



MARIANO MARCOS STATE UNIVERSITY  
Procurement Division

Request for Quotation (RFQ)  
(Goods and Services)

Document Code

PD-FRM-002

Revision No.

5 Page 1 of 4

Effectivity Date

April 20, 2022

**REQUEST FOR QUOTATION (RFQ)**

Date: Sept. 08, 2022  
PR No. 2022-09-263 (05200441)

Sir/Madam:

Please quote your lowest price on the item/s listed below, and submit your quotation duly signed by you or your duly authorized representative not later than **3 days** subject to the Terms and Conditions provided at the last page of this RFQ.

Delivery period must be at least within 14 days upon receipt of the Notice to Proceed or Purchase Order.

For any clarification, you may email us at bac@mmsu.edu.ph.

**NATHANIEL R. ALIBUYOG**  
BAC Chair

ITEM	QTY	Unit	ITEM DESCRIPTION	ABC/unit	UNIT PRICE
	1.00	LOT	Supply, Delivery and Installation of Air-conditioning unit system at swimming pool function hall and rooms <i>Note: Installation shall be in accordance with the Mechanical Plan (hereto attached)</i>	898,054.00	
			<b>A. Air-conditioning Unit</b>		
	2.00	sets	Floor Mounted Split Type (VFD - Inverter) 3Ø - 60Hz-220V, Rated Cooling Capacity = 5 TR		
	2.00	sets	Wall Mounted Split Type (VFD-Inverter) 1Ø - 60Hz-220V ; Rated Cooling Capacity = 19,543 btuh or 20,715 kj/kr		
	2.00	sets	Wall Mounted Split Type (VFD-Inverter) 1Ø - 60Hz-220V, Rated Cooling Capacity = 8,751 btuh or 9,086 kj/kr		
			<b>B. Condensate Drain Line</b>		
	12.00	pcs	1. 3/4" PVC Pipe - 3M		
	24.00	pcs	2. 3/4" PVC Elbow		
	6.00	pcs	3. 3/4" PVC Coupling		
	24.00	pcs	4. 3/4" PVC Clamp		
	1.00	can	5. 100 CC Solvent Cement		



		<b>C. Electrical Supply</b>			
			1. Panel boards, Enclosures. PB-ACU Three Phase, 3-Wire, 240Volts with ground in NEMA 1 Surface Mounted Enclosure (Ga. 16 Galvanized Materials, Powder Coated Finish, Bolted Type, Complete Ground Lugs, Tin Plated Copper Bus Bar) Circuit Breaker: All Bolt-on Type and Shall be One Toggle and Must Have Highly Visible Trip Indicator Main: 100AT, 3-pole, 50KAIC @ 240 V MCCB Branches: 2 - 40 AT, 2-pole, 22KAIC @ 240 V, Bolt - on Type 2 - 30 AT, 2-pole, 22KAIC @ 240 V, Bolt - on Type 2 - 20 AT, 2-pole, 22KAIC @ 240 V, Bolt - on Type 2 - Space w/ Bus Bar		
1.00	assy				
2.00	pcs		40AT, 2-pole, 22KAIC @ 240 V, Bolt-on Type		
2.00	pcs		30AT, 2-pole, 22KAIC @ 240 V, Bolt-on Type		
2.00	pcs		20AT, 2-pole, 22KAIC @ 240 V, Bolt-on Type		
1.00	set		KWHR METER CL-100		
1.00	set		Meter Base, 1" (Square)		
1.00	pcs		20mmØ x 3m grounding rod		
6.00	pcs		SOLDERLESS WIRE CONNECTOR (for AWG #2)		
2.00	pcs		SOLDERLESS WIRE CONNECTOR (for AWG #8)		
			II. Pipes, Conduits, and Fittings		
			PVC		
			PVC Adapter with Locknut (Orange)		
2.00	pcs		50 mm Ø		
6.00	pcs		20 mm Ø		
			PVC Pipe (Orange) Thick Wall		
2.00	pcs		50 mm Ø		
57.00	pcs		20 mm Ø		



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			PVC Long Elbow (Orange) Thick Wall		
	2.00	pcs	50 mm Ø		
	10.00	pcs	20 mm Ø		
	2.00	pcs	RSC Adapter w, Locknut and Bushing, 40mmØ		
	9.00	pcs	RSC Pipe, 40mmØ		
	3.00	pcs	RSC Elbow, 40mmØ		
	16.00	pcs	RSC Coupling, 40mmØ		
	13.00	pcs	Clamp w/ Tox and Metal Screw, 40mmØ		
	1.00	pcs	Service Entrance Cap, 40mmØ, Weatherproof		
	1.00	pcs	Secondary Rack, 4 Wire w/ Spool Insulator, Heavy Duty		
			III. Conductors, Lead Free		
	90.00	m	30 mm <sup>2</sup> THW		
	30.00	m	8.0 mm <sup>2</sup> THW		
	65.00	m	8.0 mm <sup>2</sup> THHN		
	35.00	m	5.5 mm <sup>2</sup> THHN		
	55.00	m	3.5 mm <sup>2</sup> THHN		
			IV. Installation Cost		
	1.00	lot	Installation Cost (includes Chipping Works, Finishing and Furnishing of Walls and Ceilings		
			V. Consumables		
	3.00	pcs	Butane Gas		
	3.00	can	PVC Solvent Cement (400cc)		
	1.00	kls	Duct Sealant		
	3.00	rolls	Electrical Tape, Big		

**TOTAL ESTIMATED BUDGET: Php. 898,054.00**

**REMARKS/NOTE:**

After having carefully read and accepted your Terms and Conditions, I/we submit our quotation/s on the item/s at prices indicated above.

