



REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF AGRICULTURE
WESTERN VISAYAS
PAROLA, ILOILO CITY

DETAILED ENGINEERING DESIGN PLAN

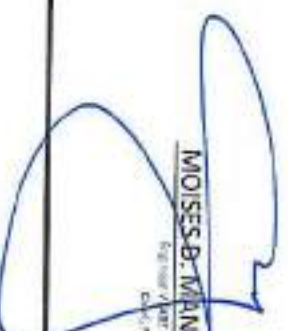
**ESTABLISHMENT OF MARAPAL SOLAR POWERED
IRRIGATION SYSTEM**
BRGY. MARAPAL, LEMERY, ILOILO

HIGH VALUE CROPS DEVELOPMENT PROGRAM 2025

SUBMITTED BY:

RECOMMENDING APPROVAL:

APPROVED BY:


MOISES B. MARINA-AY, ABE, MEE
Reg. No. 0036028
Civil Engr.


MARIA TERESA A. SOLIS
Civil Engr. License No. 0036028


DENNIS R. ARPJA
Professional Engineer

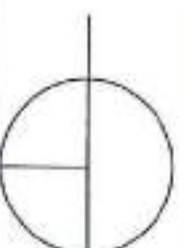
Item No.	Scope of Works	Quantity	Unit
A. GENERAL ITEM			
1	TEMPORARY FACILITY	1	lot
2	ICT EQUIPMENT	1	lot
3	MOBILIZATION AND DEMOBILIZATION	1	lot
4	OCCUPATIONAL HEALTH AND SAFETY STANDARDS	1	lot
5	PROJECT SIGNBOARD (1-4x8), COA BILLBOARD (1-8x8), AND PROJECT MARKER	1.00	lot
B. SOLAR PUMP/ARRAY MOUNTING STRUCTURE/PIPING			
1	CLEARING, GRUBBING AND LAYOUT	100.00	sq.m.
2	EXCAVATION	53.00	cu.m.
3	STRUCTURAL BACKFILL	60.00	cu.m.
4	LEVELING COURSE	1.00	cu.m.
5	CONCRETE WORKS (CLASS A)	6.00	cu.m.
6	REINFORCING STEEL BARS	94.91	kgs
7	FORMWORKS	5.76	sq.m.
8	SOLAR POWER MODULE MOUNTING STRUCTURE	1.00	lot
9	SOLAR POWER MODULE - 5500 Wp	1.00	lot
10	INVERTER AND CONTROLLER 4 Kw WITH ENCLOSURE BOX	1.00	lot
11	PUMP (SUBMERSIBLE) - 3 Hp	1.00	unit
12	DISCHARGE PIPE AND FITTINGS	1.00	lot
C. CONSTRUCTION OF WELL (10 LM)			
1	CONSTRUCTION OF WELL (10 LM)	1.00	lot
D. ELEVATED TANK & DISTRIBUTION PIPES, FITTINGS, AND OTHER			
1	STRUCTURAL EXCAVATION	6.00	cum
2	STRUCTURAL BACKFILL	3.00	cum
3	LEVELING COURSE	1.00	cum
4	FORMWORKS & SCAFFOLDINGS	2.00	sq.m.
5	CONCRETE WORKS (CLASS A)	9.00	cum
6	REINFORCING STEEL BARS	170.49	kgs
7	TANK FRAMES AND SUPPORTS	1.00	lot
8	PE TANK-2000 ii	1.00	lot
9	MAIN PIPES, LATERAL PIPES AND FITTINGS	1.00	lot
E.	SOLAR LIGHTS (1000 WP)	1.00	lot

TABLE OF CONTENT	
CONTENTS	PAGE NO.
Cover Page	1%
Bill of Quantity/ Table of Content/ Perspective/ Technical Specification	2%
Vacinity Map	3%
Site Development Plan	4%
Solar Panel and Mounting Structure	5%
Well Development	6%
Tank and Solar Light	7%
Project Signboard/ COA Billboard & Project Marker	8%

TECHNICAL SPECIFICATION	
PUMP:	1 unit 2.2 Kw or 3 Hp Submersible groundwater pump (minimum)
INVERTER / CONTROLLER:	1 unit 4Kw (minimum)
SOLAR ARRAY:	10 Monocrystalline solar panel, minimum
TOTAL POWER:	5500 Wp-minimum
CONVEYANCE:	2" dia. discharge pipe and 1 1/4 dia. hdpe scf/1 distribution pipes
SERVICE AREA:	3 ha.
DESIGN DISCHARGE:	13.86 cu.m/hr., 62 gpm



