REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
BUREAU OF DESIGN
BUILDINGS DIVISION
BONIFACIO DRIVE PORT AREA, MANILA

PROJECT TITLE:

PROPOSED
STANDARD MULTI-PURPOSE/ EVACUATION CENTER

(OPTION 1)
(FOR WIND VELOCITY OF 270KPH & EXPOSURE B)

SUBMITTED:
10/11/2019
JOSEPHINE P. ISTURIS
CHIEF, BUILDINGS DIVISION, BUREAU OF DESIGN

RECOMMENDING APPROVAL:
ARISTARCO M. DOROY
OFFICER-IN-CHARGE, BUREAU OF DESIGN
OCT 23 2019

APPROVED:
EMIL K. SADAIN, CESO I
UNDERSECRETARY
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CONCURRED:
JAMES PATRICK R. BONDOC
VICE PRESIDENT
CORPORATE SOCIAL RESPONSIBILITY

BD-19-BRN-4882

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REPUBLIC OF THE PHILIPPINES

LINE AND GRADE

ARCHITECTURAL

STRUCTURAL

SANITARY/ PLUMBING

ELECTRICAL

MECHANICAL

REPUBLIC OF THE PHILIPPINES
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BUILDINGS DIVISION
BONIFACIO DRIVE PORT AREA, MANILA

PROJECT AND LOCATION:
PROPOSED:
STANDARD PAGCOR MULTI-PURPOSE/ EVACUATION CENTER
(OPTION 1)
(FOR WIND VELOCITY OF 270KPH)

SHEET CONTENTS:
PERSPECTIVE
TABLE OF CONTENTS

ARCHITECTURAL CONCEPT:
ARCHITECTURAL SECTION
CADD: **K.A. M. MAGCAMIT/ L.M. E. DEVERA**
ARCHITECT II
CHECKED: **FRANCIS G. SERRANO**
ARCHITECT IV

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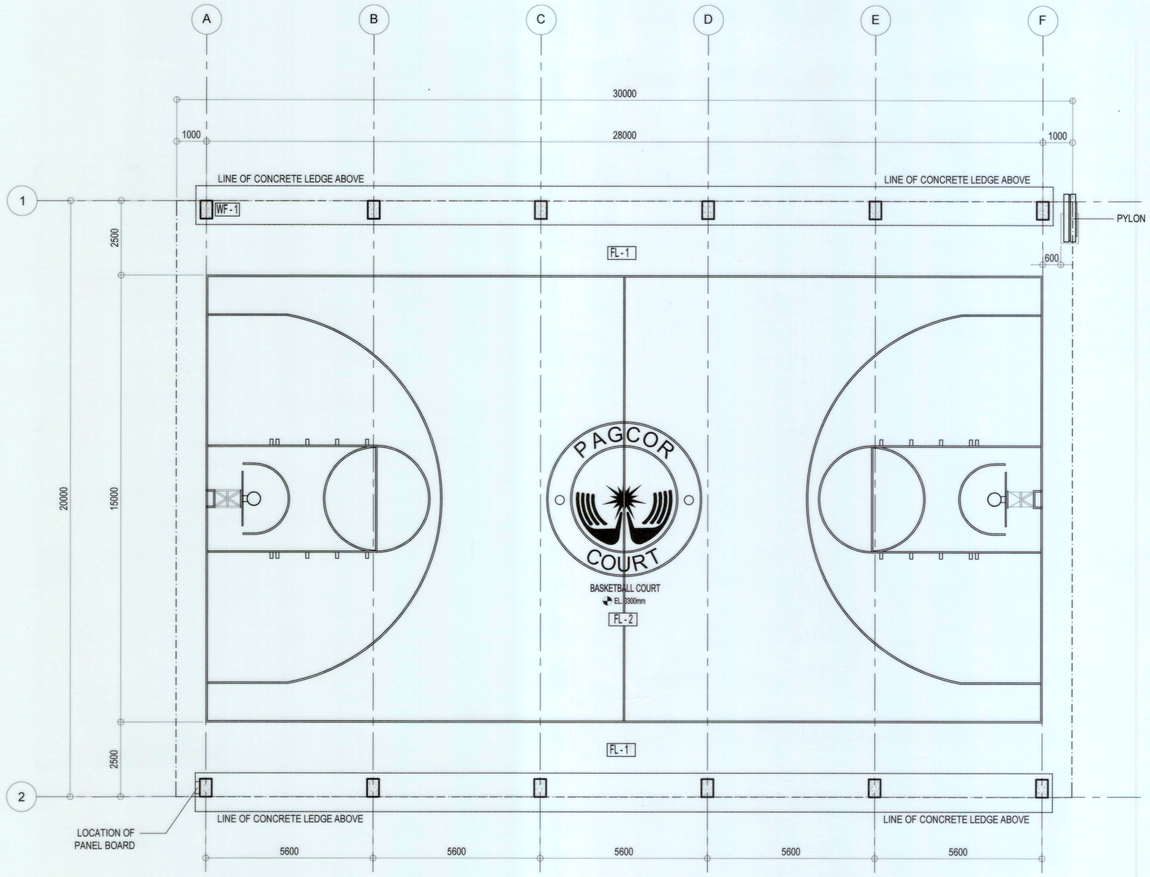
VICE PRESIDENT
CORPORATE SOCIAL RESPONSIBILITY

SET NO.: BOD B

SHEET NO.: A-1 9 18

BD-19-BRN-4682



1 / A-2 **GROUND FLOOR PLAN** (OPTION 1)
SCALE 1:100 MTS.

SCHEDULE OF FINISHES

WALL FINISH	DESCRIPTION
WF - 1	PLAIN CEMENT PLASTER PAINTED FINISH w/ 50mm x 50mm HORIZONTAL GRROVE LINES SPACED @ 300mm O.C (SUBMIT PAINT SWATCHES FOR END USERS APPROVAL)
WF - 2	ALUMINUM METAL CLADDING (REFER TO MANUFACTURER'S SPECIFICATION)
FLOOR FINISH	**DESCRIPTION**
FL - 1	NON-SKID PLAIN CEMENT FINISH
FL - 2	PLAIN CEMENT FINISH w/ FLOOR HARDENER MARKING SIDELINE BASELINE PAINTED FINISH (SUBMIT SAMPLE FOR END-USERS APPROVAL)
CEILING FINISH	**DESCRIPTION**
CF - 1	EXPOSED R.C./ UNDERSLAB/ BEAM SOFFIT/ ROOF TRUSSES, PAINTED FINISH (PROVIDE PRIMER FOR ROOF TRUSSES)
REMARKS (CEILING FINISH)	
ON 0.8mm THK. x 19mm x 50mm x 5000mm METAL DOUBLE FURRING CHANNEL @ 400mm O.C. BOTHWAYS w/ 0.8mm THK. x 12mm x 38mm x 5000mm METAL CARRYING CHANNEL @ 600mm O.C. BOTHWAYS & ROD JOINER (HANGER/SUPPORT) @ 600mm O.C. BOTHWAYS (*TYPICAL ON ALL ROOMS*)	
ROOFING	**DESCRIPTION**
RF - 1	0.50mm THK. (BASE METAL THICKNESS) PRE-PAINTED RIB-TYPE ROOFING SHEET (LONG SPAN) PROVIDE 6mm THK. BUBBLE-TYPE FLEXIBLE THERMAL ROOFING INSULATION W/ 2-SIDED ALUMINUM FOIL
NOTES:	
	- REFER TO STRUCTURAL FOR SIZES OF BEAMS - HINGED SEAT SHALL BE MADE OF SELF DRAINING AND NON-SLIP MATERIAL (PWD TOILETS) - TELEPHONE-TYPE SHOWER W/ AT LEAST 1500m LENGTH SHALL BE USED IN ALL PWD TOILETS

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GROUND FLOOR PLAN
SCHEDULE OF FINISHES

ARCHITECTURAL CONCEPT:
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ARCHITECT II
CHECKED:
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ARCHITECT IV

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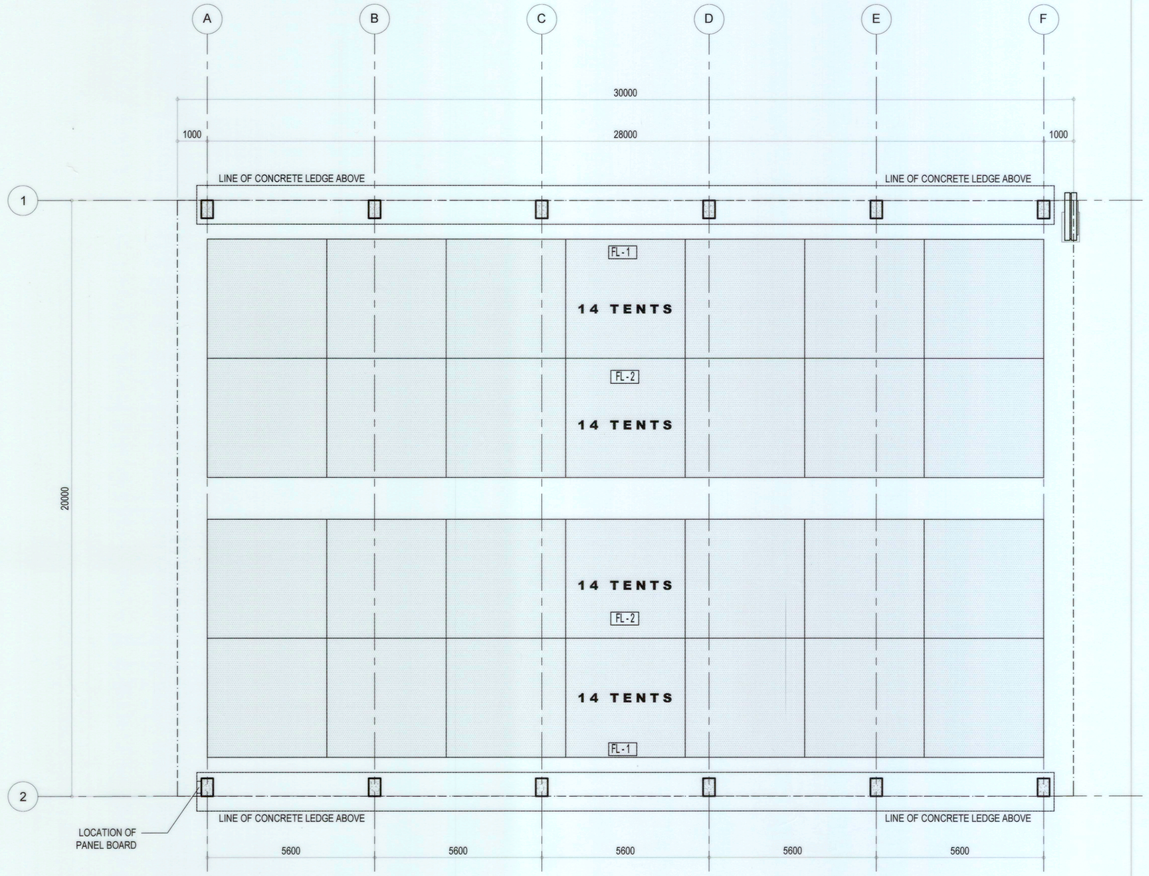
SHEET NO.: A-2 / 9 | 18



1 / A-3 **GROUND FLOOR PLAN TENT LAYOUT** (OPTION 1)

SCALE 1:100 MTS.