Business Name: \_\_\_\_\_  
 Business Address: \_\_\_\_\_  
 Printed Name of the Owner: \_\_\_\_\_  
 TIN: \_\_\_\_\_  
 PhilGEPS Registration Number: \_\_\_\_\_  
 Business Permit: \_\_\_\_\_

Signature over Printed Name

Tel. No./cellphone No./e-mail address

Date

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**Procurement Division**  
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Omnibus Sworn Statement: \_\_\_\_\_  
Annual Income Tax Return: \_\_\_\_\_

Canvassed by: \_\_\_\_\_

**TERMS AND CONDITIONS:**

1. Bidders shall provide correct and accurate information required in this form.
2. Bidders may quote for any or all of the items.
3. Bidders shall submit a copy of the following documents along with the Quotation:
  - a. PhilGEPS Registration Number
  - b. Mayor's Permit / Business Permit
  - c. Omnibus Sworn Statement (for ABC's above P 500,000.00)
  - d. Income/Business Tax Return (for ABC's above P 500,000.00)
  - e. Certificate of Public Conveyance (CPC) for vehicle rentals and truckings
4. Price quotation/s, to be denominated in Philippine peso, shall include all taxes, duties and/or levies payable.
5. Quotations exceeding the Approved Budget for the Contract shall be rejected.
6. Award of contract shall be made to the lowest quotation which complies with the minimum technical specifications and other terms and conditions stated herein.
7. Any interlineations, erasures or overwriting shall be valid only if they are signed or initialed by you or any of your duly authorized representative/s.
8. The item/s shall be delivered according to the requirements specified in the Technical Specifications.
9. The University has the right to inspect and/or test the goods to confirm their conformity to the technical specifications.
10. Liquidated damages equivalent to one tenth of one percent (0.1%) of the value of the goods not delivered within the prescribed delivery period shall be imposed per day of delay.



PHYSICAL PLANNING AND DEVELOPMENT OFFICE  
 401 KENNEDY DRIVE, UNIVERSITY CITY CENTER  
 1105 BARCELONA AVENUE, MANILA 1101

DESIGNED BY: [Signature]  
 CHECKED BY: [Signature]  
 PREPARED BY: [Signature]

PROJECT TITLE: SWIMMING POOL (MECHANICAL PLAN)  
 LOCATION: MANILA - CITY OF BAYAN, LACOS NORTH

APPROVED BY: [Signature]  
 CONFORMS: [Signature]

SHEET NO. [Blank]  
 SHEET CONT'DS: [Blank]

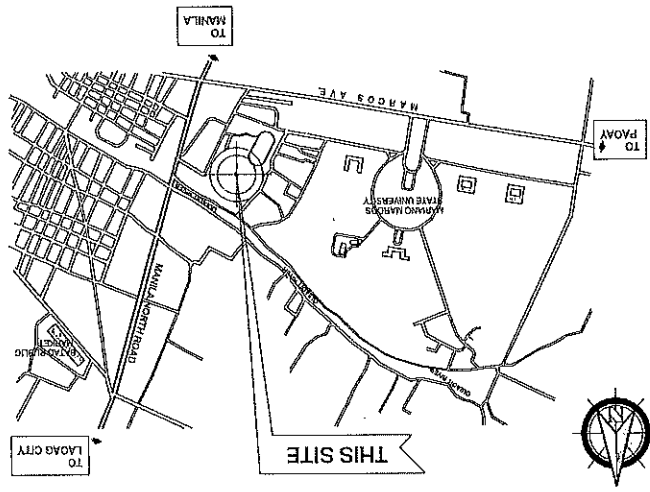


2 SCHEDULE OF EQUIPMENT

Item	Description	Zone or Space	Qty	Vol (cu m)	Vol (cu ft)	Area (sq m)	Area (sq ft)	Per Spk (l/min)	Per Spk (gpm)	Flow (l/min)	Flow (gpm)	Rate (l/min)	Rate (gpm)
EF 1	Mid Exhaust Fan (ceiling)	SECTION 1 LOBBY	8	50	65	4.8	220.671	0.005	0.008	0.019	0.019	14.3	220.671
EF 2	Mid Exhaust Fan (ceiling)	COMMON FLOOR	4	150	255	14.3	220.671	0.015	0.019	0.019	0.019	14.3	220.671

Designation	Description	Location	Qty	Vol (cu m)	Vol (cu ft)	Area (sq m)	Area (sq ft)	Per Spk (l/min)	Per Spk (gpm)	Flow (l/min)	Flow (gpm)	Rate (l/min)	Rate (gpm)
ACU 1	Four Houred Sign Type Variable Air Volume	Section 1	2	17.0	61.029	64.009	61.0	1.9	2.5	1.9	2.5	1.9	2.5
ACU 2	Four Houred Sign Type Variable Air Volume	Section 1	1	5.7	19.543	20.715	15.0	2.0	2.5	2.0	2.5	1.9	2.5
ACU 3	Four Houred Sign Type Variable Air Volume	Section 2	1	5.4	18.514	19.825	15.0	2.0	2.5	2.0	2.5	1.9	2.5
ACU 4	Two Houred Sign Type Variable Air Volume	Section 3	1	2.2	7.543	7.955	0.7	1.0	2.0	2.0	2.0	1.0	1.0
ACU 5	Two Houred Sign Type Variable Air Volume	Section 4	1	2.5	8.771	9.068	0.7	1.0	2.0	2.0	2.0	1.0	1.0

