













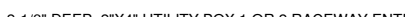
NOTE : DIMENSIONS ON THESE DRAWINGS SHALL HAVE PRECEDENCE OVER SCALE DIMENSIONS. CONTRACTORS SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS AND CONDITIONS ON THE JOB. THE DESIGNER MUST BE NOTIFIED IMMEDIATELY OF ANY VARIATIONS FROM THE DIMENSIONS AND CONDITIONS SHOWN BY THESE DRAWINGS.






NOTE : DIMENSIONS ON ALL DRAWINGS & SPECIFICATIONS (MECHANICAL, ELECTRICAL, SANITARY, ETC.) SHALL BE SUBJECT FOR VERIFICATION AND NOT SCALE.

GENERAL ELECTRICAL NOTES
AND SPECIFICATION :

- ALL ELECTRICAL WORK SHALL CONFORM TO THE LATEST EDITION THE PHILIPPINE ELECTRICAL CODE, TO THE RULES AND REGULATIONS OF LOCAL AND NATIONAL AUTHORITIES CONCERNED AND THE REQUIREMENTS OF LOCAL UTILITY COMPANIES.
- ALL PIPE EMBEDDED IN CONCRETE SHALL BE POLYVINYL CHLORIDE (PVC) AND ALL EXPOSED SHALL BE ELECTRICAL METALLIC CONDUIT (EMT).
- MINIMUM SIZE OF WIRE AND CONDUIT SHALL BE 2.0 mm² THHN AND 20MM (1/2") NOMINAL DIA. RESPECTIVELY, UNLESS OTHERWISE SPECIFIED ON PLANS.
- NO BRANCH CIRCUIT WIRING IN LIGHTING AND POWER SHALL HAVE A LOAD MORE THAN 80% OF ITS RATING.
- LIGHT CONTROL SWITCHES SHALL BE RATED 16 AMPERES, 230 Vac.
- UNLESS OTHERWISE SPECIFIED PULLBOXES OR JUNCTION BOXES SHALL BE PROVIDED WHENEVER REQUIRED AND NECESSARY, ALTHOUGH SUCH BOXES ARE NOT INDICATED ON PLANS.
- FOR EACH SPARE CIRCUIT IN PANELBOARD, PROVIDE AN EMPTY CONDUIT 20MM (3/4") DIA. TERMINATING TO A COVERED SQUARE BOX.
- ALL MATERIALS AND EQUIPMENT TO BE USED SHALL BE BRAND NEW AND OF APPROVED TYPE FOR BOTH LOCATION AND PURPOSES.
- ALL METAL FRAMES SHALL BE PROPERLY AND ADEQUATELY GROUNDED. GROUND WIRE SHALL BE PROVIDED ON ALL EQUIPMENT FEEDER.
- MOUNTING HEIGHTS SHALL BE AS FOLLOWS:

a. LIGHT SWITCHES		1.40m A.F.F. AT CENTER
b. RECEPTACLES		0.30m A.F.F.
c. COUNTER TOP OUTLET		1.10m A.F.F.
d. RANGEHOOD OUTLET		1.30m A.F.F.
e. PANELBOARDS		AS REQUIRED UNDERFIELD CONDITION
f. GROUND FAULT INTERRUPTER		1.10m A.F.F.
g. RANGE OUTLET		0.50m A.F.F.
h. REFRIGERATOR OUTLET		0.50m A.F.F.
i. ACU's (WINDOW TYPE)		AS REQUIRED UNDERFIELD CONDITION
- OUTLET BOXES SHALL BE AS FOLLOWS:

