



مشروع تعزيز المرونة المؤسسية والإقتصادية في اليمن
Strengthening Institutional & Economic Resilience in Yemen
(SIERY)

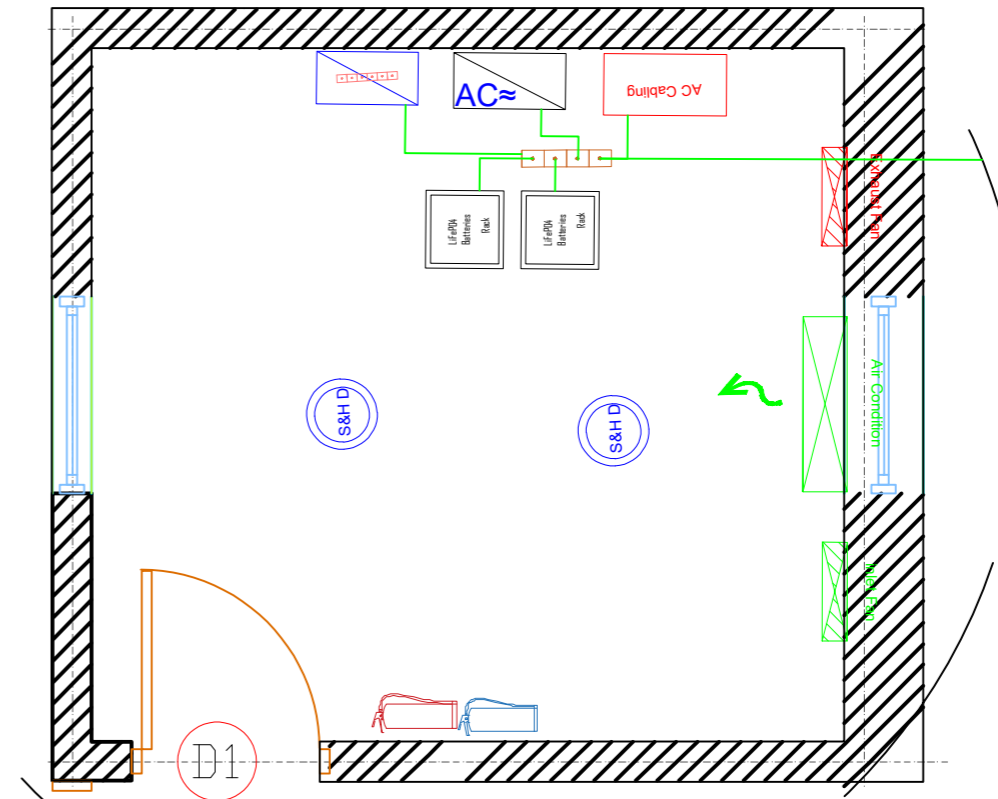
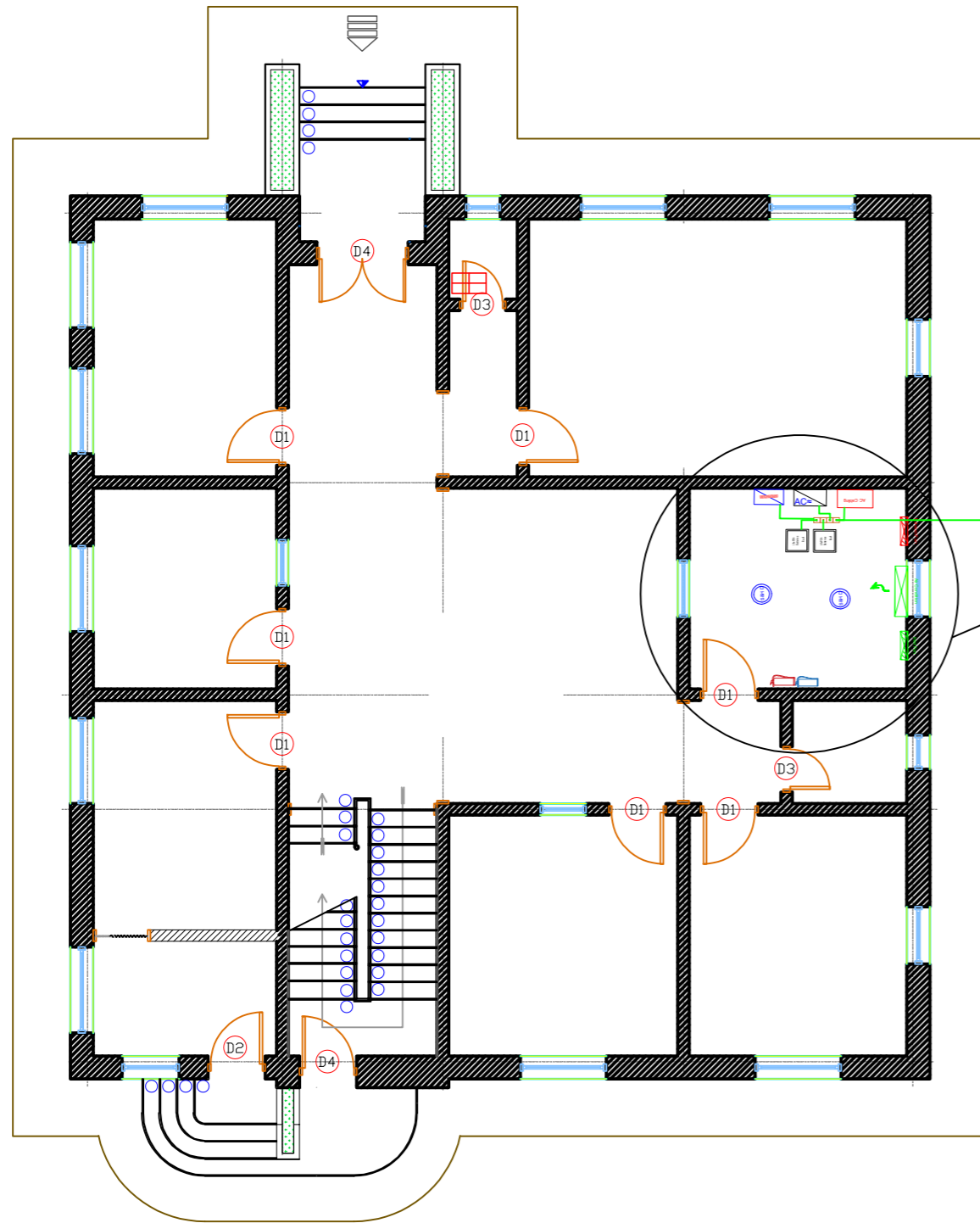
مشروع بناء و تأثيث مركز الارشاد الزراعي و البيطري-م/تبـن - محافظة لحج

Construction , Furnishing and Equipping of building of Agriculture and veterinary Guidance center , Tuban District - Lahj Governorate

ELECTRICAL DRAWINGS

DRAWING LIST:-

NO	DRAWING TITLE
S1 - 01	Floors Layout
S1 - 02	Batteries Room
S1 - 03	PV Distribution
S1 - 04	Lightening&grounding Protection Layout
S1 - 05	Lightening&grounding Protection Details
S1 - 06	PV System Single Line Diagram



SYMBOL	DESCRIPTION
	OLD DISTRIBUTION BOARD.
	EMERGENCY MAIN DISTRIBUTION BOARD.
	WALL MOUNTED STREET LIGHT FIXTURE
	NEW AUTOMATIC TRANSFER SWITCH.
	NEW AC SDB FOR HEAVY LOAD
	OLD MDB DISTRIBUTION BOARD.
	NEW DISTRIBUTION BOARD.



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توريد وتركيب منظومات طاقة شمسية
لمركز الارشاد الزراعي و البيطري

