PHILIPPINE PORTS AUTHORITY

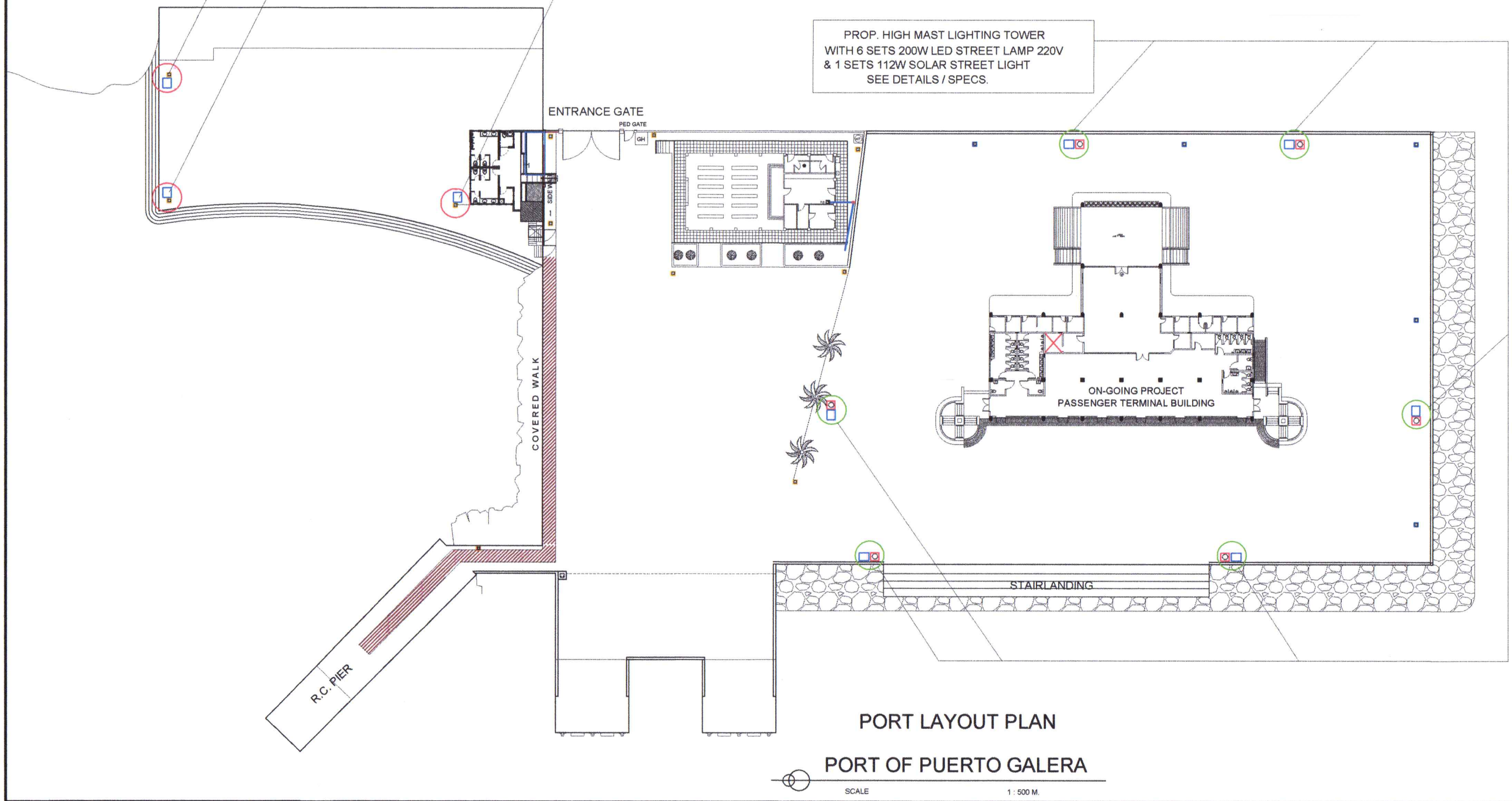
PMO- MINDORO

REPAIR OF PORT LIGHTING AND MOORING SYSTEM

PORT OF PUERTO GALERA, ORIENTAL MINDORO

PROP. ADDTIONAL SINGLE BRACKET TYPE TAPERED STEEL POST (HOT DIPPED GALVANIZED)
WITH 1 SET 112W SOLAR STREELIGHT
SEE DETAILS / SPECS.

PROP. HIGH MAST LIGHTING TOWER
WITH 6 SETS 200W LED STREET LAMP 220V
& 1 SETS 112W SOLAR STREET LIGHT
SEE DETAILS / SPECS.



PORT LAYOUT PLAN

PORT OF PUERTO GALERA

SCALE 1 : 500 M.

PHILIPPINE PORTS AUTHORITY
PMO- MINDORO
ENGINEERING SERVICES DIVISION

PROJECT TITLE: REPAIR OF PORT LIGHTING AND MOORING SYSTEM
PORT OF PUERTO GALERA, ORIENTAL MINDORO

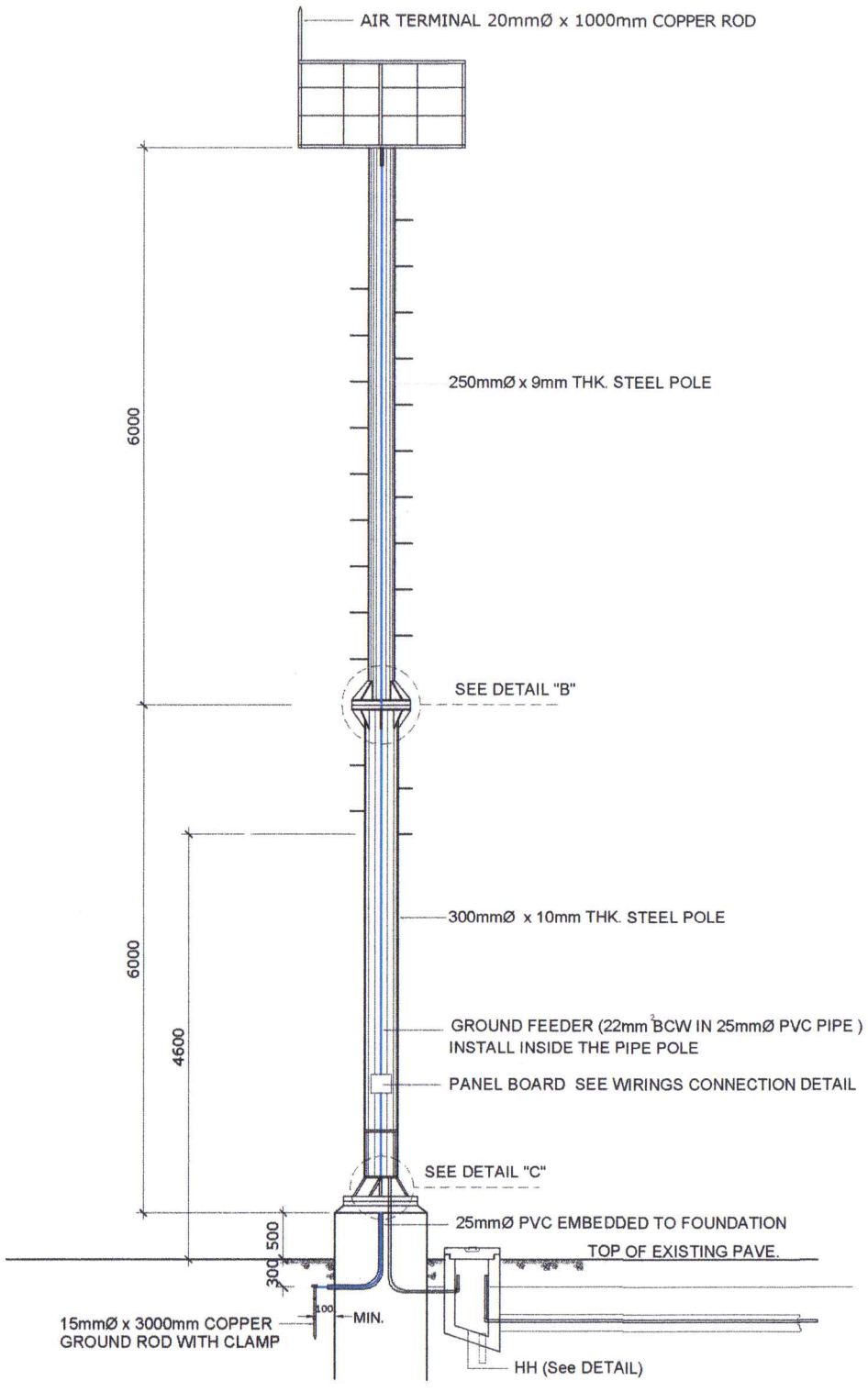
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SCALE: AS SHOWN