LIGHT OUT		1-1/2" DEEP, 4" OCTAGONAL BOX 1 OR 2 WAY ENTRIES
RECEPTACLES AND TELEVISION ANT. AND TELEPHONE OUT		2-1/8" DEEP, 4" OCTAGONAL BOX 3 OR 4 WAY ENTRIES
		2-1/8" DEEP, 2"x4" UTILITY BOX 1 OR 2 RACEWAY ENTRIES
		1-1/2" DEEP, 4" SQUARE BOX WITH 1-GANG RAISED PLASTIC COVER FOR 3 OR 4 RACEWAY ENTRIES
- ALL FLUORESCENT LAMPS SHALL BE PROVIDED WITH POLYESTER FILLED PRE-HEAT THERMALLY PROTECTED HIGH POWER BALLAST.
- DUPLEX RECEPTACLES SHALL BE RATED 10 AMP, 250 VOLTS, ROUNDED SLOT FOR 220 VOLTS AND SPECIAL OUTLETS SHALL BE RATED 15AMP.,250 VOLTS AS REQUIRED.
- THE CONTRACTOR SHALL SECURE ALL PERMITS AND PAY FEES REQUIRED FOR THE WORKS, AND SHALL FURNISH THE OWNER THROUGH THE ENGINEER'S FINAL CERTIFICATE OF INSPECTION AND APPROVAL FROM PROPER GOVERNMENT AUTHORITIES FOR COMPLETE WORKS.
- EXPOSED CONDUIT RUN SHALL BE INSTALLED PARALLEL TO OR PERPENDICULAR WITH THE FLOOR AND SUPPORTED BY CLAMPS EVERY 152.4 CM, DIAGONAL RUN SHALL NOT BE ACCEPTED. (THIS IS ALSO APPLICABLE TO CONDUITS RUNNING OVERHEAD INSIDE CEILING).
- ALL 30-AMPERES CIRCUIT HOMERUN TO PANELBOARD MORE THAN 30 METERS IN LENGTH SHALL BE 5.5mm² THHN (#10 AWG), UNLESS OTHERWISE SPECIFIED ON PLANS.
- ADDITIONAL MATERIALS SPECIFICATIONS:

a. WIRES AND CABLES		PHILFLEX OR APPROVED EQUAL
b. CIRCUIT BREAKER (BOLT-ON TYPE)		MITSUBISHI/SQUARE D/ABB/SIEMENS
c. WIRING DEVICES		CLIPSAL C-CONCEPT / NATIONAL WIDE SERIES
d. POLYVINYL CHLORIDE CONDUIT (PVC)		CROWN SUPREME SCH. 40
e. JUNCTION / UTILITY BOX GA.16		FUMACO
- ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR THE PROPER IDENTIFICATION AND LABELING OF ALL CIRCUIT BREAKER. EACH PANEL WILL BE PROVIDED WITH A TYPEWRITTEN CIRCUIT DIRECTORY.
- THE JOB SHALL BE EXECUTED IN THE MOST THROUGH PROMPT AND WORKMAN LIKE MANNER, EMPLOYING STANDARD TOOLS, EQUIPMENT, METHODS AND GOOD ENGINEERING PRACTICES. THE JOB SHALL BE DONE COMPLETE IN ALL ASPECTS AS REQUIRED IN PLANS AND SPECIFICATION AND READY FOR OPERATION.
- THE DRAWING AND SPECIFICATIONS ARE INTENDED TO PRESENT A GENERAL LAYOUT AND BROAD OUTLINE AND DISTANCES OF EQUIPMENT. THE CONTRACTOR IS HEREBY REQUIRED TO MAKE ADJUSTMENT AT THE JOBSITE AS LOCATIONS, LEVELS AND DISTANCES ARE GOVERNED BY ACTUAL FIELD CONDITIONS.
- WIRES SHALL BE COLOR CODED:

LINE 1 ----- BLACK	LINE 2 ----- RED	GROUND ----- GREEN
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- THERE SHALL BE ONLY ONE SERVICE DROP TO THE PROPOSED BUILDING. SECONDARY SERVICE ENTRANCE SHALL BE 230 VOLTS, SINGLE-PHASE, 2WIRE+GROUND, 60Hz.
- NO REVISION IN THE DESIGN SHALL BE DONE WITHOUT THE PRIOR KNOWLEDGE AND APPROVAL OF THE DESIGNER AND THE OWNER. ANY SUCH REVISION DONE WITHOUT THE APPROVAL SHALL CAUSE RESPONSIBILITY OF THE DESIGNER TO CEASED AS A WHOLE.
- ALL WEATHER-EXPOSED INSTALLATIONS SHALL USE WEATHERPROOF TYPE MATERIALS, ESPECIALLY WEATHERPROOF CONVENIENCE OUTLET, CAST-BOXES, JUNCTION BOXES SUBMIT SAMPLE FOR APPROVAL.
- ALL EQUIPMENT WIRE, ROYAL CORDS, SPECIAL TYPE PLUGS AND RECEPTACLE AS REQUIRED SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR.
- ALL ELECTRICAL WORKS SHALL BE DONE UNDER THE DIRECT SUPERVISION OF A DULY LICENSED ELECTRICAL ENGINEER AND / OR MASTER ELECTRICIAN.