مساقط الأدوار
Floors Layout

مركز الارشاد الزراعي و البيطري

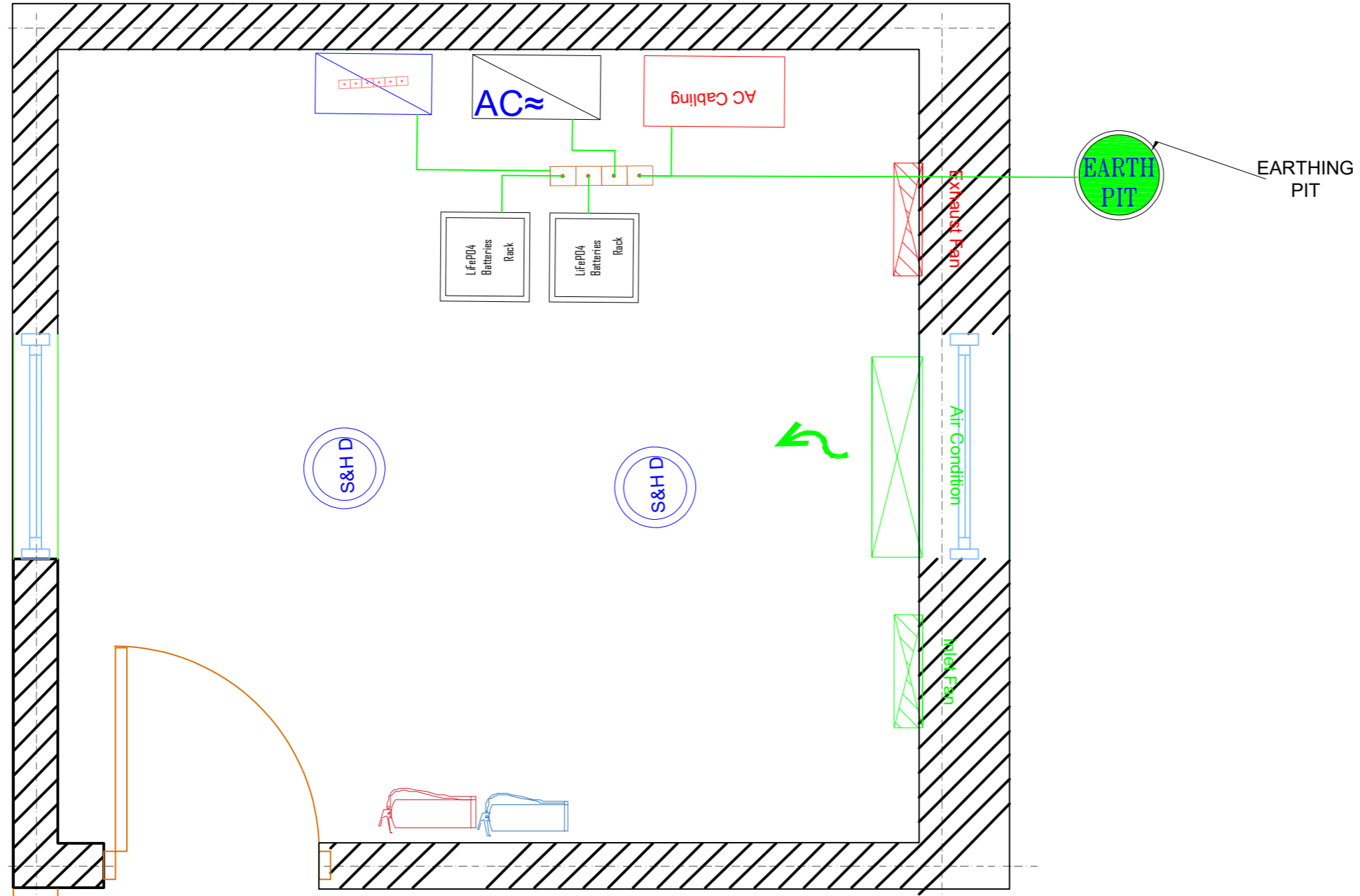
مسقط افقي

S1 - 01

sheet
اسم اللوحة

Sheet No
رقم اللوحة





SYMBOL	DESCRIPTION
	CONNECTION BOX BETWEEN CHARGE CONTROLLER AND BATTERY RACK
	HYBRID INVERTER
	MPPT BATTERY CHARGER
	BATTERY RACK.
	AC COUPLING PANEL
	INLET FAN
	EXHAUST FAN
	SMOKE & HEAT DETECTOR
	FIRE EXTINGUISHER POWDER
	FIRE EXTINGUISHER CO2
	Air Condition



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لمركز الارشاد الزراعي والبيطري

غرفة البطاريات Batteries Room

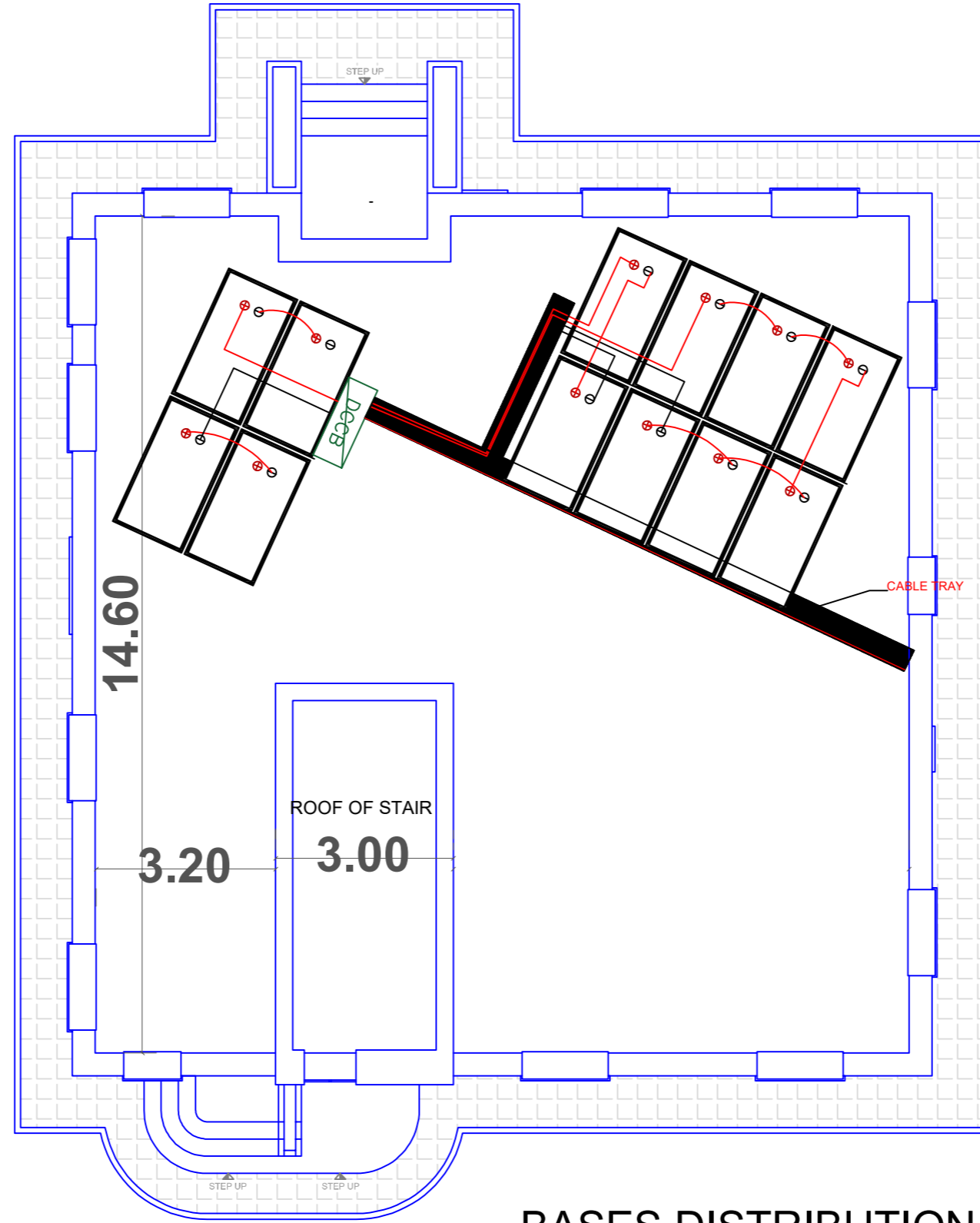
مركز الارشاد الزراعي والبيطري

sheet
اسم اللوحة

S1 - 02

Sheet No
رقم اللوحة





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لمركز الارشاد الزراعي و البيطري

توزيع الالواح الشمسية
PV DISTRIBUTION

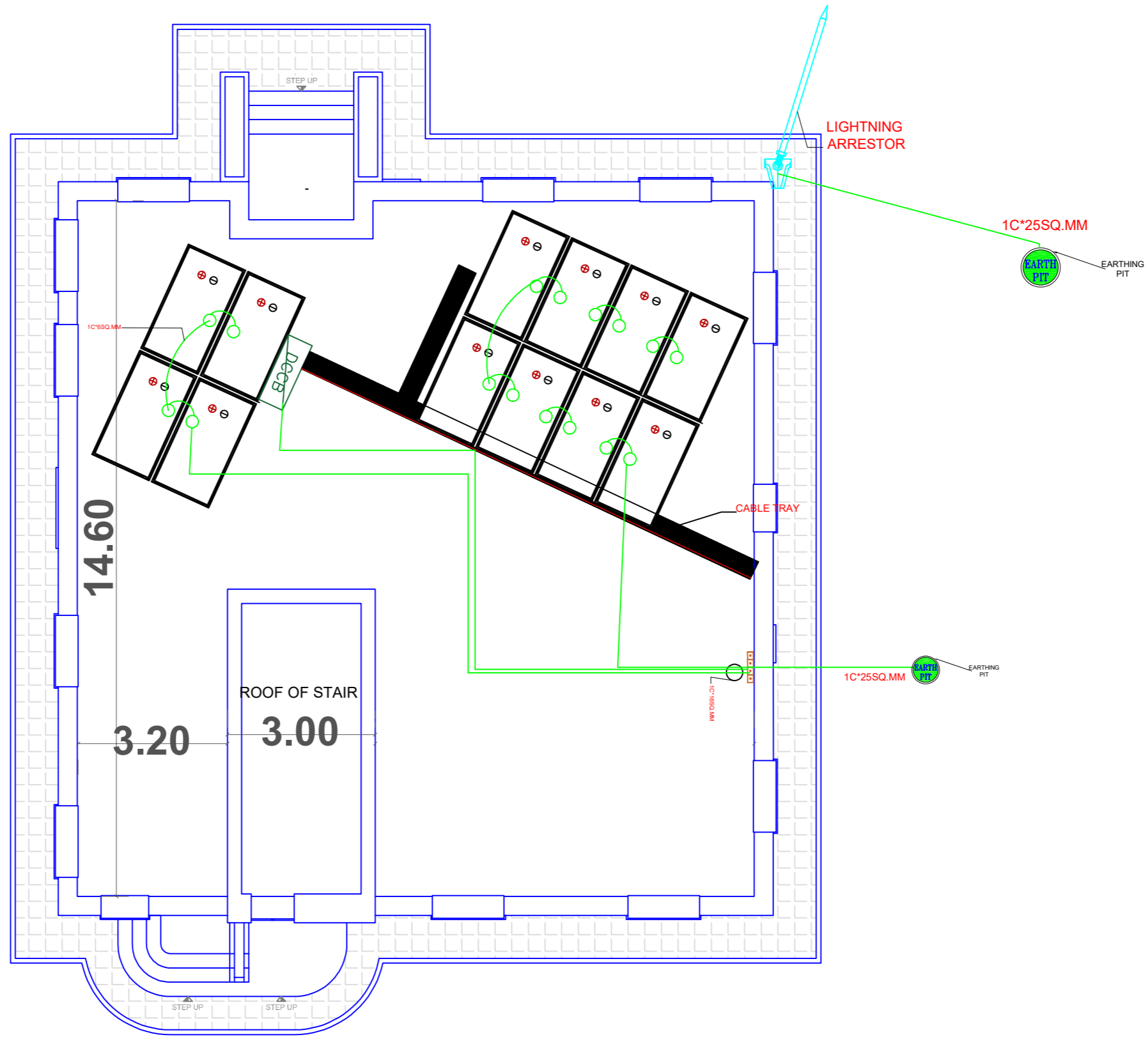
مركز الارشاد الزراعي و البيطري

S1 - 03

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توريد وتركيب منظومات طاقة شمسية
لمركز الارشاد الزراعي والبيطري

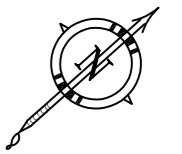
نظام الحماية من الصواعق
والتأريض
Lightning & grounding
Protection Layout