1 LOCATION MAP



3 GENERAL NOTES

INFILTRATION AND VENTILATION FROM THE AIR EXCHANGE RATE FOR RESIDENTIAL BUILDING, INFILTRATION RATE CAN BE NEGLECTED IF THE SPACE IS ALWAYS POSITIVE PRESSURE AND FAN IS ALWAYS ON. INFILTRATION AND LEAKAGE IS HIGH IF THE BUILDING IS OLD AT THE SAME TIME OUTSIDE WIND VELOCITY IS HIGH. VENTILATION RATE WAS BASED FROM ASHRAE STANDARD 62.2ZON5 EXCEPTABLE INDOOR AIR QUALITY LOAD DUE TO VENTILATION WAS NEGLECTED SINCE THERE IS NO OUTSIDE AIR INTRODUCED TO THE ZONES.

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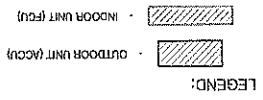
INFILTRATION RATE WAS BASED FROM ASHRAE STANDARD 62.2ZON5 EXCEPTABLE INDOOR AIR QUALITY LOAD DUE TO VENTILATION WAS NEGLECTED SINCE THERE IS NO OUTSIDE AIR INTRODUCED TO THE ZONES.

NOTES

- UNIT INSTALLATION MUST CONFORM TO THE MANUFACTURERS RECOMMENDATION AND ALL ENGINEERING/ARCHITECTURAL DESIGN REQUIRED BY MANILA.
- REFRIGERANT AND CONDENSATE DRAINS THRU WALL MUST BE PROVIDED WITH SLEEVE OR SILICON/RUBBER PROTECTION.
- CONDENSATE LINES FROM THE INDOOR UNITS MUST BE PROVIDED WITH MAIN DRAIN.
- REFRIGERANT LINE MUST BE INSTALLED WITH NO LESS THAN 1" THICK RUBBER INSULATION. HOWEVER, DRAINS MUST BE PROPERLY INSULATED.
- INSTALLATION MUST CONFORM TO PNE CODE AND THE NATIONAL BUILDING CODE. A MECHANICAL PERMIT SHOULD BE SECURED PRIOR TO INSTALLATION.
- ARMCON INSTALLERS MUST BE DEALERS ACCREDITED TECHNOLOGIES TO INCLUDE ONE (1) YEAR MAINTENANCE.

ABBREVIATION AND UNIT TAG

ACU AIR-CONDITIONING UNIT  
 FCU FAN COIL UNIT  
 ACCU AIR-COOLING CONDENSING UNIT  
 EF EXHAUST FAN



Location	Quantity	Description	Extinguisher, ABC Installation (det)
	11		

COOLING LOAD, VENTILATION & INFILTRATION CALCULATION NOTES:

Design Consideration

DATA FROM 2017 ASHRAE HANDBOOK (FUNDAMENTALS) MONTH = JANUARY - DECEMBER

LOCATION: LAGOS CITY, PHILIPPINES

TIME OF DAY = 8:00 am to 5:00 pm (Typical Office Operating Time)

ELEVATION = 6.00m

120.52C EAST LONGITUDE

18.178 NORTH LATITUDE

STANDARD AIR PRESSURE = 101.23 kPa

AVERAGE ANNUAL WIND SPEED = 2.7 m/s

NUMBER OF ZONE: 4

SPACE / ZONE DESIGN CONDITION = 24°C DB @ 60% RH AND 0.0074 kg moisture / kg dry air

WALL COEFFICIENT OF HEAT TRANSFER (Uwall)

BUILDING TYPE = NON RESIDENTIAL

WALL = 1" PLASTER + 5/8" GIB + 1" PLASTER

Uwall = 1 / (0.035 m² K/W + 0.143 m² K/W + 0.025 m² K/W + 0.210 m² K/W)

Consider outside air and inside air resistance.

R0 = 0.04 m² K/W (outside air resistance)

R1 = 0.04 m² K/W (inside air resistance)

R2 = 0.04 m² K/W (inside air resistance)

R3 = 0.22 m² K/W (air space resistance)

R4 = 0.04 m² K/W (inside air resistance)

R5 = 0.04 m² K/W (inside air resistance)

R6 = 0.13 m² K/W (inside air resistance)

Total Rwall = 0.04 + 0.213 + 0.13 = 0.383 m² K/W

Total Rwall = 1 / 0.383 m² K/W = 2.61 W/m² K

Uwall = 1 / Rwall = 1 / 0.383 m² K/W = 2.61 W/m² K

Roof Coefficient of Heat Transfer (Uroof)

Roof = 14" CONCRETE SLAB + 14" GYPSUM BOARD + HARDIFLEX

Roof = 0.82 m² K/W + 0.06 m² K/W + 0.88 m² K/W

Consider outside air and inside air resistance.

