسقط افقي
 14

SCALE:
 AS SHOWN.

sheet اسم اللوحة
 Sheet No رقم اللوحة

HYBRID SOLAR SYSTEM INVERTER OUTPUT



LEGEND:

SYMBOL	DESCRIPTION
	AUTOMATIC TRANSFER SWITCH
	SURGE ARRESTER
	CIRCUIT BREAKER (MCCB/MCB)
	CIRCUIT BREAKER (RCB)
	AC FUSE



Supply & Install Solar System for Al-Thawra Health Center
 توريد وتركيب منظومات طاقة شمسية لمركز الثورة الصحي

DRAWING TITLE:
NEW EMDB SINGLE LINE DIAGRAM

مركز الثورة الصحي
 مسقط افقي
 15

SCALE:
 AS SHOWN.

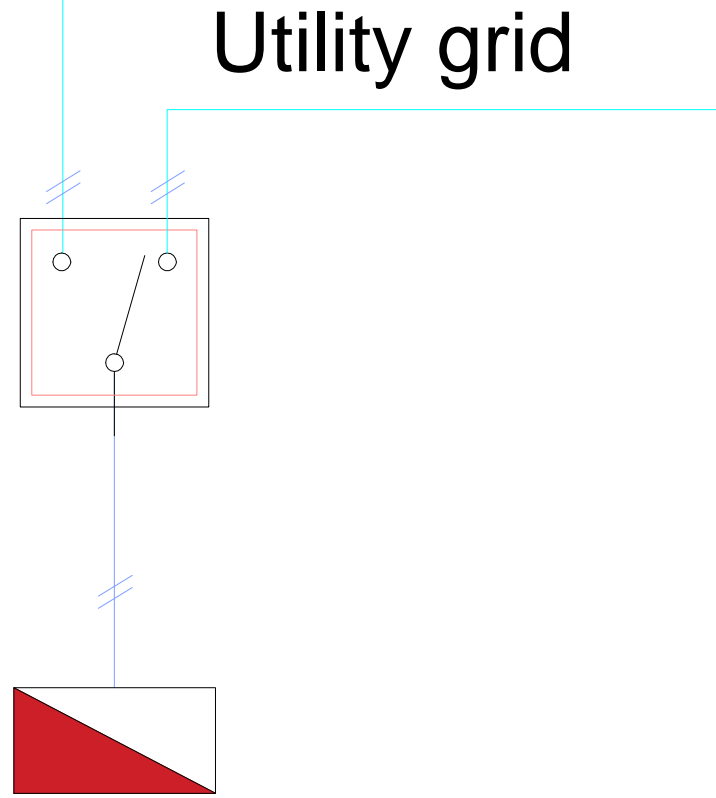
sheet
 اسم اللوحة
 Sheet No
 رقم اللوحة

From EMDB Insid Battery Room

XPLE/PVC/CU1.0KV
2X35 SQ.mm

ATS-1,2 /100A

XPLE/PVC/CU1.0KV
2X35 SQ.mm



OLD S-DB1 ,S-DB2

LEGEND:

SYMBOL	DESCRIPTION
	AUTOMATIC TRANSFER SWITCH
	SURGE ARRESTER
	CIRCUIT BREAKER (MCCB/MCB)
	CIRCUIT BREAKER (RCB)
	AC FUSE



Supply & Install Solar System
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توريد وتركيب منظومات طاقة
شمسية لمركز الثورة الصحي

DRAWING TITLE:
OLD MDB NEW
CONNECTION DIAGRAM

مركز الثورة الصحي

مسقط افقي

16

sheet
اسم اللوحة

Sheet No
رقم اللوحة

SCALE:
AS SHOWN.

MAIN REMARKS: -

1. THE LAYOUT DRAWINGS DO NOT SHOW ALL THE SYSTEMS, ITEMS, OR ACCESSORIES COVERED UNDER THE SCOPE OF ELECTRICAL WORKS TO BE EXECUTED THE LAYOUT DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL RELEVANT OR SPECIALIST DRAWINGS AND SPECIFICATIONS.
2. DO NOT SCALE FROM THE LAYOUT DRAWINGS WORK ACCORDING TO ARCHITECTURAL OR ELECTRICAL DETAILS UNLESS OTHERWISE AUTHORIZED.
3. ALL EQUIPMENT LAYOUTS ARE PROVISIONAL. FINAL LAYOUT SHALL BE DETERMINED BY THE CONTRACTOR FROM THE CONSTRUCTION/SHOP DRAWINGS AND AFTER COORDINATION WITH OTHER TRADES.
4. THE SIZE OF CONDUITS AND/OR CABLE TRAYS IS IN GENERAL NOT SHOWN ON DRAWINGS. THE SIZE OF ALL CONDUITS AND/OR CABLE TRAYS SHALL BE SELECTED BY THE CONTRACTOR IN ACCORDANCE WITH BOQ, REGULATIONS AND/OR STANDARDS AND WILL BE FUNCTION OF THE NUMBER AND SIZE OF THE RESPECTIVE CONDUCTORS.
5. PERFORATED CABLE TRAY SHALL BE FIXED AND COVER PROPERLY AND SHALL NOT FIXED DIRECT TO ROOF SLAB.
6. EARTH CONTINUITY CONDUCTORS ARE NOT

