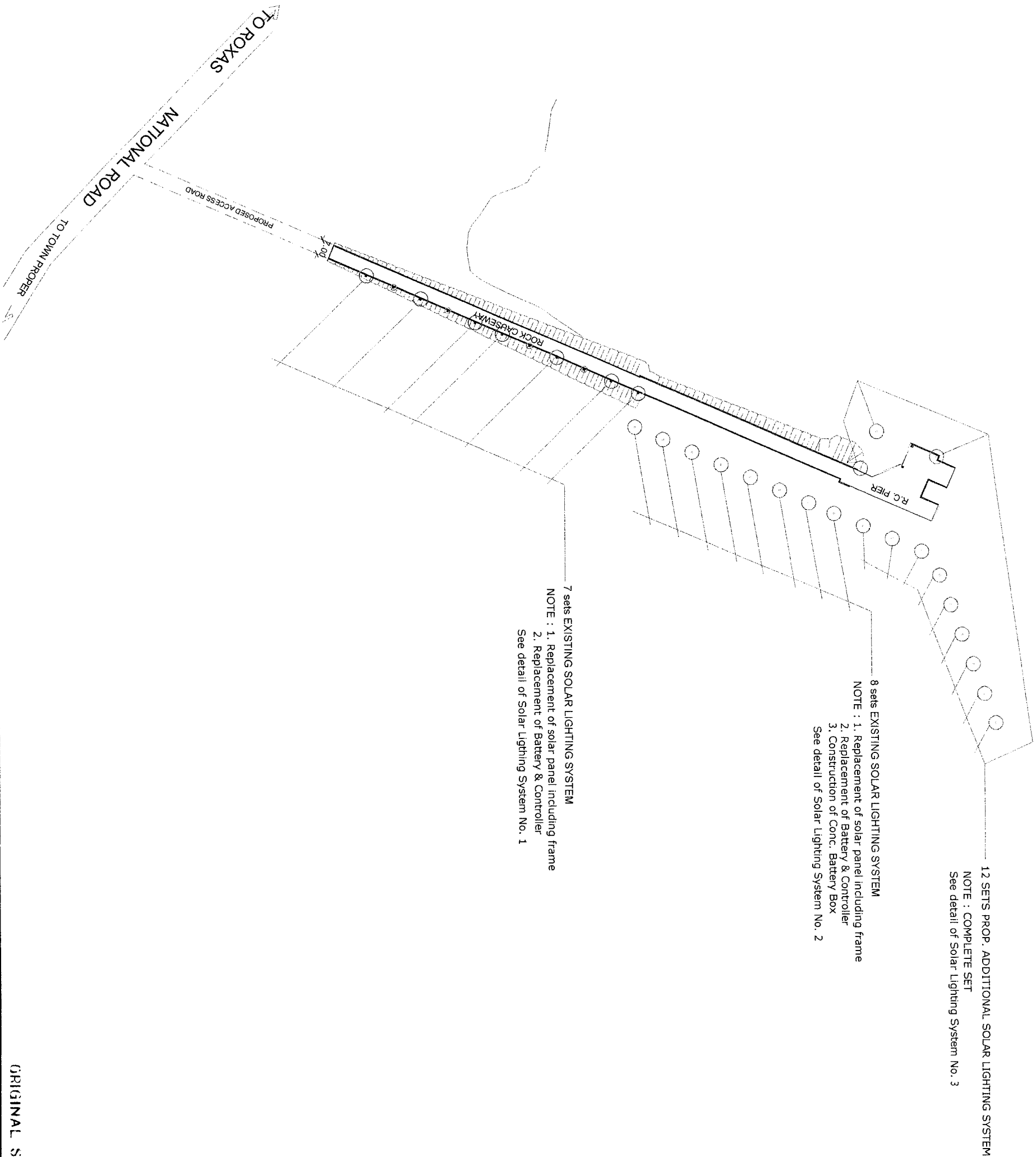



PHILIPPINE
PORTS
AUTHORITY
PMO- MINDORO

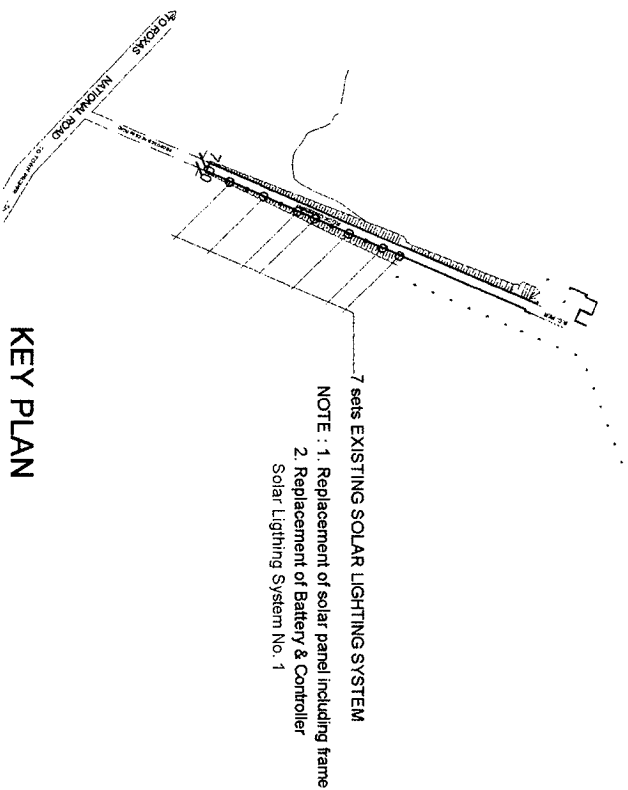


REPAIR OF PORT LIGHTING SYSTEM PORT MANSALAY, ORIENTAL MINDORO

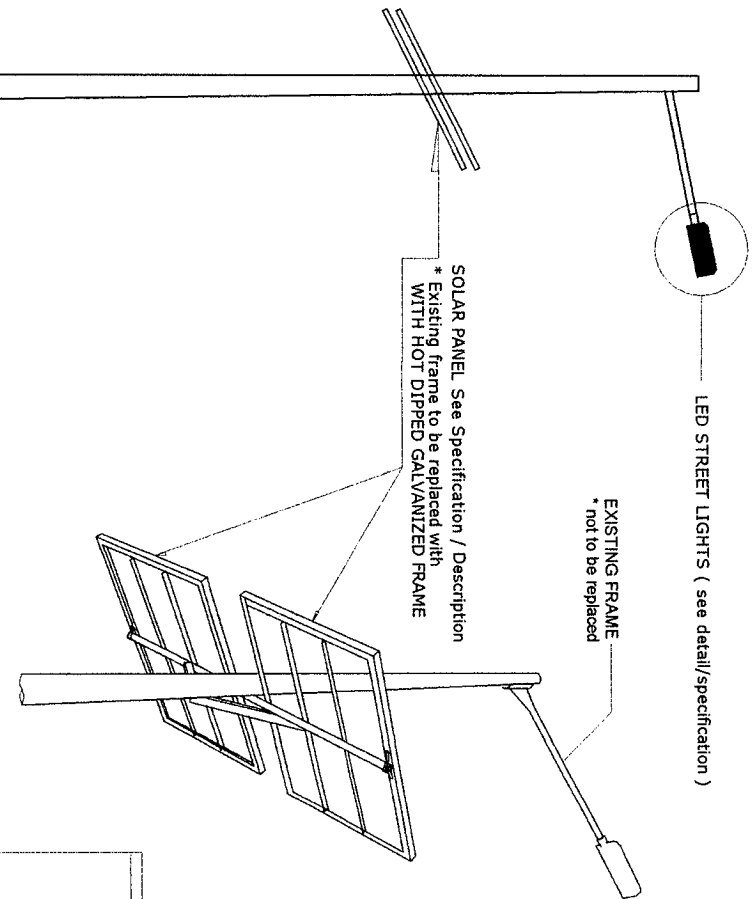


ORIGINAL SIGNED

<div>PHILIPPINE PORTS AUTHORITY</div> <div></div> <div>PMO - MINDORO ENGINEERING SERVICES DIVISION</div>		PROJECT TITLE: REPAIR OF PORT LIGHTING SYSTEM PORT OF MANSALAY, ORIENTAL MINDORO			SHEET CONTENTS: AS SHOWN		SCALE: AS SHOWN						
PREPARED BY: FERNANDO J. GALVEZO Engineering Assistant A		SUBMITTED BY: CONRADO E. CASAPAO JR. Assistant Port Engineer		CHECKED / REVIEWED BY: RONALD O. MATIBAG Acting Supervising Engineer A		RECOMMENDING APPROVAL: MARGARITO P. DIMALIG Acting ESD Manager		APPROVED : ARCIDI S. JUMMANI Port Manager		AS SHOWN		SHEET NO. 1 of 6	
										DATE : 12 DEC 2018			