SHEET NO. 1 of 13

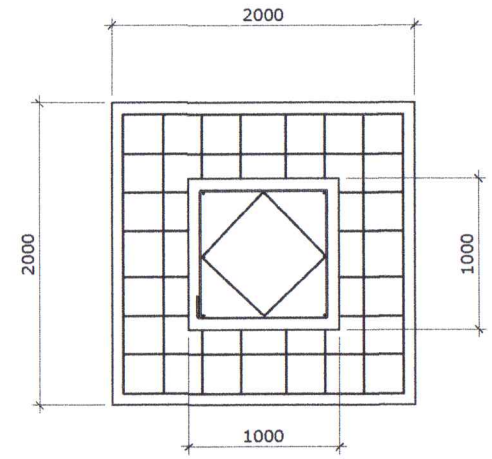
DATE : 09 MAR 2018

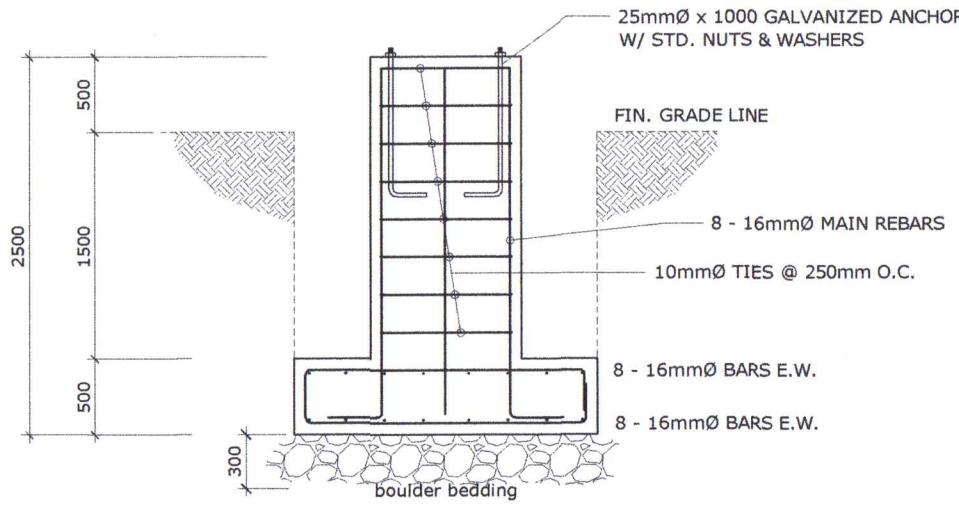
PREPARED BY:	SUBMMITTED BY:	CHECKED / REVIEWED BY:	RECOMMENDING APPROVAL:	APPROVED :
FERNANDO J. GALVEZO	RONALD O. MATIBAG	MARGARITO P. DIMAILIG	EDUARDO P. GOLES	ARCIDI S. JUMAANI
Engineering Assistant A	Acting Supervising Engineer A	Principal Engineer A	ESD Manager	Acting Port Manager



DETAIL OF 12.00 METER HIGH FLOODLIGHT POLE

SCALE 1 : 75 M.





FLOODLIGHT POLE FOUNDATION DETAIL

SCALE 1 : 50 M.

PHILIPPINE PORTS AUTHORITY
PMO- MINDORO
ENGINEERING SERVICES DIVISION

PROJECT TITLE: REPAIR OF PORT LIGHTING AND MOORING SYSTEM
PORT OF PUERTO GALERA, ORIENTAL MINDORO

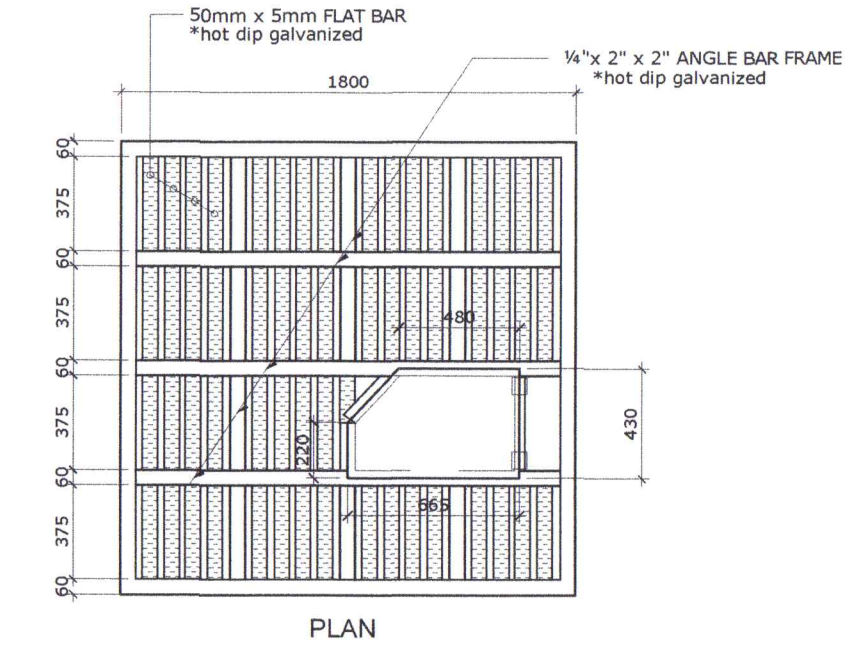
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FERNANDO J. GALVEZO	RONALD O. MATIBAG	MARGARITO P. DIMAILIG	EDUARDO P. GOLES	ARCIDI S. JUMAANI
Engineering Assistant A	Acting Supervising Engineer A	Principal Engineer A	ESD Manager	Acting Port Manager

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SCALE: AS SHOWN

SHEET NO. 2 of 13

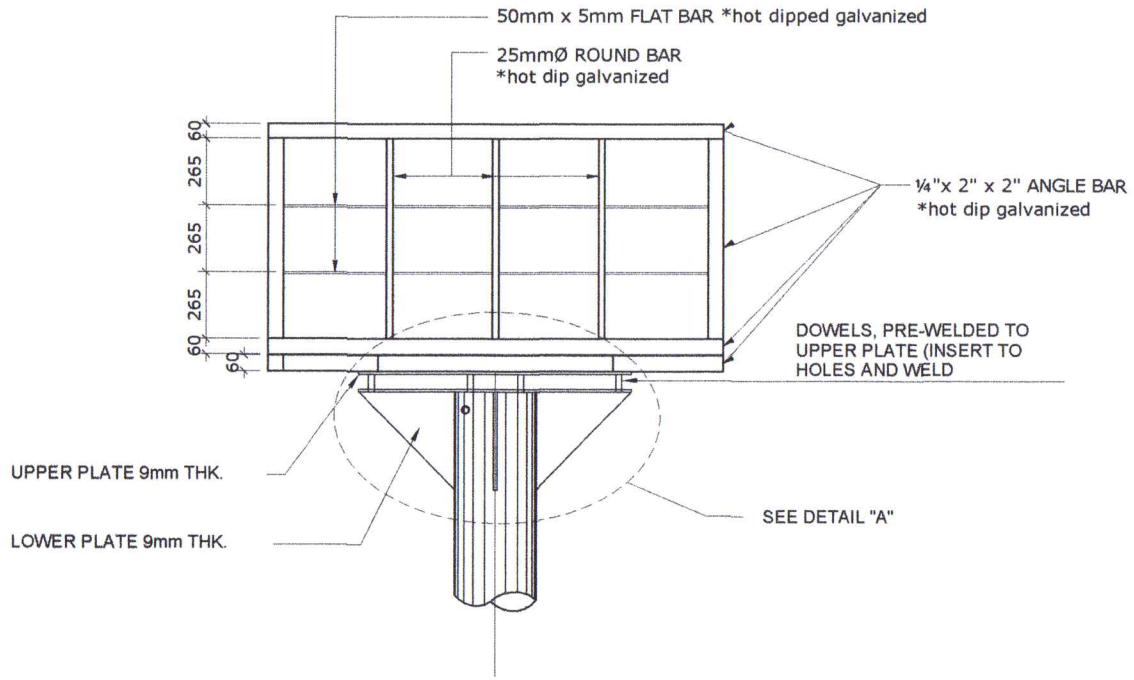
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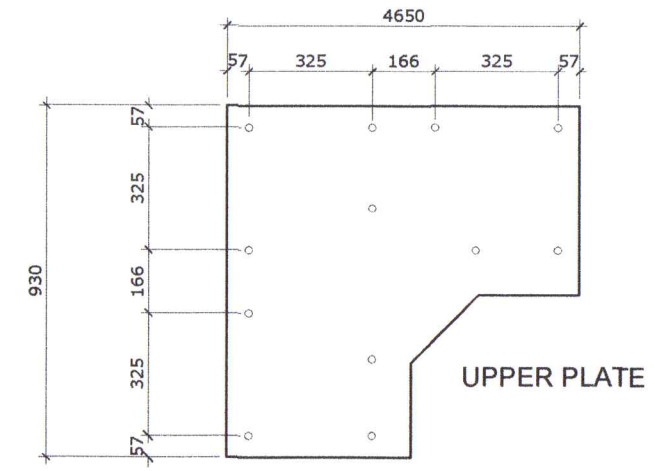
PLAN