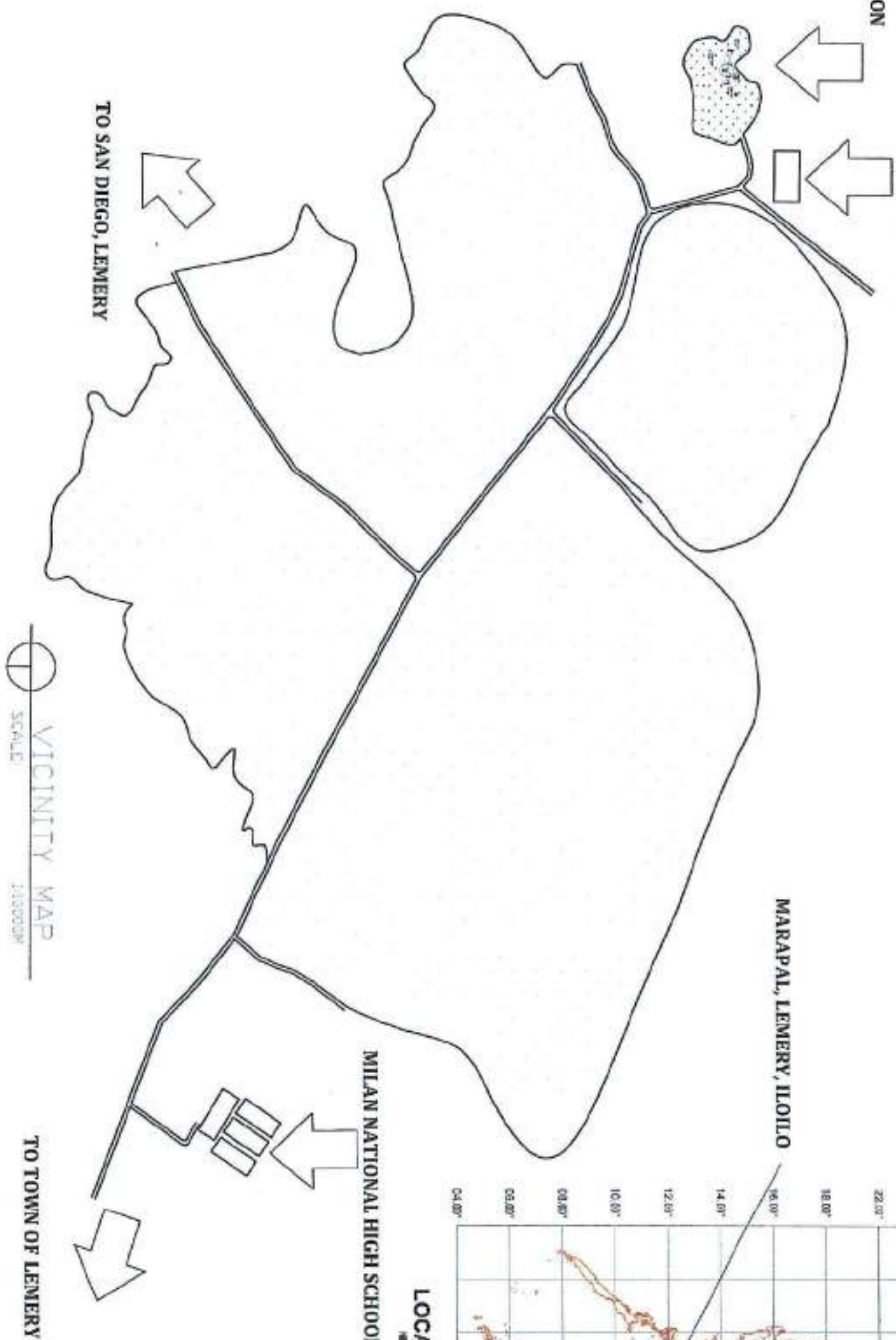
PERSPECTIVE



 DEPARTMENT OF AGRICULTURE WESTERN VISAYAS ILOILO CITY		ESTABLISHMENT OF MARAPAL SOLAR POWERED IRRIGATION SYSTEM MARAPAL, ILOILO CITY		TABLE OF CONTENT, BILLS OF QUANTITY, TECHNICAL SPECIFICATION AND PERSPECTIVE		PREPARED BY:  ROBERT D. ABE	REVIEWED BY:  YVONNE D. ABE	CHECKED BY:  MOSES D. MANALAYA	APPROVED BY:  MARIA TERESA T. SOTIS	DATE:  DENNIS R. AREOLA	PAGE NO. 02 OF 08
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SITE LOCATION