KEY PLAN

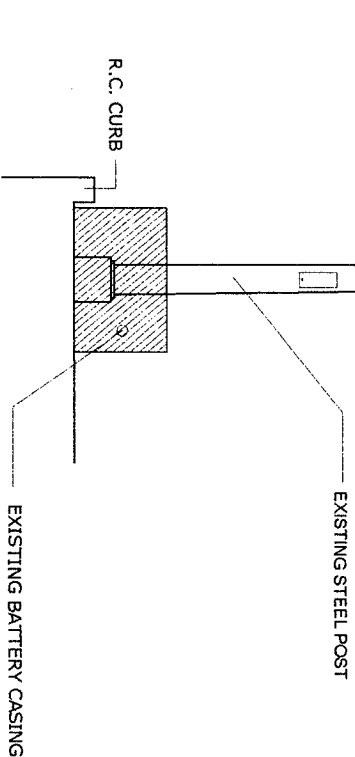


PERSPECTIVE

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: 7.5A Open circuit voltage: 36.30V Short circuit current: 8.19A
	Solar Charge Controller OUTDOOR IP68	12V-24V 7.5A-15A Lumix 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

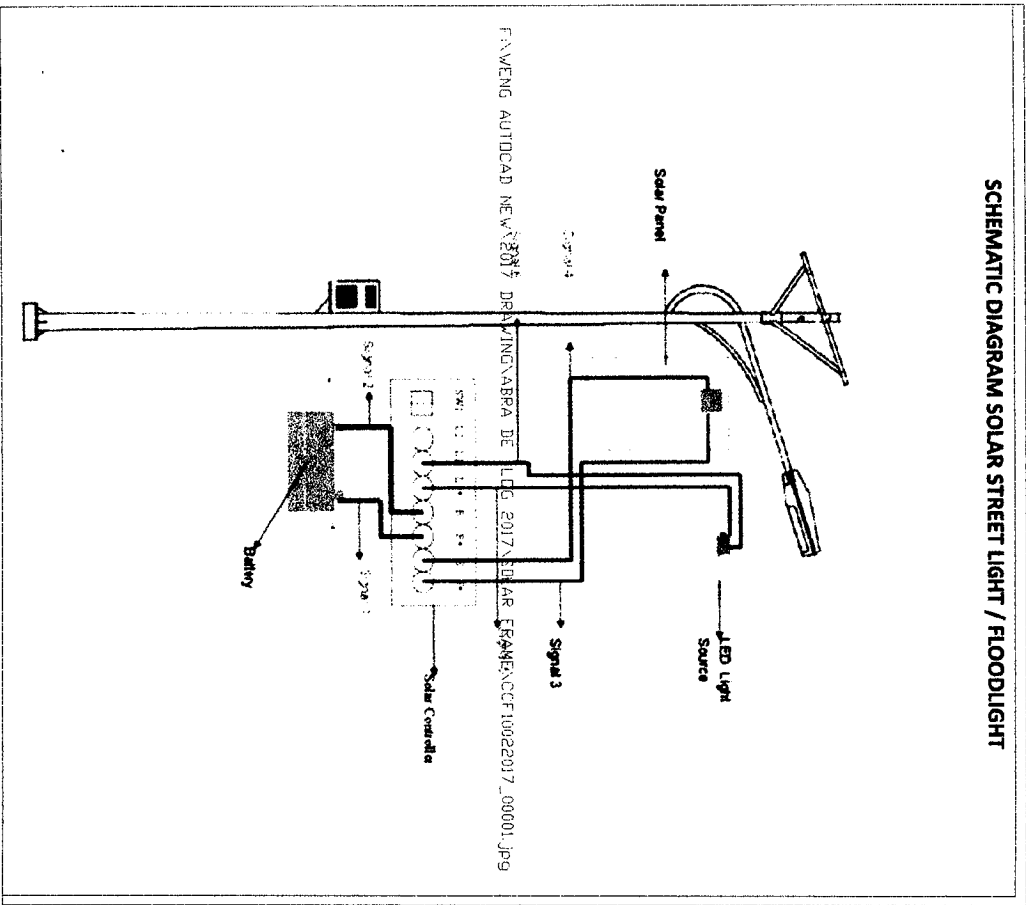
SOLAR SOLUTION FOR 112W LED Streetlight

Set Includes:



STEEL SINGLE ARM POST DETAIL

SCALE
N.T.S.



SCHEMATIC DIAGRAM SOLAR STREET LIGHT / FLOODLIGHT

ORIGINAL SIGNED

PROJECT TITLE:

REPAIR OF PORT LIGHTING SYSTEM
PORT OF MANSALAY, ORIENTAL MINDORO

SHEET CONTENTS:

SCALE:
AS SHOWN

PREPARED BY:

FERNANDO J. GALVEZO
Engineering Assistant A

SUBMITTED BY:

CONRADO E. CASAPAO JR.
Assistant Port Engineer

CHECKED / REVIEWED BY:

RONALD O. MATIBAG
Acting Supervising Engineer A

RECOMMENDING APPROVAL:

MARGARITO P. DIMAILIG
Acting ESD Manager

APPROVED:

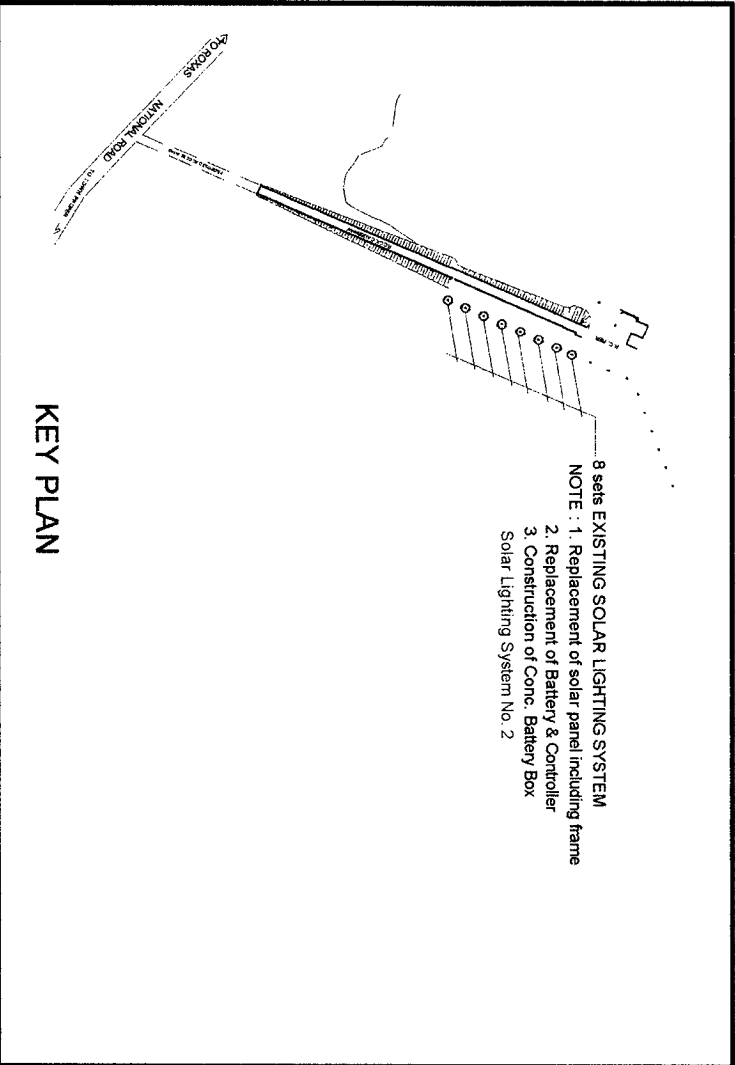
ARCIDI S. JUMANI
Port Manager

AS SHOWN

SHEET NO.
2 of 6

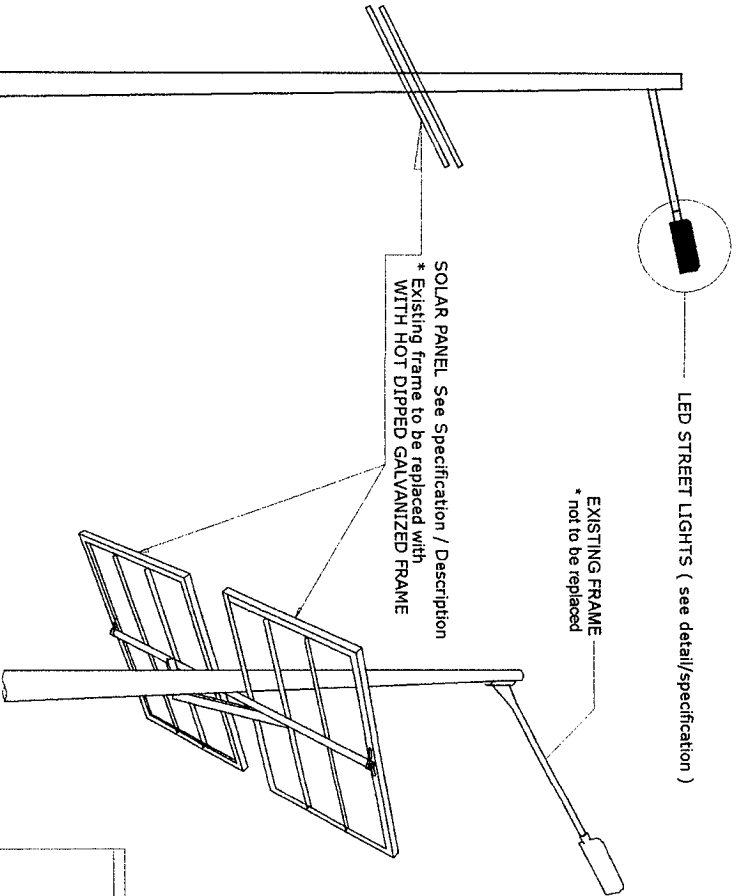
DATE:
12 DEC 2018



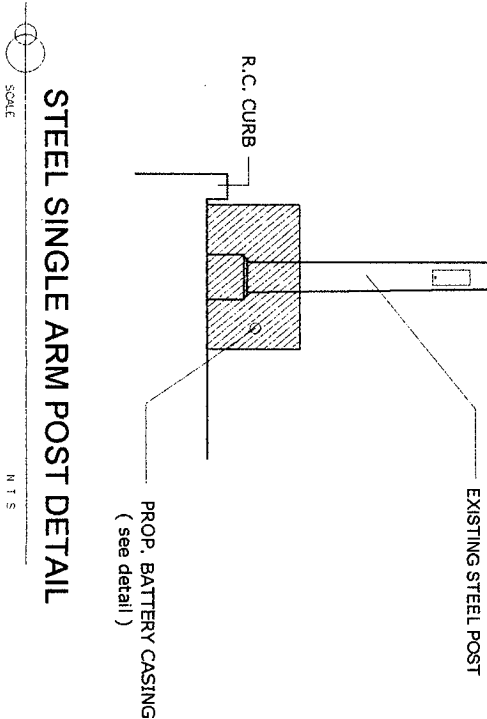


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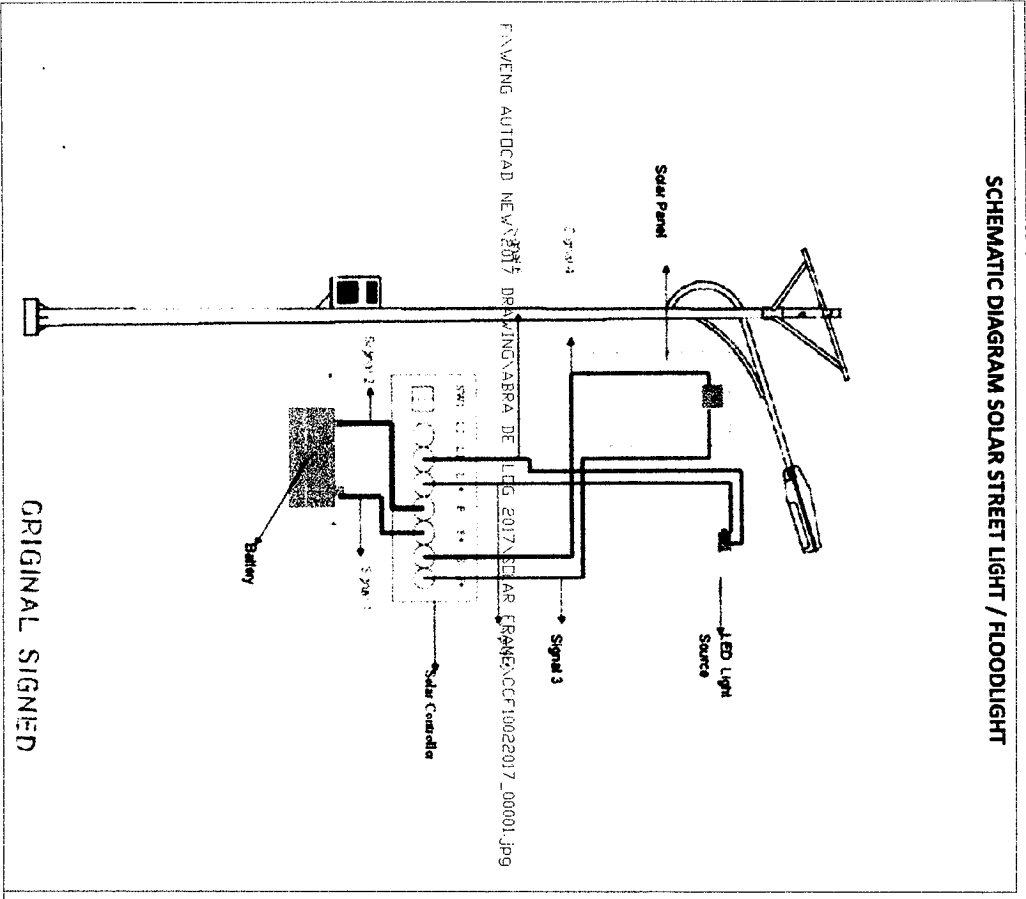
Picture	Name	Description
	112W LED Streetlight	110lm/watt Meanwell driver DC24V Power Input
	Gel Type Battery (52.2x24x21.6cm; 56kg)	200AH/12V per set x 2 sets Material : Made of UL194HB and UL94V-0 