SCHEDULE OF FINISHES	
WALL FINISH	**DESCRIPTION**
WF-1	PLAIN CEMENT PLASTER PAINTED FINISH w/ 50mm x 50mm HORIZONTAL GRROVE LINES SPACED @ 300mm O.C (SUBMIT PAINT SWATCHES FOR END USERS APPROVAL)
WF-2	ALUMINUM METAL CLADDING (REFER TO MANUFACTURER'S SPECIFICATION)
FLOOR FINISH	**DESCRIPTION**
FL-1	NON-SKID PLAIN CEMENT FINISH
FL-2	PLAIN CEMENT FINISH w/ FLOOR HARDENER MARKING SIDELINE BASELINE PAINTED FINISH (SUBMIT SAMPLE FOR END-USERS APPROVAL)
CEILING FINISH	**DESCRIPTION**
CF-1	EXPOSED R.C./ UNDERSLAB/ BEAM SOFFIT/ ROOF TRUSSES, PAINTED FINISH (PROVIDE PRIMER FOR ROOF TRUSSES)
REMARKS (CEILING FINISH)	
ON 0.8mm THK. x 19mm x 50mm x 5000mm METAL DOUBLE FURRING CHANNEL @ 400mm O.C. BOTHWAYS w/ 0.8mm THK. x 12mm x 38mm x 5000mm METAL CARRYING CHANNEL @ 600mm O.C. BOTHWAYS & ROD JOINER (HANGER/SUPPORT) @ 600mm O.C. BOTHWAYS (*TYPICAL ON ALL ROOMS*)	
ROOFING	**DESCRIPTION**
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NOTES:	
	- REFER TO STRUCTURAL FOR SIZES OF BEAMS - HINGED SEAT SHALL BE MADE OF SELF DRAINING AND NON-SLIP MATERIAL (PWD TOILETS) - TELEPHONE-TYPE SHOWER W/ AT LEAST 1500m LENGTH SHALL BE USED IN ALL PWD TOILETS

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SHEET CONTENTS:
GROUND FLOOR PLAN TENT LAYOUT
SCHEDULE OF FINISHES

ARCHITECTURAL CONCEPT:
ARCHITECTURAL SECTION
CADD: **K.A. M. MAGCAMIT/ L.M. E. DEVERA**
ARCHITECT II
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ARCHITECT IV

SUBMITTED:
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CORPORATE SOCIAL RESPONSIBILITY

SET NO.: BOD / B

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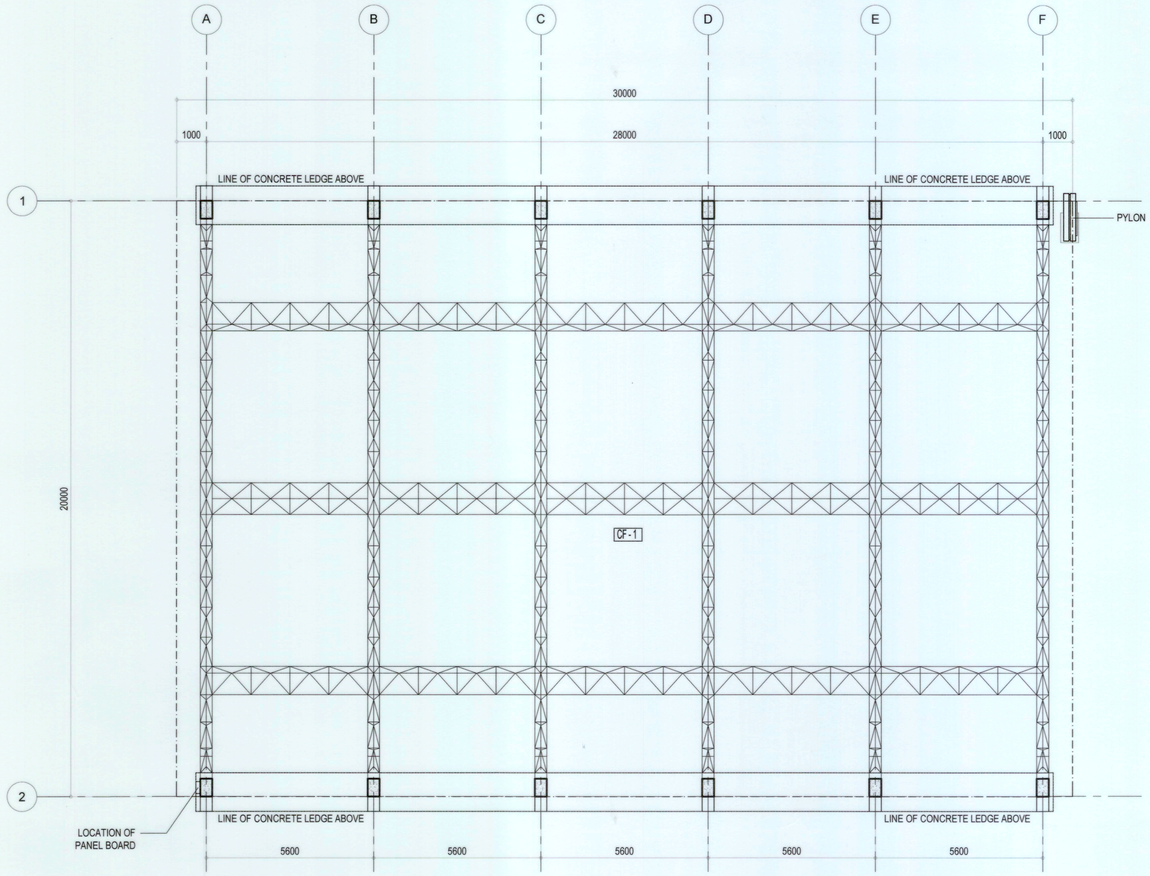

1 / A-3 **REFLECTED CEILING PLAN** (OPTION 1)
SCALE 1:100 MTS.

SCHEDULE OF FINISHES

WALL FINISH	DESCRIPTION
WF - 1	PLAIN CEMENT PLASTER PAINTED FINISH w/ 50mm x 50mm HORIZONTAL GRROVE LINES SPACED @ 300mm O.C (SUBMIT PAINT SWATCHES FOR END USERS APPROVAL)
WF - 2	ALUMINUM METAL CLADDING (REFER TO MANUFACTURER'S SPECIFICATION)
FLOOR FINISH	**DESCRIPTION**
FL - 1	NON-SKID PLAIN CEMENT FINISH
FL - 2	PLAIN CEMENT FINISH w/ FLOOR HARDENER MARKING SIDELINE BASELINE PAINTED FINISH (SUBMIT SAMPLE FOR END-USERS APPROVAL)
CEILING FINISH	**DESCRIPTION**
CF - 1	EXPOSED R.C./ UNDERSLAB/ BEAM SOFFIT/ ROOF TRUSSES, PAINTED FINISH (PROVIDE PRIMER FOR ROOF TRUSSES)
REMARKS (CEILING FINISH)	
ON 0.8mm THK. x 19mm x 50mm x 5000mm METAL DOUBLE FURRING CHANNEL @ 400mm O.C. BOTHWAYS w/ 0.8mm THK. x 12mm x 38mm x 5000mm METAL CARRYING CHANNEL @ 600mm O.C. BOTHWAYS & ROD JOINER (HANGER/SUPPORT) @ 600mm O.C. BOTHWAYS (*TYPICAL ON ALL ROOMS*)	
ROOFING	**DESCRIPTION**
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NOTES:	
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SHEET CONTENTS:
REFLECTED CEILING PLAN
SCHEDULE OF FINISHES

ARCHITECTURAL CONCEPT: ARCHITECTURAL SECTION
CADD: K.A. M. MAGCAMIT / L.M. E. DEVERA, ARCHITECT II
CHECKED: FRANCIS G. SERRANO, ARCHITECT IV

SUBMITTED: JOSEPHINE P. ISTURIS, CHIEF, BUILDINGS DIVISION

RECOMMENDING APPROVAL: *SEE COVER SHEET FOR SIGNATURE* ARISTARCO M. DOROY, OFFICER-IN-CHARGE BUREAU OF DESIGN OCT 23 2019

APPROVED: *SEE COVER SHEET FOR SIGNATURE* EMIL K. SADAIN, CESO I, UNDERSECRETARY FOR TECHNICAL SERVICES AND UPMO OPERATIONS

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SET NO.: BOD / B

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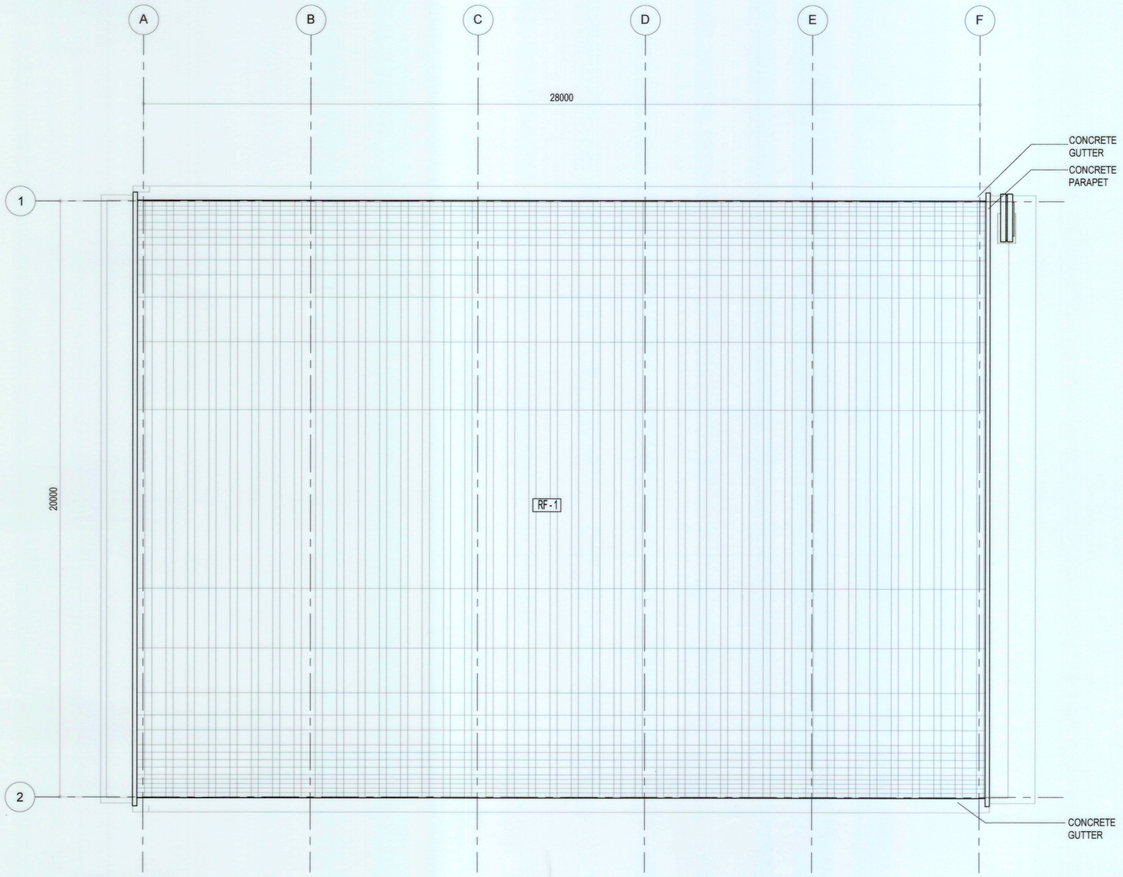

1 / A-5 **ROOF PLAN** (OPTION 1)
SCALE 1:100 MTS.