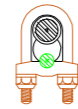
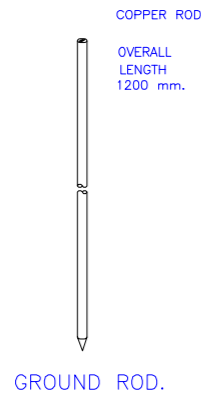
مركز الارشاد الزراعي والبيطري

S1 - 04

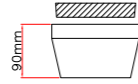
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اسم اللوحة

Sheet No
رقم اللوحة

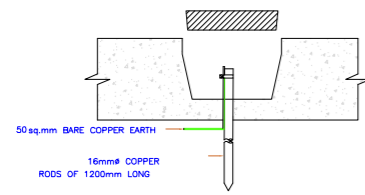




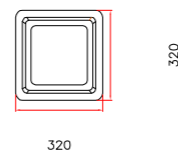
CLAMP



CONCRETE EARTH HOUSING SECTION



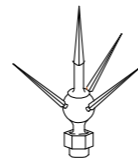
ELEVATION



CONCRETE EARTH HOUSING PLAN

EARTHING PIT DETAILS

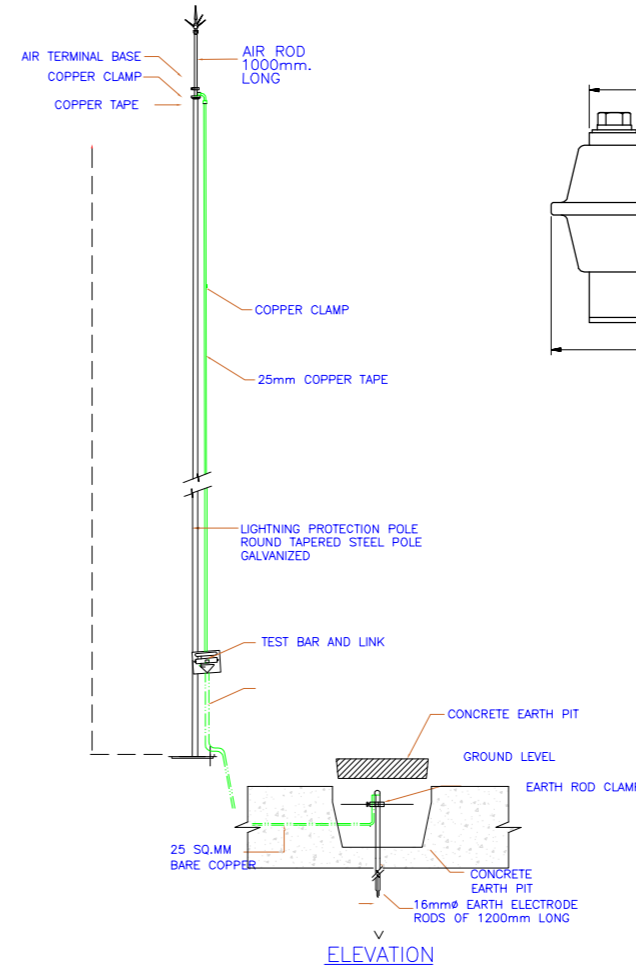
AIR TERMINAL TIP



AIR TERMINAL

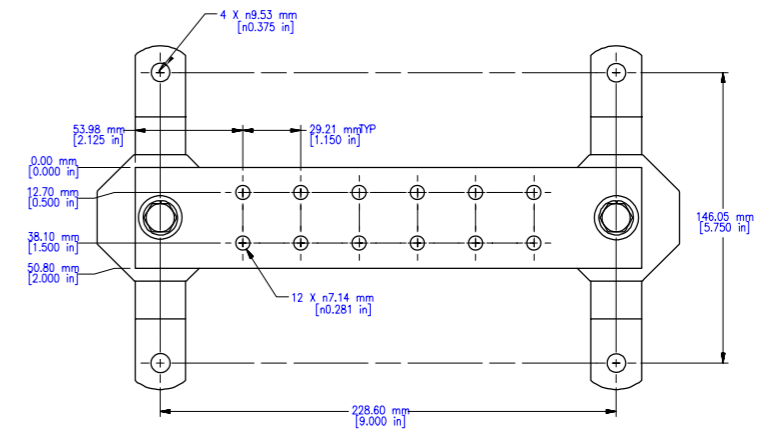


AIR TERMINAL SADDLE

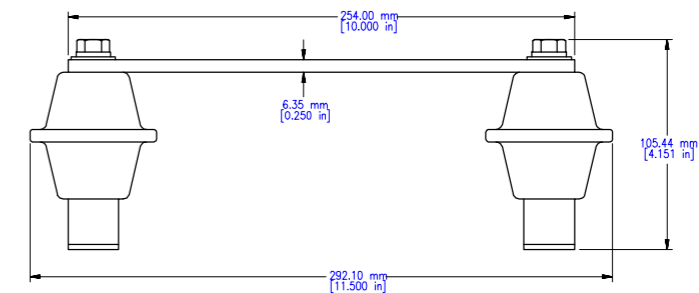


ELEVATION

LIGHTNING PROTECTION SYSTEM



ASSEMBLY - TOP VIEW



ASSEMBLY - SIDE VIEW

EARTHING BUSBAR



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لمركز الارشاد الزراعي والبيطري

تفاصيل نظام الحماية من
الصواعق والتأريض
Lightning & grounding
Protection Details

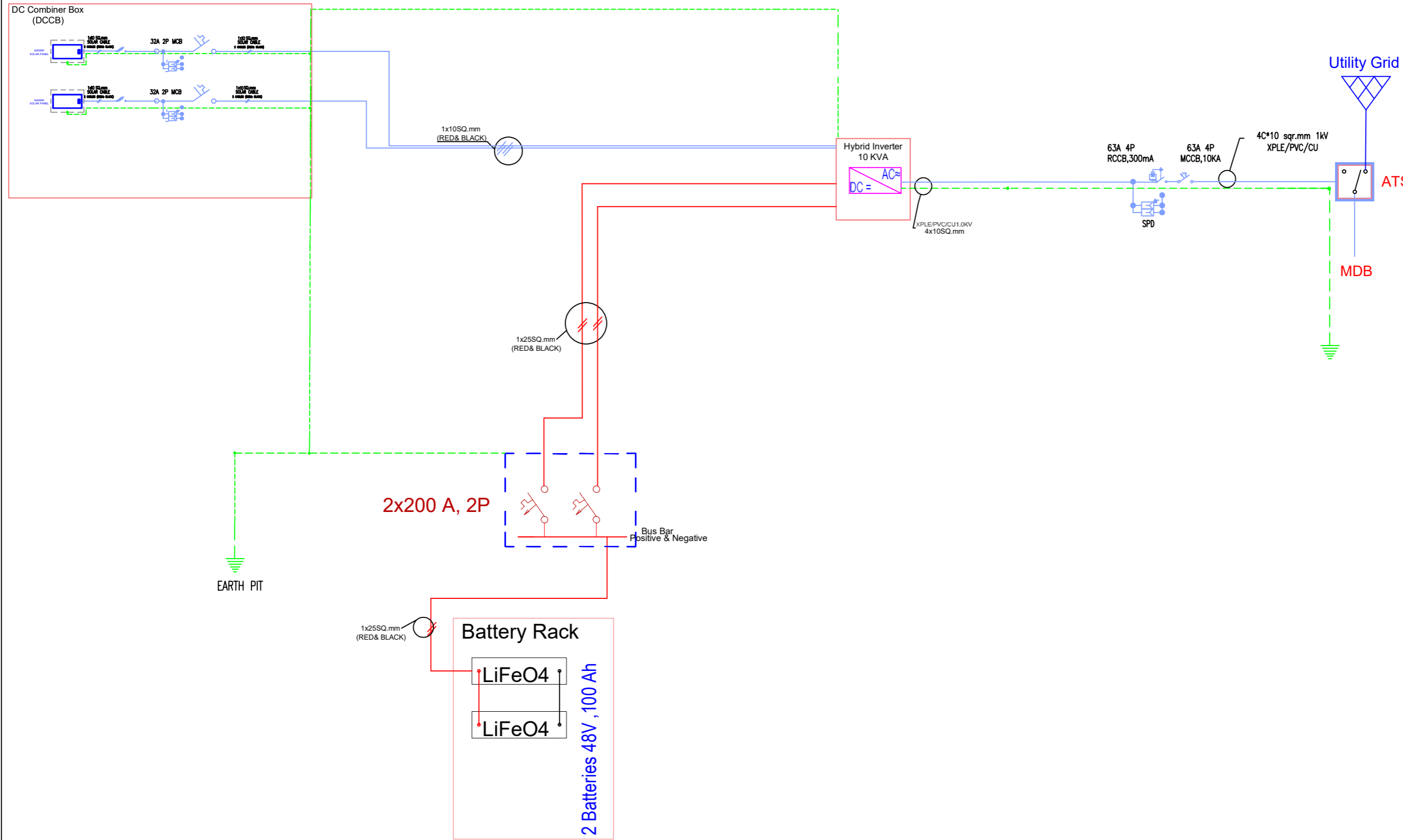
مركز الارشاد الزراعي والبيطري

sheet
اسم اللوحة

S1 - 05

Sheet No
رقم اللوحة





SYMBOL	DESCRIPTION
	PHOTOVOLTAIC MODULE
	HYBRID INVERTER
	ATUO TRANSFER SWICH
	SURGE ARRESTER
	CIRCUIT BREAKER (MCB)
	CIRCUIT BREAKER (MCCB)
	CIRCUIT BREAKER (RCCB)
	DC FUSE



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لمركز الارشاد الزراعي و البيطري

مخطط النظام الشمسي
PV Sysetm Single Line
Diagram

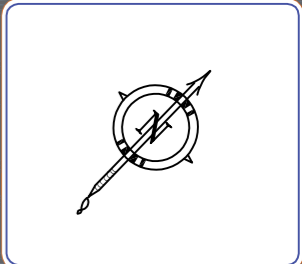
مركز الارشاد الزراعي و البيطري

Sheet No

اسم اللوحة

S1 - 09

رقم اللوحة



STRUCTURE DRAWINGS

DRAWING LIST:-

NO	DRAWING TITLE
S2 - 01	Main Notes
S2 - 02	8 PANELS 3D SCHEME.
S2 - 03	4 PANELS 3D SCHEME.
S2 - 04	MOUNTING STRUCTURE SIDE VIEW.
S2 - 05	COLUMN BASE PLATE
S2 - 06	BEAMS PLAN DETAILS.
S2 - 07	CONCRETE, CONNECTION AND BASE PLATES DETAILS A.
S2 - 08	CONCRETE, CONNECTION AND BASE PLATES DETAILS B.