PLATFORM FRAME DETAIL

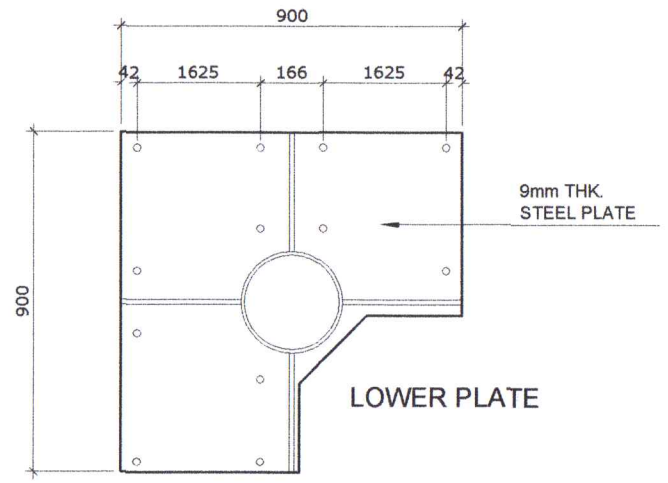
SCALE 1 : 30 M.



TYPICAL ELEV.



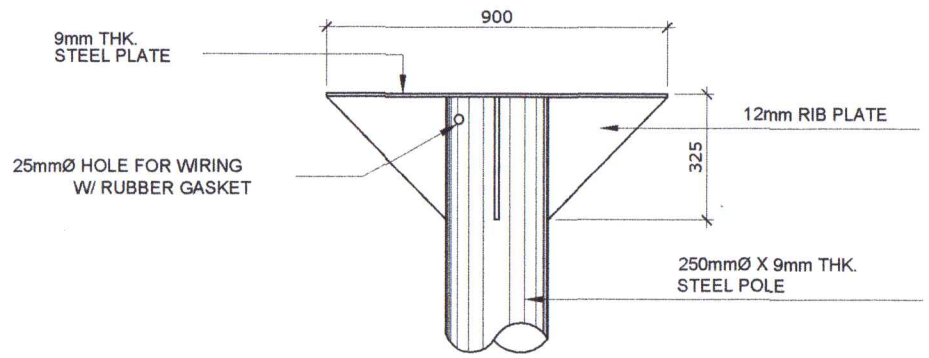
UPPER PLATE



LOWER PLATE

PLATFORM PLATES

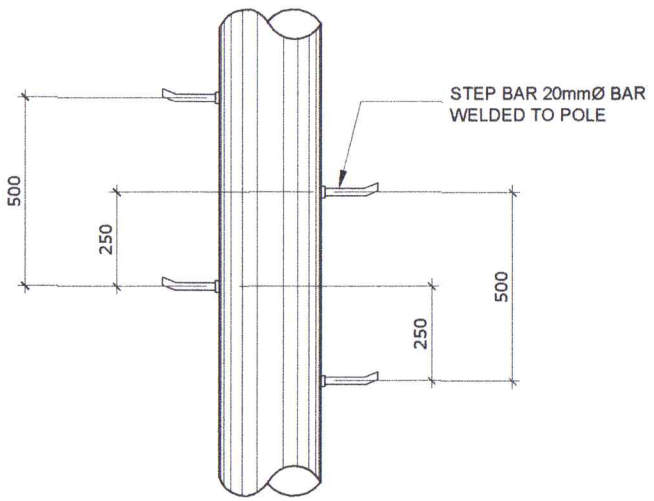
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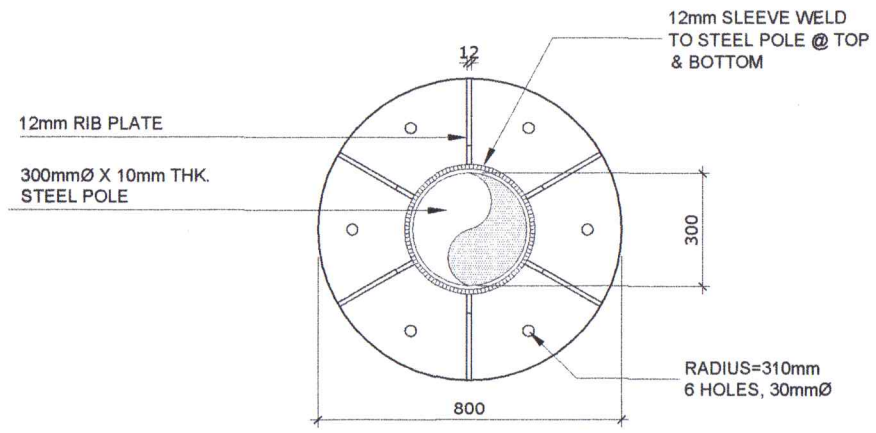
DETAIL "A"

SCALE 1:20 M

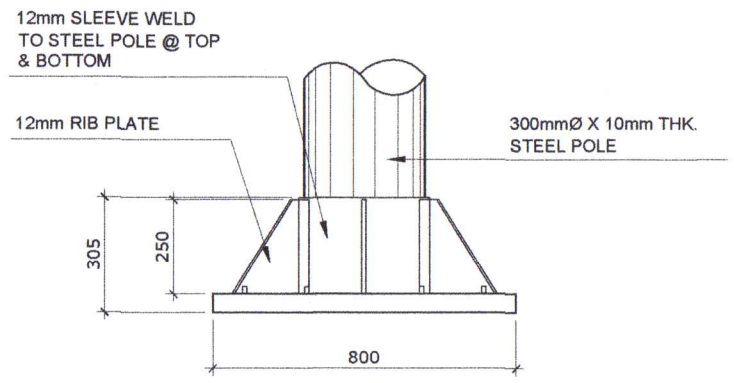
PHILIPPINE PORTS AUTHORITY PMO- MINDORO ENGINEERING SERVICES DIVISION	PROJECT TITLE: REPAIR OF PORT LIGHTING AND MOORING SYSTEM PORT OF PUERTO GALERA, ORIENTAL MINDORO				SHEET CONTENTS:	SCALE: AS SHOWN
PREPARED BY: FERNANDO J. GALVEZO Engineering Assistant A	SUBMMITTED BY: RONALD O. MATIBAG Acting Supervising Engineer A	CHECKED / REVIEWED BY: MARGARITO P. DIMAILIG Principal Engineer A	RECOMMENDING APPROVAL: EDUARDO P. GOLES ESD Manager	APPROVED : ARCIDI S. JUMAANI Acting Port Manager	AS SHOWN	SHEET NO. 3 of 13 DATE : 09 MAR 2018