SCHEDULE OF FINISHES

WALL FINISH	DESCRIPTION
WF-1	PLAIN CEMENT PLASTER PAINTED FINISH w/ 50mm x 50mm HORIZONTAL GRROVE LINES SPACED @ 300mm O.C (SUBMIT PAINT SWATCHES FOR END USERS APPROVAL)
WF-2	ALUMINUM METAL CLADDING (REFER TO MANUFACTURER'S SPECIFICATION)
FLOOR FINISH	**DESCRIPTION**
FL-1	NON-SKID PLAIN CEMENT FINISH
FL-2	PLAIN CEMENT FINISH w/ FLOOR HARDENER MARKING SIDELINE BASELINE PAINTED FINISH (SUBMIT SAMPLE FOR END-USERS APPROVAL)
CEILING FINISH	**DESCRIPTION**
CF-1	EXPOSED R.C./ UNDERSLAB/ BEAM SOFFIT/ ROOF TRUSSES, PAINTED FINISH (PROVIDE PRIMER FOR ROOF TRUSSES)
REMARKS (CEILING FINISH)	
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ROOFING	**DESCRIPTION**
RF-1	0.50mm THK. (BASE METAL THICKNESS) PRE-PAINTED RIB-TYPE ROOFING SHEET (LONG SPAN) PROVIDE 6mm THK. BUBBLE-TYPE FLEXIBLE THERMAL ROOFING INSULATION W/ 2-SIDED ALUMINUM FOIL
NOTES:	
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PROJECT AND LOCATION:
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STANDARD PAGCOR MULTI-PURPOSE/ EVACUATION CENTER
(OPTION 1)
(FOR WIND VELOCITY OF 270KPH)

SHEET CONTENTS:

ARCHITECTURAL CONCEPT:
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CHECKED: **FRANCIS G. SERRANO**
ARCHITECT IV

SUBMITTED:
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CHIEF, BUILDINGS DIVISION

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BUREAU OF DESIGN
OCT 23 2019

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CORPORATE SOCIAL RESPONSIBILITY

SET NO.: BOD / B

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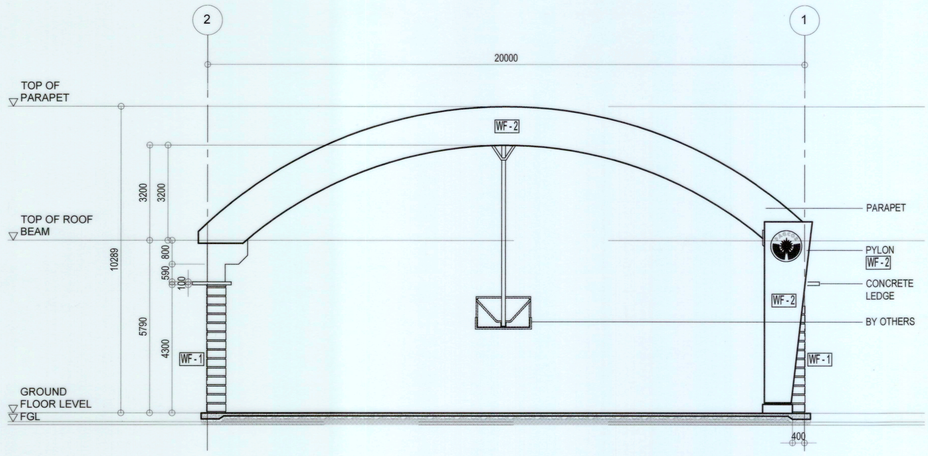
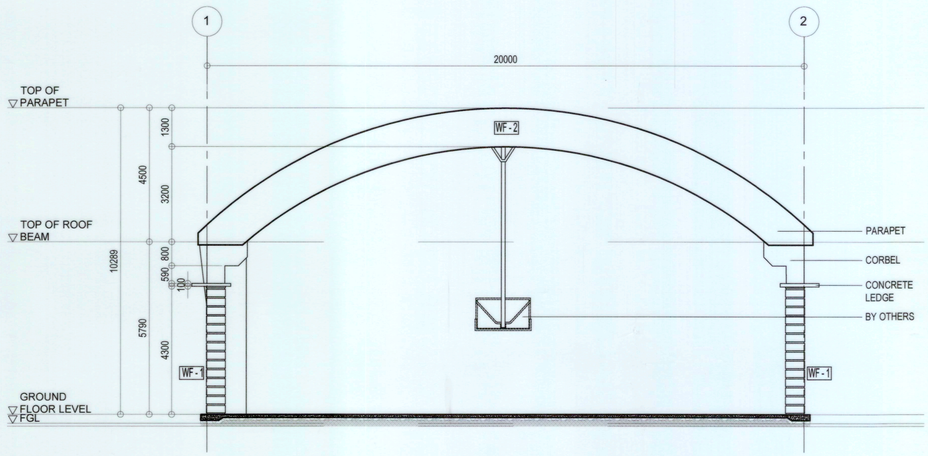


1 / A-6 **FRONT ELEVATION**
SCALE 1:100 MTS.



2 / A-6 **REAR ELEVATION**
SCALE 1:100 MTS.

SCHEDULE OF FINISHES	
WALL FINISH	**DESCRIPTION**
WF - 1	PLAIN CEMENT PLASTER PAINTED FINISH w/ 50mm x 50mm HORIZONTAL GRROVE LINES SPACED @ 300mm O.C (SUBMIT PAINT SWATCHES FOR END USERS APPROVAL)
WF - 2	ALUMINUM METAL CLADDING (REFER TO MANUFACTURER'S SPECIFICATION)
FLOOR FINISH	**DESCRIPTION**
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SHEET CONTENTS:
FRONT ELEVATION
REAR ELEVATION
SCHEDULE OF FINISHES

ARCHITECTURAL CONCEPT:
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CORPORATE SOCIAL RESPONSIBILITY

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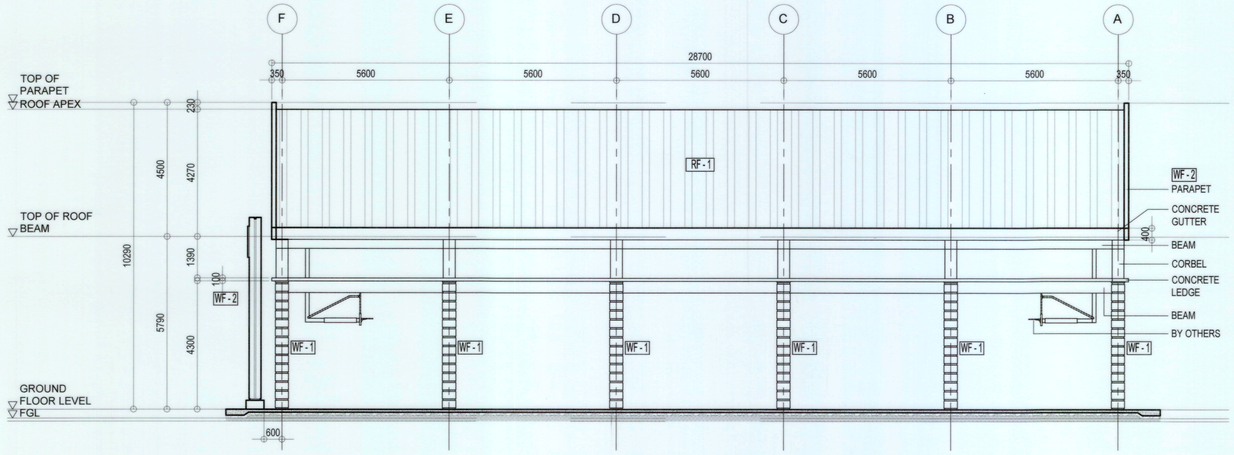
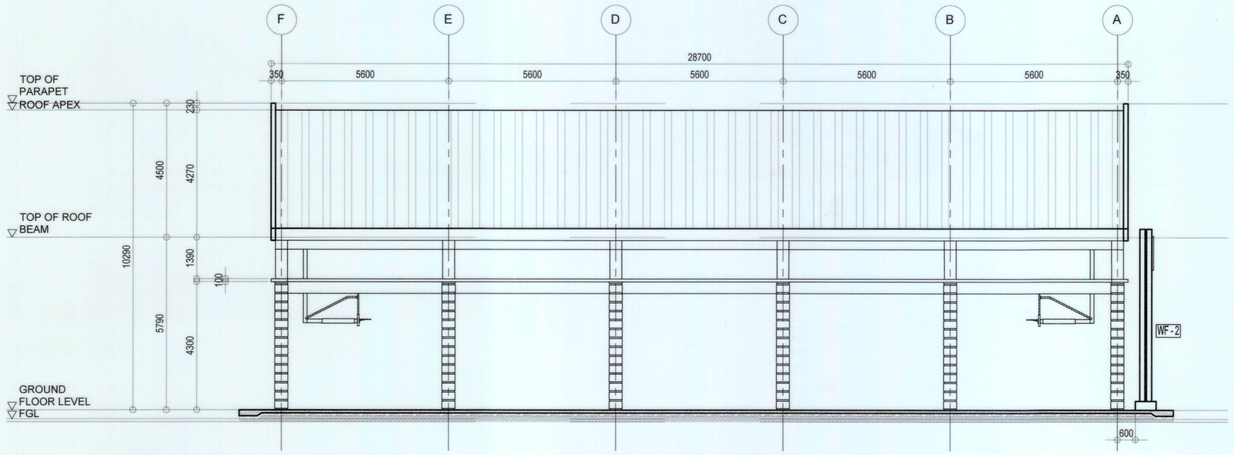


1 / A-7 **RIGHT SIDE ELEVATION**

SCALE 1:100 MTS.



2 / A-7 **LEFT SIDE ELEVATION**

SCALE 1:100 MTS.

SCHEDULE OF FINISHES

WALL FINISH	DESCRIPTION
WF-1	PLAIN CEMENT PLASTER PAINTED FINISH w/ 50mm x 50mm HORIZONTAL GRROVE LINES SPACED @ 300mm O.C (SUBMIT PAINT SWATCHES FOR END USERS APPROVAL)
WF-2	ALUMINUM METAL CLADDING (REFER TO MANUFACTURER'S SPECIFICATION)
FLOOR FINISH	**DESCRIPTION**
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RF-1	0.50mm THK. (BASE METAL THICKNESS) PRE-PAINTED RIB-TYPE ROOFING SHEET (LONG SPAN) PROVIDE 6mm THK. BUBBLE-TYPE FLEXIBLE THERMAL ROOFING INSULATION W/ 2-SIDED ALUMINUM FOIL
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REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
BUREAU OF DESIGN
BUILDINGS DIVISION
BONIFACIO DRIVE PORT AREA, MANILA

PROJECT AND LOCATION:
PROPOSED:
STANDARD PAGCOR MULTI-PURPOSE/ EVACUATION CENTER
(OPTION 1)
(FOR WIND VELOCITY OF 270KPH)

SHEET CONTENTS:
RIGHT ELEVATION
LEFT ELEVATION
SCHEDULE OF FINISHES

ARCHITECTURAL CONCEPT:
ARCHITECTURAL SECTION
CADD: **K.A. M. MAGCAMIT / L.M.E. DEVERAL**
ARCHITECT II
CHECKED: **FRANCIS G. SERRANO**
ARCHITECT IV

SUBMITTED:
JOSEPHINE P. ISTURIS
CHIEF, BUILDINGS DIVISION

RECOMMENDING APPROVAL:
SEE COVER SHEET FOR SIGNATURE
ARISTARCO M. DOROY
OFFICER-IN-CHARGE
BUREAU OF DESIGN
OCT 23 2019

APPROVED:
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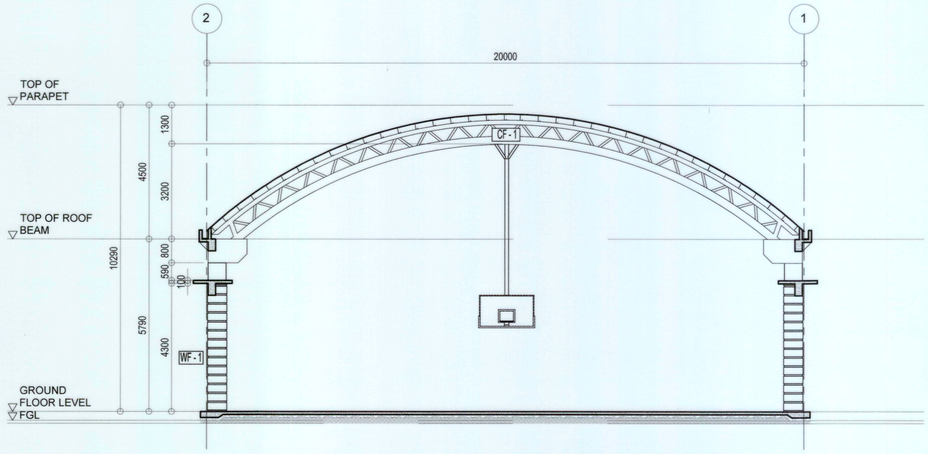
EMIL K. SADAIN, CESO I
UNDERSECRETARY FOR TECHNICAL SERVICES AND UPMO OPERATIONS