MARAPAL BRGY. HALL



MARAPAL, LEMERY, ILOILO

MILAN NATIONAL HIGH SCHOOL

TO TOWN OF LEMERY

LOCATION MAP



VICINITY MAP
SCALE 1:100,000

SCALE



REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF AGRICULTURE

WESTERN VISAYAS
PAROLA, ILOILO CITY

PAROLA, ILOILO CITY

ESTABLISHMENT OF MARAPAL SOLAR POWERED IRRIGATION

SYSTEM

SYSTEM

BROY, MARCEL, LEMERY,
JOLLO

1000

VICINITY MAP

SECRET

2011

DATE

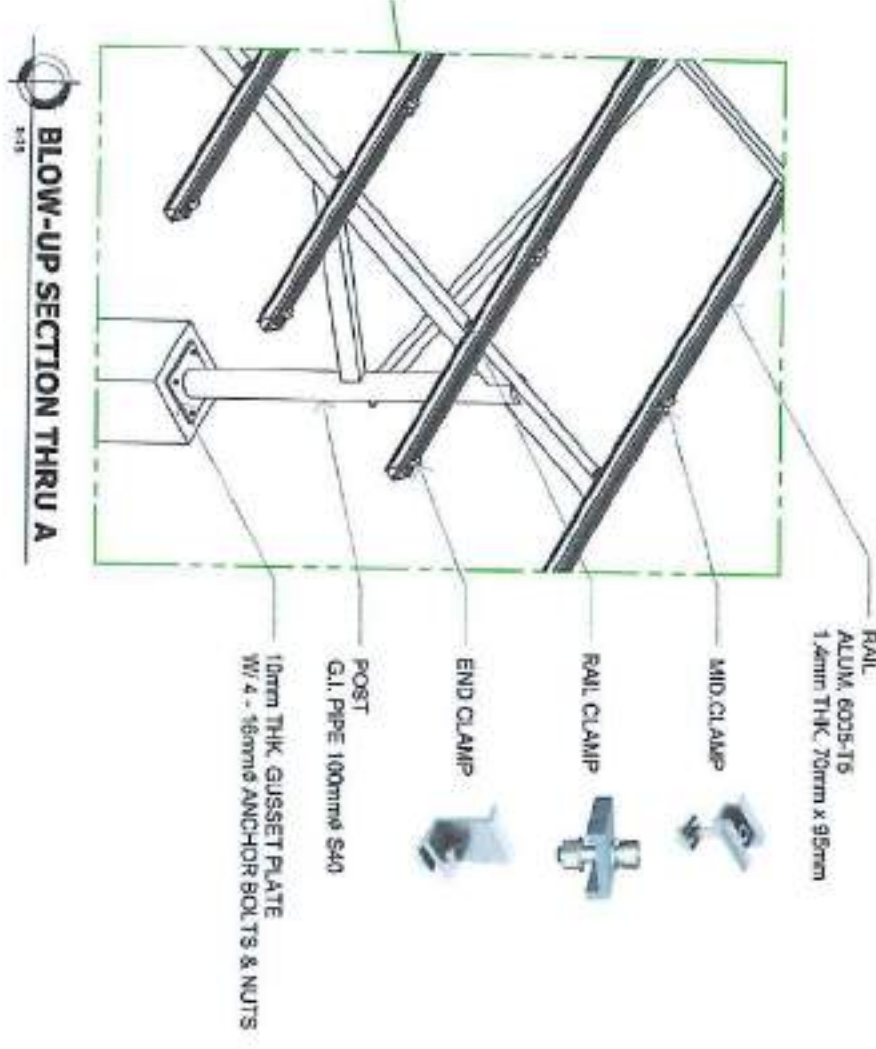
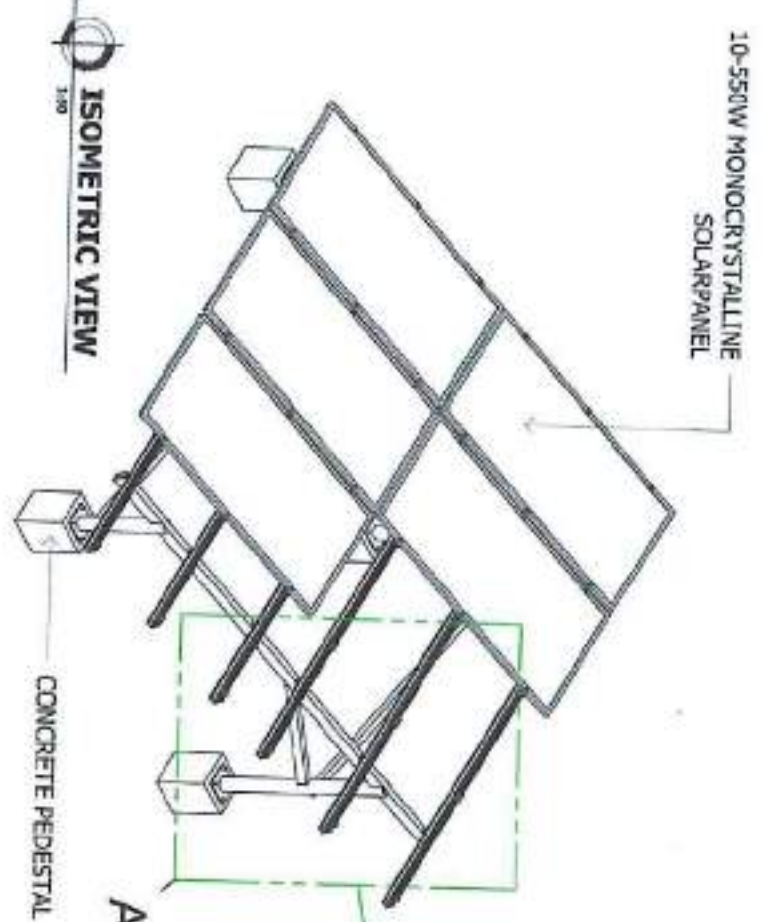
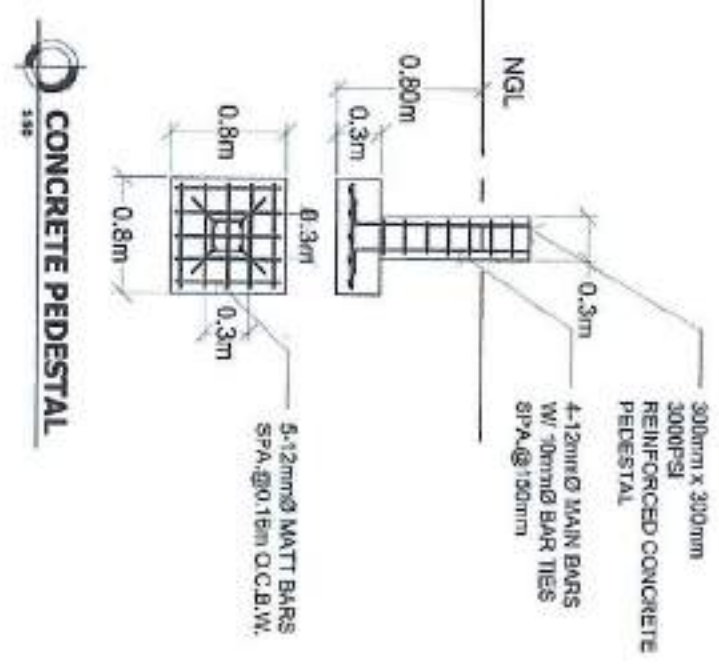
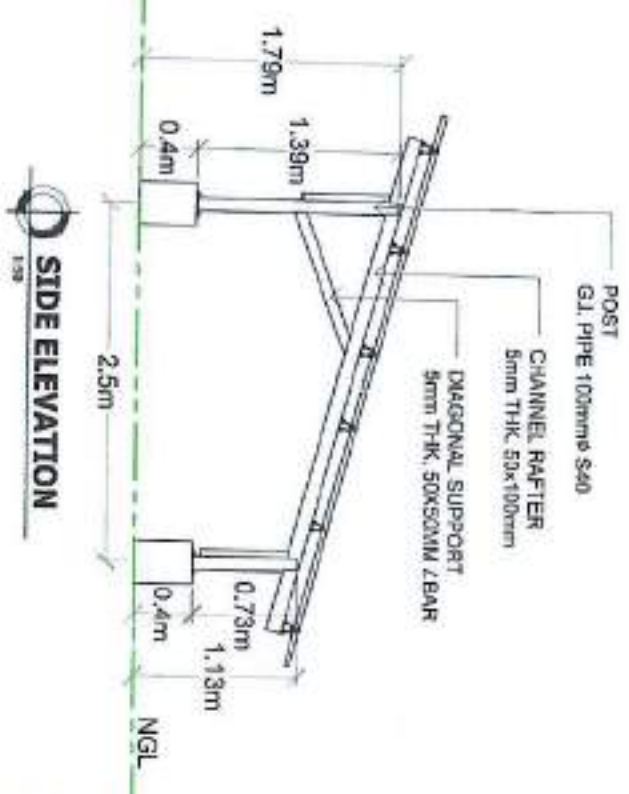
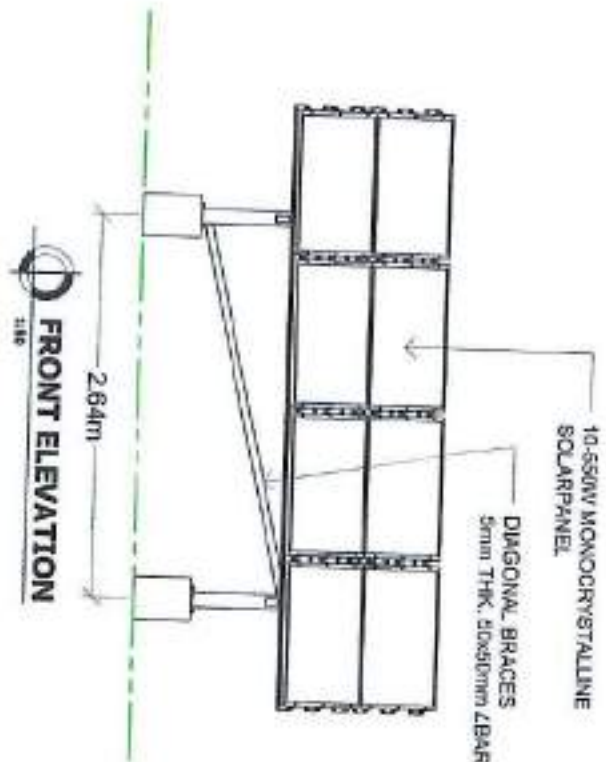
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DEPARTMENT OF AGRICULTURE
WESTERN VISAYAS
ILOILO CITY