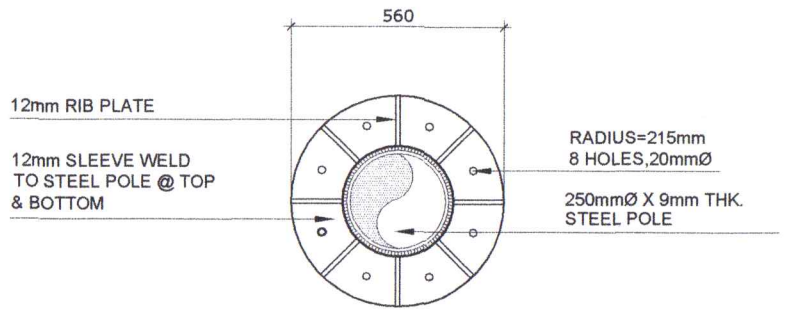
STEP BAR DETAIL
SCALE 1:20 M



BASE PLATE
SCALE 1:20 M

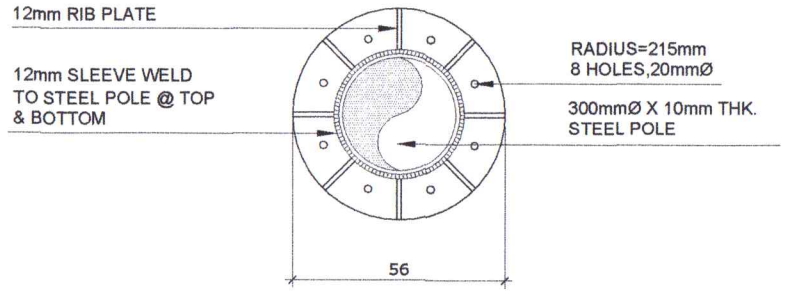


DETAIL "C"
SCALE 1:20 M



UPPER PLATE DETAIL
SCALE 1:20 M

DETAIL "B"
SCALE 1:20 M



LOWER PLATE DETAIL
SCALE 1:20 M

PHILIPPINE PORTS AUTHORITY
PMO- MINDORO
ENGINEERING SERVICES DIVISION

PROJECT TITLE: REPAIR OF PORT LIGHTING AND MOORING SYSTEM
PORT OF PUERTO GALERA, ORIENTAL MINDORO

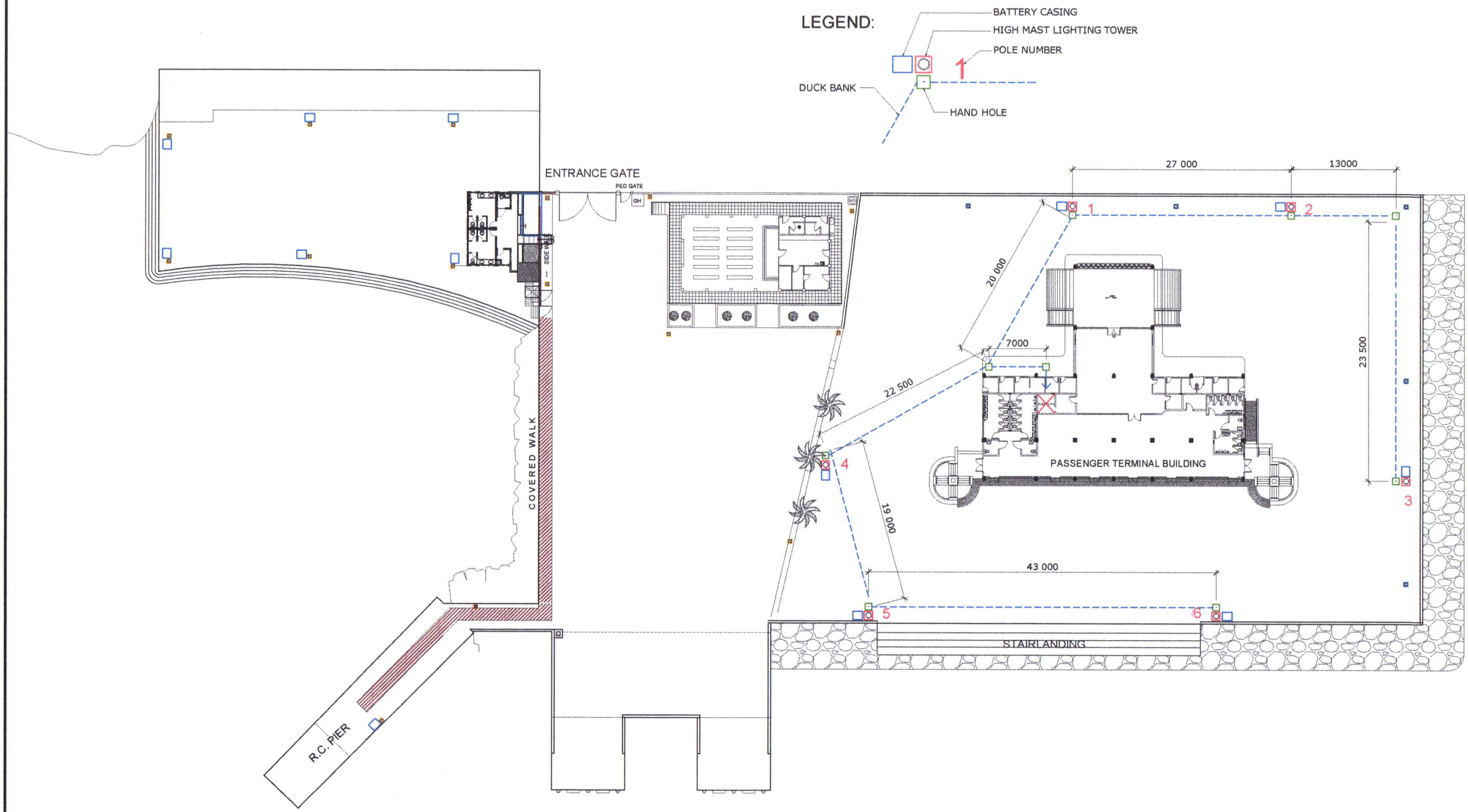
PREPARED BY:	SUBMMITTED BY:	CHECKED / REVIEWED BY:	RECOMMENDING APPROVAL:	APPROVED :
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Engineering Assistant A	Acting Supervising Engineer A	Principal Engineer A	ESD Manager	Acting Port Manager

SHEET CONTENTS: AS SHOWN

SCALE: AS SHOWN

SHEET NO. 4 of 13

DATE : 09 MAR 2018



LAYOUT PLAN OF FLOODLIGHT POLE (High Mast) , BATTERY CASING, HAND HOLE & DUCT BANK

PORT OF PUERTO GALERA

SCALE 1 : 500 M.

PHILIPPINE PORTS AUTHORITY
PMO- MINDORO
ENGINEERING SERVICES DIVISION

PROJECT TITLE: REPAIR OF PORT LIGHTING AND MOORING SYSTEM
PORT OF PUERTO GALERA, ORIENTAL MINDORO

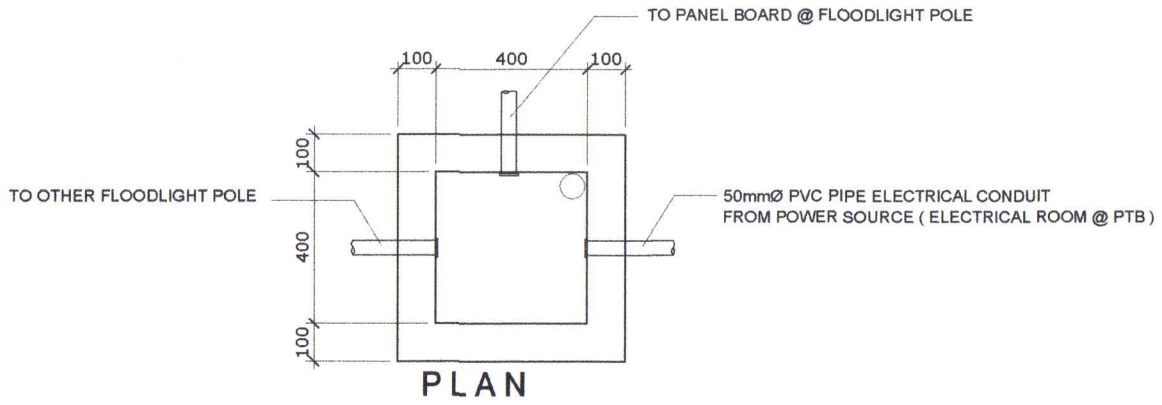
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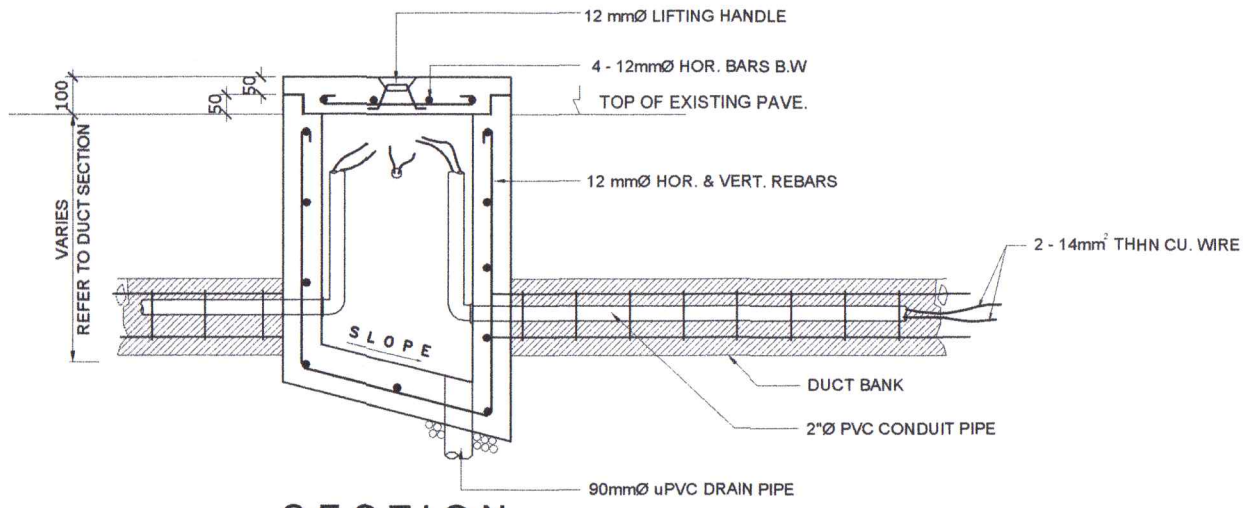
SHEET NO. 5 of 13