ABS plastic High quality AGM separator PbCa grids minimize corrosion and prolong life
	Solar Panel (158x99x4cm; 19.8kg) FAYENG AUTOCAD NEW 2017 DRAWING\ABRA DE LEG 2017\LEAD FRAME\CCF10022017_00001.jpg	225W/30V per set x 2 sets Aluminum Frame Body Cell efficiency: 15.41% Maximum power voltage: 30.03V Maximum power current: 7.5A 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
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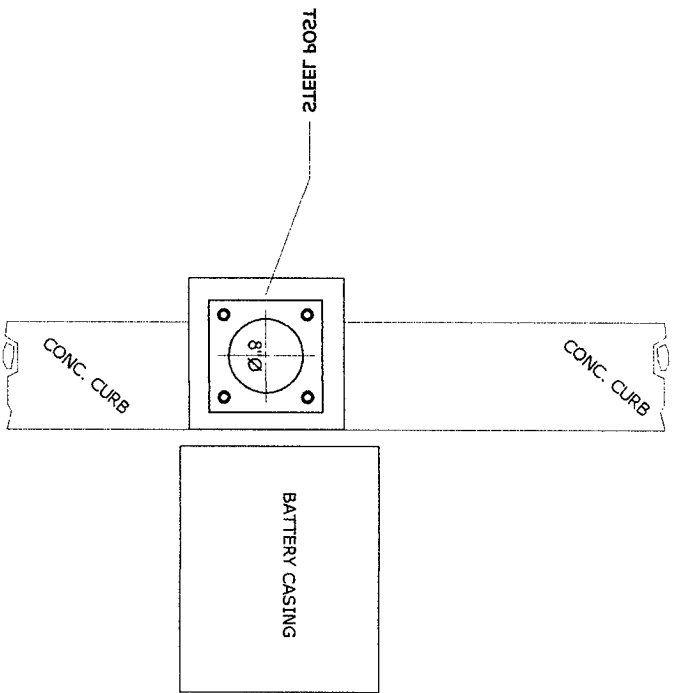
PERSPECTIVE