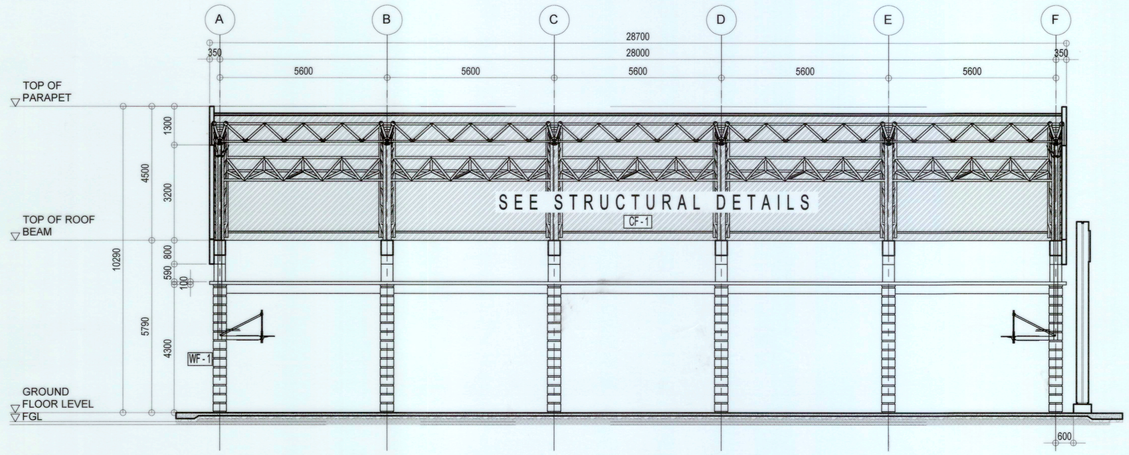
CONCURRED:
SEE COVER SHEET FOR SIGNATURE AND APPROVAL
JAMES PATRICK R. BONDOC
VICE PRESIDENT
CORPORATE SOCIAL RESPONSIBILITY

SET NO.: BOD / B

SHEET NO.: A-7 / 9 | 18



1 / A-8 **CROSS SECTION**
SCALE 1:100 MTS.



2 / A-8 **LONGITUDINAL SECTION**
SCALE 1:100 MTS.

SCHEDULE OF FINISHES

WALL FINISH	DESCRIPTION
WF-1	PLAIN CEMENT PLASTER PAINTED FINISH w/ 50mm x 50mm HORIZONTAL GRROVE LINES SPACED @ 300mm O.C (SUBMIT PAINT SWATCHES FOR END USERS APPROVAL)
WF-2	ALUMINUM METAL CLADDING (REFER TO MANUFACTURER'S SPECIFICATION)
FLOOR FINISH	**DESCRIPTION**
FL-1	NON-SKID PLAIN CEMENT FINISH
FL-2	PLAIN CEMENT FINISH w/ FLOOR HARDENER MARKING SIDELINE BASELINE PAINTED FINISH (SUBMIT SAMPLE FOR END-USERS APPROVAL)
CEILING FINISH	**DESCRIPTION**
CF-1	EXPOSED R.C./ UNDERSLAB/ BEAM SOFFIT/ ROOF TRUSSES, PAINTED FINISH (PROVIDE PRIMER FOR ROOF TRUSSES)
REMARKS (CEILING FINISH)	
ON 0.8mm THK. x 19mm x 50mm x 5000mm METAL DOUBLE FURRING CHANNEL @ 400mm O.C. BOTHWAYS w/ 0.8mm THK. x 12mm x 38mm x 5000mm METAL CARRYING CHANNEL @ 600mm O.C. BOTHWAYS & ROD JOINER (HANGER/SUPPORT) @ 600mm O.C. BOTHWAYS (*TYPICAL ON ALL ROOMS*)	
ROOFING	**DESCRIPTION**
RF-1	0.50mm THK. (BASE METAL THICKNESS) PRE-PAINTED RIB-TYPE ROOFING SHEET (LONG SPAN) PROVIDE 6mm THK. BUBBLE-TYPE FLEXIBLE THERMAL ROOFING INSULATION W/ 2-SIDED ALUMINUM FOIL
NOTES:	
	- REFER TO STRUCTURAL FOR SIZES OF BEAMS - HINGED SEAT SHALL BE MADE OF SELF DRAINING AND NON-SLIP MATERIAL (PWD TOILETS) - TELEPHONE-TYPE SHOWER W/ AT LEAST 1500m LENGTH SHALL BE USED IN ALL PWD TOILETS

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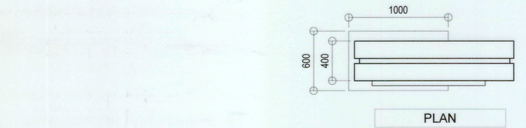
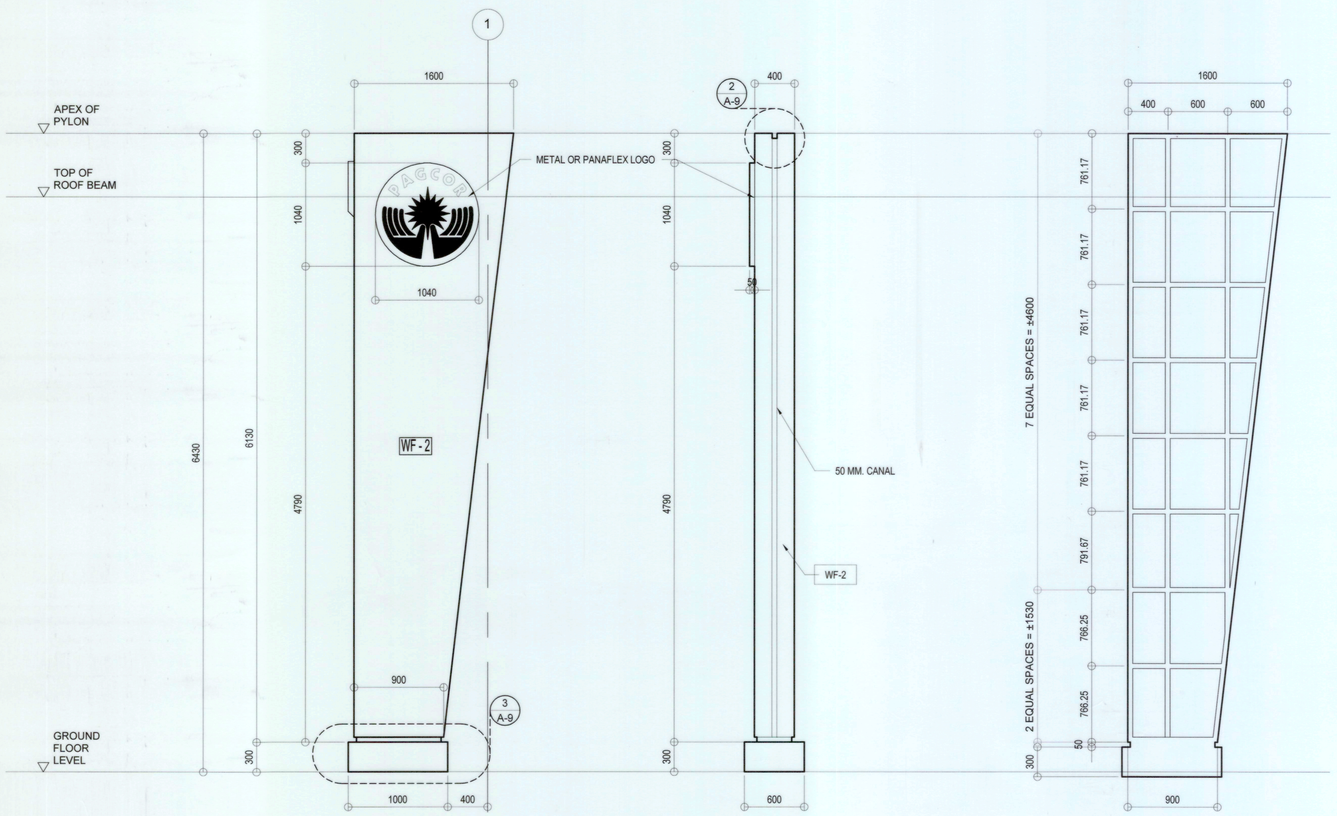


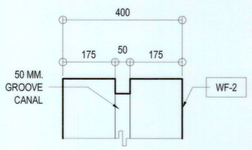
PLAN



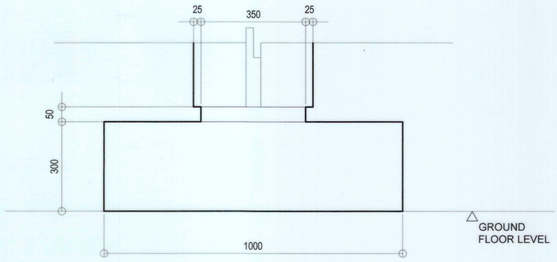
FRONT ELEVATION

SIDE ELEVATION

FRAMING



2 A-9 **SPOT DETAIL** SCALE 1:10 MTS.



3 A-9 **DETAIL OF PYLON BASE** SCALE 1:10 MTS.

1 A-9 **DETAIL OF PYLON** SCALE 1:30 MTS.

SCHEDULE OF FINISHES

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CORPORATE SOCIAL RESPONSIBILITY

SET NO.: BOD B

SHEET NO.: A-9 (9 | 18)

GENERAL NOTES:

1.0 GENERAL :

1.1 ALL DIMENSIONS ARE SHOWN IN MILLIMETERS, ELEVATIONS ARE IN METERS, UNLESS NOTED OTHERWISE.

1.2 THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AT THE SITE, AND SHALL NOTIFY THE ENGINEER OF DISCREPANCIES BETWEEN ACTUAL CONDITIONS AND INFORMATION SHOWN ON THE DRAWINGS BEFORE PROCEEDING WITH THE WORK. THIS SHALL INCLUDE THE LOCATION AND DIMENSIONS OF GROOVES, REGLETS, SLEEVES, CURBS, OPENINGS, EMBEDDED OR ATTACHED ITEMS, ETC. REFER TO ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING PLANS. ALL FIGURED DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALE SHOWN ON PLANS, DRAWINGS.

1.3 SECTIONS OR DETAILS. SPECIFIC NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS.

1.4 THE CONTRACT STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURES. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION UNLESS SO STATED. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY MEASURES TO PROTECT THE STRUCTURES, ADJACENT PROPERTIES, WORKMEN AND OTHER PERSONS DURING ALL PHASES OF CONSTRUCTION.

1.5 THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER AND / OR THE ENGINEER OF ANY CONDITION WHICH IN HIS OPINION MIGHT ENDANGER THE STABILITY OF THE STRUCTURES OR CAUSE DISTRESS IN THE STRUCTURES.

1.6 CONSTRUCTION MATERIALS SHALL NOT BE STORED ON POURED FLOORS. IT IS THE GENERAL CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT THE SUB-CONTRACTORS ARE INFORMED AND DO NOT VIOLATE THIS IMPORTANT REQUIREMENT.

1.7 THE CONTRACTOR SHALL PROVIDE TEMPORARY ERECTION BRACINGS AND SHORINGS FOR ALL THE STRUCTURAL MEMBERS AS REQUIRED FOR STRUCTURE STABILITY DURING ALL PHASES OF CONSTRUCTION.