DATE : 09 MAR 2018

PREPARED BY:	SUBMMITTED BY:	CHECKED / REVIEWED BY:	RECOMMENDING APPROVAL:	APPROVED :
FERNANDO J. GALVEZO	RONALD O. MATIBAG	MARGARITO P. DIMAILIG	EDUARDO P. GOLES	ARCIDI S. JUMAANI
Engineering Assistant A	Acting Supervising Engineer A	Principal Engineer A	ESD Manager	Acting Port Manager



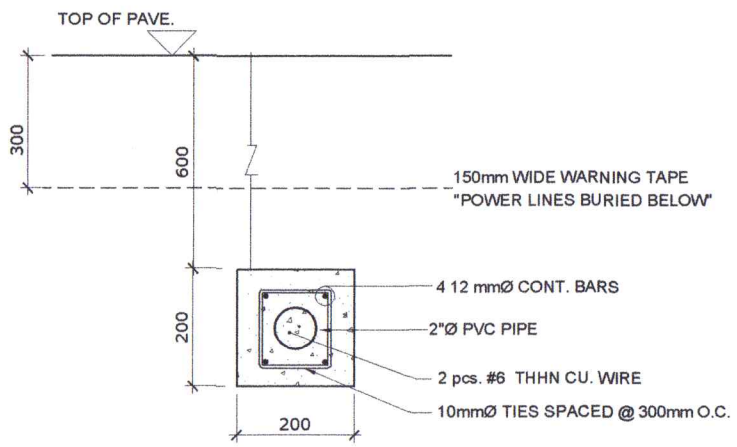
PLAN



SECTION

HANDHOLE DETAIL

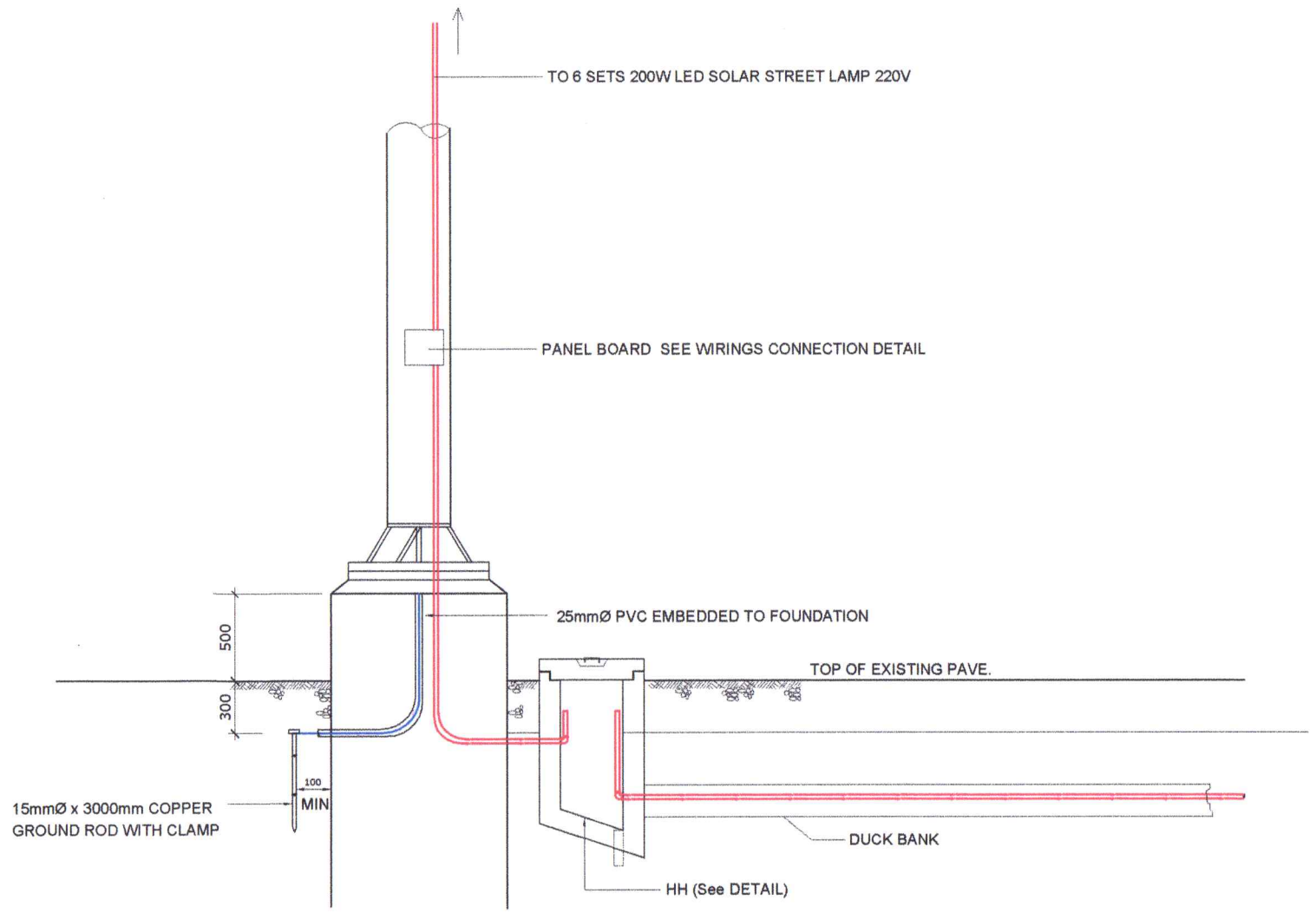
SCALE 1 : 20



SECTION

CONC. DUCT BANK

SCALE 1 : 20



PHILIPPINE PORTS AUTHORITY
PMO- MINDORO
ENGINEERING SERVICES DIVISION

PROJECT TITLE: REPAIR OF PORT LIGHTING AND MOORING SYSTEM
PORT OF PUERTO GALERA, ORIENTAL MINDORO

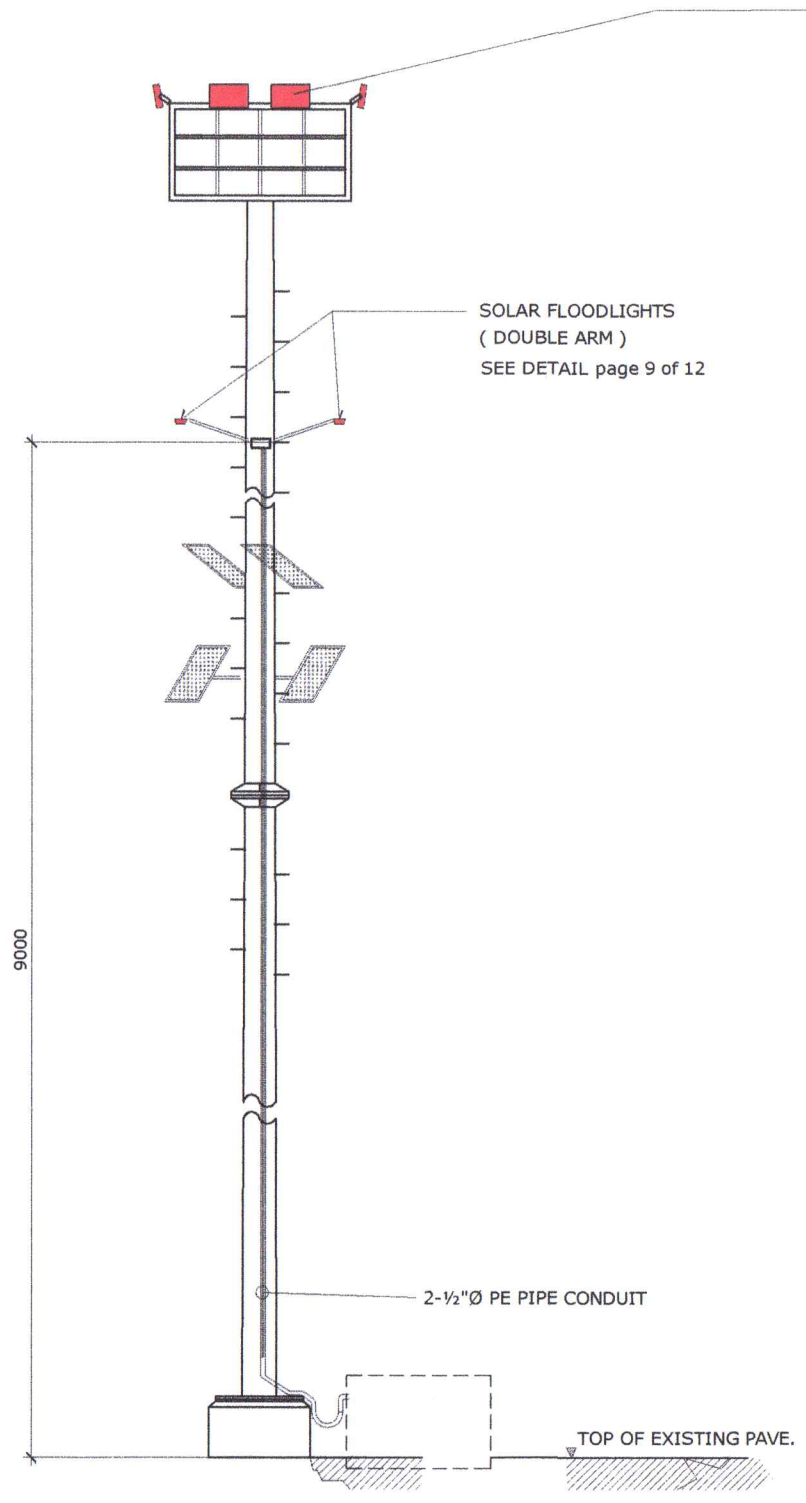
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Engineering Assistant A	Acting Supervising Engineer A	Principal Engineer A	ESD Manager	Acting Port Manager