ESTABLISHMENT OF MARAPAL
SOLAR POWERED IRRIGATION
SYSTEM

SOLAR PANEL AND MOUNTING
STRUCTURE

DESIGNED BY
ENGR. P. DEAN, ABE

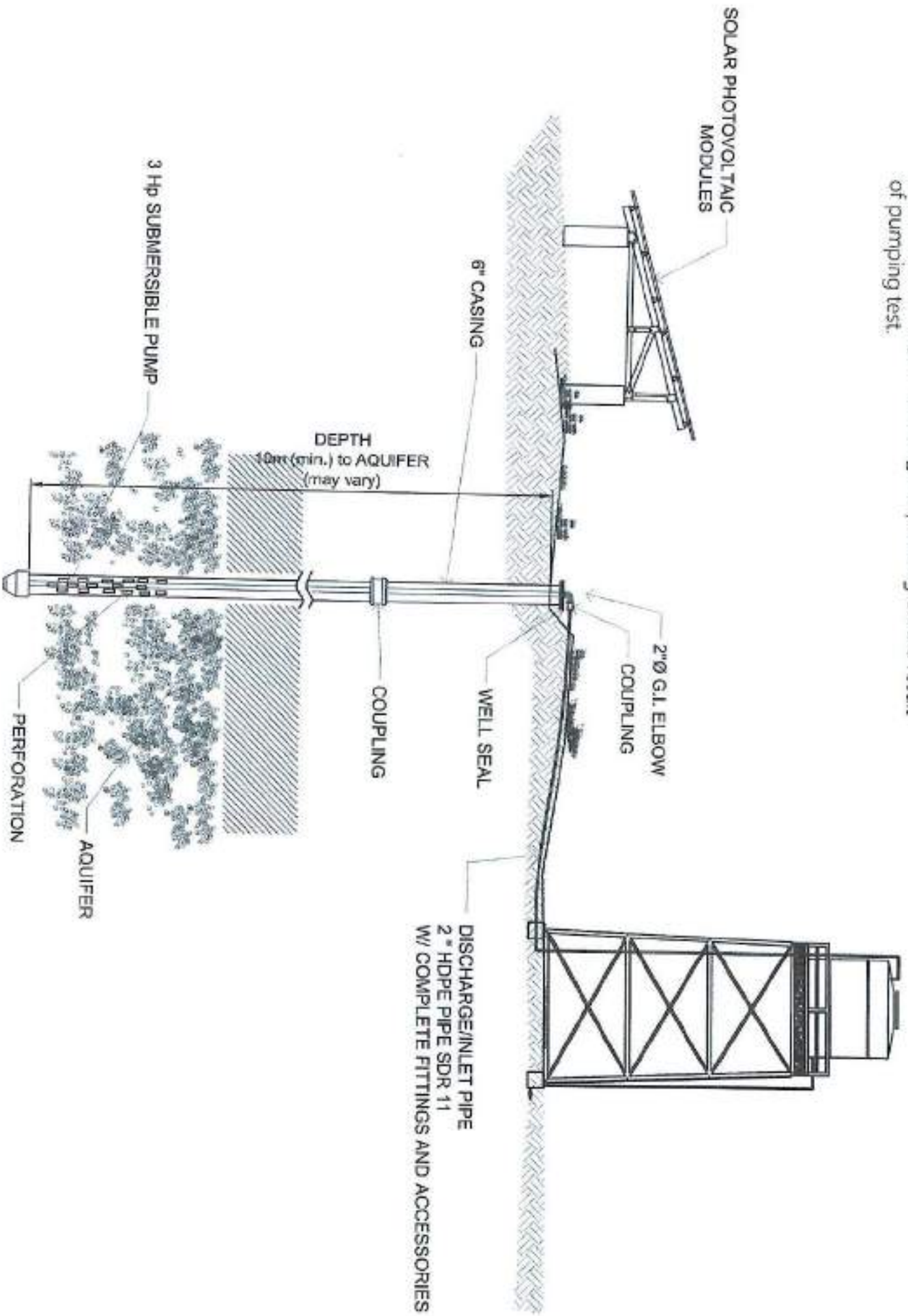
WONNIGRACE P. SUR, ABE

NOISES D. MANA-AY, ABE, MEE

BARBARA TERESA L. SPO

DOUGLAS R. ABRIA

Note:
 Pump testing shall be conducted to determine if the designed discharge is applicable the size of submersible pump may be subject to change depending on the result of pumping test.

