REPUBLIC OF THE PHILIPPINES

PHILIPPINE PORTS AUTHORITY

PMO-BATANGAS BATANGAS CITY

CONSTRUCTION DRAWING

REPAIR/IMPROVEMENT OF POWER/ELECTRICAL SYSTEM AT RADAR STATION 3

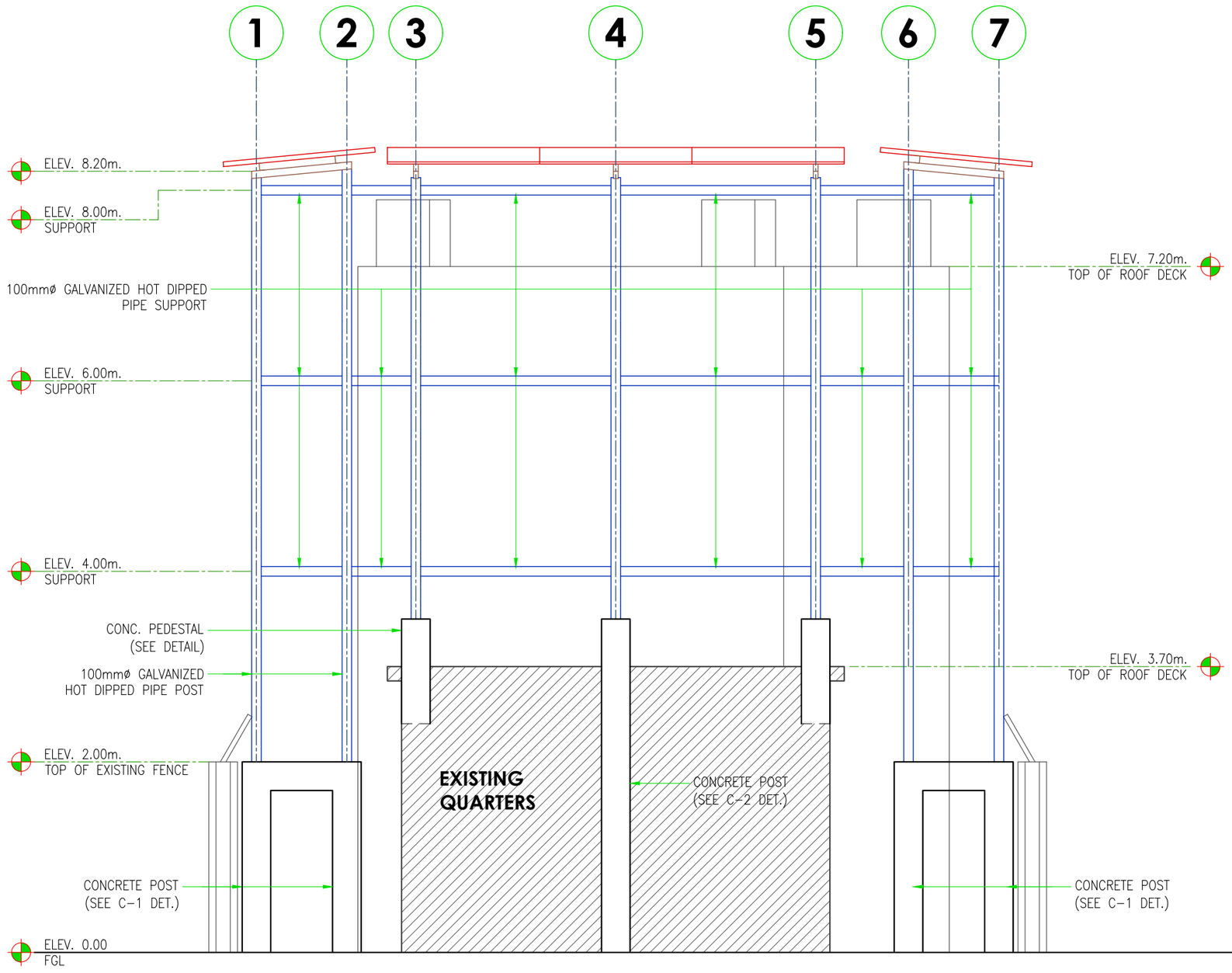
ESCARCEO, PUERTO GALERA, PORT OF BATANGAS