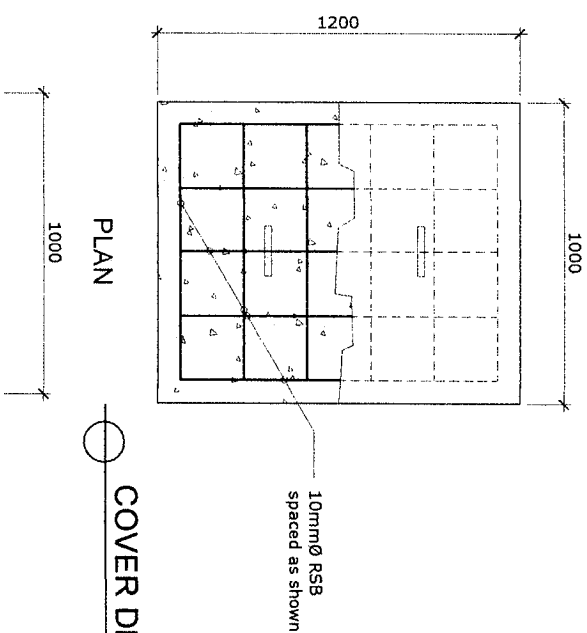
STEEL SINGLE ARM POST DETAIL



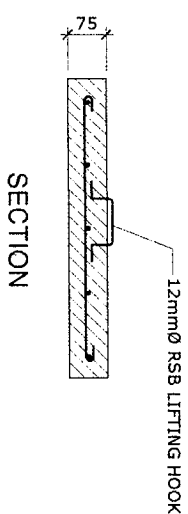
 PHILIPPINE ENGINEERING AUTHORITY PMO-MINDORO ENGINEERING SERVICES DIVISION	PROJECT TITLE: REPAIR OF PORT LIGHTING SYSTEM PORT OF MANSALAY, ORIENTAL MINDORO		SHEET CONTENTS: AS SHOWN		SCALE: AS SHOWN	
	PREPARED BY: FERNANDO J. GALVEZO Engineering Assistant A	SUBMITTED BY: CONRADO E. CASAPAO JR. Assistant Port Engineer	CHECKED / REVIEWED BY: RONALD O. MATIBAG Acting Supervising Engineer A	RECOMMENDING APPROVAL: MARGARITO P. DIMAILIG Acting ESD Manager	APPROVED: ARCIDI S. JUMAANI Port Manager	DATE: 12 DEC 2018