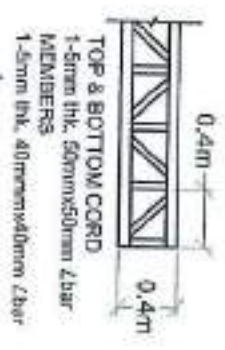


TYPICAL WELL DEVELOPMENT/PUMP INSTALLATION NTS

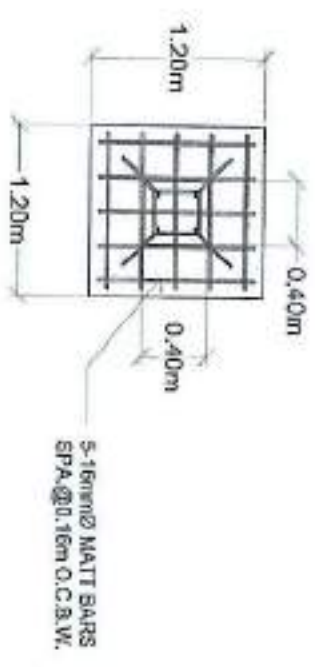
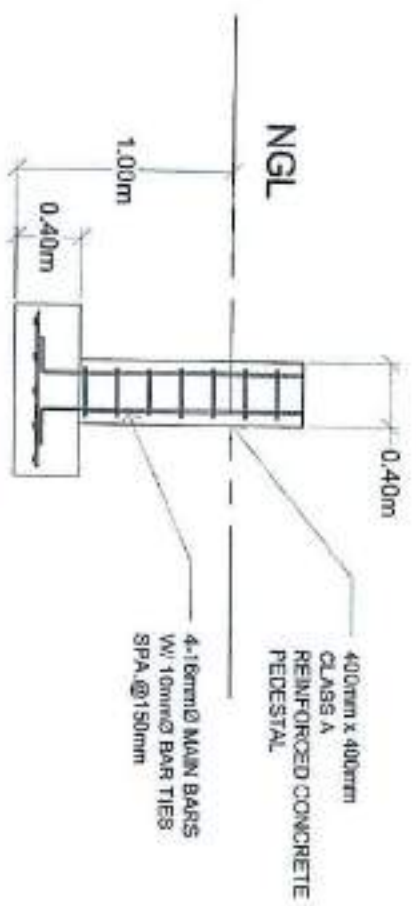
 <p>REPUBLIC OF THE PHILIPPINES DEPARTMENT OF AGRICULTURE WESTERN VISAYAS ILOILO CITY</p>	<p>PROJECT AND LOCATION</p> <p>ESTABLISHMENT OF MARAPAL SOLAR POWERED IRRIGATION SYSTEM</p> <p>SAN MARCEL, ILOILO CITY</p>	<p>PROJECT NO.