1.8 THE CONTRACTOR SHALL TAKE ALL STEPS NECESSARY TO ENSURE THE PROPER ALIGNMENT OF THE STRUCTURES DURING AND AFTER THE INSTALLATION OF ALL STRUCTURAL AND FINISH MATERIALS.
JOB UNLESS OTHERWISE SHOWN ON THE DRAWINGS.

2.0 STANDARDS AND REFERENCES :

THE FOLLOWING SHALL GOVERN THE DESIGN, FABRICATION AND CONSTRUCTION OF THE PROJECT :

2.1 AMERICAN CONCRETE INSTITUTE (ACI PUBLICATIONS) :
ACI 318-2002 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
ACI 315-80 MANUAL OF STANDARD PRACTICE FOR DETAILS AND DETAILING OF CONCRETE REINFORCEMENT.

2.2 AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) PUBLICATION:
MANUAL OF STEEL CONSTRUCTION, NINTH EDITION.

2.3 AMERICAN WELDING SOCIETY (AWS) PUBLICATION D.1.1-2000.

2.4 AMERICAN SOCIETY FOR TESTING MATERIALS (ASTM)

2.5 NATIONAL STRUCTURAL CODE OF THE PHILIPPINES (NSCP) VOL. 1, SEVENTH EDITION 2015

2.6 ASSOCIATION OF STRUCTURAL ENGINEERS OF THE PHILIPPINES (ASEP) HANDBOOK OF STRUCTURAL STEEL SHAPES AND SECTIONS, 1987

2.7 UNIFORM BUILDING CODE (UBC), VOL. 2 1997 EDITION

3.0 DESIGN CRITERIA :

3.1 DESIGN LOADS (DL) :

3.1.1 CONCRETE	24.00	kN/m^3
3.1.2 STEEL	77.00	kN/m^3
3.1.3 SOIL	16.00	kN/m^3
3.1.4 ROOFING, PURLINS & INSULATION	0.20	kPa
3.1.5 CEILING	0.24	kPa
3.1.6 FLOOR FINISH	1.00	kPa

3.2 LIVE LOADS (LL) :

3.2.1 ROOF	0.60	kPa

3.3 WIND LOAD (WL)

THE WIND LOAD ON STRUCTURE AND BUILDING SHALL BE CALCULATED, BASED ON NATIONAL STRUCTURAL CODE OF THE PHILIPPINES, CONSIDERING BASIC WIND SPEED (3 SECOND GUST SPEED) EQUALS TO 94.44 M/SEC.

BASIC WIND SPEED , V	=	270 kM/hour
OCCUPANCY CATEGORY	=	I
EXPOSURE CATEGORY	=	B
VELOCITY PRESSURE AT HEIGHT 'Z', qz	=	$0.613K_zK_{zt}K_dV^2$ $(N/^2)$; V in m/s

WHERE, V IN KM/HOUR
Kzt = TOPOGRAPHIC FACTOR = 1.00
K_z = EXPOSURE COEFFICIENTS = $2.01(z/z_g)^{2/\alpha}$
z_g = GRADIENT HEIGHT = 457M AND $\alpha = 5$
AND, QZ = 0.9683 X Z0.174 IN KN/M^2

THIS VELOCITY PRESSURE SHALL BE USED ALONG WITH FORCE COEFFICIENTS TO CALCULATE WIND LOAD ON SPECIFIC STRUCTURE.

3.4 SEISMIC LOAD , E

SEISMIC LOADS FOR BUILDING STRUCTURES ARE CALCULATED BASED ON THE FOLLOWING:

$E = \rho Eh + Ev$
$Em = \Omega_o Eh$

WHERE:
E = EARTHQUAKE LOAD ON THE STRUCTURE
Eh = THE EARTHQUAKE LOAD DUE TO THE BASE SHEAR, V, OR THE DESIGN LATERAL FORCE Fp.
Em = THE ESTIMATED MAXIMUM EARTHQUAKE FORCE THAT CAN BE DEVELOPED IN THE STRUCTURE.
Ev = THE LOAD EFFECT RESULTING FROM THE VERTICAL COMPONENT OF THE EARTHQUAKE GROUND MOTION AND IS EQUAL TO AN ADDITIONAL OF 0.5 Ca I D TO THE DEAD LOAD EFFECT. D, FOR STRENGTH DESIGN, AND MAY BE TAKEN AS ZERO FOR ALLOWABLE STRESS DESIGN.
Ω_o = THE SEISMIC FORCE AMPLIFICATION FACTOR THAT IS REQUIRED TO ACCOUNT FOR STRUCTURAL OVERSTRENGTH.
ρ = RELIABILITY/REDUNDANCY FACTOR WHICH SHALL NOT BE TAKEN LESS THAN 1.0 AND GREATER THAN 1.5, IS GIVEN BY THE FOLLOWING FORMULA:

$$\rho = \frac{2 \quad 6.1}{rmax\ \sqrt{A_B}}$$

WHERE:
rmax = THE MAXIMUM ELEMENT-STORY SHEAR RATIO. FOR A GIVEN DIRECTION OF LOADING, THE ELEMENT-STORY SHEAR RATIO IS THE RATIO OF THE DESIGN OF STORY SHEAR IN THE HEAVILY LOADED SINGLE ELEMENT DIVIDED BY THE TOTAL DESIGN STORY SHEAR.

FOR MOMENT FRAMES, IT SHALL BE TAKEN AS THE MAXIMUM OF THE SUM OF THE SHEARS IN ANY TWO ADJACENT COLUMNS IN A MOMENT FRAME BAY DIVIDED BY THE STORY SHEAR. FOR COLUMNS COMMON TO TWO BAYS, 70 PERCENT OF THE SHEAR IN THAT COLUMN MAY BE USED IN THE COLUMN SHEAR SUMMATION.

A_B = THE GROUND FLOOR AREA OF THE STRUCTURE.

EARTHQUAKE BASE SHEAR, (V)

THE TOTAL DESIGN BASE SHEAR IN A GIVEN DIRECTION SHALL BE DETERMINED FROM THE FOLLOWING FORMULA:

$$V = \frac{Cv\ I}{R\ T}\ (W)$$

AND NEED NOT EXCEED THE FOLLOWING:

$$V = \frac{2.5\ Ca\ I}{R}\ (W)$$

BUT SHALL NOT BE LESS THAN THE FOLLOWING:

$$V = 0.11\ Ca\ I\ W$$

IN ADDITION FOR SEISMIC ZONE 4, THE TOTAL BASE SHALL ALSO BE NOT LESS THAN THE FOLLOWING:

$$V = \frac{8.5\ Z\ Nv\ I}{R}\ (W)$$

WHERE:

SEISMIC ZONE FACTOR,	Z = 0.40
IMPORTANCE FACTOR	I = 1.5
GLOBAL DUCTILITY CAPACITY (SMRF)	R = 8.5
SEISMIC FORCE OVERSTRENGTH FACTOR	Ω_o = 2.8
SEISMIC SOURCE TYPE	= A
NEAR - SOURCE FACTOR, Nv	= 2.0
NEAR - SOURCE TYPE, Na	= 1.5

4.0 MATERIALS

4.1NORMAL WEIGHT CONCRETE :

4.1.1 CONCRETE USED IN THIS WORK SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH @ 28 DAYS AS FOLLOWS :

COLUMNS, BEAMS & FOOTINGS	fc' = 28MPa (4,000 PSI)
FOOTING TIE BEAMS	fc' = 28MPa (4,000 PSI)
SLAB ON GRADE	fc' = 17.5MPa (2,500 PSI)

4.1.2 ALL CONCRETE SHALL BE DEPOSITED, VIBRATED AND CURED IN ACCORDANCE WITH ACI STANDARD 318-95

4.1.3 MINIMUM CONCRETE COVER FOR REINFORCING BARS SHALL BE AS FOLLOWS:
A. FOOTINGS & BOT. OF FOOTING TIE BEAM = 75MM (CAST AGAINST EARTH)
C. BEAMS AND COLUMNS = 40MM (TO STIRUPS AND TIES)
D. SLABS AND WALLS = 20MM (CAST AGAINST FORMS)

4.1.4 BEFORE CONCRETE IS POURED, CHECK WITH ALL TRADES TO ENSURE PROPER PLACEMENT OF ALL OPENINGS, SLEEVES, CURB1S, CONDUITS, ETC. RELATIVE TO THE WORK.

4.1.5 WHEN CONCRETE WILL BE EXPOSED TO EXTERNAL SOURCES OF CHLORIDES IN SERVICES, SUCH AS DEICING SALTS, BRACKISH WATER, SEAWATER OR SPRAY FROM THESE SOURCES, CONCRETE MUST BE PROPORTIONED TO SATISFY THE SPECIAL EXPOSURE REQUIREMENTS OF ACI 318-95.

4.1.6 ALL CONCRETE SHALL BE KEPT MOIST FOR A MINIMUM OF 7 CONSECUTIVE DAYS IMMEDIATELY AFTER POURING BY THE USE OF WET BURLAP.

4.2 REINFORCING BARS :

4.2.1 UNLESS OTHERWISE SPECIFIED ON PLANS, REINFORCING BARS SHALL BE DEFORMED WITH A MINIMUM YIELD STRENGTH:
16MMø AND ABOVE: fy = 414 MPa (60000 PSI).
BELOW 16MMø: fy = 275 MPa (40000 PSI).

4.2.2 ALL REINFORCING BARS SHALL BE CLEANED OF RUST, GREASE OR OTHER MATERIALS WHICH TEND TO IMPAIR BOND.

4.2.3 ALL REINFORCING BARS SHALL BE ACCURATELY AND SECURELY PLACED BEFORE POURING CONCRETE OR APPLYING MORTAR OR GROUT.

4.2.4 LAPPED SPLICES SHALL BE STAGGERED WHERE POSSIBLE.

4.2.5 UNLESS INDICATED OTHERWISE, SPLICING OF REINFORCEMENT SHALL BE IN ACCORDANCE WITH ACI- 318-2002.

4.2.6 UNLESS SHOWN OTHERWISE ON PLANS, SPLICES SHALL BE AS FOLLOWS :

A. BEAMS AND FOOTING TIE BEAMS : TOP AND BOTTOM BARS SHALL NOT BE SPLICED WITHIN THE COLUMN OR WITHIN A DISTANCE OF TWICE THE MEMBER DEPTH FROM THE FACE OF THE COLUMN ; AT LEAST TWO EXTRA STIRRUP - TIES SHALL BE PROVIDED AT ALL SPLICES. THE SPLICE LENGTH SHALL NOT BE LESS THAN THE LENGTH IN ITEM 4.2.9 BELOW.

B. COLUMNS : SPLICES WHEN PERMITTED SHALL BE MADE WITHIN THE CENTER HALF OF COLUMN HEIGHT, AND LAP SPLICE SHALL NOT BE LESS THAN 40 BAR DIAMETERS. THE USE OF APPROVED MECHANICAL DEVICES MAY BE PERMITTED PROVIDED THAT NOT MORE THAN ALTERNATE BARS ARE SPLICED AT ANY LEVEL AND THE MINIMUM VERTICAL DISTANCE BETWEEN TWO ADJACENT BAR SPLICES SHALL BE 600MM.

C. CMU WALLS : VERTICAL BARS SHALL BE SPLICED AT THE TOP OF WALL FOOTING OR TIE BEAM AND AT THE BOTTOM OF RC LINTEL BEAM OR BEAMS. SPLICE LENGTHS SHALL BE 600MM MIN.

4.2.7 UNLESS INDICATED OTHERWISE ALL BEAMS TERMINATING AT THE COLUMN SHALL HAVE TOP AND BOTTOM BARS EXTENDING TO THE FAR FACE OF THE COLUMN, TERMINATING IN A STANDARD 90° HOOK LENGTH OF ANCHORAGE NOT LESS THAN 600MM.

4.2.8 SHOP DRAWINGS FOR BENDING AND CUTTING OF REINFORCEMENT SHALL BE SUBMITTED FOR APPROVAL TO THE ENGINEER PRIOR TO FABRICATION.