GENERAL

G .1THESE 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 .

G .2DIMENSIONS ARE AS SHOWN . DIMENSIONS SHALL NOT BE OBTAINED BY SCALING THE STRUCTURAL DRAWINGS.

G .3SETTING OUT DIMENSIONS SHOWN ON THE DRAWINGS SHALL BE VERIFIED BY THE CONTRACTOR.

G .4DURING 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.

G .5ALL 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.

G .6THE STRUCTURAL WORK SHOWN ON THESE DRAWINGS HAS BEEN DESIGNED

FOR THE FOLLOWING LOAD

- MINIMUM LIVE LOADS.
- WIND LOAD 0.777KN/m.2
- SELF WEIGHT.

G .7 REFER TO STRUCTURAL DRAWINGS FOR THE DIFFERENT CONSTRUCTION MATERIALS TO BE USED IN THE PROJECT.

STRUCTURE

S .1ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE SPECIFICATION AND FOLLOWING CODES

- AISC.13-
- ACI 318M .2014-
- ASCE 7-16.
- ASTM.

S2 .ALL MEMBERS OF GALVANIZED STEEL QUALITY - :THE A36FY 36MATERIAL 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.

S .4 COATING PROTECTION SHALL BE

OF GALVANIZATION OF 60MICROMETER OR EQUIVALENT ,RECOMMENDED ALTERNATIVE 40MICRO ZINC GALVANIZATION WITH PRIMER ACRYLIC BINDER PAINT COATS OF 70MICROMETER AND ONE TOP COAT OF ACRYLIC BINDER PAINT OF 50MICROMETER WITH TOTAL 120MICROMETER BINDER OR EQUIVALENT AS PER ISO.12944

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

S6 ALL BOLTS ARE A 325OR A 490HIGH STRENGTH BOLTS AS ASTM.

CONCRETE

C .1ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE SPECIFICATION AND AMERICAN CONCRETE CODE ACI318-M(2014-REINFORCED CONCRETE STRUCTURES).

C2 .CONCRETE QUALITY (CONCRETE WITH EPOXY GROUT -):MINIMUM CONCRETE CUBE STRENGTH (F'C 30=MPA)AFTER 28 DAYS

C .3CONCRETE WITH EPOXY GROUT MUST BE MIXED BY AN ELECTRIC DRILL.

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



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لمركز الارشاد الزراعي و البيطري

الملاحظات الرئيسية

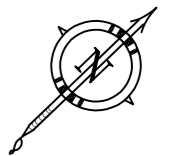
MAIN NOTES.

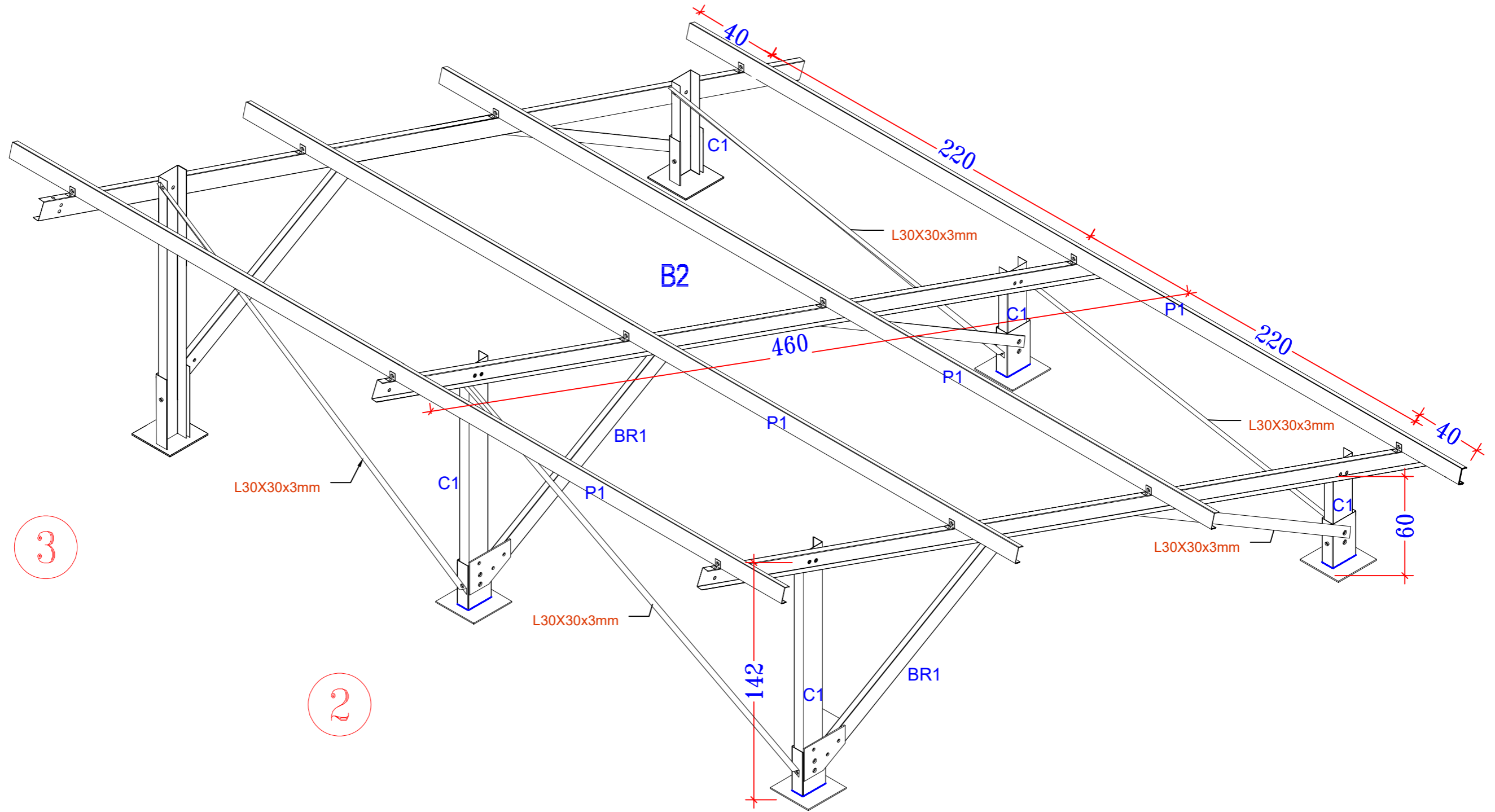
مركز الارشاد الزراعي و البيطري

S2 - 01

sheet
اسم اللوحة

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رقم اللوحة





8PVs FRAME 3D

GALVANIZED STEEL SECTIONS DETAILS.

SECTION SHAPE	NO	MEMBER DIMENSIONS IN MM					REMARKS
		A	B	C	t	Ø	
C	C1, B1	75	35	0	2.8-3	-	
	P1	75	35	0	2.8-3	-	
	BR1	75	35	0	2.8-3	-	



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توريد وتركيب منظومات طاقة شمسية
لمركز الارشاد الزراعي و البيطري

مسقط ثلاثي الابعاد

8PANELS 3D SCHEME

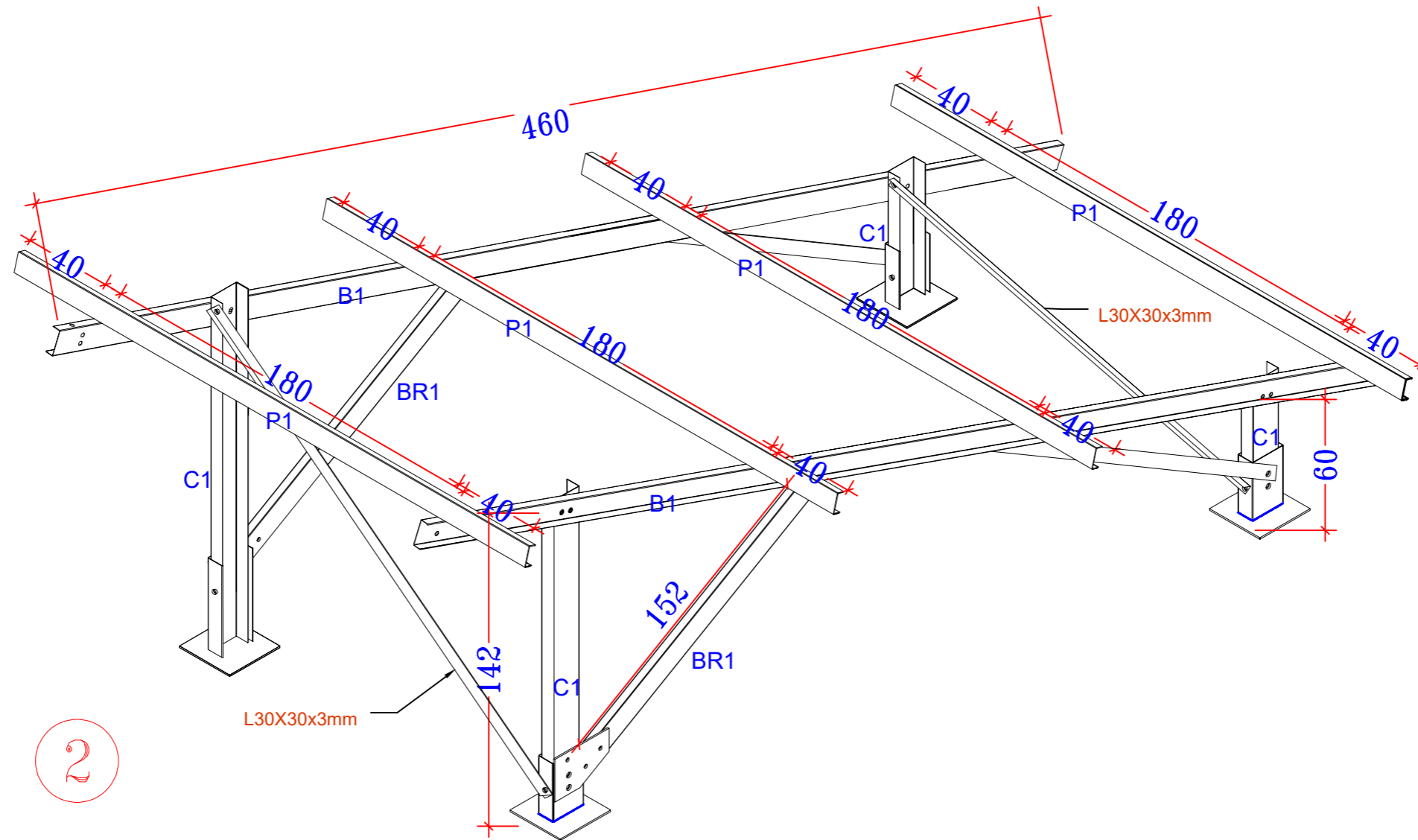
مركز الارشاد الزراعي و البيطري

S2 - 02

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اسم اللوحة

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2

1

3D FRAME SCHEME OF 4PVs TYPE

GALVANIZED STEEL SECTIONS DETAILS.