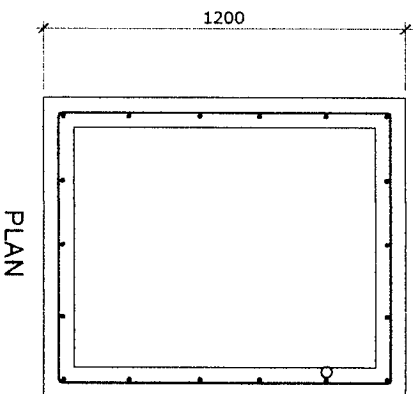
LAYOUT PLAN OF BATTERY CASING
FOR SOLAR LIGHTING SYSTEM NO. 2



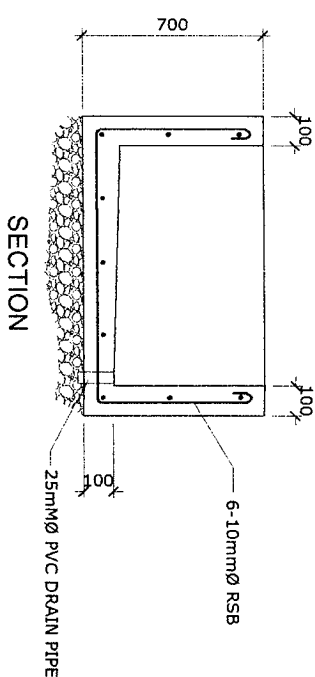
COVER DETAIL



SECTION




PLAN



SECTION

TYPICAL DETAIL OF CONCRETE BATTERY CASING

SCALE 1:25 M

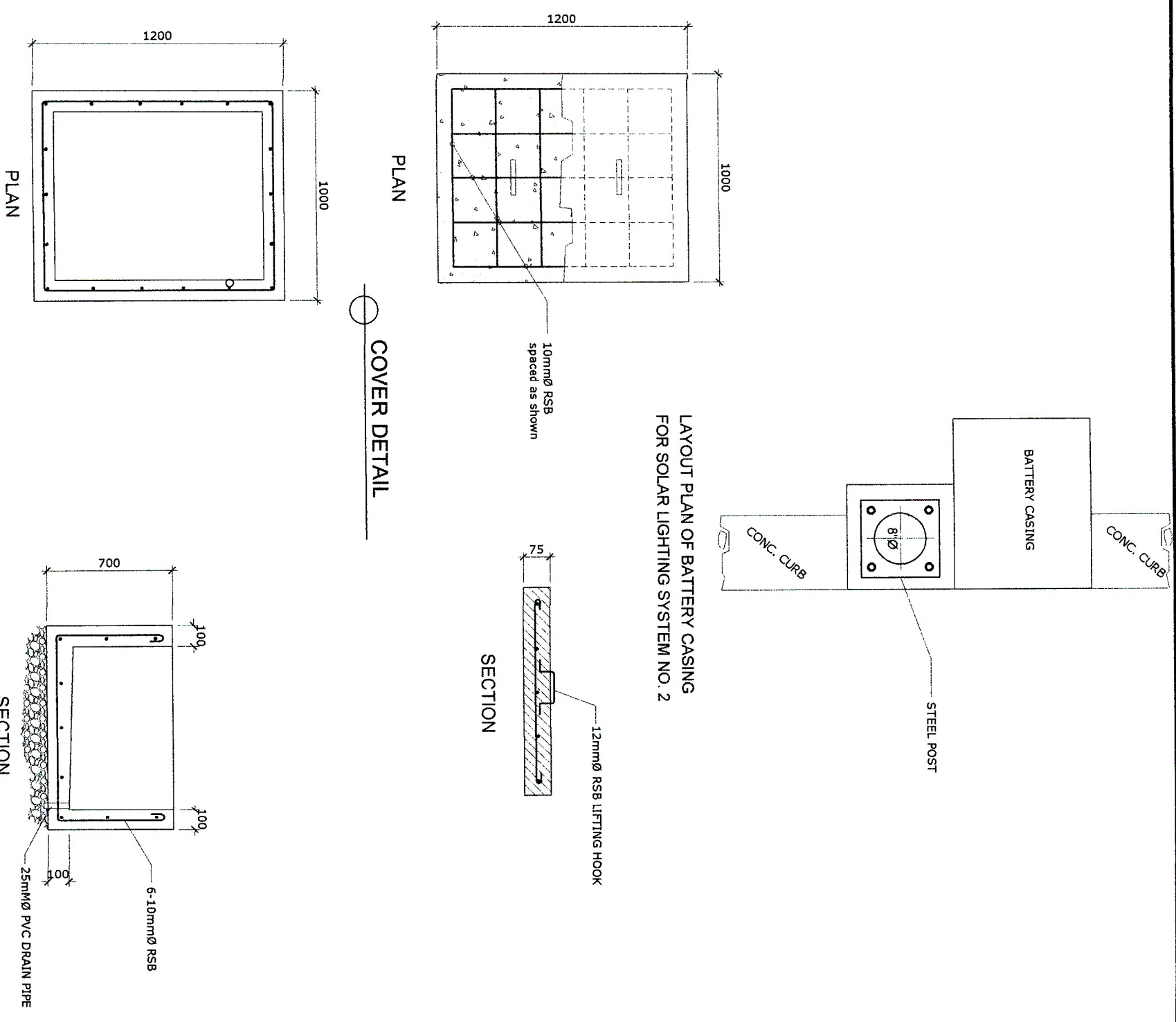
<div><div>PHILIPPINE PORTS AUTHORITY</div><div>PMO-MINDORO</div><div>ENGINEERING SERVICES DIVISION</div></div>	PROJECT TITLE:				REPAIR OF PORT LIGHTING SYSTEM PORT OF MANSALAY, ORIENTAL MINDORO		SHEET CONTENTS:		SCALE: AS SHOWN		
	PREPARED BY:		SUBMITTED BY:		CHECKED / REVIEWED BY:		RECOMMENDING APPROVAL:		APPROVED:		
	FERNANDO J. GALVEZO Engineering Assistant A		CONRADO E. CASAPAO JR. Assistant Port Engineer		RONALD O. MATIBAG Acting Supervising Engineer A		MARGARITO P. DIMALIG Acting ESD Manager		ORIGINAL SIGNED ARCIDI S. JUMMANI Port Manager		
									AS SHOWN		
								SHEET NO.		DATE:	
								4 of 6		12 DEC 2018	