SOLAR PANEL LAYOUT

SCALE: 1:60

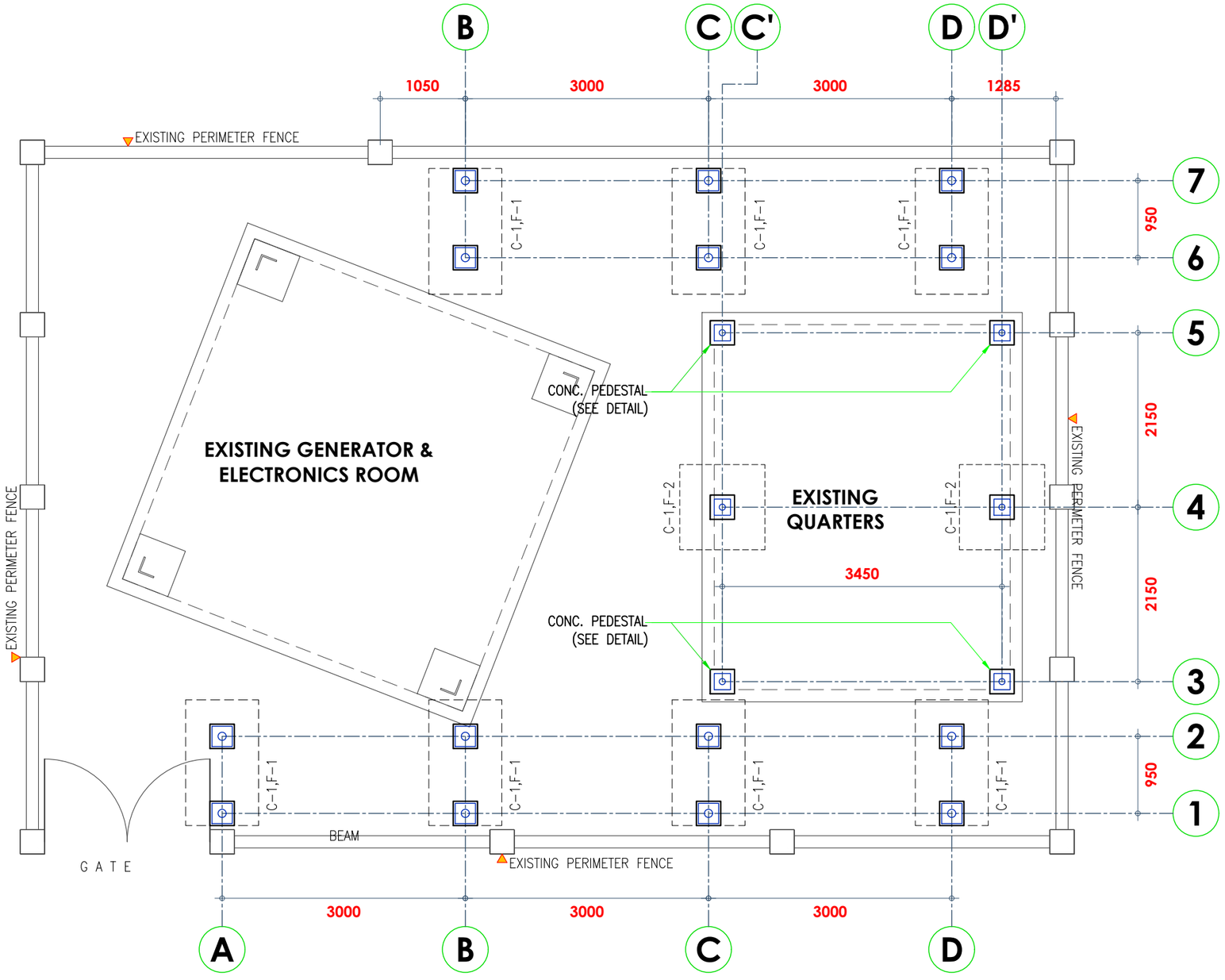
PHILIPPINE PORTS AUTHORITY PMO-BATANGAS BATANGAS CITY	PROJECT TITLE : **REPAIR/IMPROVEMENT OF POWER/ ELECTRICAL SYSTEM OF RADAR STATION 3** LOCATION : ESCARCEO, PUERTO GALERA, PORT OF BATANGAS	CAD BY : (SIGNED) **G. A. ARAGO** CAD OPERATOR	PREPARED BY : (SIGNED) **C. L. RABINA** PRINCIPAL ENGINEER	REVIEWED BY : (SIGNED) **C. B. GUCE** ESD MANAGER	APPROVED : (SIGNED) **LEOPOLDO C. BISCOCHO, JR.** PORT MANAGER	SHEET CONTENTS : AS-SHOWN	SHEET NO : 01 09 DATE: Jul - 2017



RIGHT SIDE ELEVATION

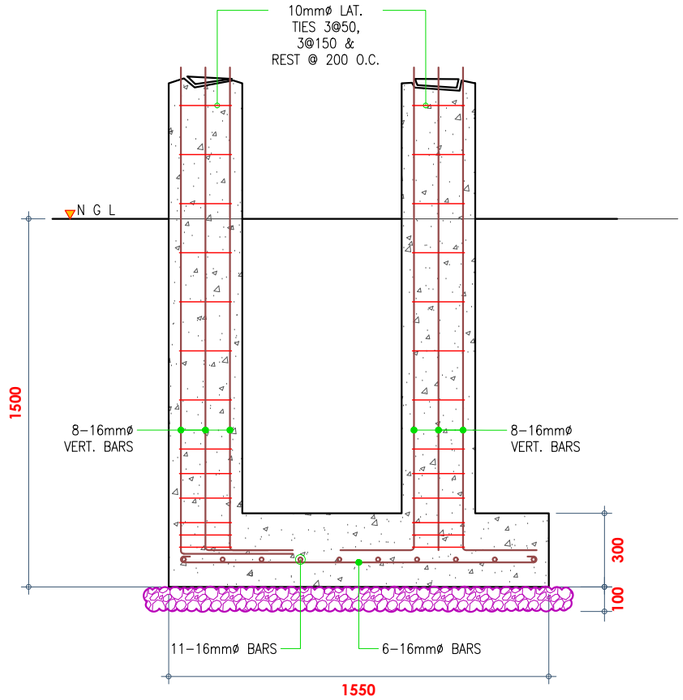
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PHILIPPINE PORTS AUTHORITY PMO-BATANGAS BATANGAS CITY	PROJECT TITLE : **REPAIR/IMPROVEMENT OF POWER/ ELECTRICAL SYSTEM OF RADAR STATION 3** LOCATION : ESCARCEO, PUERTO GALERA, PORT OF BATANGAS	CAD BY : (SIGNED) **G. A. ARAGO** CAD OPERATOR	PREPARED BY : (SIGNED) **C. L. RABINA** PRINCIPAL ENGINEER	REVIEWED BY : (SIGNED) **C. B. GUCE** ESD MANAGER	APPROVED : (SIGNED) **LEOPOLDO C. BISCOCHO, JR.** PORT MANAGER	SHEET CONTENTS : AS-SHOWN	SHEET NO : 02 09 DATE: Jul - 2017



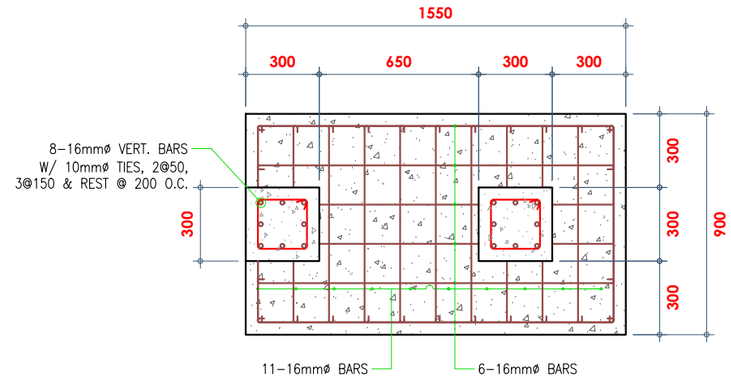
FOUNDATION PLAN

SCALE: 1:60



C-1,F-1 DETAIL SECTION

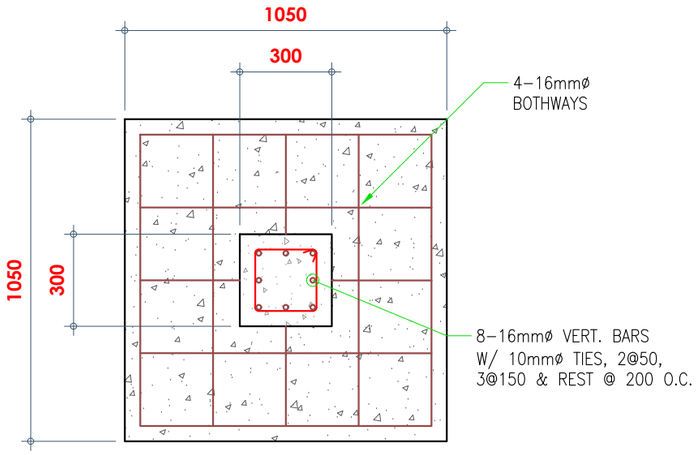
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C-1,F-1 PLAN