SCHEDULE OF LOAD AND COMPUTATION (PANEL BOARD 1.0)											
NO. OF CIRCUIT	DESCRIPTION	NO. OF OUTLET	VOLTS	VA	AMPERE PER CIRCUIT				PROTECTION PER CIRCUIT	SIZES	
					AB	BC	CA	ABC		WIRE	CONDUIT
1	LIGHTING OUTLET	14	230	700	3.04				15 AT	2-3.50 mm² THHN Cu. 1- 2.00 mm² THHN Cu.	20 mm ø
2	CONVENIENCE OUTLET	8	230	1440	6				15 AT	2-3.50 mm² THHN Cu. 1- 2.00 mm² THHN Cu.	20 mm ø
3	AIRCON OUTLET(0.75 HP)	2	230	1120	4.8600				20AT	2-5.50 mm² THHN Cu. 1- 5.50 mm² THHN Cu.	20 mm ø
4	SPARE								20AT	2-3.50 mm² THHN Cu. 1- 2.00 mm² THHN Cu.	20 mm ø
TOTAL				15180	13.9000				40AT	2-8.0 mm² THHN Cu. 1- 5.50 mm² THHN Cu.	25 mm ø

IT = 13.90 + 25% (12)
= 16.9 A

USE : 40 AT,2P, 330V, MCCB
: 2- 8.00 mm² ø THHN Cu.
1- 5.50 mm² ø THHN Cu. @ 25 mm ø Conduit

SCHEDULE OF LOAD AND COMPUTATION (PANEL BOARD 2.0)											
NO. OF CIRCUIT	DESCRIPTION	NO. OF OUTLET	VOLTS	VA	AMPERE PER CIRCUIT				PROTECTION PER CIRCUIT	SIZES	
					AB	BC	CA	ABC		WIRE	CONDUIT
1	LIGHTING OUTLET	14	230	700	3.04				15 AT	2-3.50 mm² THHN Cu. 1- 2.00 mm² THHN Cu.	20 mm ø
2	LIGHTING OUTLET	17	230	850	3.69				15 AT	2-3.50 mm² THHN Cu. 1- 2.00 mm² THHN Cu.	20 mm ø
3	CONVENIENCE OUTLET	6	230	1080	4.6900				15 AT	2-3.50 mm² THHN Cu. 1- 2.00 mm² THHN Cu.	20 mm ø
4	AIRCON OUTLET(.75 HP)	1	230	560	2.4300				20AT	2-3.50 mm² THHN Cu. 1- 2.00 mm² THHN Cu.	20 mm ø
5	AIRCON OUTLET(2.0 HP)	1	230	1490	6.4700				30AT	2-5.50 mm² THHN Cu. 1- 5.50 mm² THHN Cu.	25 mm ø
6	AIRCON OUTLET(3.0 HP)	1	230	2237	9.7200				30AT	2-5.50 mm² THHN Cu. 1- 5.50 mm² THHN Cu.	25 mm ø
6	SPARE								30AT	2-3.50 mm² THHN Cu. 1- 2.00 mm² THHN Cu.	25 mm ø
TOTAL				13190	30.0400				40AT	2-8.0 mm² THHN Cu. 1- 5.50 mm² THHN Cu.	25 mm ø

IT = 30.4 + 25% (12)
= 33.4 A

USE : 40 AT,2P, 330V, MCCB
: 2-8.00 mm² ø THHN Cu.
1- 5.50 mm² ø THHN Cu. @ 25 mm ø Conduit

SCHEDULE OF LOAD AND COMPUTATION (PANEL BOARD 3.0)											
NO. OF CIRCUIT	DESCRIPTION	NO. OF OUTLET	VOLTS	VA	AMPERE PER CIRCUIT				PROTECTION PER CIRCUIT	SIZES	
					AB	BC	CA	ABC		WIRE	CONDUIT
1	LIGHTING OUTLET	9	230	700	3.04				15 AT	2-3.50 mm² THHN Cu. 1- 2.00 mm² THHN Cu.	20 mm ø
2	LIGHTING OUTLET	18	230	850	3.69				15 AT	2-3.50 mm² THHN Cu. 1- 2.00 mm² THHN Cu.	20 mm ø
3	CONVENIENCE OUTLET	8	230	1080	4.6900				15 AT	2-3.50 mm² THHN Cu. 1- 2.00 mm² THHN Cu.	20 mm ø
4	AIRCON OUTLET(2.0 HP)	1	230	1491	6.4800				30AT	2-5.50 mm² THHN Cu. 1- 5.50 mm² THHN Cu.	25 mm ø
	AIRCON OUTLET(2.0 HP)	1	230	1491	6.4800				30AT	2-5.50 mm² THHN Cu. 1- 5.50 mm² THHN Cu.	25 mm ø
6	SPARE								30AT	2-5.50 mm² THHN Cu. 1- 5.50 mm² THHN Cu.	25 mm ø
TOTAL				13190	24.1100				40AT	2-8.0 mm² THHN Cu. 1- 5.50 mm² THHN Cu.	25 mm ø