4.2.9 SPLICE LENGTH OF REINFORCING BARS SHALL BE AS SHOWN IN THE TABLE BELOW.

4.3 STRUCTURAL STEEL/ANCHOR BOLTS/BOLTS/WELDS & WELDMENTS, BASE PLATE, GUSSET PLATE, SAG ROD AND CROSS TIES.

4.3.1 ALL STRUCTURAL STEEL SHALL HAVE A MINIMUM YIELD STRENGTH, Fy = 248 MPa (36 KSI) AND SHALL CONFORM TO ASTM A 36 SPECIFICATIONS.

4.3.2 ALL STRUCTURAL STEEL SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE AISC SPECIFICATIONS (9TH EDITION) AND CODE OF STANDARD PRACTICE AS AMENDED TO DATE.

4.3.3 ALL COLD FORMED STEEL SHALL HAVE A MINIMUM STRENGTH, Fy = 230 MPa (33 KSI)

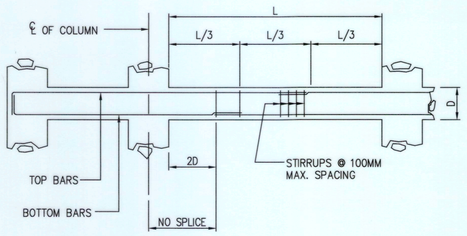
4.3.4 THE CONTRACTOR/FABRICATOR SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL OF THE IMPLEMENTING OFFICE PRIOR TO FABRICATION/ ERECTION OF ALL STEEL WORKS.

4.3.5 ALL SHOP AND FIELD WELDING SHALL BE IN ACCORDANCE WITH AWS D.1.1-2000 AND PERFORMED BY QUALIFIED WELDERS.

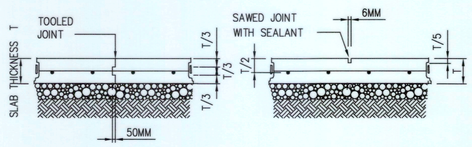
4.3.6 UNLESS INDICATED OTHERWISE, WELDING ELECTRODES SHALL BE E70XX, MINIMUM THICKNESS OF WELD SHALL BE 3MM.

4.3.7 UNLESS OTHERWISE INDICATED ALL ANCHOR BOLTS SHALL CONFORM TO ASTM A307 SPECIFICATIONS.

4.3.8 BOLTS FOR MEMBER CONNECTIONS SHALL BE HIGH STRENGTH BOLTS, CONFORMING TO ASTM A325 FRICTION TYPE WITH WASHERS.



TYP. SPLICE DETAILS FOR BEAMS FRAMING INTO COLUMN
1 / S-1 SCALE NTS



CONSTRUCTION JOINT WEAKENED PLANE JOINT

NOTE:
1. CONTROL JOINTS CAN BE EITHER CONSTRUCTION JOINTS OR WEAKENED PLANE JOINTS.

CONTROL JOINTS FOR SLAB-ON GRADE
2 / S-1 SCALE NTS

5.0 CONSTRUCTION JOINTS:

5.1 CONSTRUCTION JOINTS NOT INDICATED ON PLANS SHALL BE MADE SO AS TO LEAST IMPAIR THE STRENGTH OF THE STRUCTURE AND SHALL BE SUBJECT TO APPROVAL OF THE ENGINEER.

5.2 UNLESS SHOWN OTHERWISE, SLAB ON GRADE SHALL HAVE CONTROL JOINTS @ 6.00M MAXIMUM CENTER TO CENTER.

6.0 NOTES ON BEAMS AND GIRDERS

6.1 UNLESS OTHERWISE NOTED IN PLANS OR SPECIFICATIONS, CAMBER ALL BEAMS AND GIRDERS AT LEAST 0.006M FOR EVERY 4.50M OF SPAN EXCEPT CANTILEVERS FOR WHICH THE CAMBERS SHALL BE AS NOTED IN THE PLANS OR AS ORDERED BY THE DESIGNERS. BUT IN NO CASE LESS THAN .019M FOR EVERY 3.00M OF FREE SPAN.

6.2 IF THERE ARE TWO OR MORE LAYERS OF REINFORCING BARS , USE SEPARATORS OF SIZE NOT LESS THAN 25MM BARS SPACED ABOUT 1.00M ON CENTER AND PLACED DIAGONALLY. IN NO CASE SHALL THERE BE LESS TWO (2) SEPARATORS BETWEEN LAYERS OF BARS.

6.3 WHEN A BEAM CROSSES A GIRDER, REST BEAM BARS ON TOP OF GIRDER BARS. REINFORCING BARS SHALL BE SYMMETRICAL ABOUT THE CENTER LINE WHENEVER POSSIBLE. UPPER LAYER SHALL BE PLACED DIRECTLY ABOVE THOSE IN THE BOTTOM LAYER. SPACING OF BARS IN LAYER SHALL NOT BE LESS THAN 0.025M NOR ONE BAR DIAMETER.

6.4 GENERALLY, NO SPLICE SHALL BE PERMITTED ON BEAM AT POINT WHERE CRITICAL BENDING STRESSES OCCUR. WELDED SPLICES SHALL DEVELOP IN TENSION AT LEAST 125% OF THE SPECIFIED STRENGTH OF THE BAR, NOT MORE THAN 50% OF THE BARS AT ANY ONE SECTION SHALL BE ALLOWED TO BE SPLICED THEREIN.

6.5 FOR BAR TERMINATIONS OF TOP BARS AT SUPPORT AND MIDSPAN BARS, CUT-OFF ONLY TWO BARS AT EVERY 0.3M INTERVAL (UNLESS REQUIRED IN SPECIFICATIONS, OR NOTED OTHERWISE.)

7.0 FOUNDATIONS :

7.1 FOOTINGS WERE DESIGNED USING AN ALLOWABLE SOIL BEARING CAPACITY OF 96.0 KPa (2,000 PSF) AT DEPTHS INDICATED IN THE DRAWING.

7.2 WHERE LOOSE/SOFT MATERIAL IS ENCOUNTERED AT DEPTH OF FOOTING/FOUNDATION INDICATED, EXCAVATE TO FIRM LAYER AND REPLACE LOOSE/SOFT MATERIALS UNDERNEATH THE FOOTING WITHIN THE FOOTING AREA PLUS 1/2 DEPTH OF SOIL MATERIAL ON ALL SIDES WITH SELECTED BACKFILL. COMPACT SELECTED BACKFILL TO 95% MAXIMUM DRY DENSITY (ASTM D1557).

7.3 NO FOOTINGS SHALL REST ON FILL . PROVIDE 100MM THK WELL COMPACTED GRAVEL BASE COURSE IN ALL COLUMN FOOTINGS, UNLESS OTHERWISE STATED.

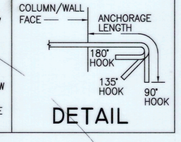
7.4 FILL/BACKFILL SHALL BE PLACED IN 200 MM LAYERS AND EACH LAYER SHALL BE COMPACTED TO 95% MAXIMUM DRY DENSITY BEFORE SUBSEQUENT LAYERS ARE TO BE LAID.

7.5 FOUNDATION DESIGN MAY VARY ON ACTUAL GEOTECHNICAL REPORT CONDUCTED ON SITE AND CONFIRMATORY BOREHOLE MUST BE DONE BEFORE START OF CONSTRUCTION. IF THE ACTUAL SOIL CONDITION IS FOUND NOT ACCORDANCE WITH THE ASSUMED SOIL BEARING CAPACITY, NOTIFY THE DESIGNER FOR PROPER REVISION OF THE FOUNDATION DESIGN.

LAP SPLICE & ANCHORAGE LENGTH TABLE

BAR DIAMETER (mm)	ANCHORAGE LENGTH (m)	STANDARD HOOK (m)			LAP SPLICE (m)				UNIT WEIGHT (Kg/m)	MIN. LAP SPLICE LENGTH OF COL. REINF. INDIVIDUAL BARS	
					TENSION BAR		COMP. BAR				
		90°	180°	135°	TOP BAR	OTHERS	TOP BAR	OTHERS		W/ TIES	W/ SPIRAL
10	0.50	0.15	0.13	0.10	0.42	0.30	0.42	0.30	0.617	0.30	0.30
12	0.50	0.20	0.15	0.12	0.42	0.30	0.42	0.30	0.889	0.30	0.30
16	0.60	0.25	0.18	0.14	0.73	0.52	0.87	0.62	1.580	0.52	0.47
20	0.60	0.30	0.20	0.20	0.91	0.65	1.10	0.78	2.469	0.65	0.58
25	0.68	0.40	0.28	0.26	1.15	0.82	1.40	1.00	3.858	0.80	0.73
28	0.86	0.48	0.38	-	1.45	1.03	1.53	1.09	4.840	0.90	0.82
32	1.12	0.56	0.43	-	1.90	1.35	1.74	1.24	6.327	1.03	0.93
36	1.43	0.61	0.48	-	2.40	1.70	2.00	1.40	8.00	1.20	1.05

NOTES:
1. ACI SECTION 12.4 STATES THAT DEVELOPMENT LENGTH OF INDIVIDUAL BARS W/IN A BUNDLE, IN TENSION OR COMPRESSION, SHALL BE THAT FOR THE INDIVIDUAL BAR, INCREASED 20% FOR THREE BAR BUNDLE, AND 33% FOR FOUR BAR BUNDLE.
2. FOR COLUMNS, AT ANY LEVEL NO MORE THAN ALTERNATE BARS SHOULD BE SPLICED. NOT MORE THAN 33% OF THE BARS SHALL BE SPLICED W/IN THE REQUIRED LAP LENGTH. MINIMUM DISTANCE BETWEEN TWO ADJACENT BAR SPLICES SHALL BE 600MM.
3. TOP BARS ARE HORIZONTAL BARS W/ MORE THAN 300MM DEPTH OF CONCRETE CAST BELOW THE REINFORCEMENT.
4. AS MUCH AS POSSIBLE, SPLICES SUBJECTED TO TENSILE STRESSES ARE DISCOURAGE, THESE SHOULD BE AVOIDED OR PROVIDED W/ STANDARD HOOKS.



DETAIL

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
BUREAU OF DESIGN
BUILDINGS DIVISION
BONIFACIO DRIVE PORT AREA, MANILA

PROJECT AND LOCATION:
PROPOSED:
STANDARD PAGCOR MULTI-PURPOSE EVACUATION CENTER
(OPTION 1)
(FOR WIND VELOCITY OF 270KPH)

SHEET CONTENTS:
GENERAL NOTES

DESIGNED: **STRUCTURAL SECTION**
CADD: **STRUCTURAL SECTION**
CHECKED: **KATHRINE ANNE C. MACOY**
ENGINEER IV

SUBMITTED:
JOSEPHINE P. ISTURIS
CHIEF, BUILDINGS DIVISION

RECOMMENDING APPROVAL:
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ARISTARCO M. DOROY
OFFICER-IN-CHARGE
BUREAU OF DESIGN
OCT 23 2013