SHEET CONTENTS: AS SHOWN

SCALE: AS SHOWN

SHEET NO. 6 of 13

DATE : 09 MAR 2018



DESCRIPTION

200W LED Solar Street Lamp (220V)

Warm White

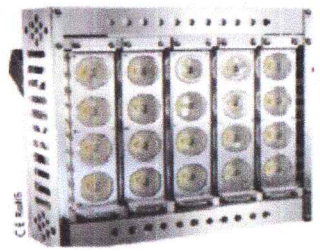
- 160lumens/watt

- Meanwell driver

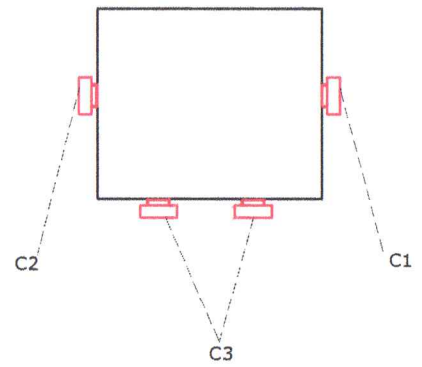
- 220V AC

- 2800-3500K color temperature

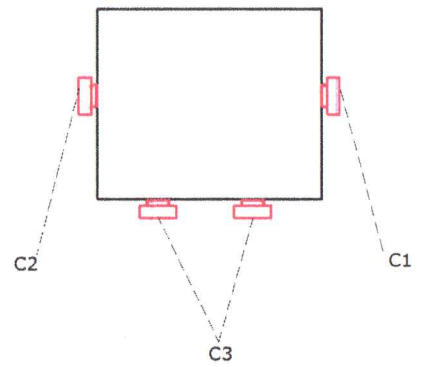
- 90 degree lighting angle



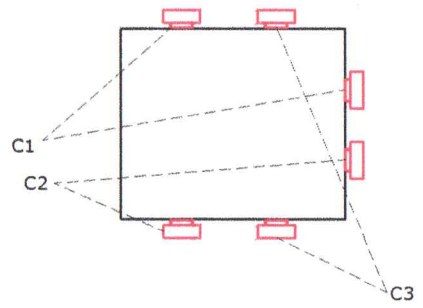
FLOODLIGHT POLE NO. 1



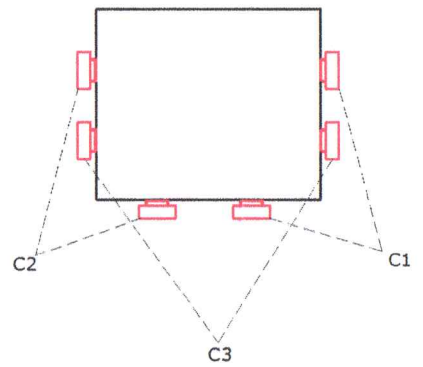
FLOODLIGHT POLE NO. 2



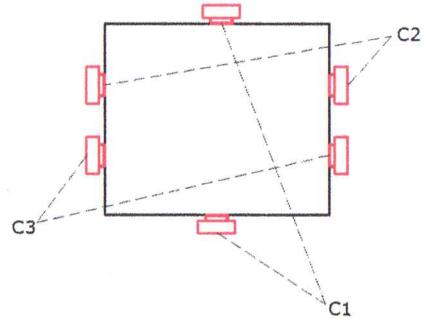
FLOODLIGHT POLE NO. 3



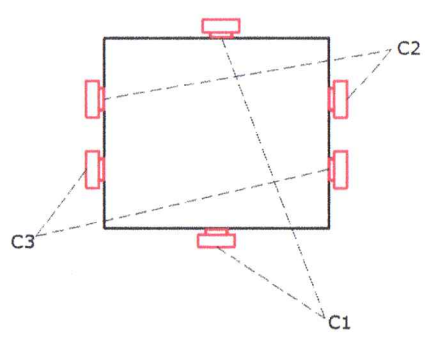
FLOODLIGHT POLE NO. 4



FLOODLIGHT POLE NO. 5



FLOODLIGHT POLE NO. 6



DETAIL OF DOUBLE ARM SOLAR FLOODLIGHTS AT POLE # 1-7

LIGHTING LAYOUT

PHILIPPINE PORTS AUTHORITY
PMO- MINDORO
ENGINEERING SERVICES DIVISION

PROJECT TITLE: REPAIR OF PORT LIGHTING AND MOORING SYSTEM
PORT OF PUERTO GALERA, ORIENTAL MINDORO

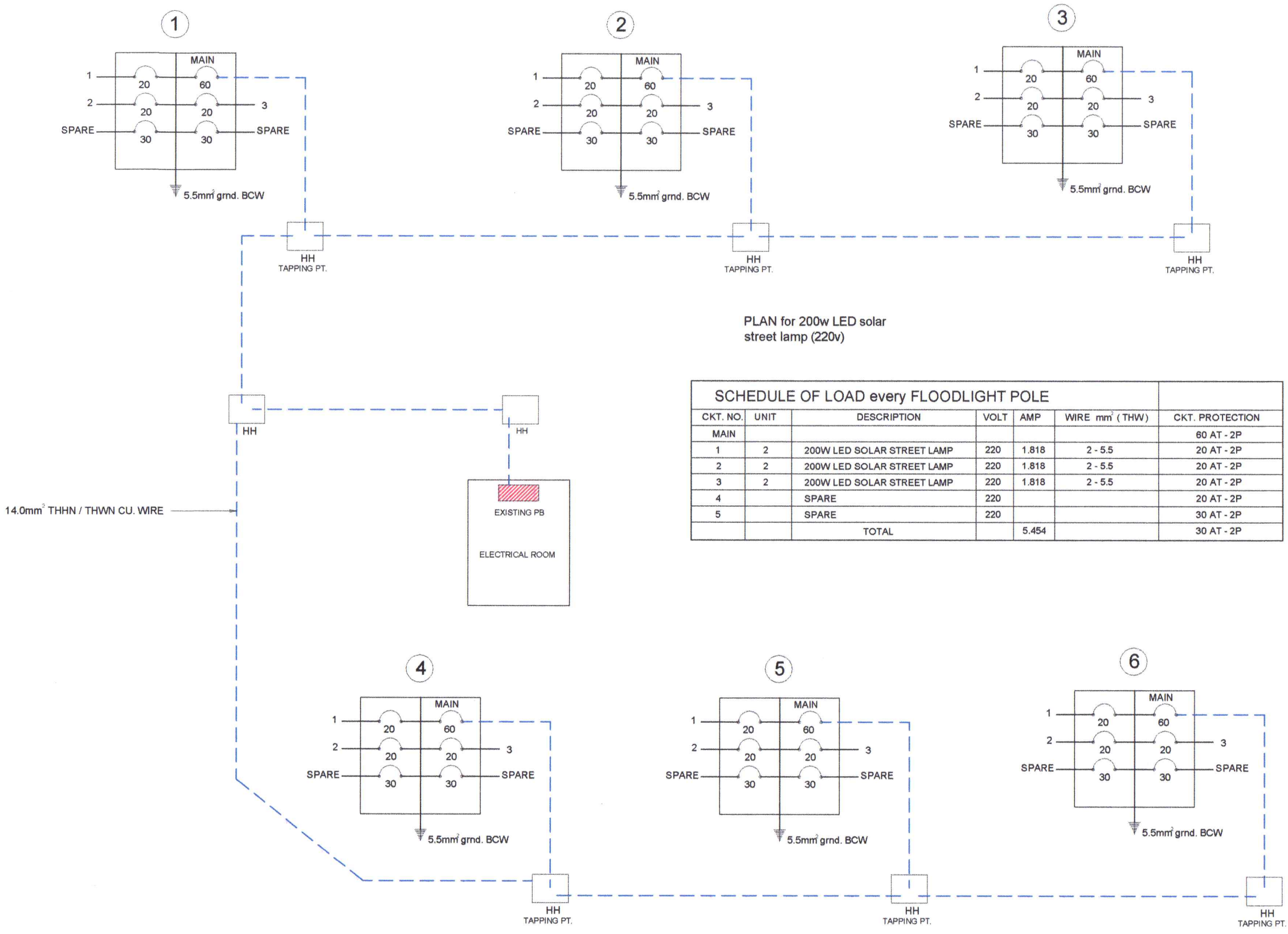
PREPARED BY:	SUBMMITTED BY:	CHECKED / REVIEWED BY:	RECOMMENDING APPROVAL:	APPROVED :
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Engineering Assistant A	Acting Supervising Engineer A	Principal Engineer A	ESD Manager	Acting Port Manager