R0 = 0.04 m² K/W (outside air resistance)

R1 = 0.04 m² K/W (inside air resistance)

R2 = 0.04 m² K/W (inside air resistance)

R3 = 0.04 m² K/W (inside air resistance)

R4 = 0.04 m² K/W (inside air resistance)

R5 = 0.04 m² K/W (inside air resistance)

R6 = 0.13 m² K/W (inside air resistance)

Total Rroof = 0.04 + 0.213 + 0.13 = 0.383 m² K/W

Total Rroof = 1 / 0.383 m² K/W = 2.61 W/m² K

Uroof = 1 / Rroof = 1 / 0.383 m² K/W = 2.61 W/m² K





PHYSICAL PLANNING AND DEVELOPMENT OFFICE  
AT THE ADMINISTRATION BUILDING, UNIVERSITY OF THE PHILIPPINES  
DILIMAN, QUEZON CITY

DESIGNED & DRAWN BY: *[Signature]*  
CHECKED BY: *[Signature]*  
DATE: *[Date]*

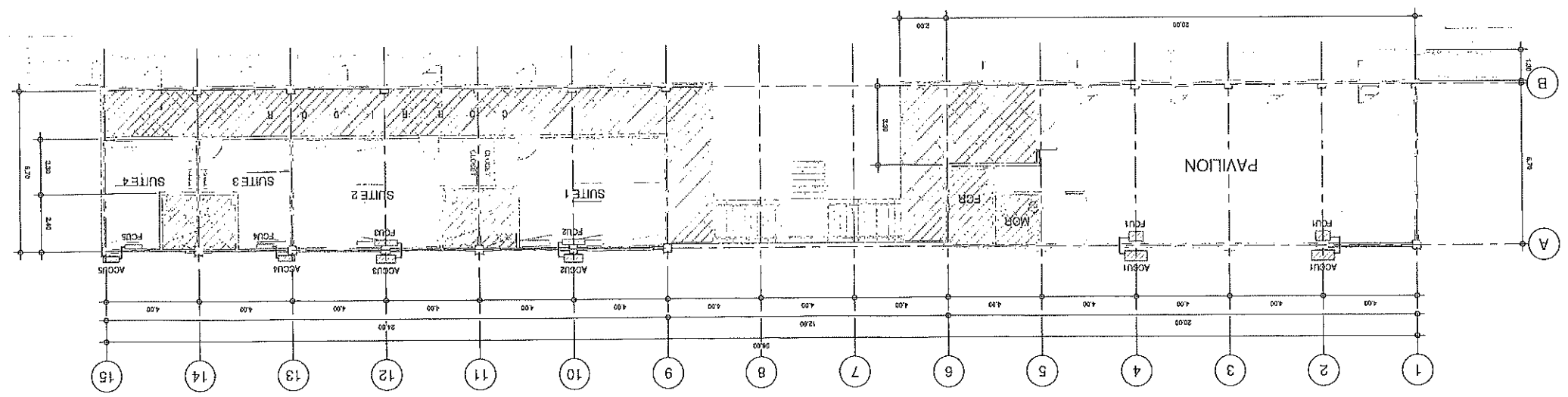
PROJECT TITLE: SWIMMING POOL (MECHANICAL PLAN)  
LOCATION: MGSU - CITY OF BAYAN, LOSOS HOME