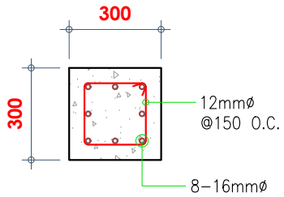
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PHILIPPINE PORTS AUTHORITY PMO-BATANGAS BATANGAS CITY	PROJECT TITLE : **REPAIR/IMPROVEMENT OF POWER/ ELECTRICAL SYSTEM OF RADAR STATION 3** LOCATION : ESCARCEO, PUERTO GALERA, PORT OF BATANGAS	CAD BY : (SIGNED) **G. A. ARAGO** CAD OPERATOR	PREPARED BY : (SIGNED) **C. L. RABINA** PRINCIPAL ENGINEER	REVIEWED BY : (SIGNED) **C. B. GUCE** ESD MANAGER	APPROVED : (SIGNED) **LEOPOLDO C. BISCOCHO, JR.** PORT MANAGER	SHEET CONTENTS : AS-SHOWN	SHEET NO : 03 09 DATE: Jul - 2017

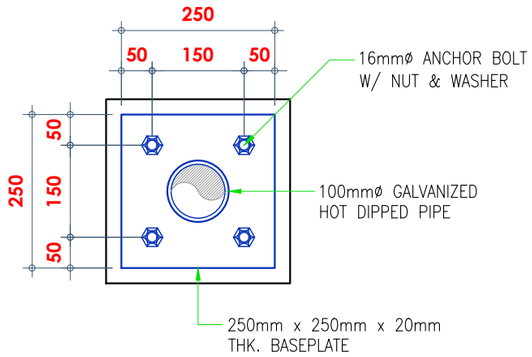


C-1,F-2 PLAN

SCALE: 1:20

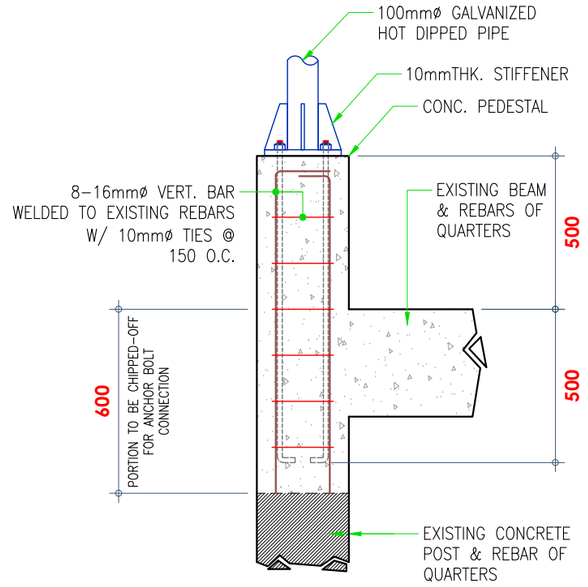


PLAN



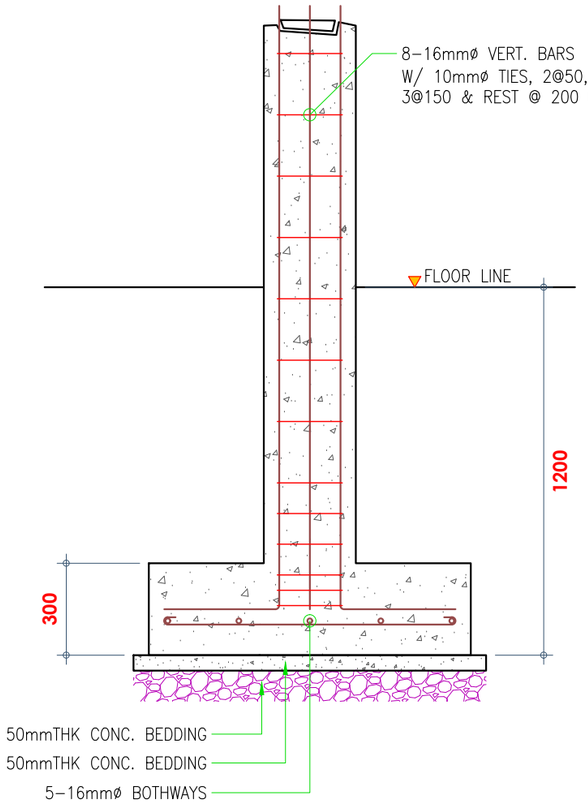
PLAN

SCALE: 1:10