INDICATED ON THE DRAWINGS, BUT SHALL BE RUN WITH ALL CIRCUITS IN ACCORDANCE WITH SPECIFICATIONS, REGULATIONS AND/OR STANDARDS.

7. THE COLOR CODE FOR A FOUR WIRE CIRCUIT IS - ONE BLACK, - ONE RED, ONE BLUE AND ONE YELLOW ANY CONDUCTOR INTENDED FOR GROUNDING PURPOSE SHALL BE GREEN WITH YELLOW STRIPE.
8. IN THE ABSENCE OF ANY INDICATION ON THE DRAWINGS OR THE SPECIFICATIONS, THE INSTALLATIONS SHALL BE DONE TO THE SATISFACTION OF GWQ ENGINEER.
9. FOR EXACT QUANTITY, TYPE & LOCATION OF ELECTRICAL OUTLETS REFER TO INTERIOR DESIGN DOCUMENT.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MODIFYING THE NO. OF CIRCUIT BREAKERS, RATING, AND WIRING ACCORDING TO MANUFACTURER DATA WITHOUT ANY EXTRA COST.
11. UNLESS OTHERWISE INDICATED MINIMUM SIZE CONDUIT;
- FOR EXTERIOR INSTALLATION IS 25 MM
DIAMETER OR AS SHOWN IN PANEL SCHEDULE.
12. CONTRACTOR SHALL PROVIDE MATCHING PLUG IN FOR ALL SPECIAL OUTLETS.
13. FOR GROUND-FAULT CIRCUIT INTERRUPT (GFCI) REFER TO PLANS AND PANEL SCHEDULES.

14. THE MINIMUM SEPARATE DISTANCE BETWEEN LOW CURRENT SYSTEMS & LOW VOLTAGE POWER CABLES IS 300MM.
15. THE MAXIMUM FILLING RATIO FOR POWER & COMMUNICATION CONDUITS IN SITE WORK ARE:
- MIN. 50MMD FOR POWER CABLE WITH MAX.
40% OF CONDUIT CAPACITY.
- MIN. 50MMD FOR LOW CURRENT SYSTEMS WITH MAX. 40% OF CONDUIT CAPACITY.
16. ALL C.BS WITH FRAME RATING LARGER THAN 100A SHOULD HAVE ADJUSTABLE THERMAL OVERLOAD SETTING.
17. THE DISTANCE BETWEEN EARTH PIT SHALL BE DOUBLE OR MORE THAN LENGTH OF EARTHING ROD.
18. THE CONTRACTOR SHOULD PROVIDE COMPLETE CENTRAL INTERFACE BETWEEN THE SOLAR GENERATION SYSTEM & GENERATOR SET.



Supply & Install Solar System
for Al-Thawra Health Center
توريد وتركيب منظومات طاقة
شمسية لمركز الثورة الصحي

DRAWING TITLE:
MAIN LOCATION

مركز الثورة الصحي

مسقط افقي

sheet
اسم اللوحة

17

Sheet No
رقم اللوحة

SCALE:
AS SHOWEN.

GENERAL

- G1. THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL ARCHITECTURAL, ELECTRICAL, MECHANICAL, OTHER CONTRACT DRAWINGS, SPECIFICATIONS AND WITH SUCH OTHER WRITTEN INSTRUCTIONS AS MAY BE ISSUED DURING THE COURSE OF THE CONTRACT. ANY DISCREPANCY SHALL BE REFERRED TO THE SUPERINTENDENT FOR DECISION BEFORE PROCEEDING WITH THE WORK.
- G2. DIMENSIONS ARE AS SHOWN. DIMENSIONS SHALL NOT BE OBTAINED BY SCALING THE STRUCTURAL DRAWINGS.
- G3. SETTING OUT DIMENSIONS SHOWN ON THE DRAWINGS SHALL BE VERIFIED BY THE CONTRACTOR.
- G4. DURING CONSTRUCTION THE STRUCTURE WILL BE MAINTAINED IN A STABLE CONDITION AND NO PART SHALL BE OVERSTRESSED. TEMPORARY BRACING SHALL BE PROVIDED BY THE CONTRACTOR AS REQUIRED.
- G5. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE STATED CODES AND THE BY-LAWS AND ORDINANCES OF THE RELEVANT BUILDING AUTHORITIES.
- G6. THE STRUCTURAL WORK SHOWN ON THESE DRAWINGS HAS BEEN DESIGNED

FOR THE FOLLOWING LOAD

- MINIMUM LIVE LOADS.
- WIND LOAD 120KM/HOUR.
- SELF WEIGHT.