APPROVED BY: *[Signature]*  
CONTRACT NO.: *[Number]*

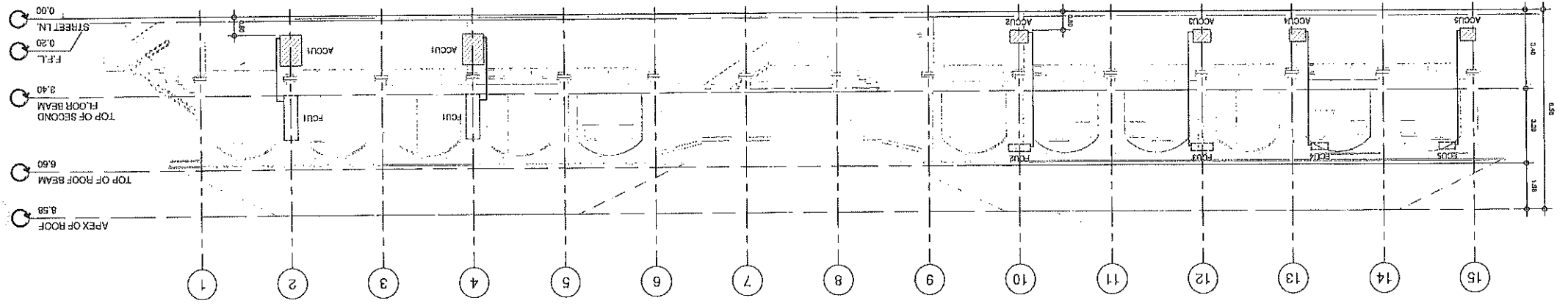
SHEET NO.: M-2



① SECOND FLOOR ACU LAYOUT PLAN  
1 : 100 meters



② REAR ELEVATION  
1 : 100 meters









PHYSICAL PLANNING AND  
DEVELOPMENT OFFICE

PREPARED BY:  
JAY L. MANSU  
ARCHITECT

DESIGNED & SEALED BY:  
JAY L. MANSU  
ARCHITECT

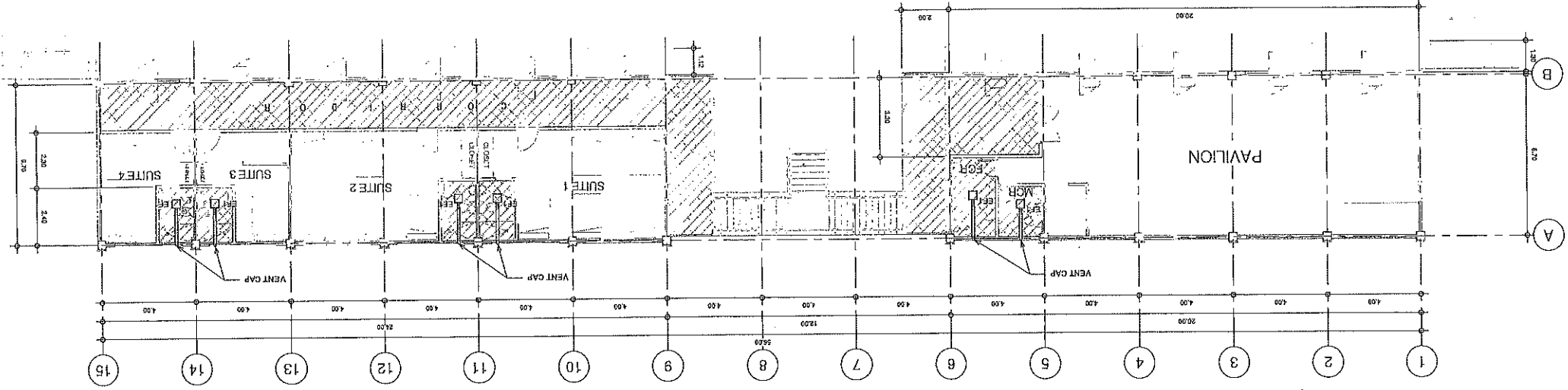
PROJECT TITLE:  
SWIMMING POOL  
(MECHANICAL PLAN)

APPROVED BY:  
[Signature]  
RECOMMENDING APPROVAL:  
[Signature]

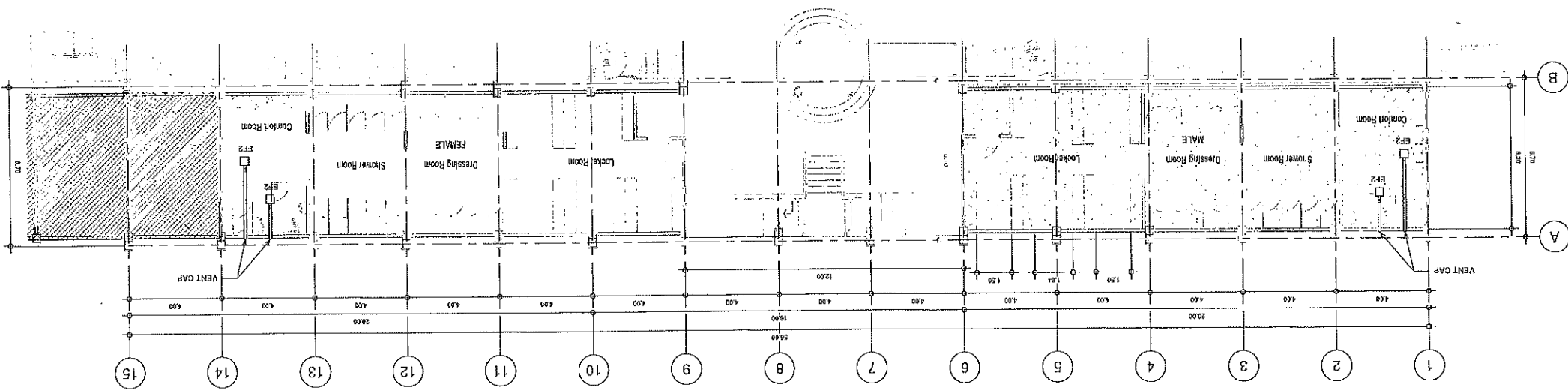
UNIVERSITY PRESIDENT  
[Signature]

SHEET NO. M-8

2 SECOND FLOOR EXHAUST FAN LAYOUT PLAN  
1 : 100 meters



1 GROUND FLOOR EXHAUST FAN LAYOUT PLAN  
1 : 100 meters







PHYSICAL PLANNING AND DEVELOPMENT OFFICE

OFFICE OF THE DEAN, COLLEGE OF ARCHITECTURE AND CIVIL ENGINEERING, UNIVERSITY OF THE PHILIPPINES - DILIMAN

DRAWN BY: *[Signature]*  
PREPARED BY: *[Signature]*  
CHECKED BY: *[Signature]*  
DATE: \_\_\_\_\_  
PROJECT NO.: \_\_\_\_\_

SIGNED & SEALED BY: \_\_\_\_\_  
PROFESSIONAL ARCHITECT (PRACTICING)