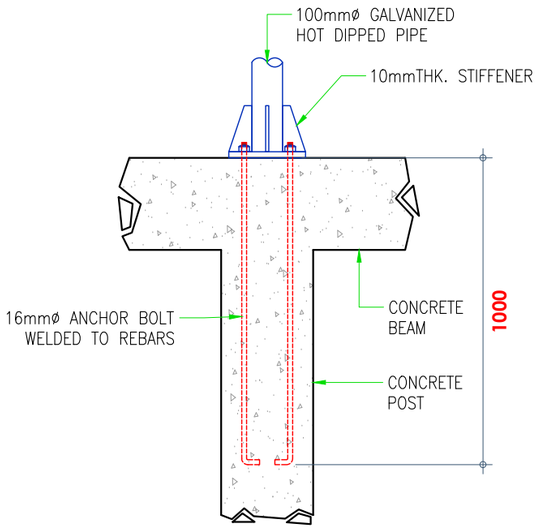
CONC. PEDESTAL DETAIL

SCALE: 1:20



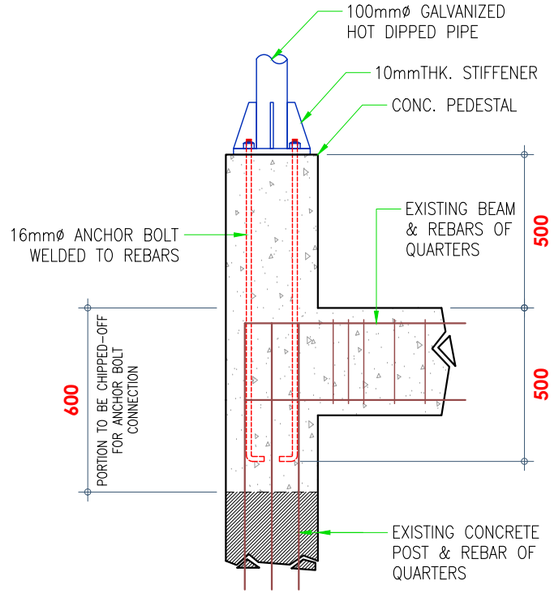
C-1,F-2 DETAIL SECTION

SCALE: 1:20



CONNECTION DETAIL

SCALE: 1:20



DETAIL A

SCALE: 1:20

PHILIPPINE PORTS AUTHORITY

PMO-BATANGAS BATANGAS CITY

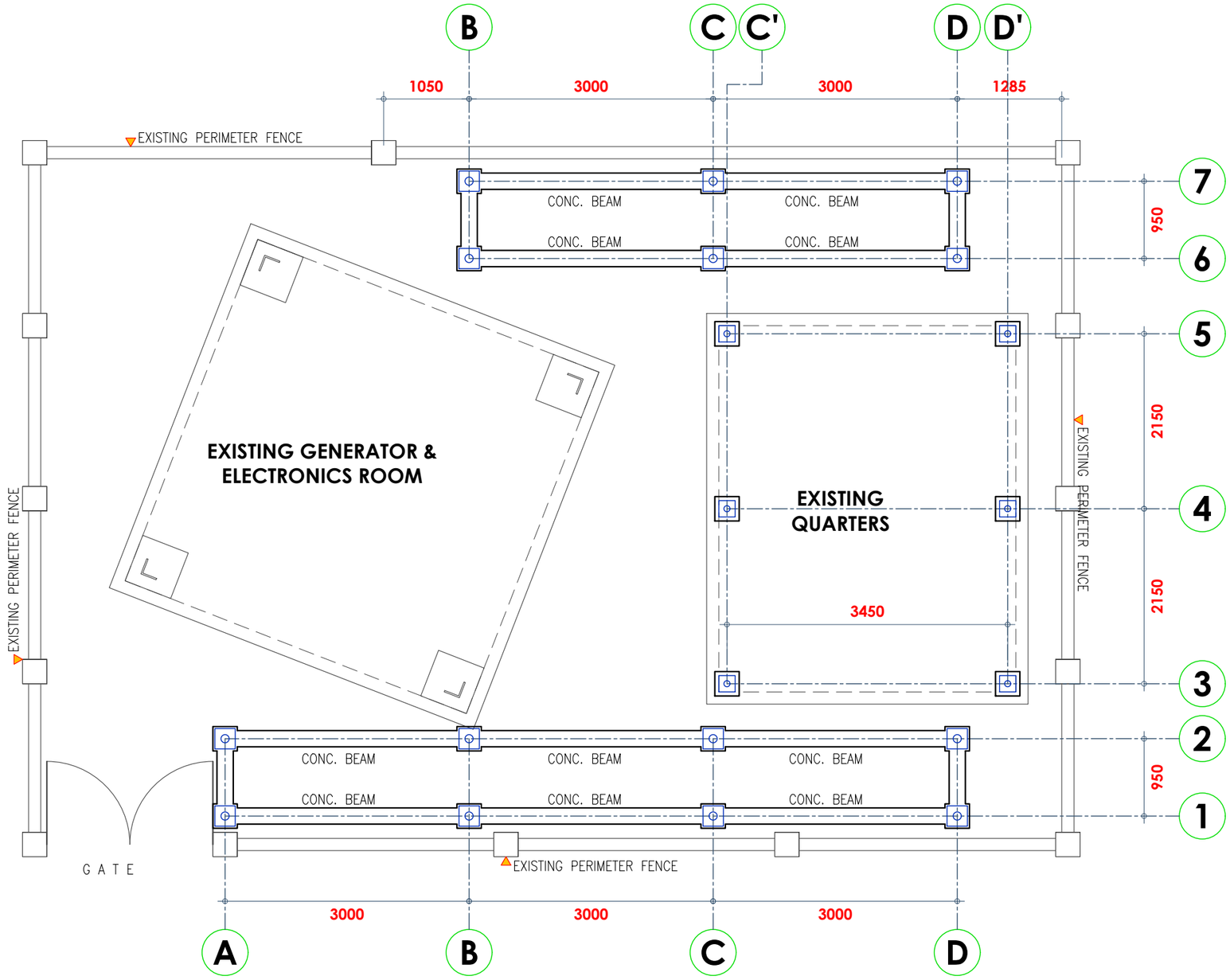
PROJECT TITLE :

REPAIR/IMPROVEMENT OF POWER/ ELECTRICAL SYSTEM OF RADAR STATION 3

LOCATION : ESCARCEO, PUERTO GALERA, PORT OF BATANGAS

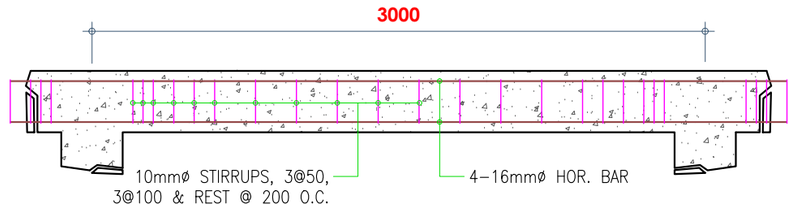
CAD BY :	PREPARED BY :	REVIEWED BY :	APPROVED :	SHEET CONTENTS :	SHEET NO :
(SIGNED) **G. A. ARAGO** CAD OPERATOR	(SIGNED) **C. L. RABINA** PRINCIPAL ENGINEER	(SIGNED) **C. B. GUCE** ESD MANAGER	(SIGNED) **LEOPOLDO C. BISCOCHO, JR.** PORT MANAGER	AS-SHOWN	04 / 09