SHEET CONTENTS: AS SHOWN

SCALE: AS SHOWN

SHEET NO. 7 of 13

DATE : 09 MAR 2018



PLAN for 200w LED solar street lamp (220v)

SCHEDULE OF LOAD every FLOODLIGHT POLE						
CKT. NO.	UNIT	DESCRIPTION	VOLT	AMP	WIRE mm² (THW)	CKT. PROTECTION
MAIN						60 AT - 2P
1	2	200W LED SOLAR STREET LAMP	220	1.818	2 - 5.5	20 AT - 2P
2	2	200W LED SOLAR STREET LAMP	220	1.818	2 - 5.5	20 AT - 2P
3	2	200W LED SOLAR STREET LAMP	220	1.818	2 - 5.5	20 AT - 2P
4		SPARE	220			20 AT - 2P
5		SPARE	220			30 AT - 2P
		TOTAL		5.454		30 AT - 2P

WIRINGS / PANEL BOARD LAYOUT FOR FLOODLIGHTS NO. 1-7

PHILIPPINE PORTS AUTHORITY
PMO- MINDORO
ENGINEERING SERVICES DIVISION

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PORT OF PUERTO GALERA, ORIENTAL MINDORO

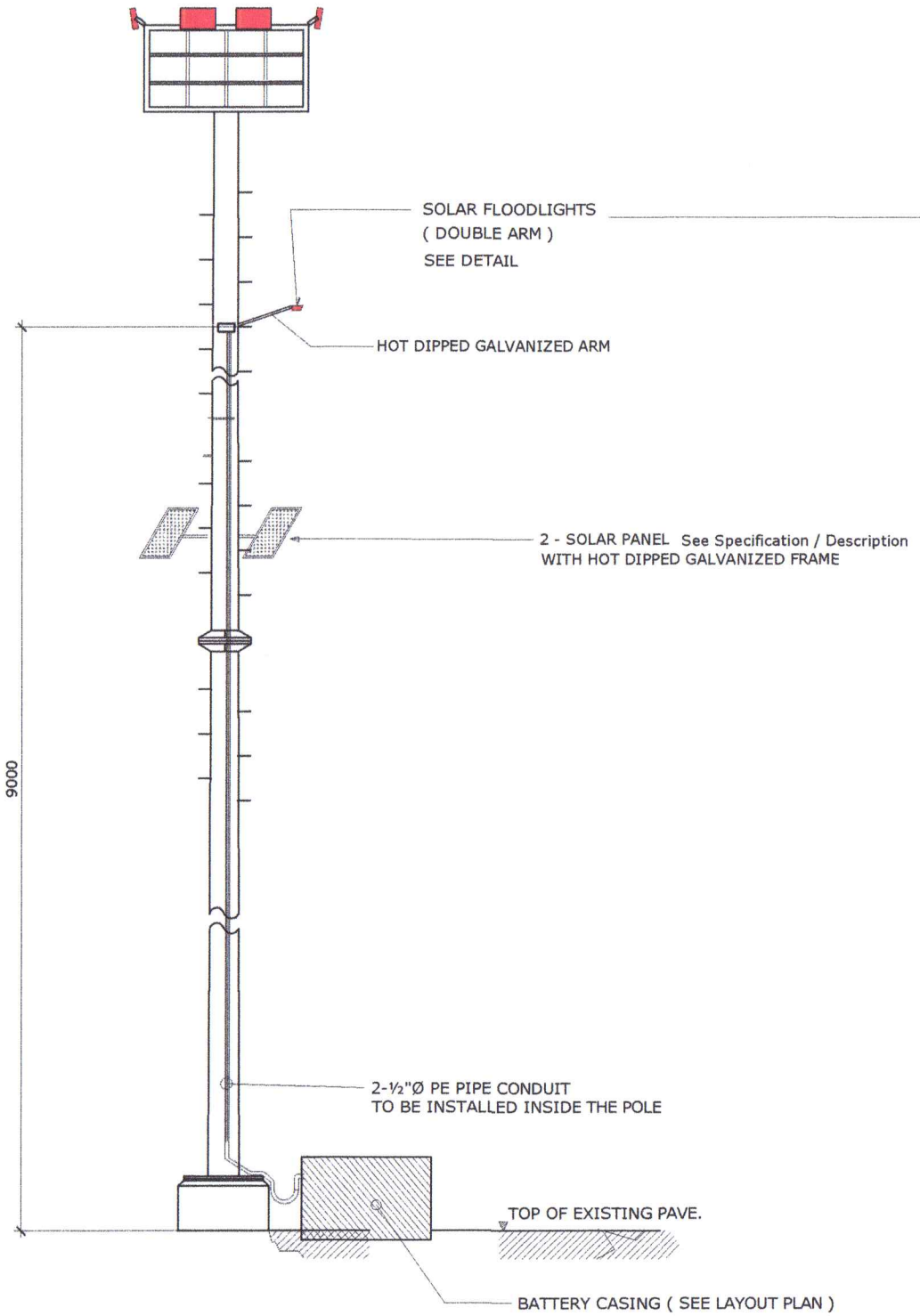
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SHEET NO. 8 of 13

DATE : 09 MAR 2018

PREPARED BY:	SUBMITTED BY:	CHECKED / REVIEWED BY:	RECOMMENDING APPROVAL:	APPROVED :
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Engineering Assistant A	Acting Supervising Engineer A	Principal Engineer A	ESD Manager	Acting Port Manager



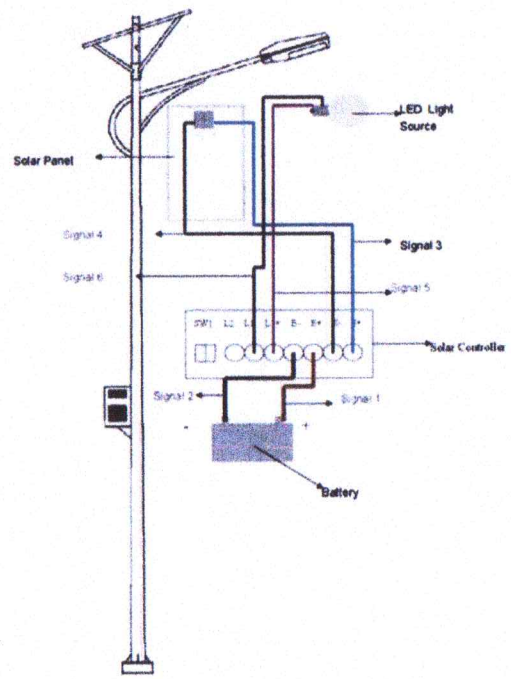
DETAIL OF DOUBLE ARM SOLAR FLOODLIGHTS AT POLE # 1-6

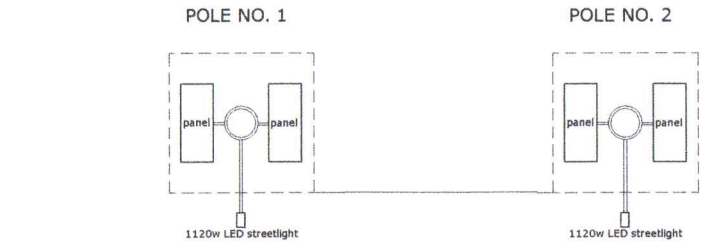
SOLAR SOLUTION FOR 112W LED Streetlight

Set includes:

Picture	Name	Description
	112W LED Streetlight	110lm/watt Meanwell driver DC24V Power Input
	Gel Type Battery (52.2x24x21.6cm; 56kg)	200AH/12V per set x 2 sets Material : Made of UL94HB and UL94V-0 ABS plastic High quality AGM separator PbCa grids minimize corrosion and prolong life
	Solar Panel (158x99x4cm; 19.8kg)	225W/30V per set x 2 sets Aluminum Frame Body Cell efficiency: 15.41% Maximum power voltage: 30.03V Maximum power current: 7.50A Open circuit voltage: 36.30V Short circuit current: 8.19A
	Solar Charge Controller OUTDOOR IP68	12V-24V 7.5A-15A Lumiax Smart DC Series
	Battery Box	Double 200AH Waterproof Battery Box
Working Hours Per Day		12H (full brightness during the first 8 hours and half brightness during the last 4 hours) 36 hour power reserved
Continuous Working Hours when Battery is fully charged		3 days/72 hours
Ambient Temperature		-40°C~55°C