PROJECT TITLE: **SWIMMING POOL (MECHANICAL PLAN)**

LOCATION: KASUBI - CITY OF BAYAN, LOSOS HORTE

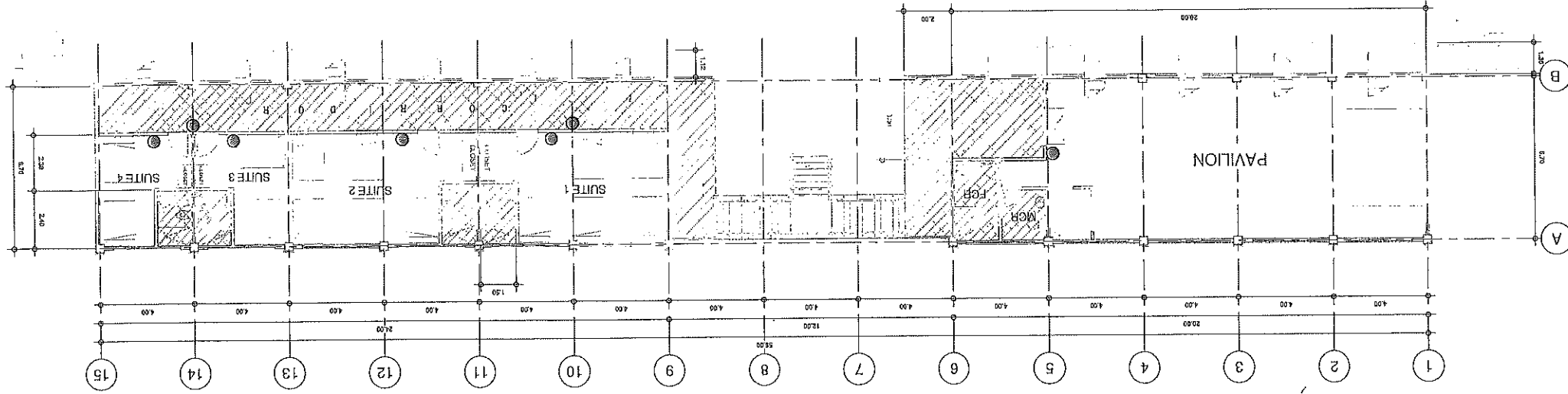
CONFORMS: \_\_\_\_\_  
RECOMMENDING APPROVAL: \_\_\_\_\_  
APPROVED BY: \_\_\_\_\_

APPROVED BY: *[Signature]*

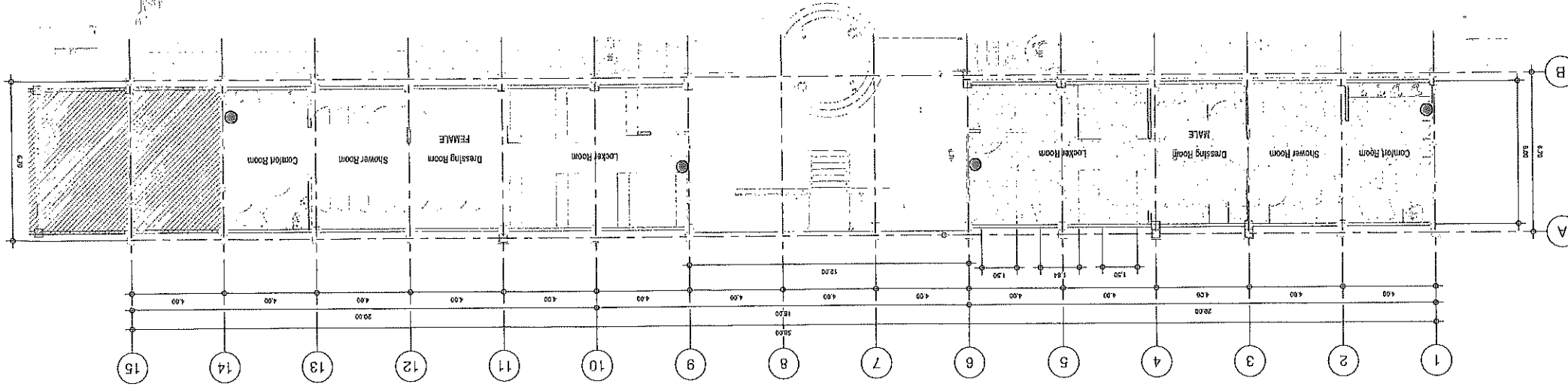
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SHEET NO.: \_\_\_\_\_



2 SECOND FLOOR FIRE EXTINGUISHER LAYOUT PLAN  
1 : 100 meters



1 GROUND FLOOR FIRE EXTINGUISHER LAYOUT PLAN  
1 : 100 meters

















PHYSICAL PLANNING AND DEVELOPMENT OFFICE  
 1000 N. UNIVERSITY BLVD., SUITE 1000, TAMPA, FL 33606  
 (813) 241-1111

DATE: 01/15/2018  
 PROJECT: SWIMMING POOL (MECHANICAL PLAN)  
 LOCATION: JAMES - CITY OF AVANTO, HOCOR NGIRITE

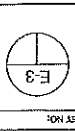
DESIGNED BY: [Signature]  
 CHECKED BY: [Signature]  
 DATE: 01/15/2018

PROJECT TITLE: SWIMMING POOL (MECHANICAL PLAN)  
 LOCATION: JAMES - CITY OF AVANTO, HOCOR NGIRITE

APPROVED BY: [Signature]  
 CONFIRMED BY: [Signature]

APPROVED BY: [Signature]

SHEET NO. 1  
 SHEET CONTENTS:



# ① SCHEDULE OF LOADS

MAIN FEEDER CONDUIT  
 IFL = 39.60A + 19.80 (0.25) = 59.40A  
 ICB = 18.00A + 9.00 (0.25) = 27.00A  
 USE: 3-30mm<sup>2</sup> THW CU WIRE IN 32mm Ø PVC = 80.55A

CIRCUIT NUMBER	LOAD DESCRIPTION	VALOAO	CIRCUIT BREAKER			CONDUIT			CONDUIT TYPE	Ø	TYPE		
			AB	CA	BC	BO	CA	BC					
1	80HP ACU, INVERTER TYPE	788				19.8	19.8	3	100	40	TH9N	20mm	PVC
2	40HP ACU, INVERTER TYPE	788				19.8	19.8	3	100	40	TH9N	20mm	PVC
3	20HP ACU, INVERTER TYPE	455	6.50					2	100	30	TH9N	20mm	PVC
4	10HP ACU, INVERTER TYPE	455	0.50					2	100	30	TH9N	20mm	PVC
5	SPACE W/ BUS BAR	728						2	100	30	TH9N	20mm	PVC
6	SPACE W/ BUS BAR	728						2	100	30	TH9N	20mm	PVC
7	SPACE W/ BUS BAR	728						2	100	30	TH9N	20mm	PVC
8	10HP ACU, INVERTER TYPE	728						2	100	30	TH9N	20mm	PVC
9	20HP ACU, INVERTER TYPE	728						2	100	30	TH9N	20mm	PVC
10	40HP ACU, INVERTER TYPE	728						2	100	30	TH9N	20mm	PVC
11	80HP ACU, INVERTER TYPE	728						2	100	30	TH9N	20mm	PVC
TOTAL						39.60 A	39.60 A	2	100	40	TH9N	20mm	PVC