DATE: Jul - 2017



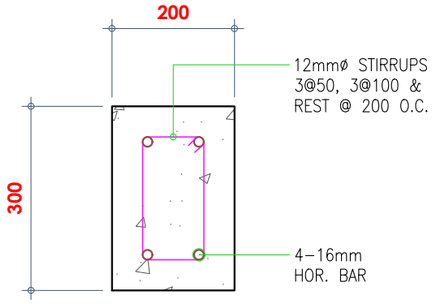
CONCRETE BEAM LAYOUT

SCALE: 1:60



CONC. BEAM DETAIL

SCALE: 1:30

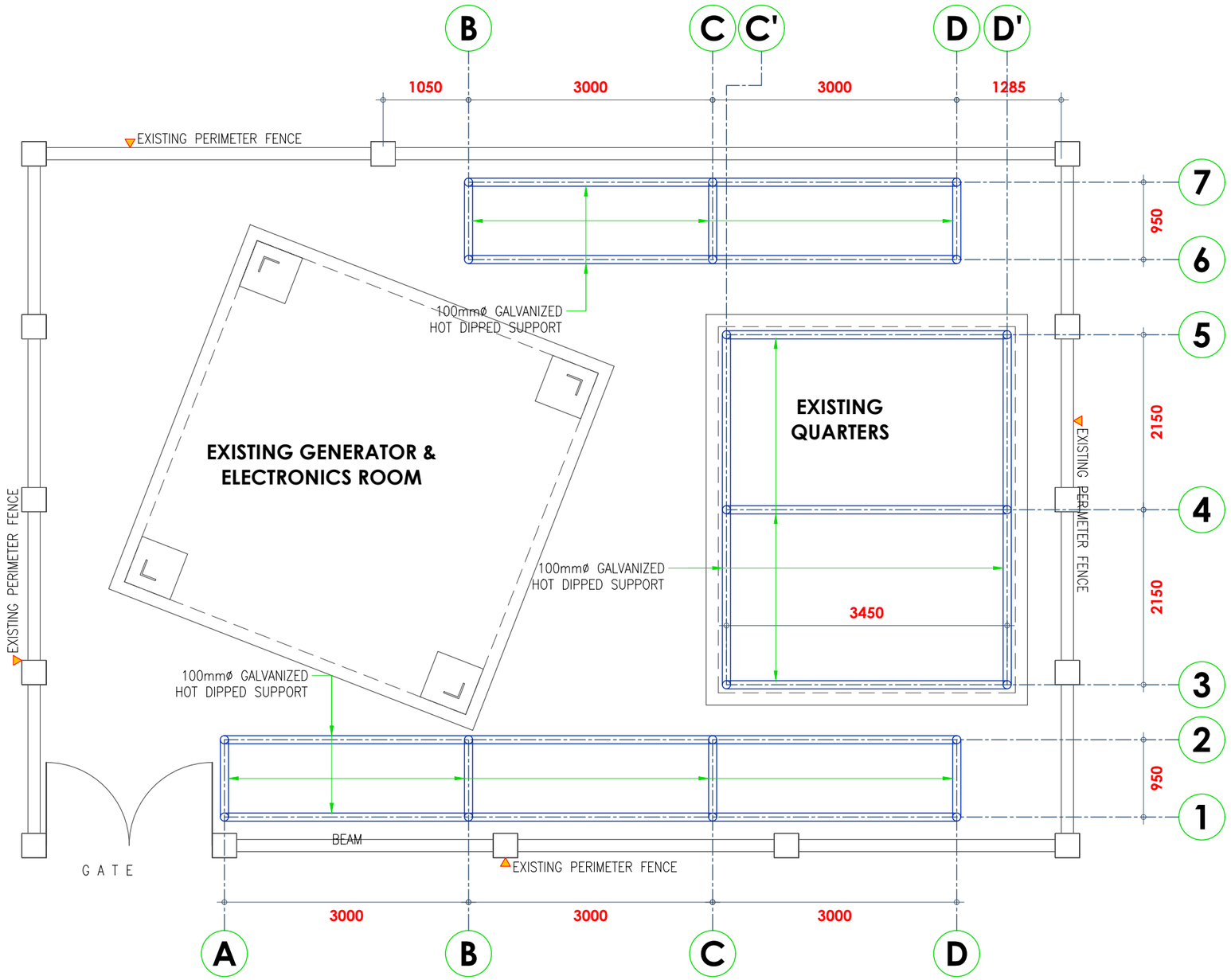


SECTION

PHILIPPINE PORTS AUTHORITY

PMO-BATANGAS BATANGAS CITY

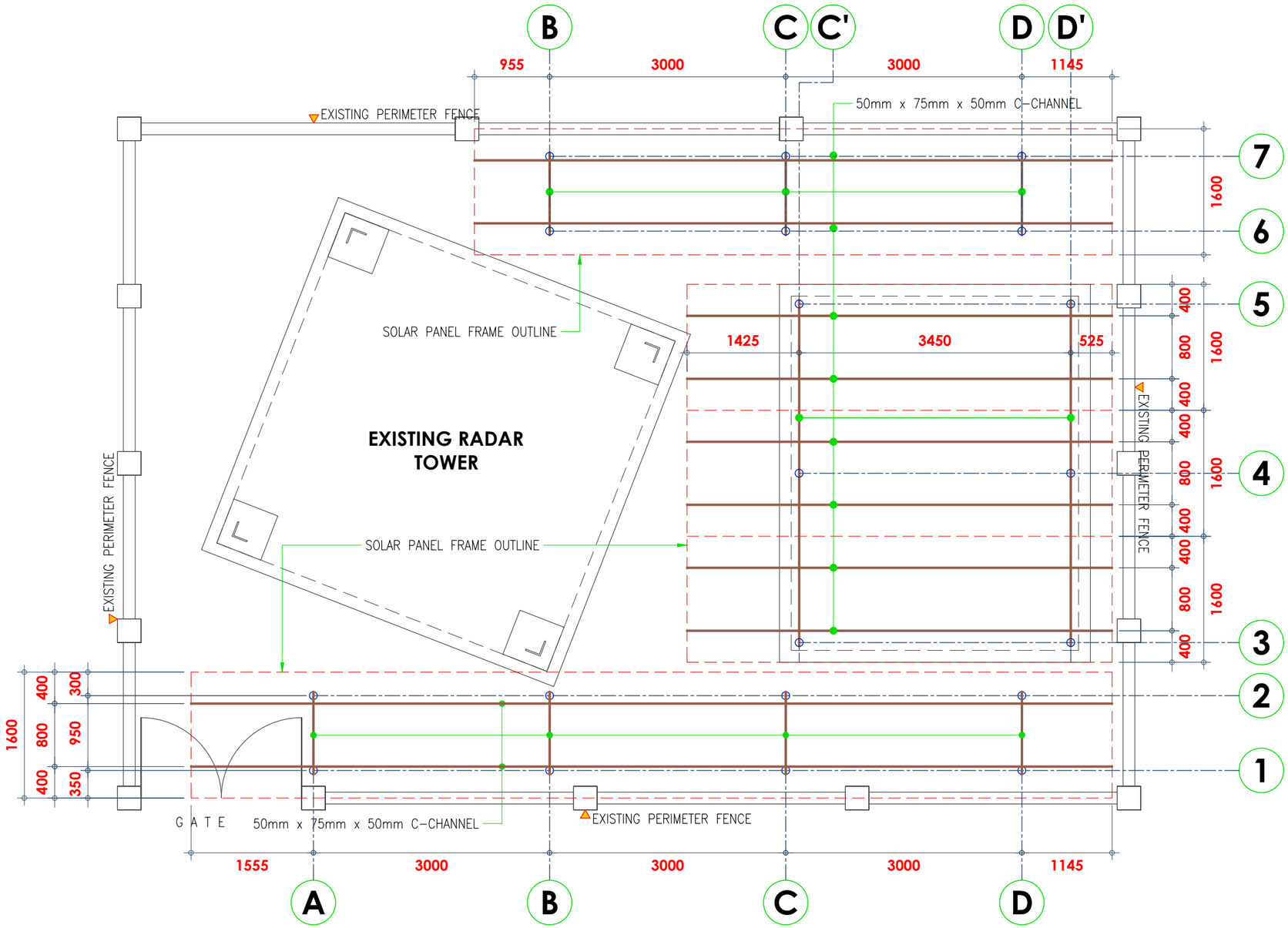
PROJECT TITLE :	CAD BY :	PREPARED BY :	REVIEWED BY :	APPROVED :	SHEET CONTENTS :	SHEET NO :
REPAIR/IMPROVEMENT OF POWER/ ELECTRICAL SYSTEM OF RADAR STATION 3 LOCATION : ESCARCEO, PUERTO GALERA, PORT OF BATANGAS	(SIGNED) **G. A. ARAGO** CAD OPERATOR	(SIGNED) **C. L. RABINA** PRINCIPAL ENGINEER	(SIGNED) **C. B. GUCE** ESD MANAGER	(SIGNED) **LEOPOLDO C. BISCOCHO, JR.** PORT MANAGER	AS-SHOWN	05 / 09 DATE: Jul - 2017



G.I. POST SUPPORT LAYOUT