</p> <p>TYPICAL WELL DEVELOPMENT/PUMP INSTALLATION</p>	<p>DESIGNED BY</p> <p><i>[Signature]</i> ROBERT P. DEAN, ASE</p>	<p>CHECKED BY</p> <p><i>[Signature]</i> WYONNE G. DEAN, ASE</p>	<p>CONSTRUCTED BY</p> <p><i>[Signature]</i> MOISES O. MANAAY, ASE, MEE</p>	<p>DATE OF VISIT/INSPECTION</p> <p><i>[Signature]</i> MARIN FERRELL, SNTS</p>	<p>APPROVED BY</p> <p><i>[Signature]</i> DONALD R. ARRIA</p>	<p>SCALE</p> <p>06 08</p>
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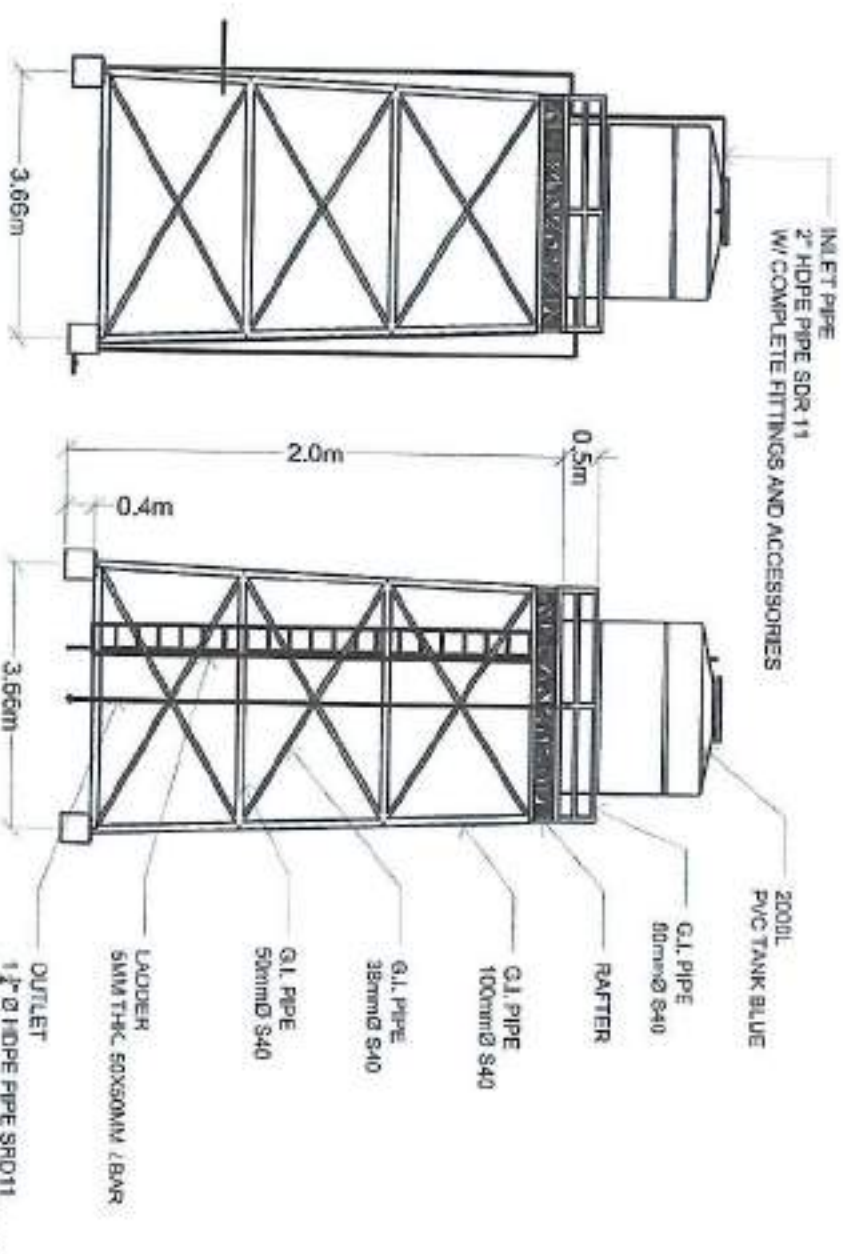
TOP ELEVATIONS