IT = 24.11 + 25% (12)
= 27.11 A

USE : 40 AT,2P, 330V, MCCB
: 2- 8.00 mm² ø THHN Cu.
1- 5.50 mm² ø THHN Cu. @ 25 mm ø Conduit

SCHEDULE OF LOAD AND COMPUTATION (PANEL BOARD 4.0)											
NO. OF CIRCUIT	DESCRIPTION	NO. OF OUTLET	VOLTS	VA	AMPERE PER CIRCUIT				PROTECTION PER CIRCUIT	SIZES	
					AB	BC	CA	ABC		WIRE	CONDUIT
1	LIGHTING OUTLET	18	230	900	3.91				15 AT	2-3.50 mm² THHN Cu. 1- 2.00 mm² THHN Cu.	20 mm ø
2	LIGHTING OUTLET	11	230	550	2.39				15 AT	2-3.50 mm² THHN Cu. 1- 2.00 mm² THHN Cu.	20 mm ø
3	CONVENIENCE OUTLET	9	230	1620	7.0400				15 AT	2-3.50 mm² THHN Cu. 1- 2.00 mm² THHN Cu.	20 mm ø
4	AIRCON OUTLET(2.0 HP)	1	230	1491	6.4800				30AT	2-5.50 mm² THHN Cu. 1- 5.50 mm² THHN Cu.	25 mm ø
5	SPARE								30AT	2-5.50 mm² THHN Cu. 1- 5.50 mm² THHN Cu.	25 mm ø
TOTAL				13190	19.8200				40AT	2-8.0 mm² THHN Cu. 1- 5.50 mm² THHN Cu.	25 mm ø

IT = 19.82 + 25% (12)
= 22.82 A

USE : 40 AT,2P, 330V, MCCB
: 2- 8.00 mm² ø THHN Cu.
1- 5.50 mm² ø THHN Cu. @ 50 mm ø Conduit

PROJECT TITLE:		
CONVERSION OF ESF THIRD FLOOR BUILDING INTO BPSU COMMAND CENTER AT BPSU MAIN CAMPUS		
LOCATION:		
BATAAN PENINSULA STATE UNIVERSITY MAIN CAMPUS		
STRUCTURAL ENGINEER		
RES. NO. :		
PIR. NO. :		
PLACE :		
TIN NO. :		
MASTER PLUMBER/SANITARY ENGINEER		
RES. NO. :		
PIR. NO. :		
PLACE :		
TIN NO. :		
PROFESSIONAL ELECTRICAL ENGINEER		
RES. NO. :		
PIR. NO. :		
PLACE :		
TIN NO. :		
PROFESSIONAL MECHANICAL ENGINEER		
RES. NO. :		
PIR. NO. :		
PLACE :		
TIN NO. :		
REVISION		
NO.	DESCRIPTION	DATE
2		
PREPARED BY:		
AR. ROXETTE S. UMEREZ		
ARCHTECT 1, BPSU TWG HEAD FOR INFRASTRUCTURE		
RES. NO. :		
PIR. NO. :		
PLACE :		
REVIEWED BY:		
JASON ANTHONY B. BANZON		
CAMPUS DIRECTOR		
RES. NO. :		
PIR. NO. :		
PLACE :		
NOTED BY:		
ENGR. ALFREDO D. VALENTOS		
DIRECTOR, PPES		
RECOMMENDED BY:		
DR. EDMUNDO C. TUNGOL		
VICE PRESIDENT ADMIN. & FINANCE		
APPROVED BY:		
DR. GREGORIO J. RODIS		
UNIVERSITY PRESIDENT		
REPUBLIC ACT 9266.		
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SHEET CONTENT:		SHEET NUMBER:
• GENERAL NOTES • SCHEDULE OF LOADS		E-MC-03



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