G7. REFER TO STRUCTURAL DRAWINGS FOR THE DIFFERENT CONSTRUCTION MATERIALS TO BE USED IN THE PROJECT.

STRUCTURE

S1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE SPECIFICATION AND FOLLOWING CODES

- AISC-13.
- ACI 318M -2014.
- ASCE 7-10.
- ASTM.

S2. COLD-FORMED GALVANIZED STEEL QUALITY: - THE A36FY36 MATERIAL WAS SELECTED FOR ALL COLUMNS, BEAMS, PURLINS AND BRACING AND SECTIONS. MINIMUM YEILD STRENGTH (FY=240 MPA).

S3. ESTABLISH ANY HOLES OR CUTTING WORK SHOULD BE BY USING POWER ELECTRICAL EQUIPMENT.

S4. THE STEEL IS TREATED IDEALLY SO THAT DON'T SCRATCH OF THE TOP LAYER OF STEEL

S5. CONSTRUCTION JOINTS WHERE NOT SHOWN SHALL BE LOCATED TO THE APPROVAL OF THE ENGINEER. IF ANY.

S6. ALL BOLTS ARE A325 OR A490 HIGH STRENGTH BOLTS (HARDNESS EQUAL 8.8). AS AISC.

CONCRETE

C1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE SPECIFICATION AND AMERICAN CONCRETE CODE ACI-318M-2014 (REINFORCED CONCRETE STRUCTURES).

C2. CONCRETE QUALITY (CONCRETE WITH EPOXY GROUT): - MINIMUM CONCRETE CUBE STRENGTH (F'C=50 MPA) AFTER 28 DAYS

C3. CONCRETE WITH EPOXY GROUT MUST BE MIXED BY AN ELECTRIC DRILL.

C4. CONCRETE BASES ARE SPRAYED FOR AT LEAST 5 DAYS THREE TIMES A DAY



Supply & Install Solar System
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توريد وتركيب منظومات طاقة
شمسية لمركز الثورة الصحي

DRAWING TITLE:
MAIN NOTES

مركز الثورة الصحي

مسقط افقي

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











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












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REMARKS:

- 1 ALL DIMENSIONS AND ELEVATIONS ARE IN CENTIMETERS AND METERS RESPECTIVELY, UNLESS OTHERWISE MENTIONED.
- 2 ALL DIMENSIONS TO BE CHECKED AND CONFIRMED ON SITE BEFORE COMMENCEMENT OF ANY WORK.
- 3 ANY DISCREPANCY TO BE REPORTED TO THE GWQ SITE ENGINEER/ PROJECT MANAGER PROMPTLY BEFORE PROCEEDING.
- 4 ALL OUTDOOR OUTLETS, SOCKET OR WIRING ACCESSORIES SHALL BE WEATHER PROOF TYPE.
- 5 ALL DISTANCE BETWEEN SYSTEM COMPONENTS INSIDE BATTERY ROOM TO BE DISTRIBUTED AS PER MANUFACTURE INSTALLATION INSTRUCTION.

SOLER STSTEM	
SYMBOL	DESCRIPTION
	PHOTOVOLTAIC MODULE
	HYBRID INVERTER
	AUTOMATIC TRANSFER SWITCH
	MPPT BATTERY CHARGER
	BUS BAR BOX
	SURGE ARRESTER
	CIRCUIT BREAKER (MCB)
	CIRCUIT BREAKER (RCBO)
	DC FUSE
	POSITIVE & NEGATIVE COLLECTION BOX
	COMBINER BOX
	MAIN DISTRIBUTION BOARD
	AC DISTRIBUTION BOARD FOR HEAVY LOAD

SOLER STSTEM	
SYMBOL	DESCRIPTION
	EARTHING BUS BAR
	EARTHING CABLE
	BATTERY RACK.
	LIGHTNING ARRESTER
	GALVANIZED CABLE TRAY
	EXHAUST FAN
	BATTERY SMOKE & HEAT DETECTOR
	FIRE EXTINGUISHER
	SOLAR SINGLE CORE CABLE 1C X 10 SQ.MM (RED COLOR)
	SOLAR SINGLE CORE CABLE 1C X 10 SQ.MM (BLACK COLOR)
	SOLAR SINGLE CORE CABLE 1C X 35SQ.MM (RED COLOR)
	SOLAR SINGLE CORE CABLE 1C X 35SQ.MM (BLACK COLOR)
	WALL MOUNTED STREET LIGHT FIXTURE