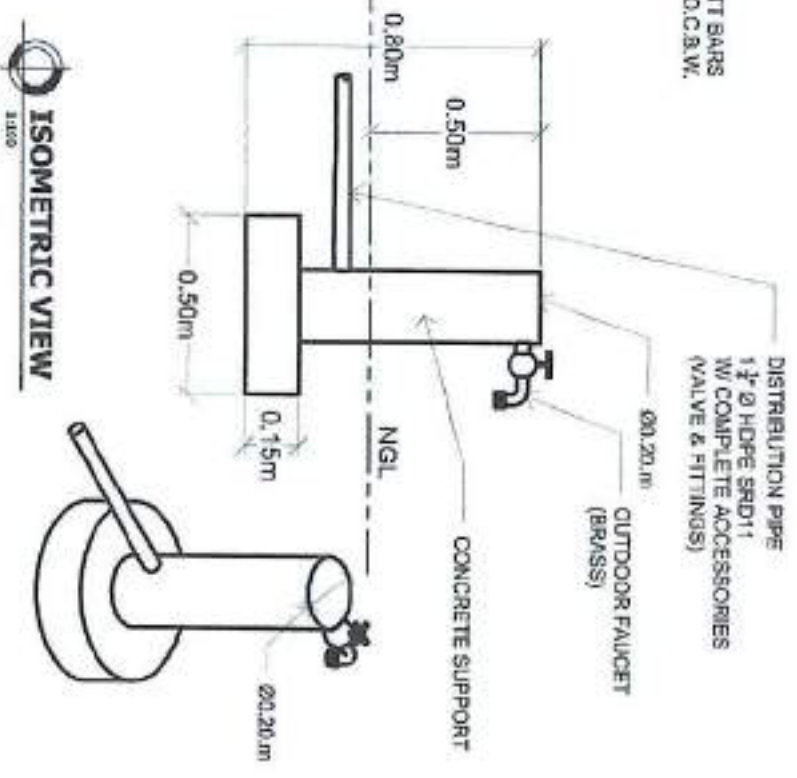
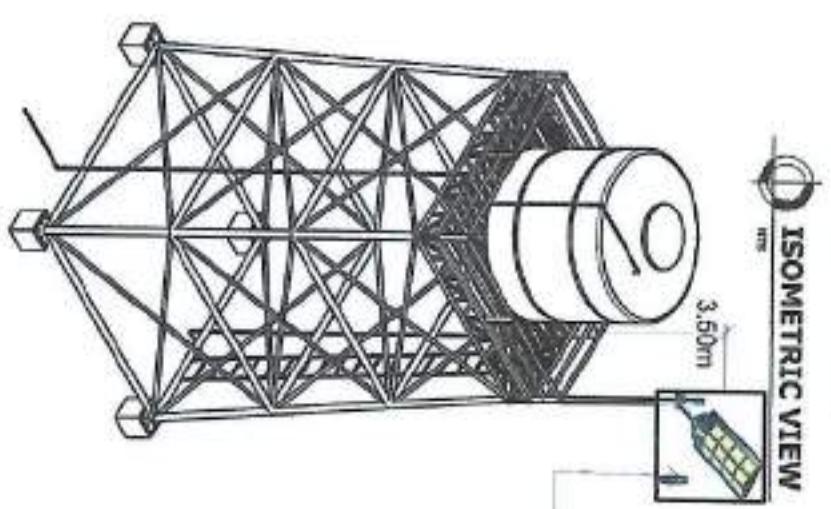
RAFTER



ISOMETRIC VIEW



SIDE ELEVATIONS



ISOMETRIC VIEW

ISOMETRIC VIEW

<p>DEPARTMENT OF AGRICULTURE WESTERN VISAYAS ILOILO CITY</p>	<p>ESTABLISHMENT OF MARAPAL SOLAR POWERED IRRIGATION SYSTEM</p>	<p>ELEVATED TANK DETAILS, DISTRIBUTION OUTLET</p>	<p>DESIGNED BY ALBERTO D. DIZON, ABE</p>	<p>REVIEWED BY YVONNE BRUCE M. SUR, ABE</p>	<p>CHECKED BY MOISES D. MANAYAY, ABE, MEE</p>	<p>APPROVED BY MARIA TERESA S. SORIANO</p>	<p>DATE 07 08</p>
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