SECTION SHAPE	NO	MEMBER DIMENSIONS IN MM					REMARKS
		A	B	C	t	Ø	
	C1, B1	75	35	0	2.8-3	-	
	P1	75	35	0	2.8-3	-	
	BR1	75	35	0	2.8-3	-	



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لمركز الارشاد الزراعي و البيطري

مسقط ثلاثي الابعاد

4 PANELS 3D SCHEME

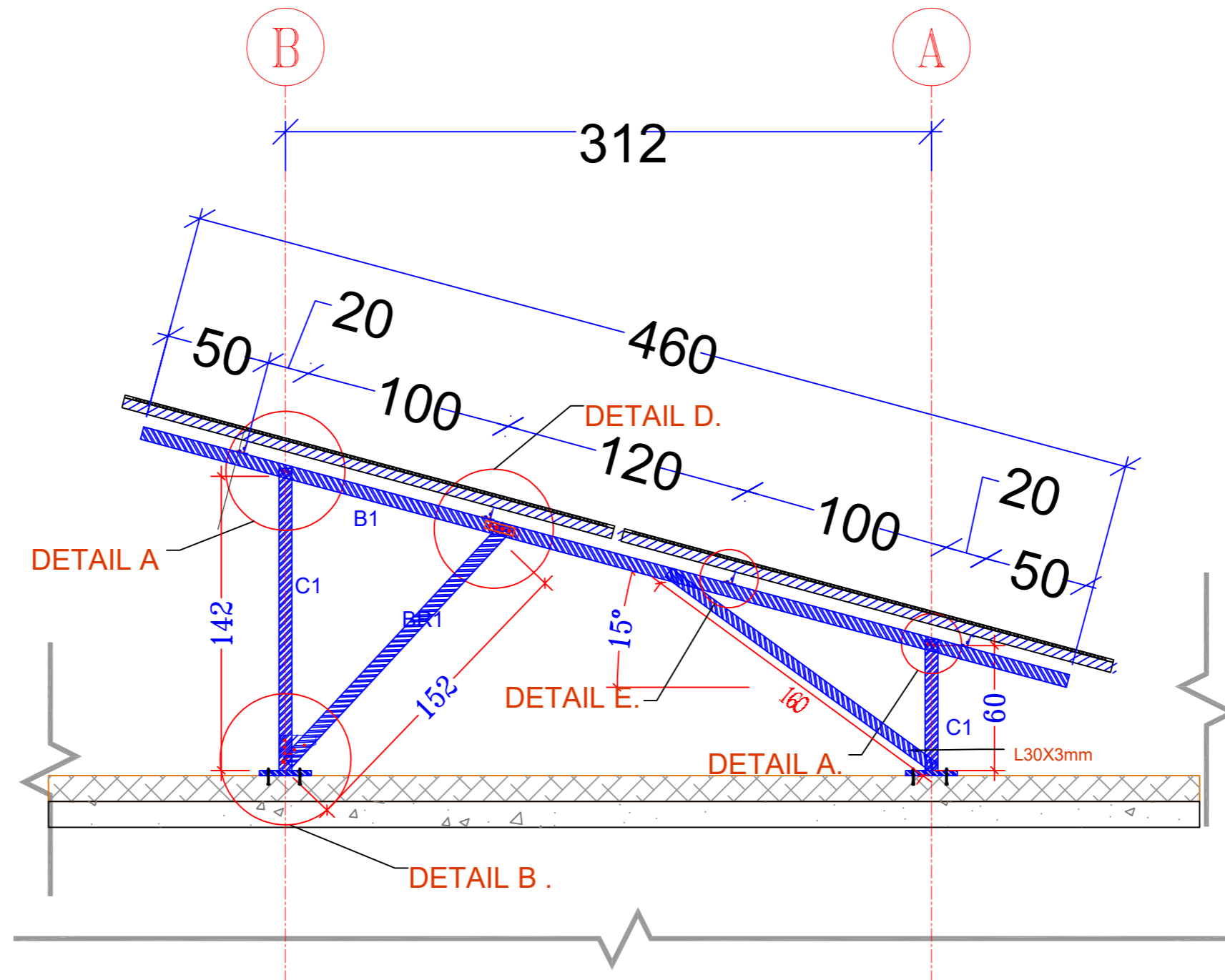
مركز الارشاد الزراعي و البيطري

S2 - 03

sheet
اسم اللوحة

Sheet No
رقم اللوحة





FRAME ELEVATION DETAILS

GALVANIZED STEEL SECTIONS DETAILS.

SECTION SHAPE	NO	MEMBER DIMENSIONS IN MM					REMARKS
		A	B	C	t	Ø	
	C1, B1	75	35	0	2.8-3	-	
	P1	75	35	0	2.8-3	-	
	BR1	75	35	0	2.8-3	-	



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توريد وتركيب منظومات طاقة شمسية
لمركز الارشاد الزراعي و البيطري

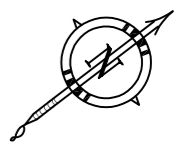
مسقط جانبي
MOUNTING
STRUCTURE SIDE
VIEW

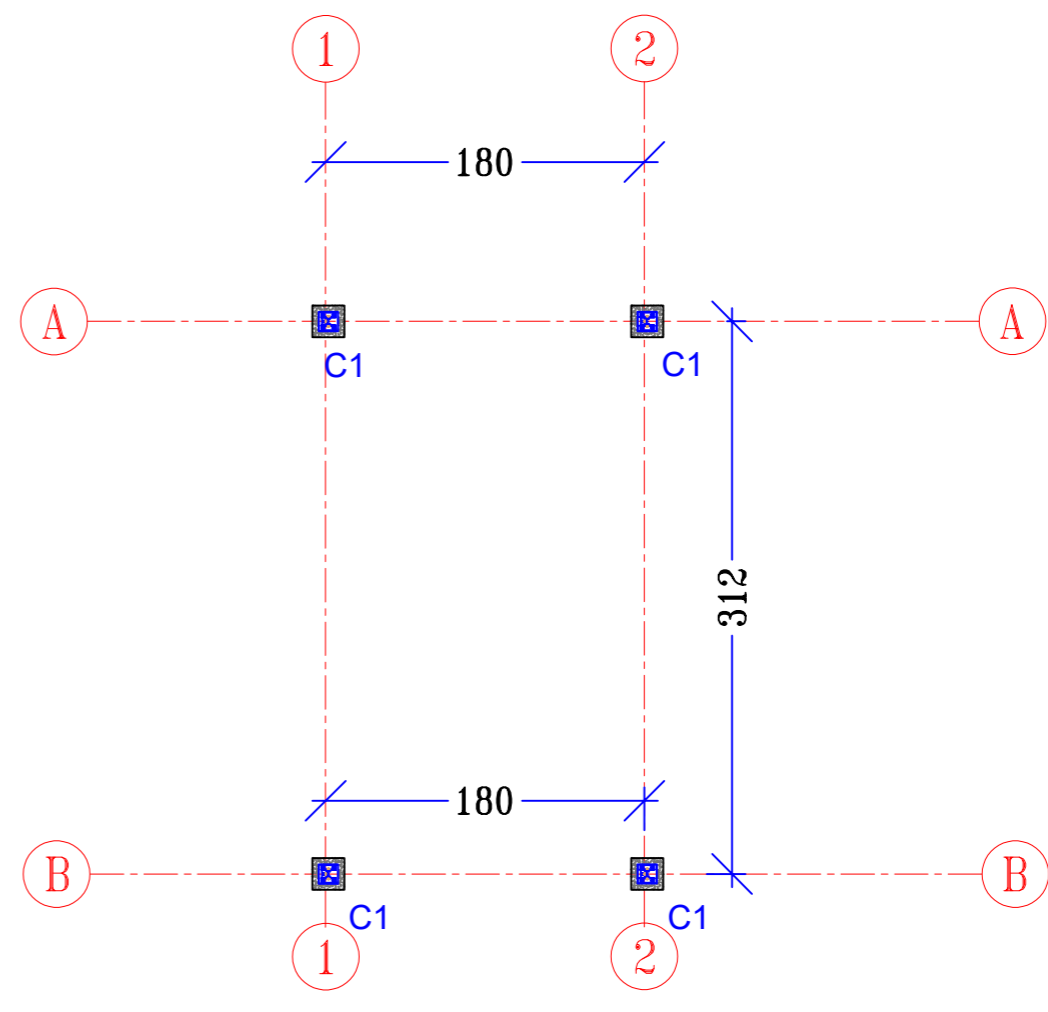
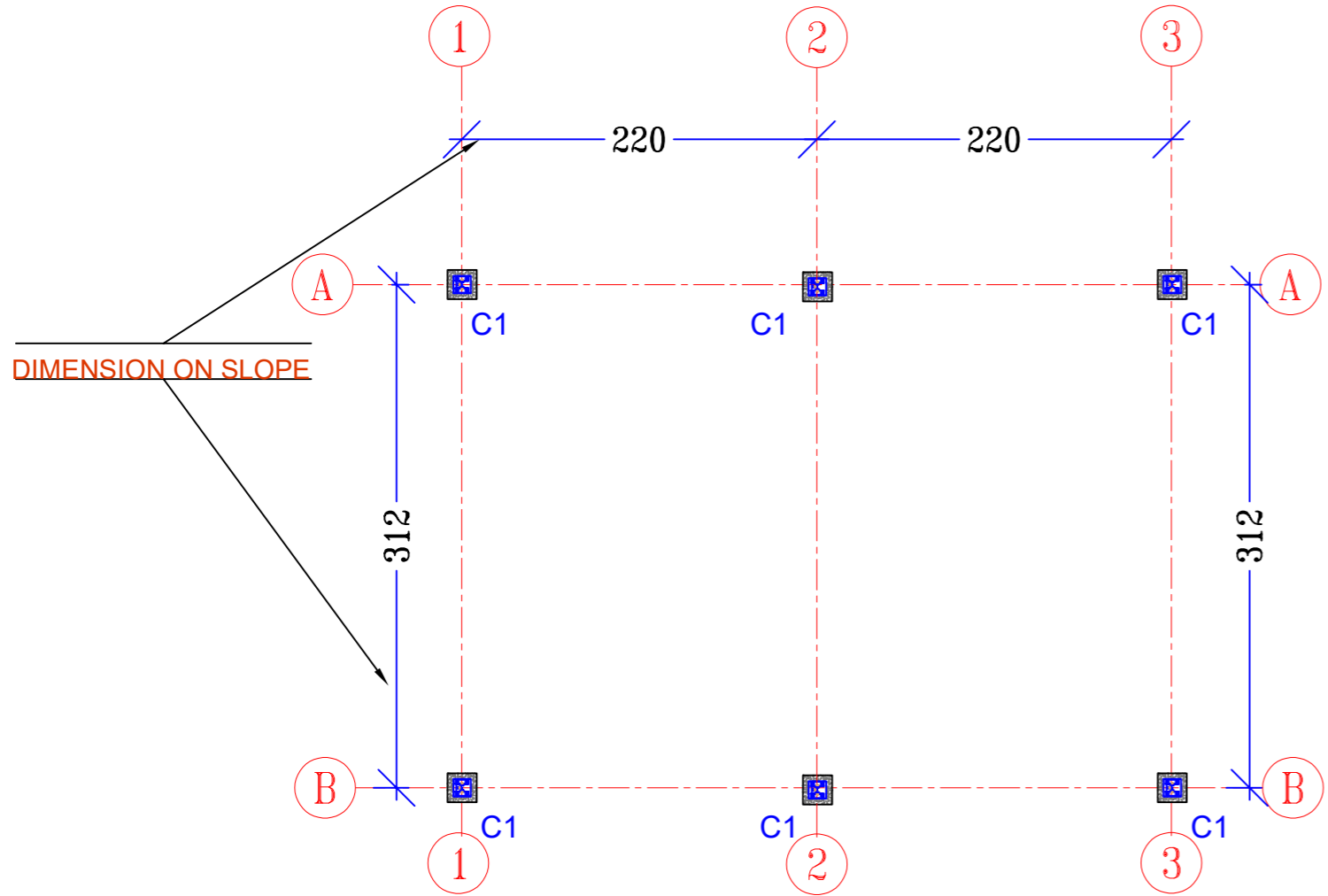
مركز الارشاد الزراعي و البيطري