SCHEMATIC DIAGRAM SOLAR STREET LIGHT / FLOODLIGHT





PLAN / TOP VIEW OF HIGH MAST LIGHTING TOWER
SHOWING THE LAYOUT PLAN OF SOLAR STREET LIGHTS

*NOTE: The orientation is based on the high mast layout plan
page 5 of 13

PHILIPPINE PORTS AUTHORITY
PMO- MINDORO
ENGINEERING SERVICES DIVISION

PROJECT TITLE: REPAIR OF PORT LIGHTING AND MOORING SYSTEM
PORT OF PUERTO GALERA, ORIENTAL MINDORO

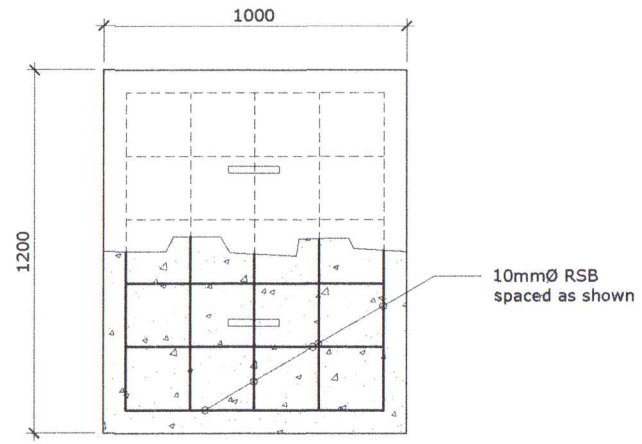
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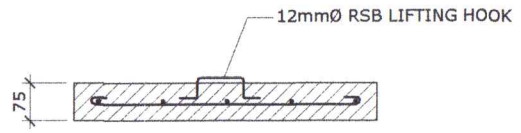
SHEET NO. 9 of 13

DATE : 09 MAR 2018

PREPARED BY:	SUBMMITTED BY:	CHECKED / REVIEWED BY:	RECOMMENDING APPROVAL:	APPROVED :
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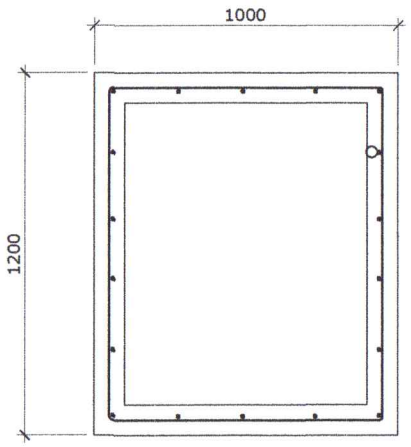


PLAN

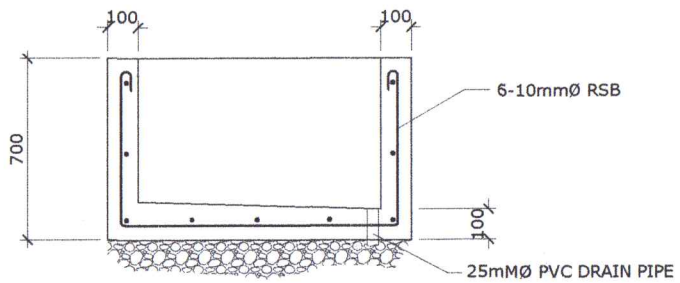


SECTION

COVER DETAIL



PLAN

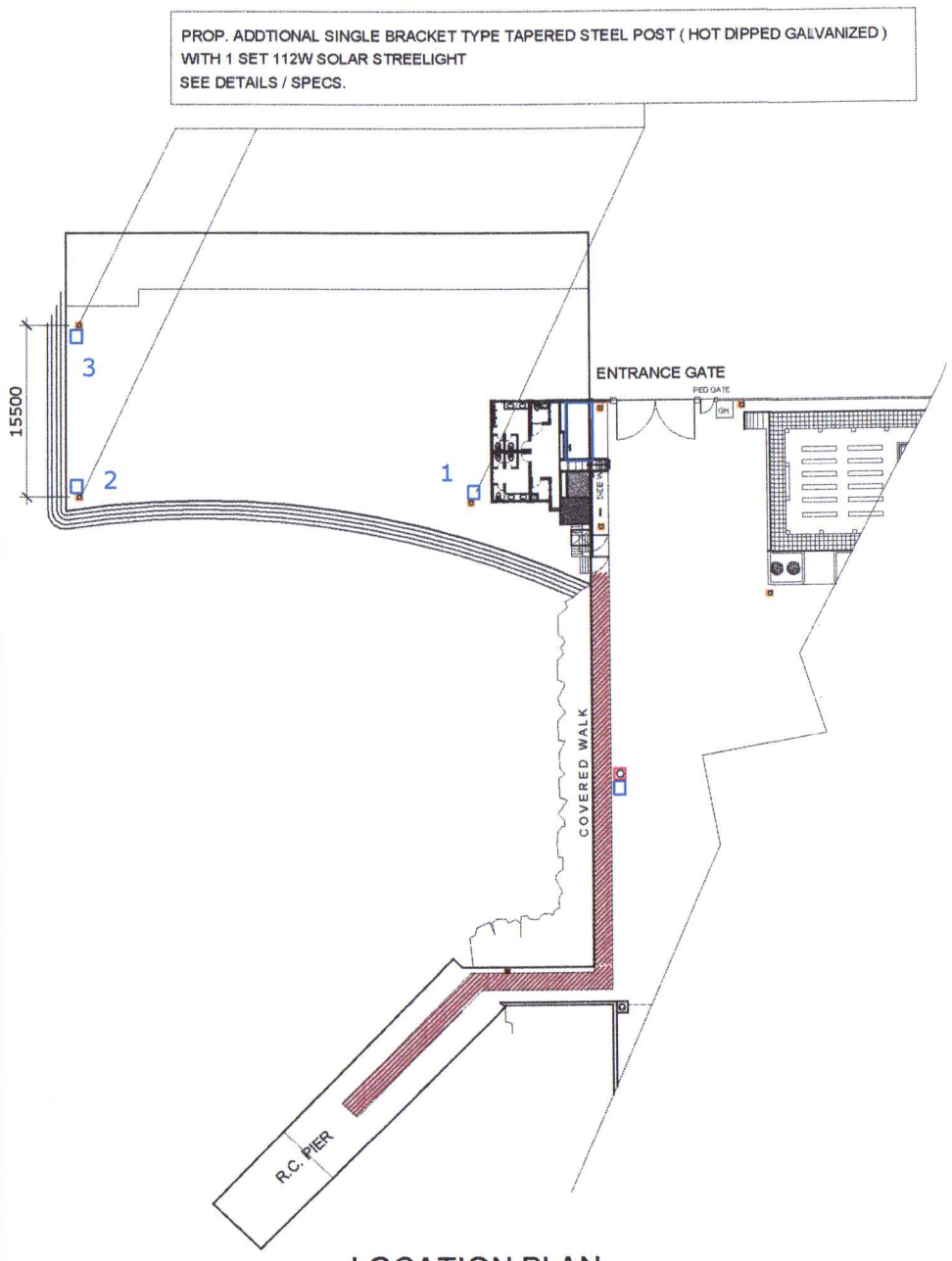


SECTION

TYPICAL DETAIL OF CONCRETE BATTERY CASING FOR FLOODLIGHTS NO. 1 - 7 (HIGH MAST) & SINGLE ARM POST NO. 1 - 7

SCALE 1:25 M.

PHILIPPINE PORTS AUTHORITY PMO- MINDORO ENGINEERING SERVICES DIVISION	PROJECT TITLE: REPAIR OF PORT LIGHTING AND MOORING SYSTEM PORT OF PUERTO GALERA, ORIENTAL MINDORO				SHEET CONTENTS:	SCALE: AS SHOWN
PREPARED BY: FERNANDO J. GALVEZO Engineering Assistant A	SUBMMITTED BY: RONALD O. MATIBAG Acting Supervising Engineer A	CHECKED / REVIEWED BY: MARGARITO P. DIMAILIG Principal Engineer A	RECOMMENDING APPROVAL: EDUARDO P. GOLES ESD Manager	APPROVED : ARCIDI S. JUMAANI Acting Port Manager	AS SHOWN	SHEET NO. 10 of 13 DATE : 09 MAR 2018



LOCATION PLAN

LEGEND:

1 — POLE / POST NUMBER

SINGLE ARM POST
CONC. BATTERY CASING

PHILIPPINE PORTS AUTHORITY
PMO- MINDORO
ENGINEERING SERVICES DIVISION

PROJECT TITLE: REPAIR OF PORT
PORT OF PUERTO G[illegible]A

PREPARED BY:
FERNANDO J. GALVEZO
Engineering Assistant A

SUBMMITTED BY:
RONALDO [illegible].
Acting Supervisor