SCALE: 1:60

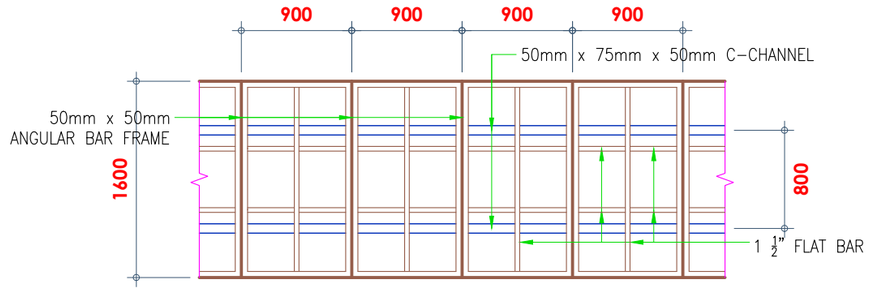
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SOLAR PANEL FRAMING PLAN

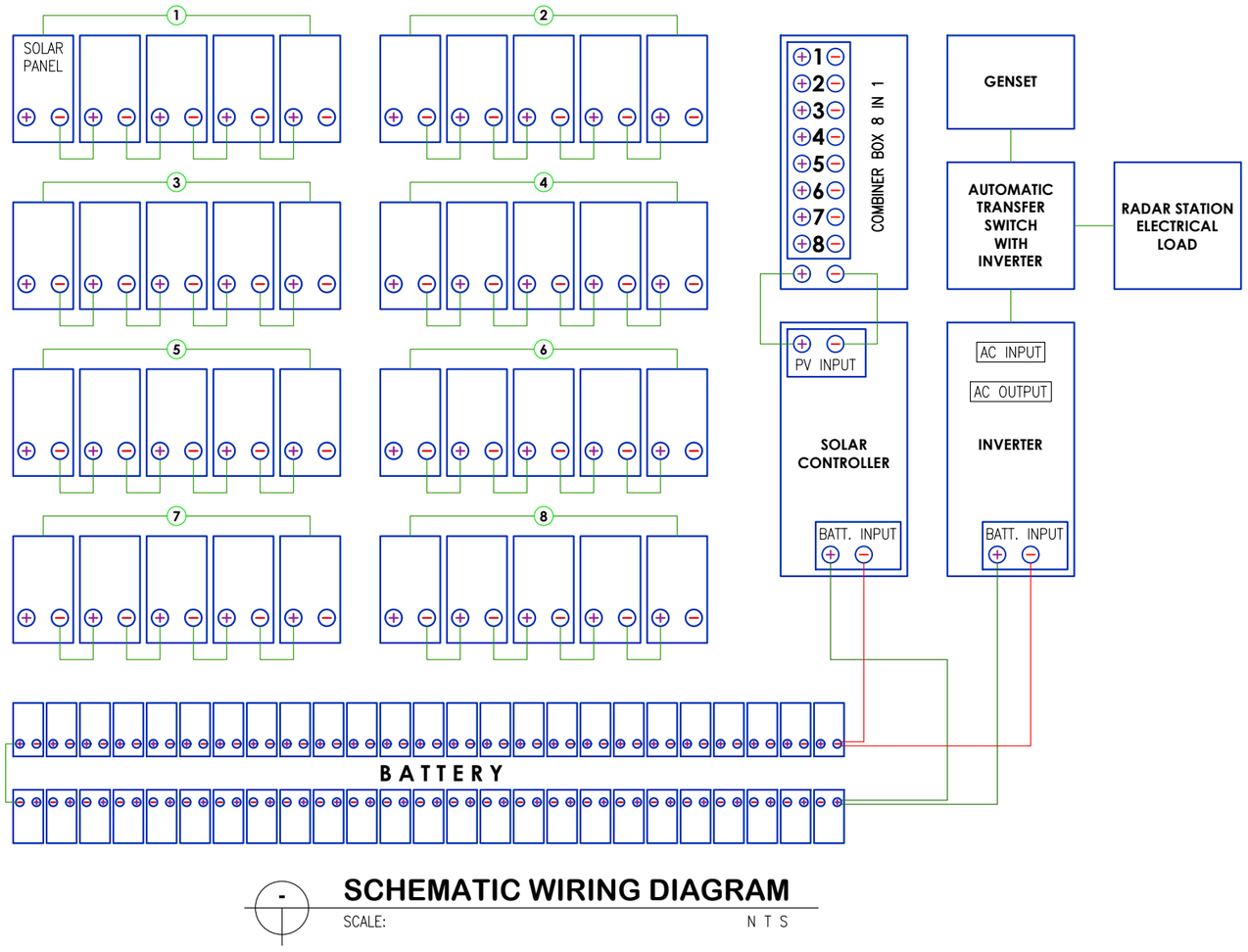
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PHILIPPINE PORTS AUTHORITY PMO-BATANGAS BATANGAS CITY	PROJECT TITLE : **REPAIR/IMPROVEMENT OF POWER/ ELECTRICAL SYSTEM OF RADAR STATION 3** LOCATION : ESCARCEO, PUERTO GALERA, PORT OF BATANGAS	CAD BY : (SIGNED) **G. A. ARAGO** CAD OPERATOR	PREPARED BY : (SIGNED) **C. L. RABINA** PRINCIPAL ENGINEER	REVIEWED BY : (SIGNED) **C. B. GUCE** ESD MANAGER	APPROVED : (SIGNED) **LEOPOLDO C. BISCOCHO, JR.** PORT MANAGER	SHEET CONTENTS : AS-SHOWN	SHEET NO : 07 09 DATE: Jul - 2017