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توريد وتركيب منظومات طاقة
شمسية لمركز الثورة الصحي

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LEGAND

مركز الثورة الصحي

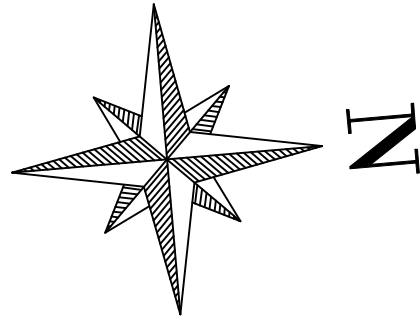
مسقط افقي

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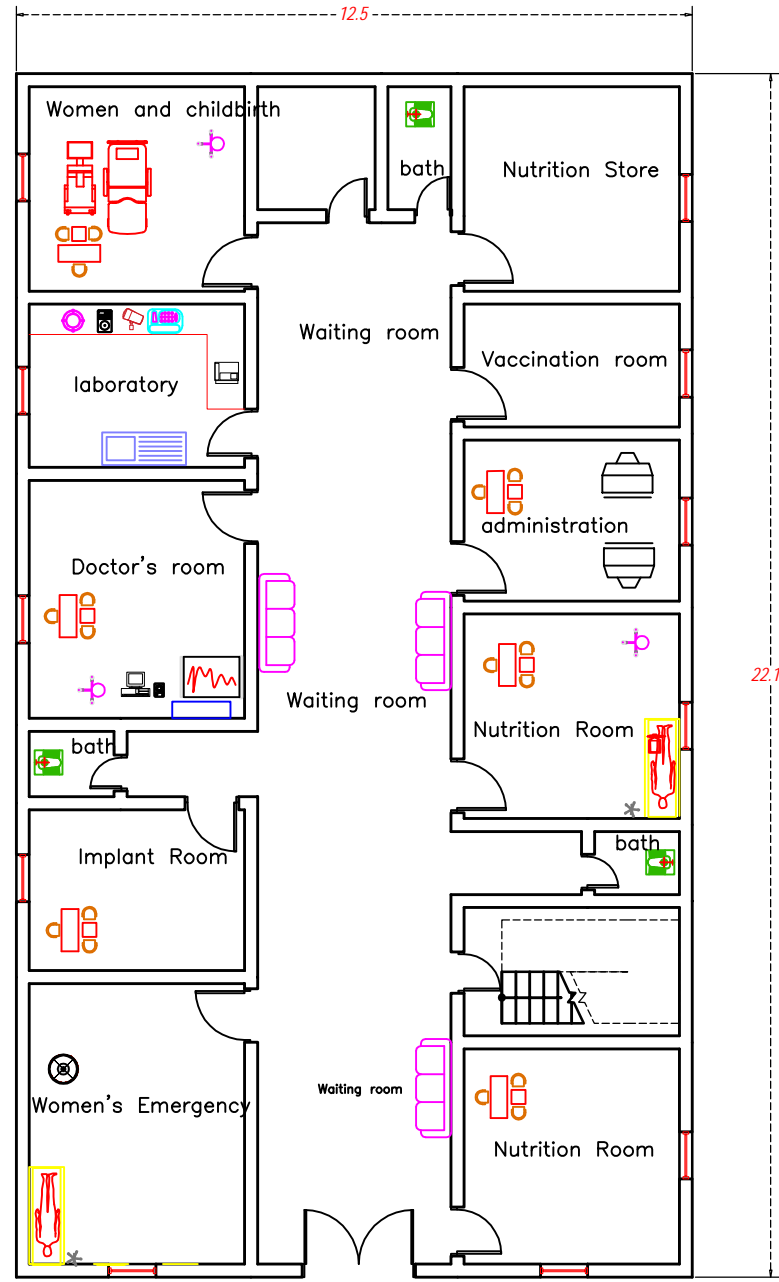
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Equipment	
symbol	Description
	Steel Chairs Visitor
	Ultrasound System ,Diagnostic Machine
	Biological microscope
	Centrifuge Tabletop
	Shaker Machine
	Digital Glucometer
	Semi Automated Biochemistry Analyzer
	Desktop PC & Printer
	Sphygmomanometer mercury stand type
	CBC
	ECG machine 6 channels
	Dental Extraction Set
	I.V. stand
	Nebulizer
	Suction machine 10L



Supply & Install Solar System for Al-Thawra Health Center
 توريد وتركيب منظومات طاقة شمسية لمركز الثورة الصحي

DRAWING TITLE:
Floors Layouts

مركز الثورة الصحي
 مسقط افقي
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