S2 - 04

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اسم اللوحة

Sheet No
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COLUMN PLAN

GALVANIZED STEEL SECTIONS DETAILS.

SECTION SHAPE	NO	MEMBER DIMENSIONS IN MM					REMARKS
		A	B	C	t	Ø	
	C1, B1	75	35	0	2.8-3	-	
	P1	75	35	0	2.8-3	-	
	BR1	75	35	0	2.8-3	-	



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توريد وتركيب منظومات طاقة شمسية
لمركز الارشاد الزراعي و البيطري

تفاصيل الاعمدة

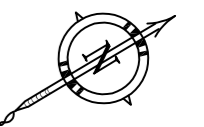
COLUMN BASE PLATE

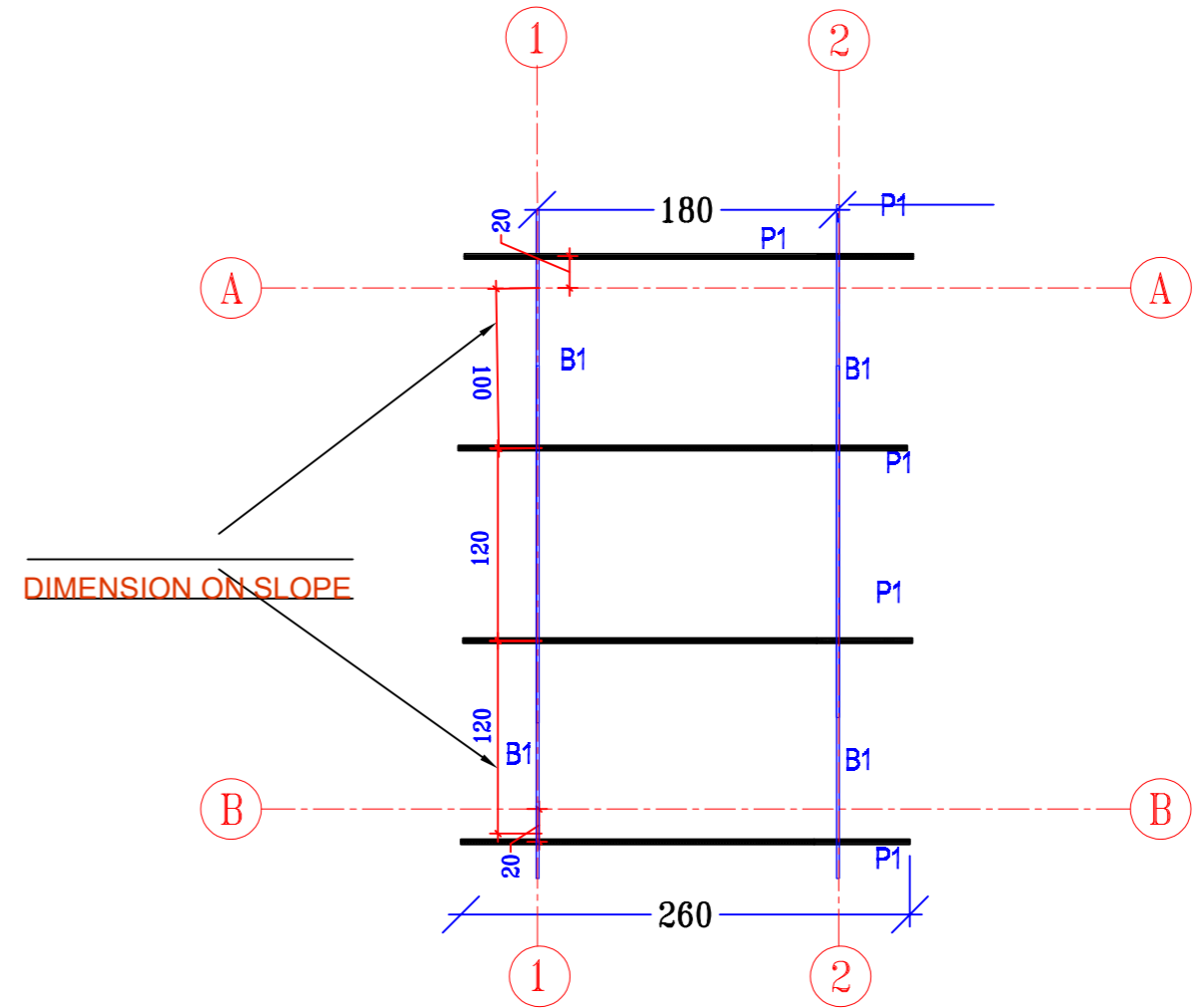
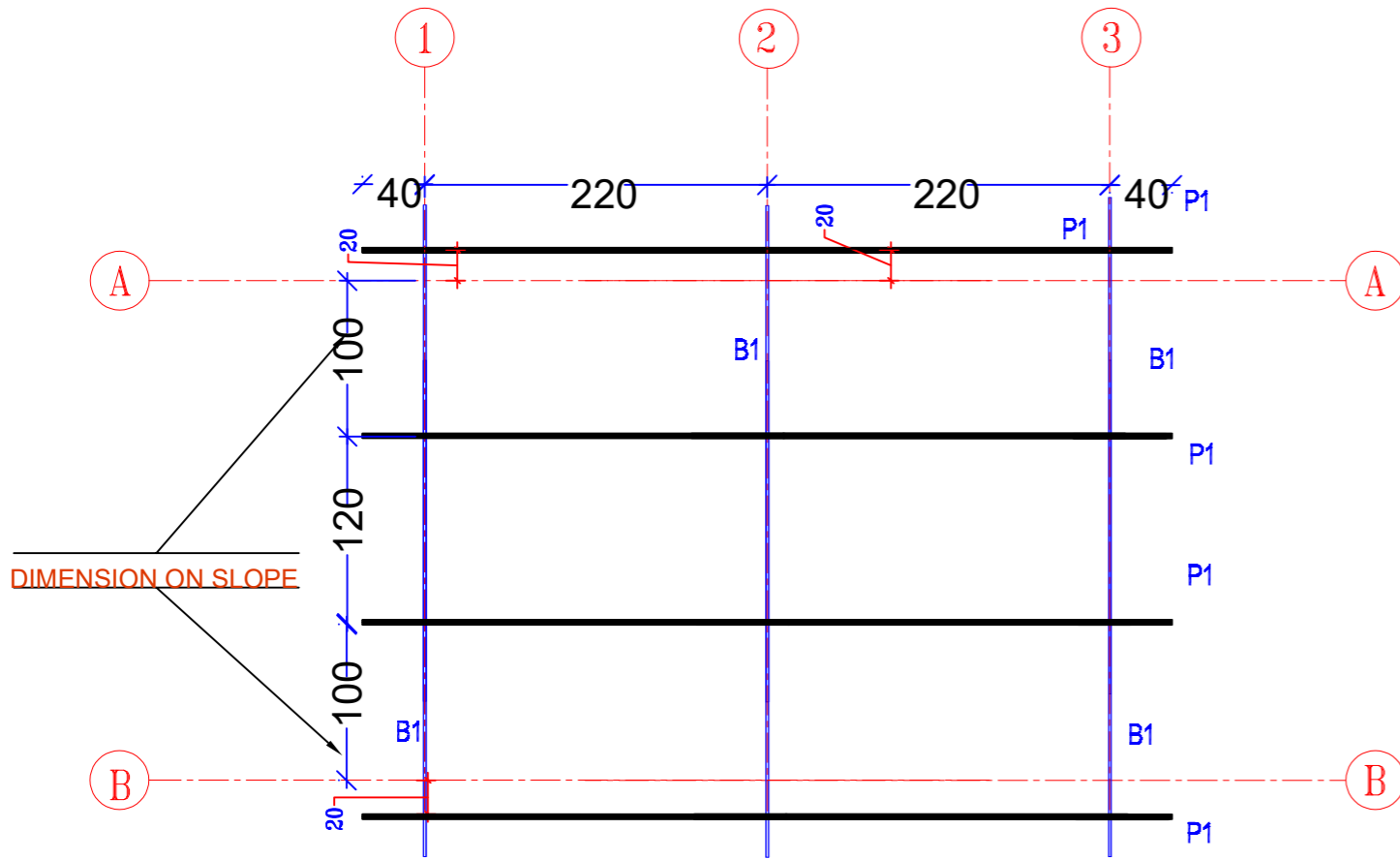
مركز الارشاد الزراعي و البيطري

sheet
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S2 - 05

Sheet No
رقم اللوحة





FRAME PLAN

GALVANIZED STEEL SECTIONS DETAILS.