MAIN FEEDER CONDUIT  
 IFL = 16.75A + 16.75A (0.25) = 26.44A  
 ICB = 8.37A + 8.37A (0.25) = 10.46A  
 USE: 3-14mm<sup>2</sup> THW CU WIRE IN 40mm Ø PVC = 30.44A

CIRCUIT NUMBER	LOAD DESCRIPTION	VALOAO	CIRCUIT BREAKER			CONDUIT			CONDUIT TYPE	Ø	TYPE		
			AB	CA	BC	BO	CA	BC					
1	11-24W LED FLUORESCENT LAMP	306						2	100	15	TH9N	20mm	PVC
2	9-12W LED DOWN LIGHT	102						2	100	15	TH9N	20mm	PVC
3	11-24W LED DOWN LIGHT	132	0.57					2	100	15	TH9N	20mm	PVC
4	12W BUBBLE LED DOWN LIGHT	618						2	100	15	TH9N	20mm	PVC
5	12W BUBBLE LED DOWN LIGHT	618	0.71					2	100	15	TH9N	20mm	PVC
6	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
7	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
8	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
9	12W BUBBLE LED DOWN LIGHT	158	0.88					2	100	15	TH9N	20mm	PVC
10	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
11	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
12	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
13	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
14	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
15	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
16	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
17	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
18	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
19	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
20	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
21	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
22	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
23	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
24	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
25	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
26	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
27	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
28	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
29	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
30	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
31	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
32	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
33	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
34	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
35	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
36	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
37	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
38	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
39	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
40	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
41	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
42	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
43	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
44	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
45	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
46	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
47	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
48	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
49	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
50	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
51	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
52	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
53	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
54	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
55	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
56	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
57	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
58	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
59	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
60	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
61	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
62	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
63	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
64	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
65	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
66	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
67	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
68	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
69	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
70	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
71	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
72	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
73	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
74	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
75	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
76	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
77	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
78	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
79	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
80	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
81	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
82	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
83	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
84	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
85	12-24W LED DOWN LIGHT	180						2	100	15	TH9N	20mm	PVC
86	12-24W LED DOWN LIGHT	180					</						





PHYSICAL PLANNING AND  
DEVELOPMENT OFFICE

AN INTEGRATED ARCHITECTURAL, PLANNING AND ENGINEERING OFFICE

PREPARED BY:

MAVA BAYANG

DESIGNER

SIGNED & SEALED BY:

JACOB S. SANTIAGO

REGISTERED ELECTRICAL ENGINEER

PROFESSIONAL REGISTRATION NO. 10100

DATE:

PROJECT TITLE:

SWIMMING POOL  
(ELECTRICAL PLAN)

LOCATION: MSU - CITY OF BAYAN, ILOCOS NORTE

COMPILED BY:

RECOMMENDING APPROVAL:

APPROVED BY:

APPROVED BY:

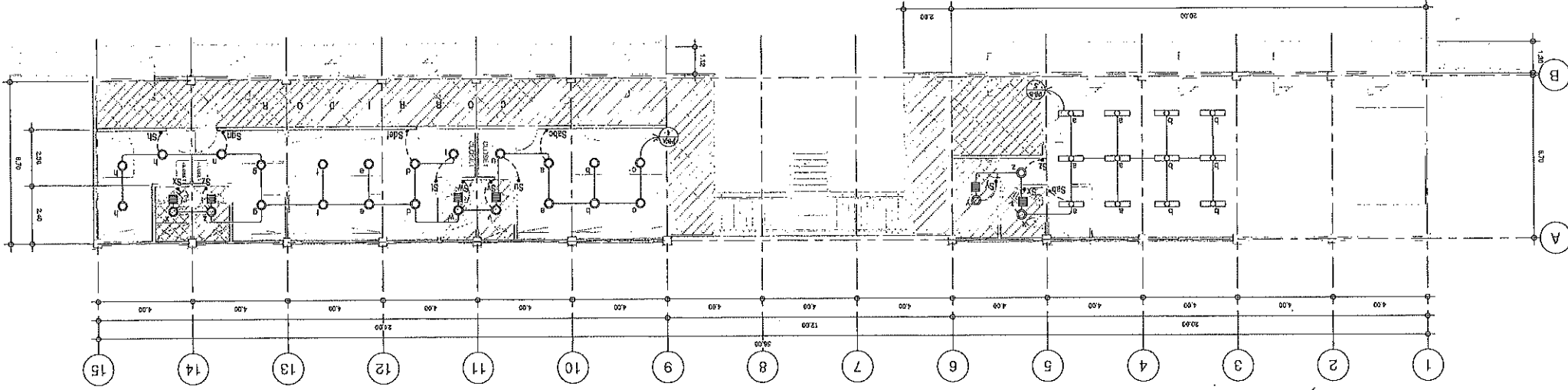
DATE:

SHEET NO.:

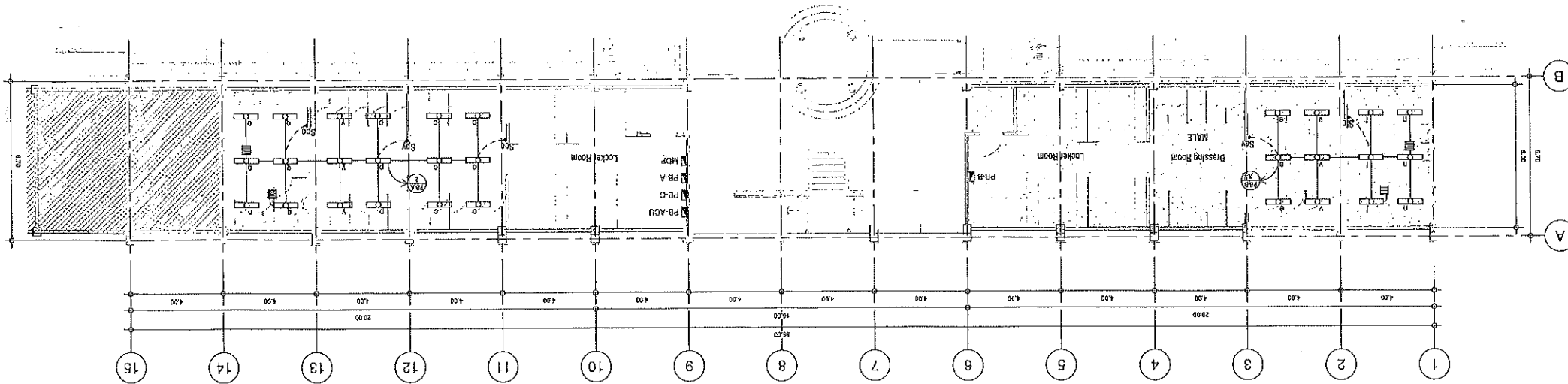
E-2



② SECOND FLOOR EXHAUST FAN OUTLET PLAN  
1 : 100 meters



① GROUND FLOOR EXHAUST FAN OUTLET PLAN  
1 : 100 meters







PHYSICAL PLANNING AND  
DEVELOPMENT OFFICE

OFFICE OF THE CITY ENGINEER  
CITY OF MANILA

DRAWN BY: JAVIER ALVARO

PREPARED BY: JAVIER ALVARO

DATE: 08/11/2011

PROJECT TITLE: SWIMMING POOL (ELECTRICAL PLAN)

SIGNED & SEALED BY:

PROFESSIONAL ELECTRICAL ENGINEER

REG. NO. 10101

EX. NO. 10101

DATE: 08/11/2011

PROJECT TITLE: SWIMMING POOL (ELECTRICAL PLAN)

PROJECT TITLE: SWIMMING POOL (ELECTRICAL PLAN)

LOCATION: MMSU - CITY OF MANILA, LACOS NORTH

CONFORM: [Signature]

RECOMMENDING APPROVAL: [Signature]

DATE: 08/11/2011

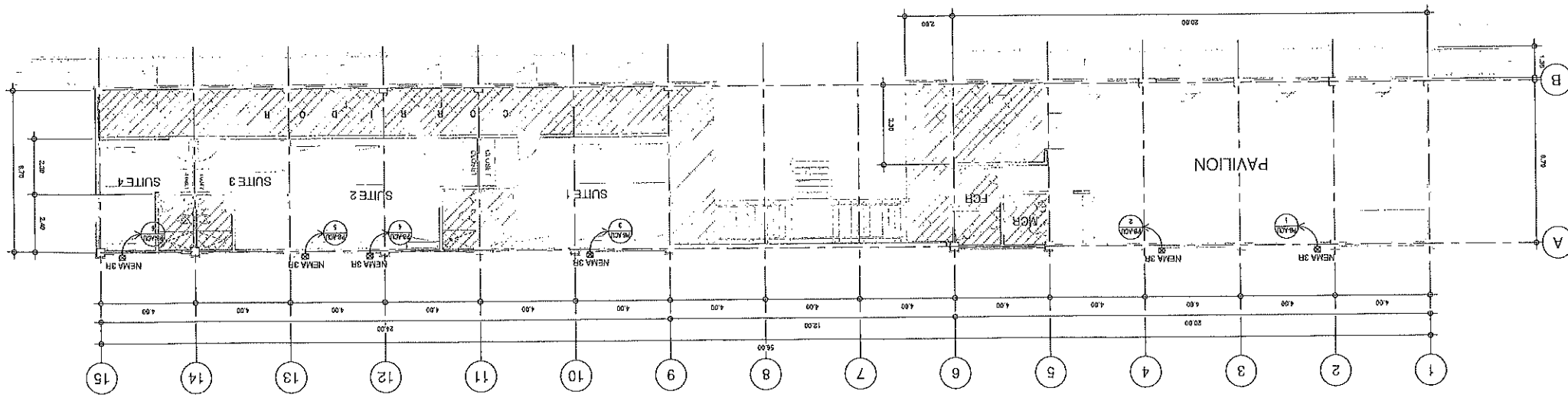
PROJECT TITLE: SWIMMING POOL (ELECTRICAL PLAN)

APPROVED BY: [Signature]

SHEET CONTAINS:

E-1

1 SECOND FLOOR ACU OUTLET PLAN  
1 : 100 meters



2 REAR ELEVATION  
1 : 100 meters