SOLAR PANEL FRAME DETAIL

SCALE: 1:50



SCHEMATIC WIRING DIAGRAM

SCALE: N T S

Off-grid Solar System						
Model: TY090A						
Product Name	Specification	QTY(PCS)			warranty	
Solar panel	10.6KW	40			10 years	
Solar controller	96V100A	1			3 years	
Inverter	96V15KVA(10kw)	1			3 years	
Lead-acid battery	2V500AH*48PCS	48			3 years	
combiner box	4 in 1/SETS	1			5 years	- Integrated design, easy install and maintain
power box	SETS	1			5 years	-LCD display + LED status indicator
bracket	aluminium alloy	1			10 years	- Output isolated transformer, safe and stable
PV cable	4mm	1			10 years	- Excellent overload
battery rack	SETS	1			10 years	
ATS with Inverter-96V15KVA(10Kw)	SETS	1			3 years	
other parts	SETS	1			10 years	
Total						

Technical Parameter				
Product Name	Specification			Picture
Solar panel	Model No.		TYP265W (Poly crystalline)	
	Rated Maximum Power		265 W	
	Quantity		40 pcs	
	Maximum Power		Voltage:30 V - Current: 8.33A	
	Open Circuit Voltage(Voc)		36 V	
	Short Circuit Current(Isc)		9.17 A	
	Maximum System Voltage		1000 V	
	Operating Temperature		-40°C~+85°C	
	Standard Test Conditions		1000W/m2, AM1.5, 25°C	
Lead-acid battery	Nominal Capacity		2V500AH*48 pcs	
Solar controller	Rated Voltage(V)		96V	
	Maximum charging current(A)		100 A	
	ChargeVoltage(V)		Floating charge: 115.2V Equalizing charge:110.4V	
	Voltage range (V)		86.4-132V	
	Operating temp.		-40°C~+60°C	
Inverter	Rated power		15KVA(10kw)	
	DC input voltage range		84-120V	
	AC input Voltage & Frequency		220V±25% ;60Hz±5%	
	AC output Voltage & Frequency		220V±10%;60Hz±3%	
	Wave form: Pure sine wave		THDI: <5% (linear load)	
	Power factor: **0.9**		Effeciancy: >85%	
	AC charging current (A)		Rated: 10, Max.: 15	
	Max. operating altitude		3000 (>3000m derating)	
	Storage temperature range		-25°C~+70°C	
	Cooling method		Air cooling	
	Operating temperature range (°C)		–20~+50 (>50°C derating)	
	Relative humidity in operation		0~95% (non-condensing)	
	Noise emission [dB (A)]		<55 (at 1 meter)	
	Communication interface		RS232 (optional)	
	Over load capacity		100~125% 10min; 125~150% 1min; 150~200% 5s	
	Complete protections		DC & AC overload, under-voltage, SPD, short-circuit, overcharge, overdischarge, over-temperature	
Accessories	PV cables: 4mm²*600m; PV brackets; Battery box; Lightning protection distribution box; Manual: 1 pc			
Automatic Transfer Switch function and charging batteries switch	Complete protections		DC & AC overload, under-voltage, SPD, short-circuit, overcharge, overdischarge, over-temperature	

PHILIPPINE PORTS AUTHORITY

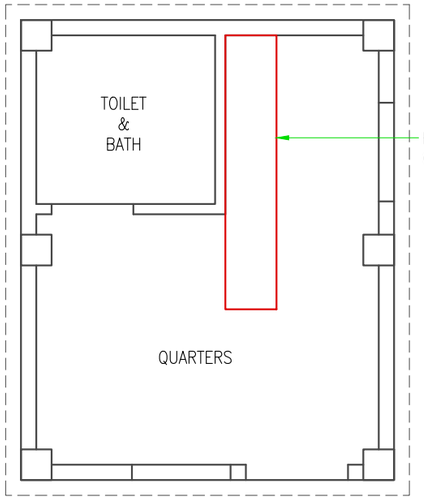
PMO-BATANGAS BATANGAS CITY

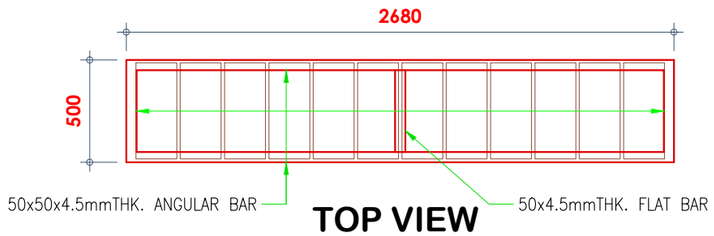
PROJECT TITLE :