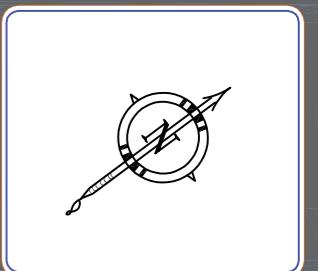
SECTION SHAPE	NO	MEMBER DIMENSIONS IN MM					REMARKS
		A	B	C	t	Ø	
	C1, B1	75	35	0	2.8-3	-	
	P1	75	35	0	2.8-3	-	
	BR1	75	35	0	2.8-3	-	

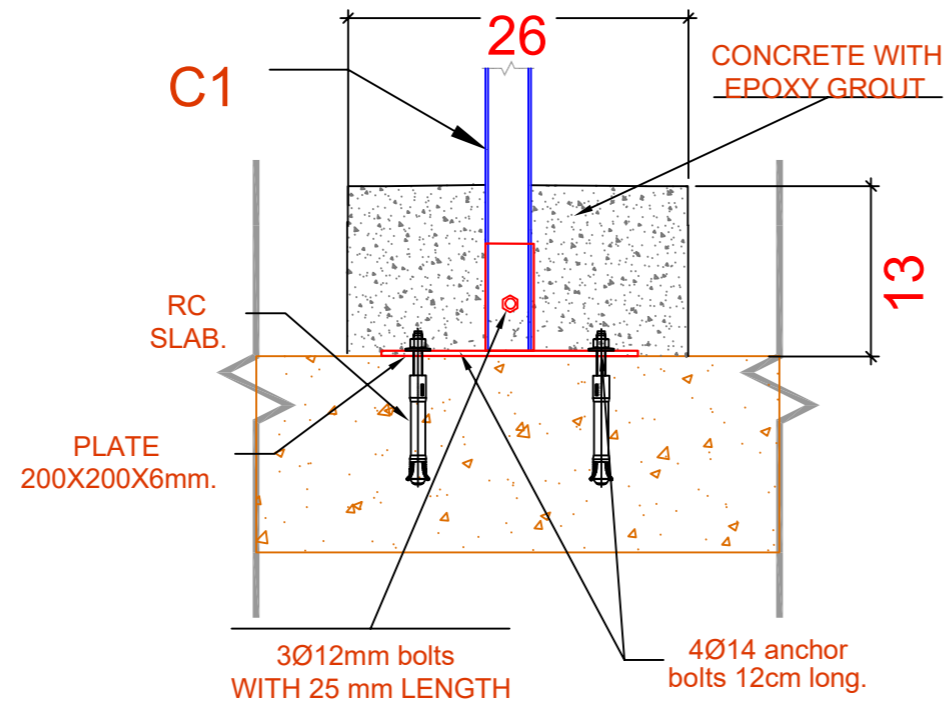


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 توريد وتركيب منظومات طاقة شمسية لمركز الارشاد الزراعي و البيطري

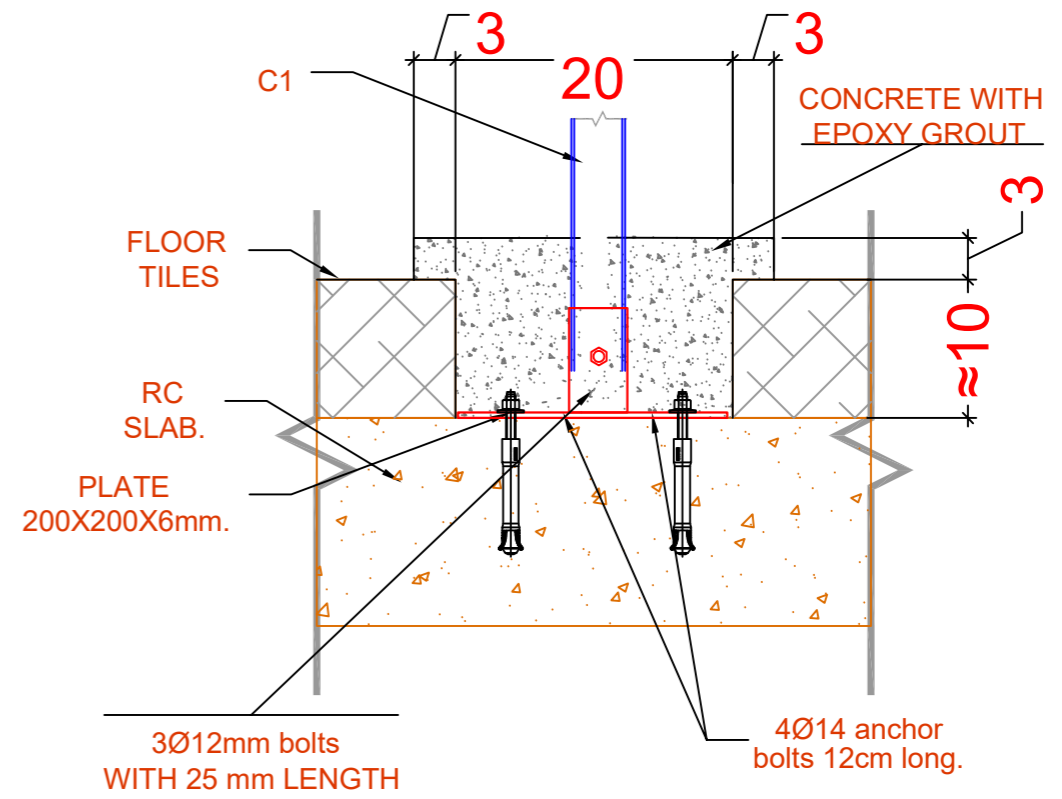
تفاصيل القواعد السقفية BEAMS PLAN DETAILS.

مركز الارشاد الزراعي و البيطري
 sheet اسم اللوحة
 S2 - 06
 Sheet No رقم اللوحة

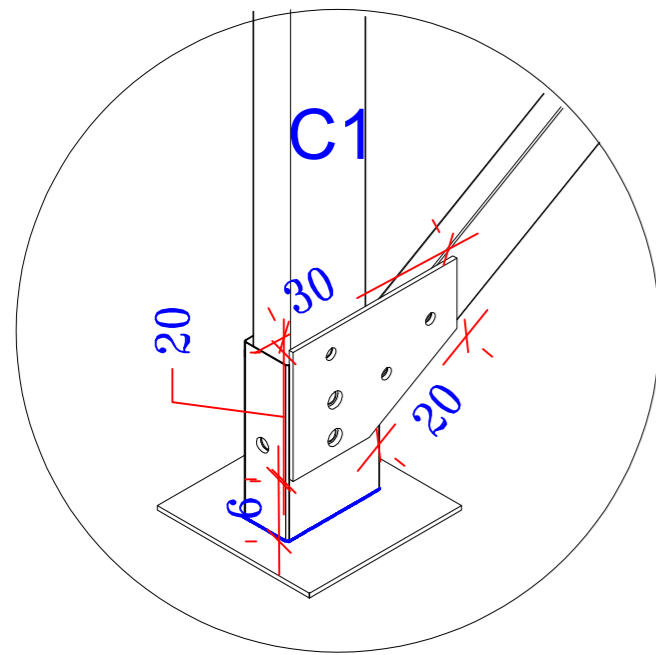




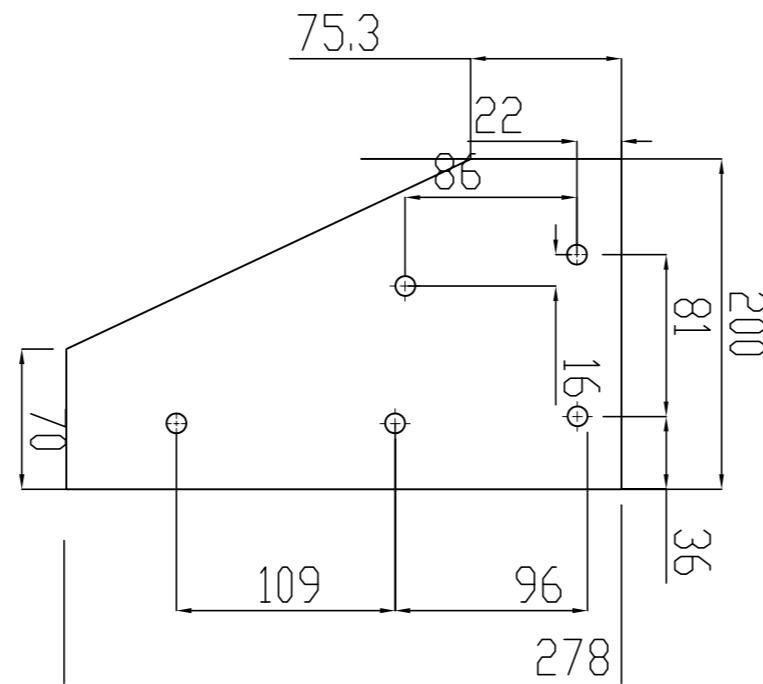
SLAB WITHOUT TILES



SLAB WITH TILES



DETAIL B.



NOTES

Roof pull out test should be carried out prior installation anchors pull out test should not be less than 7kN

GALVANIZED STEEL SECTIONS DETAILS.