APPROVED:
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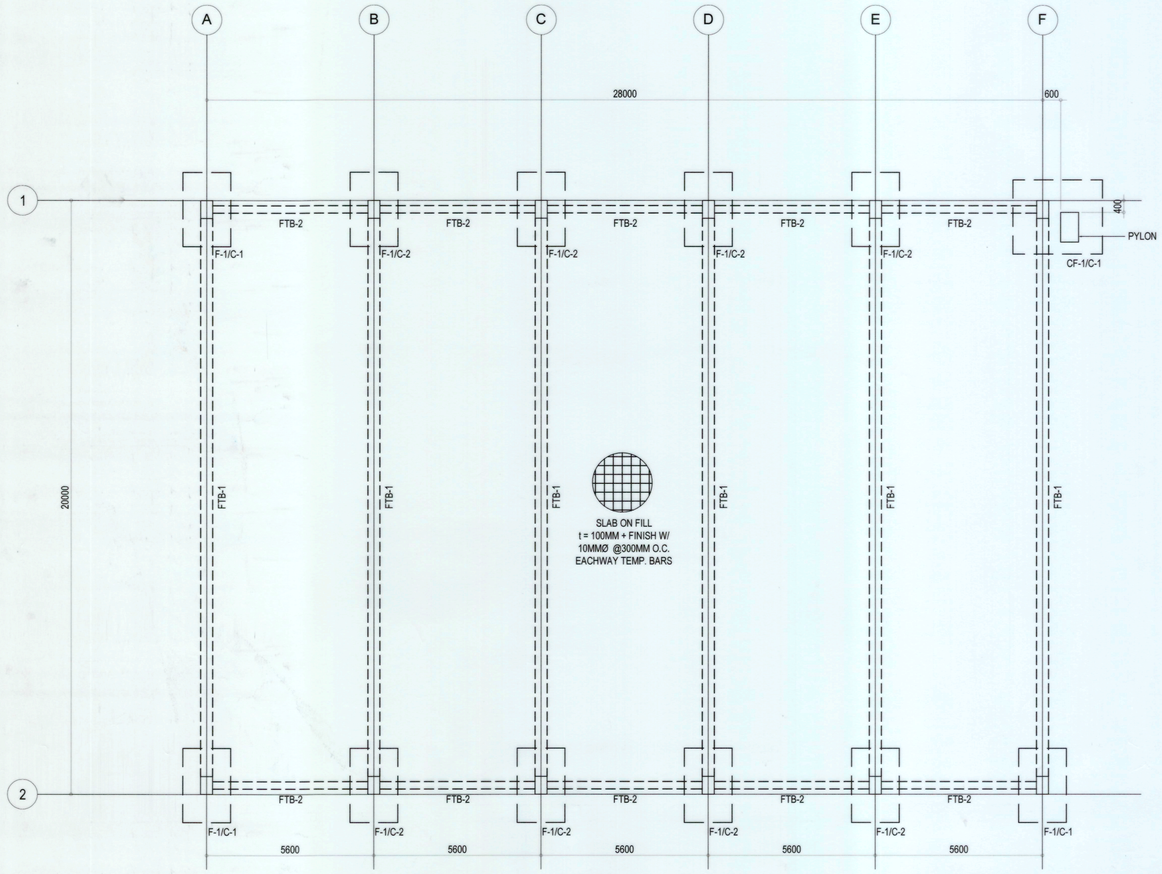
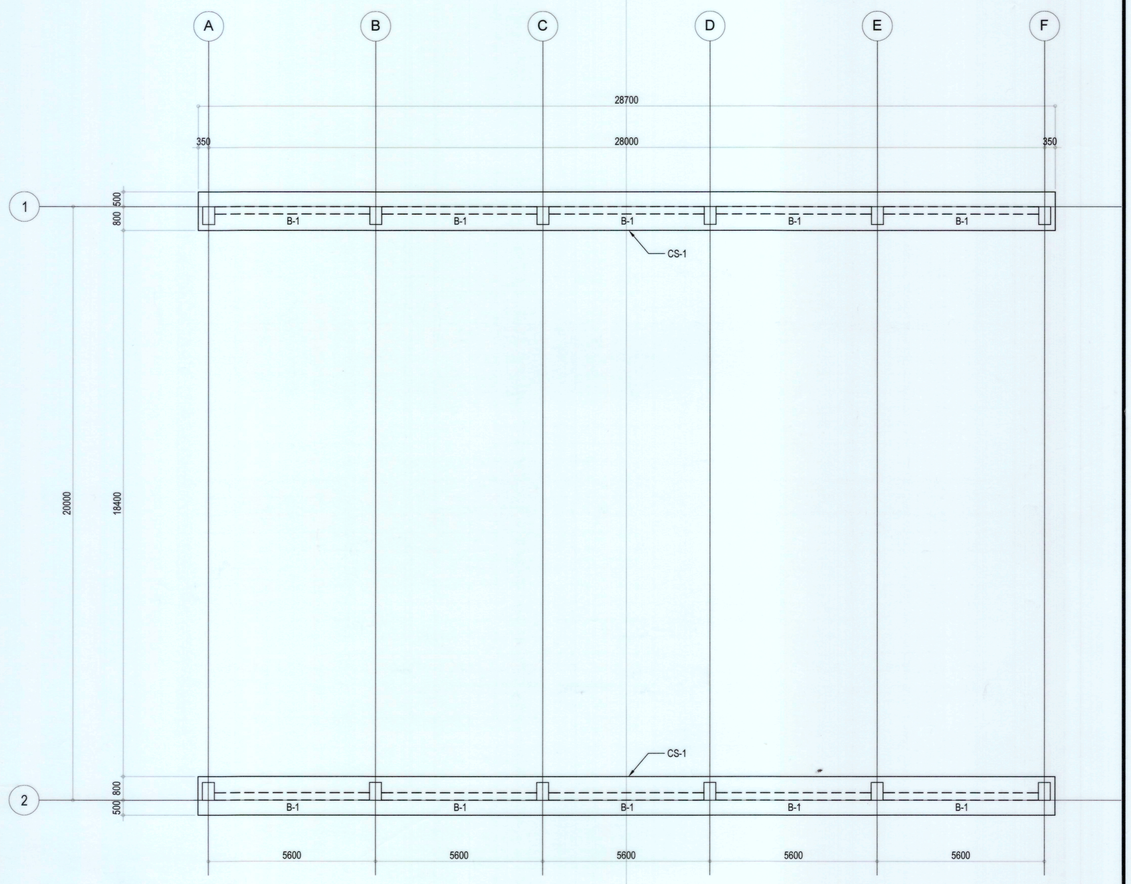
EMIL K. SADAIN, CESO I
UNDERSECRETARY FOR TECHNICAL SERVICES AND UPMO OPERATIONS

CONCURRED:
SEE COVER SHEET FOR SIGNATURE AND APPROVAL
JAMES PATRICK R. BONDOC
VICE PRESIDENT
CORPORATE SOCIAL RESPONSIBILITY

SET NO.: BOD / B
SHEET NO.: S-1 / 6 | 18



1 S-2 **FOUNDATION PLAN**
SCALE 1:100 MTS.



2 S-2 **CONCRETE LEDGE FRAMING PLAN**
SCALE 1:100 MTS.

NOTE:
IN CASE THE ACTUAL SITE LOCATION/CONDITION IS FOUND NOT IN ACCORDANCE WITH THE ASSUMED MAXIMUM WIND VELOCITY OF 270 KPH, SEISMIC SOURCE WITHIN 2 km AND SOIL BEARING CAPACITY OF 96 kPa, THE STRUCTURAL PLAN SHALL BE REVISED ACCORDINGLY.

REPUBLIC OF THE PHILIPPINES
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STANDARD PAGCOR MULTI-PURPOSE EVACUATION CENTER
(OPTION 1)
(FOR WIND VELOCITY OF 270KPH)

SHEET CONTENTS:
FOUNDATION PLAN
CONCRETE LEDGE FRAMING PLAN

DESIGNED: **STRUCTURAL SECTION**
CADD: **JASON FRANKLIN L. CARANDANG** ENGINEER II
CHECKED: **KATHRINE ANNE C. MACOY** ENGINEER IV

SUBMITTED:
JOSEPHINE P. ISTURIS
CHIEF, BUILDINGS DIVISION

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UNDERSECRETARY FOR TECHNICAL SERVICES AND UPMO OPERATIONS

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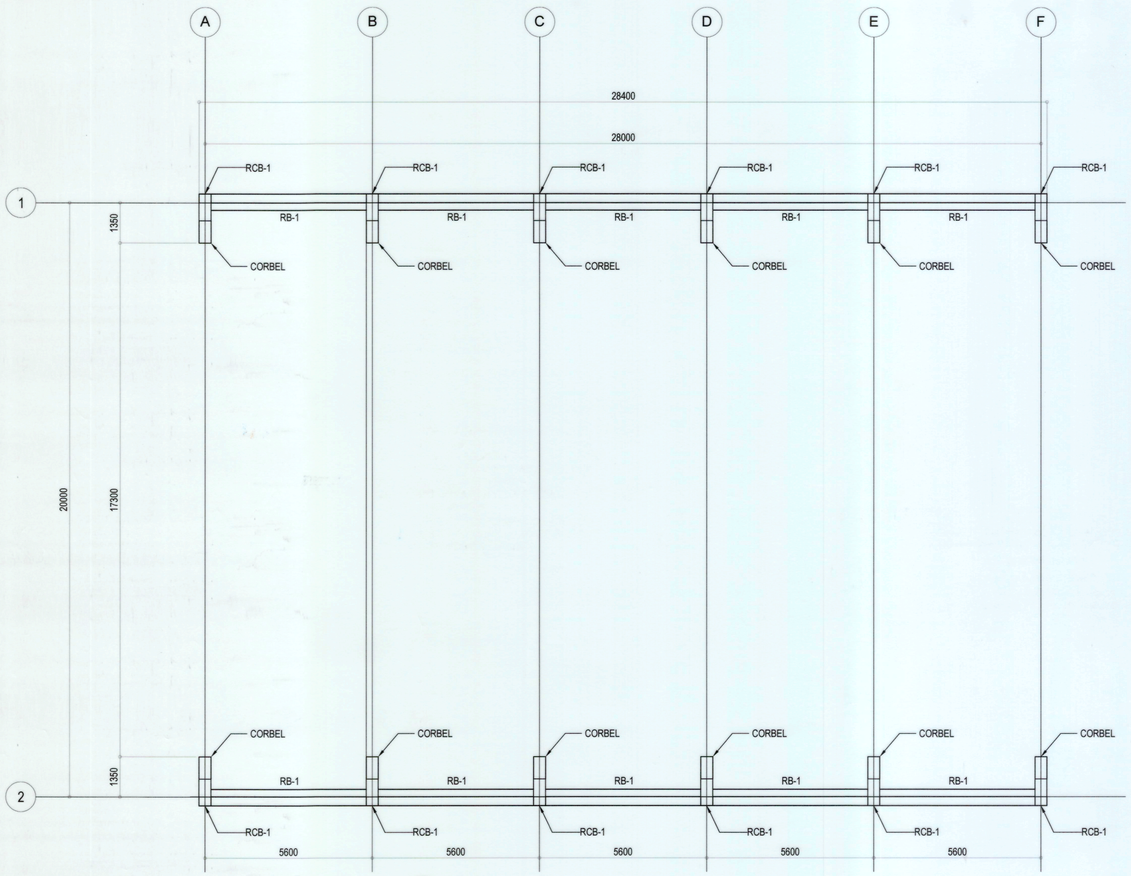
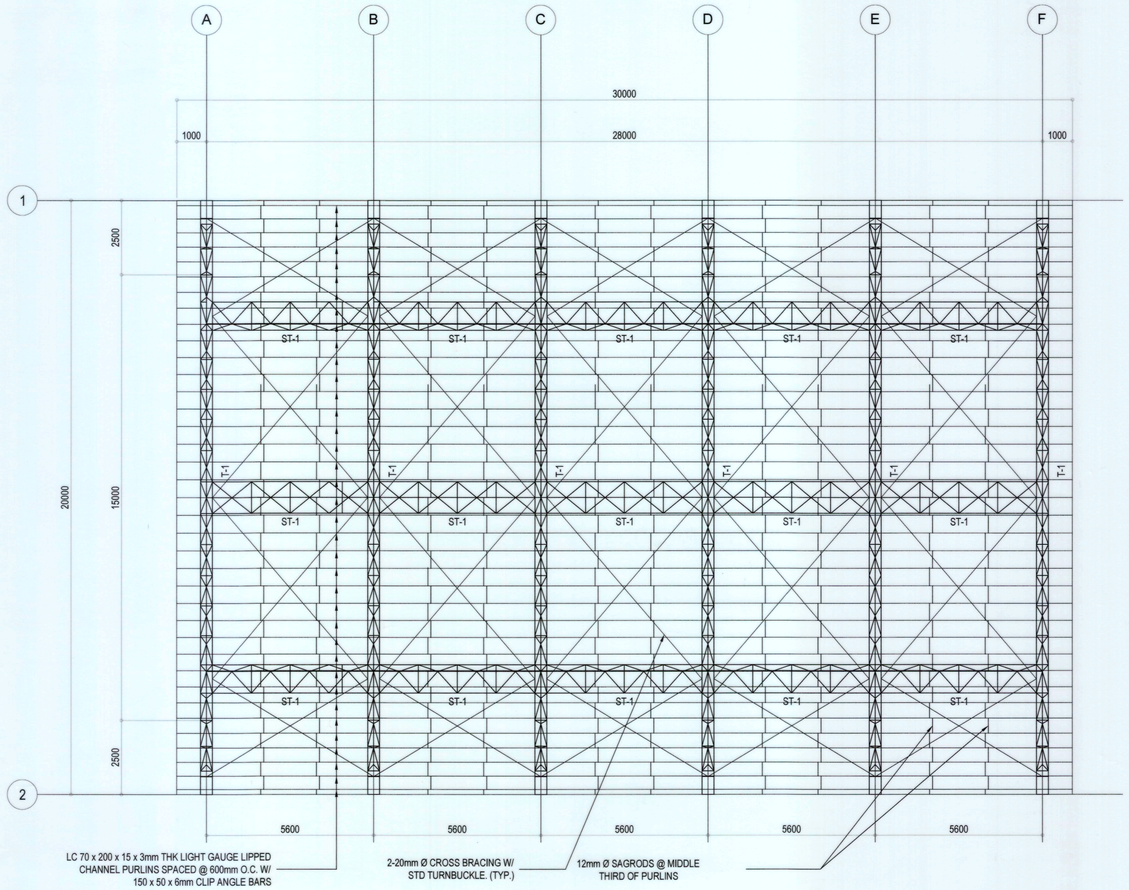
VICE PRESIDENT
CORPORATE SOCIAL RESPONSIBILITY