REPAIR/IMPROVEMENT OF POWER/ ELECTRICAL SYSTEM OF RADAR STATION 3

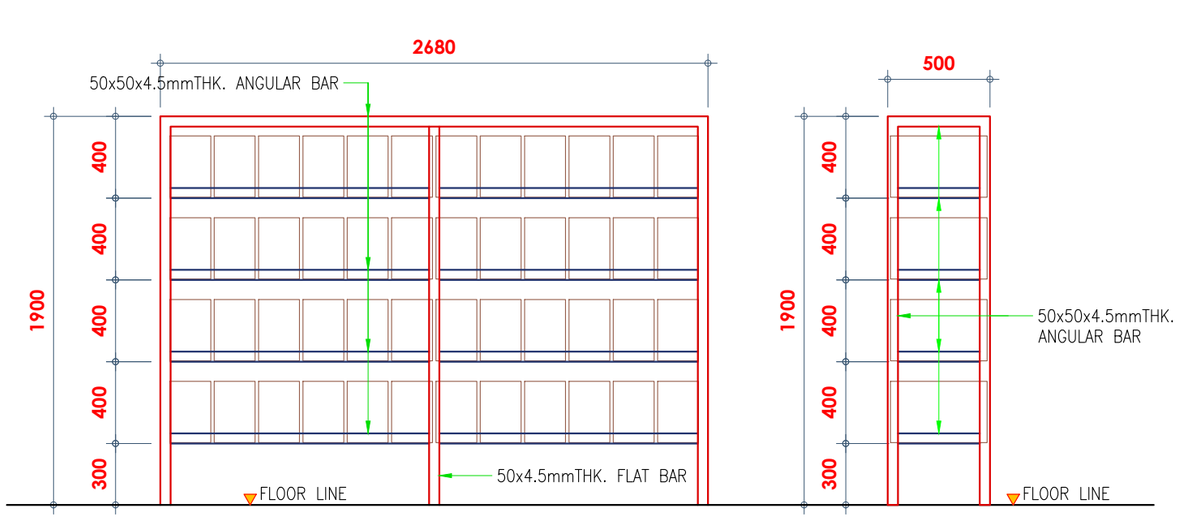
LOCATION : ESCARCEO, PUERTO GALERA, PORT OF BATANGAS

CAD BY :	PREPARED BY :	REVIEWED BY :	APPROVED :	SHEET CONTENTS :	SHEET NO :
(SIGNED)	(SIGNED)	(SIGNED)	(SIGNED)	AS-SHOWN	08 | 09
G. A. ARAGO	**C. L. RABINA**	**C. B. GUCE**	**LEOPOLDO C. BISCOCHO, JR.**		DATE: Jul - 2017
CAD OPERATOR	PRINCIPAL ENGINEER	ESD MANAGER	PORT MANAGER		

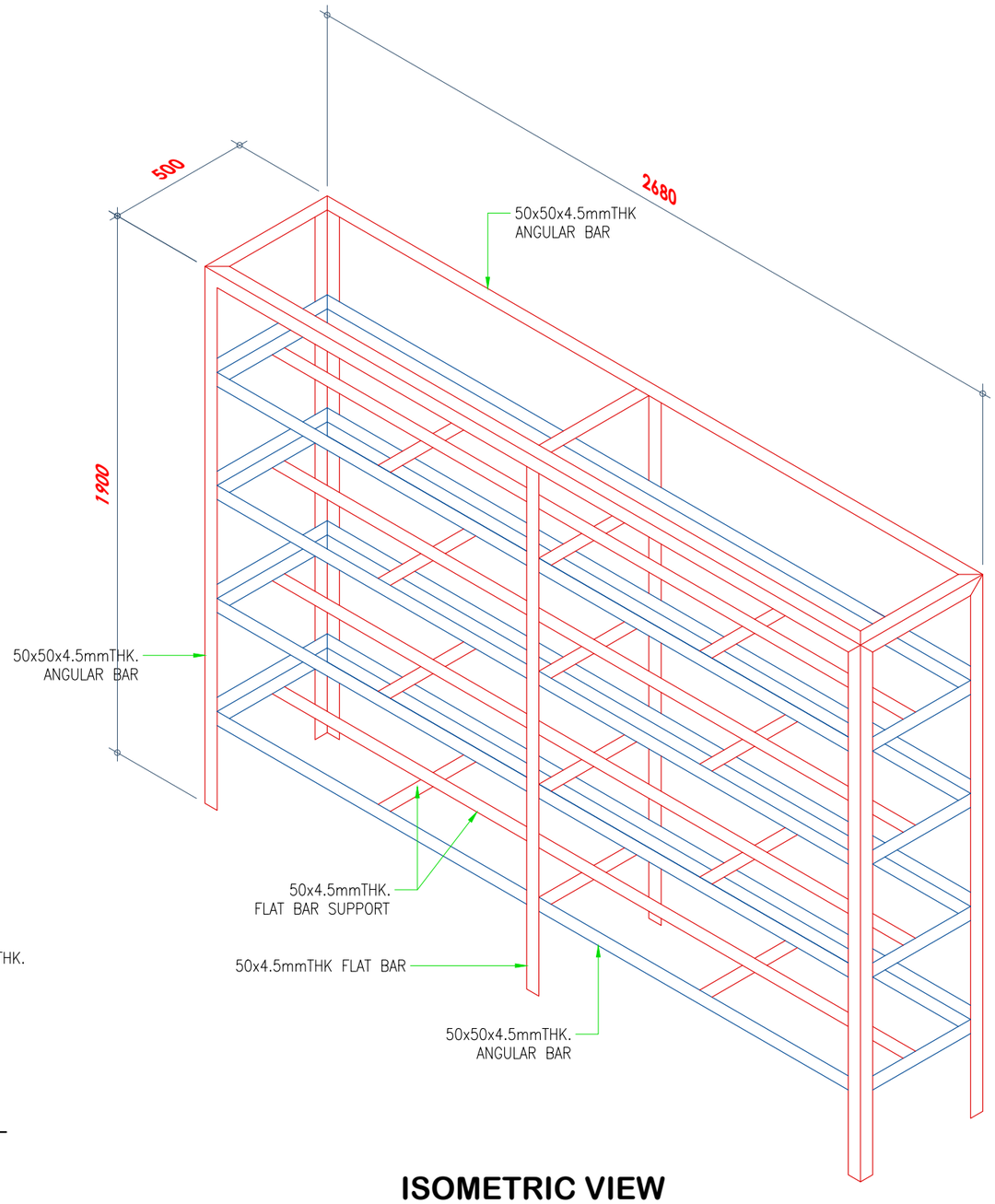




TOP VIEW



FRONT VIEW **SIDE VIEW**



ISOMETRIC VIEW

BATTERY RACK DETAIL

SCALE: 1:30

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