SECTION SHAPE	NO	MEMBER DIMENSIONS IN MM				REMARKS
		A	B	C	t	
C	C1, B1	75	35	0	2.8-3	-
	P1	75	35	0	2.8-3	-
	BR1	75	35	0	2.8-3	-



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توريد وتركيب منظومات طاقة شمسية لمركز الارشاد الزراعي و البيطري

تفاصيل القاعدة

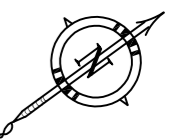
CONCRETE ,CONNECTION AND BASE PLATES DETAILS A.

مركز الارشاد الزراعي و البيطري

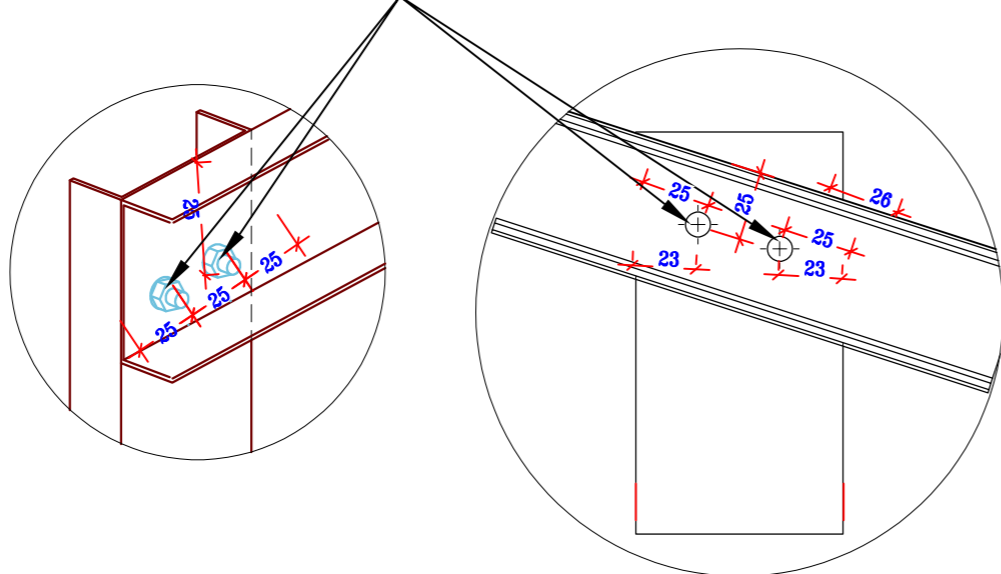
S2 - 07

sheet اسم اللوحة

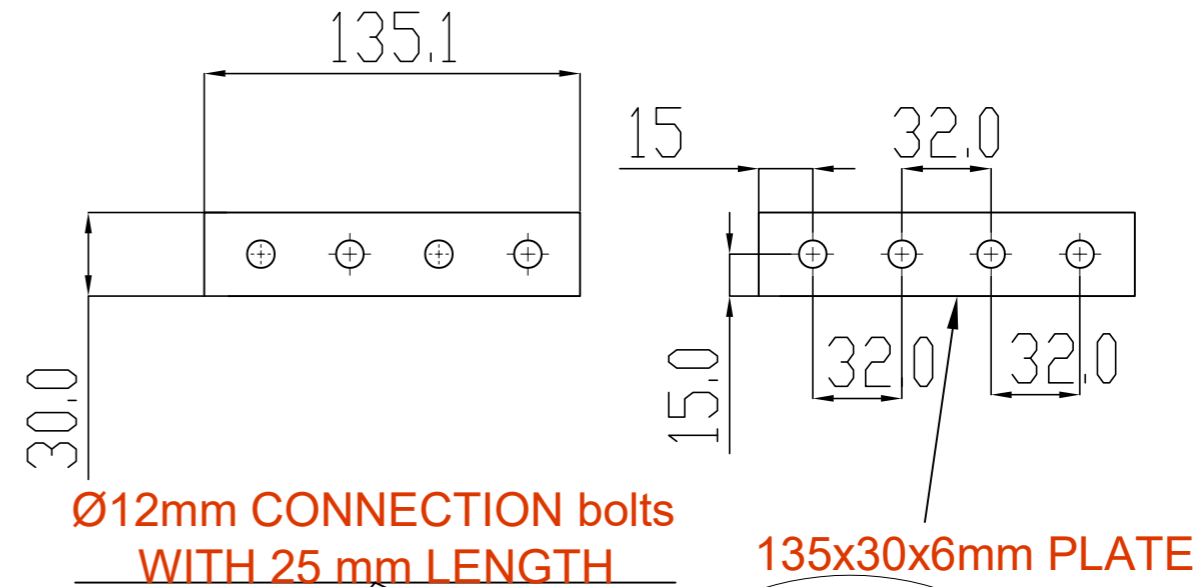
Sheet No رقم اللوحة



Ø12mm CONNECTION bolts
WITH 25 mm LENGTH



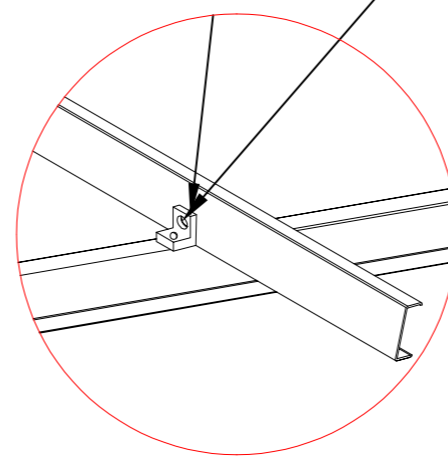
DETAIL A.



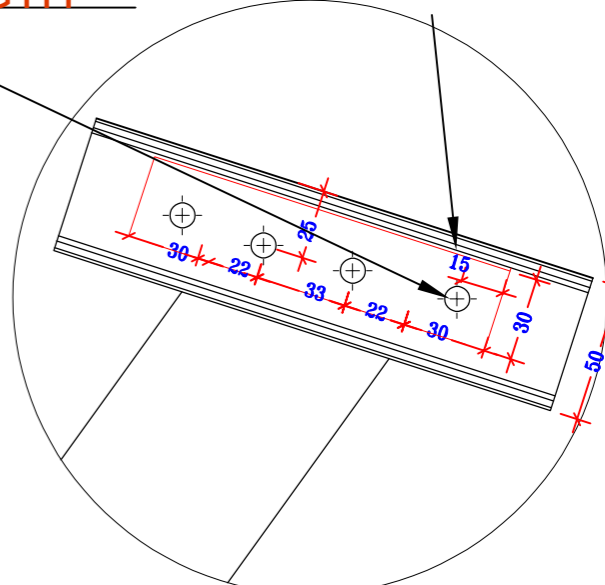
Ø12mm CONNECTION bolts
WITH 25 mm LENGTH

135x30x6mm PLATE

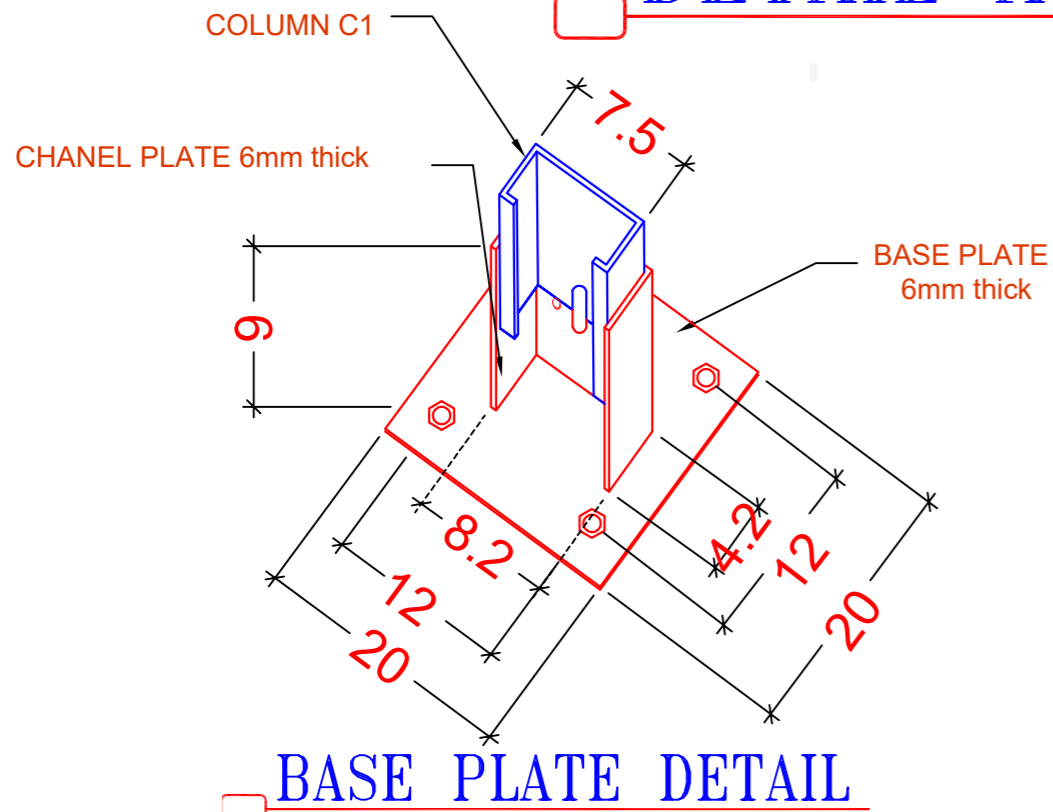
25x25x6mm LPLATE



DETAIL E



DETAIL D



BASE PLATE DETAIL

GALVANIZED STEEL SECTIONS DETAILS.

SECTION SHAPE	NO	MEMBER DIMENSIONS IN MM				REMARKS
		A	B	C	t	
C1, B1	75	35	0	2.8~3	-	
	P1	75	35	0	2.8~3	-
	BR1	75	35	0	2.8~3	-



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لمركز الارشاد الزراعي والبيطري

تفاصيل القاعدة
CONCRETE ,CONNECTION AND BASE
PLATES DETAILS B.

مركز الارشاد الزراعي والبيطري

S2 - 08

sheet
اسم اللوحة

Sheet No
رقم اللوحة