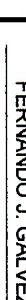
SCHEMATIC DIAGRAM SOLAR STREET LIGHT / FLOODLIGHT

The diagram illustrates the electrical connections for a solar street light system. Key components and their connections are as follows:

- Solar Panel:** Labeled with 'Signal 4', it is connected to the 'LED Light Source' and the 'Solar Controller'.
- LED Light Source:** Labeled 'LED Light Source', it is connected to the 'Solar Panel' and the 'Solar Controller'.
- Solar Controller:** A central unit labeled 'Signal 1' and 'Signal 2', it manages the power flow between the solar panel, battery, and light source. It contains a switch labeled 'SW1' and a series of diodes labeled 'L1', 'L2', 'L3', 'L4', 'L5', 'L6', 'L7', 'L8', 'L9', 'L10', 'L11', 'L12', 'L13', 'L14', 'L15', 'L16', 'L17', 'L18', 'L19', 'L20', 'L21', 'L22', 'L23', 'L24', 'L25', 'L26', 'L27', 'L28', 'L29', 'L30', 'L31', 'L32', 'L33', 'L34', 'L35', 'L36', 'L37', 'L38', 'L39', 'L40', 'L41', 'L42', 'L43', 'L44', 'L45', 'L46', 'L47', 'L48', 'L49', 'L50', 'L51', 'L52', 'L53', 'L54', 'L55', 'L56', 'L57', 'L58', 'L59', 'L60', 'L61', 'L62', 'L63', 'L64', 'L65', 'L66', 'L67', 'L68', 'L69', 'L70', 'L71', 'L72', 'L73', 'L74', 'L75', 'L76', 'L77', 'L78', 'L79', 'L80', 'L81', 'L82', 'L83', 'L84', 'L85', 'L86', 'L87', 'L88', 'L89', 'L90', 'L91', 'L92', 'L93', 'L94', 'L95', 'L96', 'L97', 'L98', 'L99', 'L100'.
- Battery:** Labeled 'Signal 3', it provides power to the 'Solar Controller' and the 'LED Light Source'.

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 <p>PHILIPPINE PORTS AUTHORITY</p> <p>PMO - MINDORO ENGINEERING SERVICES DIVISION</p>		<p>PROJECT TITLE:</p> <p>REPAIR OF PORT LIGHTING SYSTEM PORT OF MANSALAY, ORIENTAL MINDORO</p>		<p>SHEET CONTENTS:</p>		<p>SCALE:</p> <p>AS SHOWN</p>	
<p>PREPARED BY:</p> <p>FERNANDO J. GALVEZO Engineering Assistant A</p>	<p>SUBMITTED BY:</p> <p>CONRADO E. CASAPAO JR. Assistant Port Engineer</p>	<p>CHECKED / REVIEWED BY:</p> <p>RONALD O. MATIBAG Acting Supervising Engineer A</p>	<p>RECOMMENDING APPROVAL:</p> <p>MARGARITO P. DIMALLIG Acting ESD Manager</p>	<p>APPROVED:</p> <p>ORIGINAL SIGNED ARCIDI S. JUMAANI Port Manager</p>	<p>AS SHOWN</p>		<p>SHEET NO.</p> <p>6 of 6</p>
					<p>DATE:</p> <p>12 DEC 2018</p>		