SET NO.: BOD / B

SHEET NO.: S-2 / 6 | 18



1 S-3 **ROOF BEAM FRAMING PLAN**
SCALE 1:100 MTS.



2 S-3 **ROOF FRAMING PLAN**
SCALE 1:100 MTS.

NOTE:
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STANDARD PAGCOR MULTI-PURPOSE EVACUATION CENTER
(OPTION 1)
(FOR WIND VELOCITY OF 270KPH)

SHEET CONTENTS:
ROOF BEAM FRAMING PLAN
ROOF PLAN

DESIGNED:
STRUCTURAL SECTION
CADD:
JASON FRANKLIN L. CARANDANG
ENGINEER II
CHECKED:
KATHRINE ANNE C. MACOY
ENGINEER IV

SUBMITTED:
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OCT 23 2019

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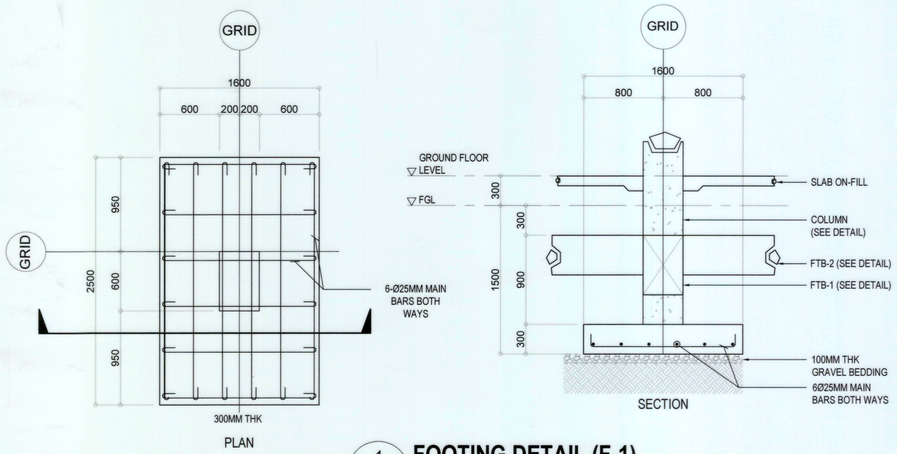
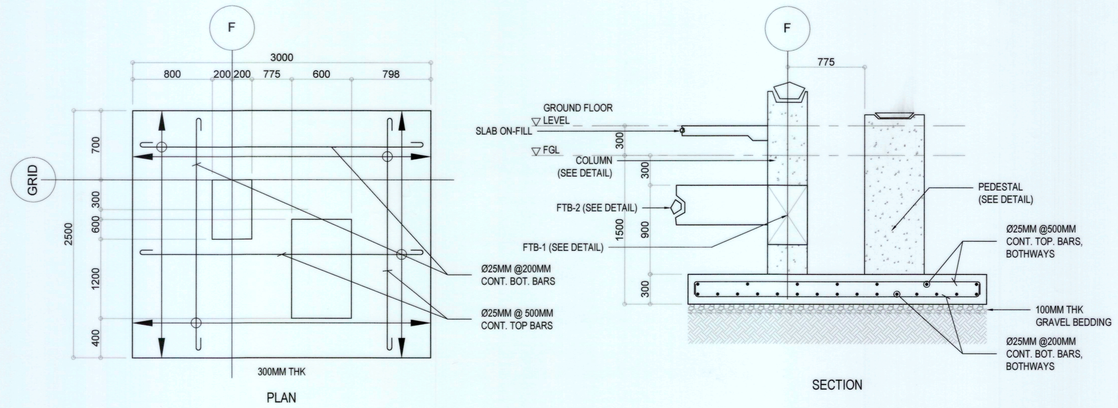
CORPORATE SOCIAL RESPONSIBILITY

SET NO.: BOD B
SHEET NO.: S-3 6 18



1 / S-4 FOOTING DETAIL (F-1)

SCALE 1:30 MTS.



2 / S-4 COMBINED FOOTING DETAIL (CF-1)

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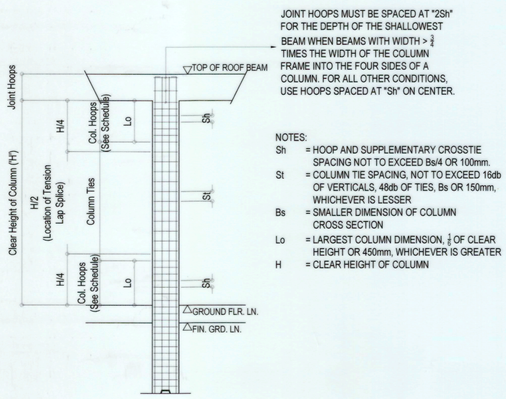
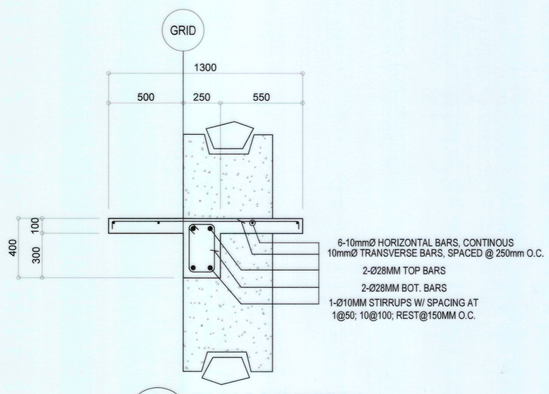


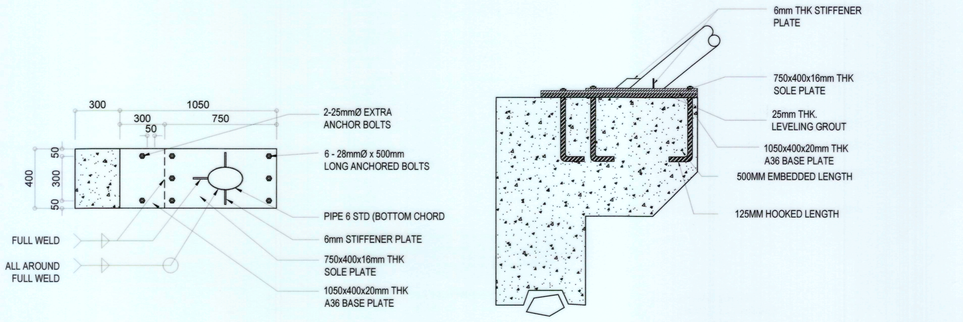
3 / S-4 TYPICAL COLUMN DETAIL

NOT TO SCALE



4 / S-4 B-1 / CS-1 DETAIL

SCALE 1:20 MTS.



9 / S-4 BASE PLATE TO COLUMN DETAIL

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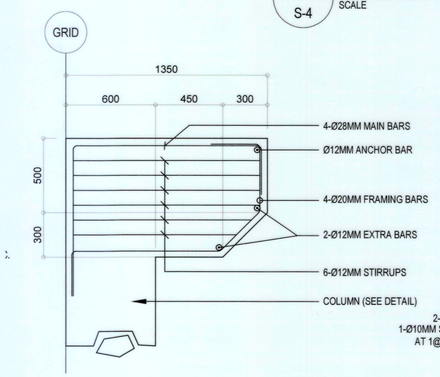

10 / S-4 CORBEL DETAIL

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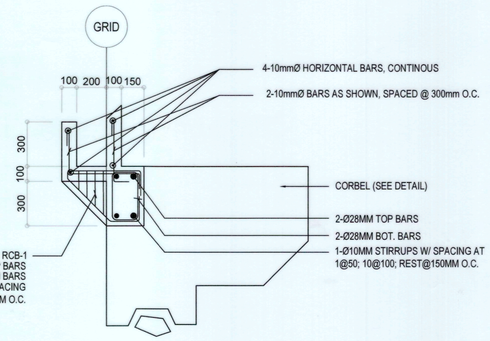

11 / S-4 RB-1/RCB-1/ CONCRETE GUTTER DETAIL

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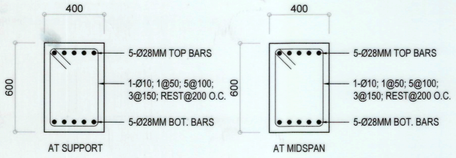

5 / S-4 FTB-1 DETAIL

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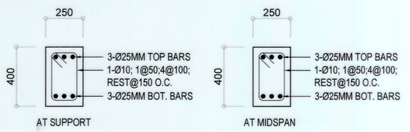
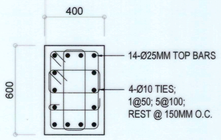


6 / S-4 FTB-2 DETAIL

SCALE 1:20 MTS.



7 / S-4 C-1 DETAIL

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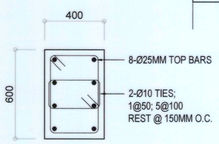

8 / S-4 C-2 DETAIL

SCALE 1:20 MTS.

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REPUBLIC OF THE PHILIPPINES
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BUILDINGS DIVISION
BONIFACIO DRIVE PORT AREA, MANILA

PROJECT AND LOCATION:
PROPOSED:
STANDARD PAGCOR MULTI-PURPOSE EVACUATION CENTER
(OPTION 1)
(FOR WIND VELOCITY OF 270KPH)

SHEET CONTENTS:
FOOTING DETAIL
COMBINED FOOTING DETAIL
FOOTING TIE BEAM DETAIL
COLUMN DETAIL
B-1/CS-1 DETAIL
CORBEL DETAIL
BASE PLATE TO COLUMN DETAIL
RB-1/CONCRETE GUTTER DETAIL

DESIGNED: **STRUCTURAL SECTION**
CADD: **JASON FRANKLIN L. CARANDANG** ENGINEER II
CHECKED: **KATHRINE ANNE C. MACOY** ENGINEER IV

SUBMITTED: **JOSEPHINE P. ISTURIS** CHIEF, BUILDINGS DIVISION

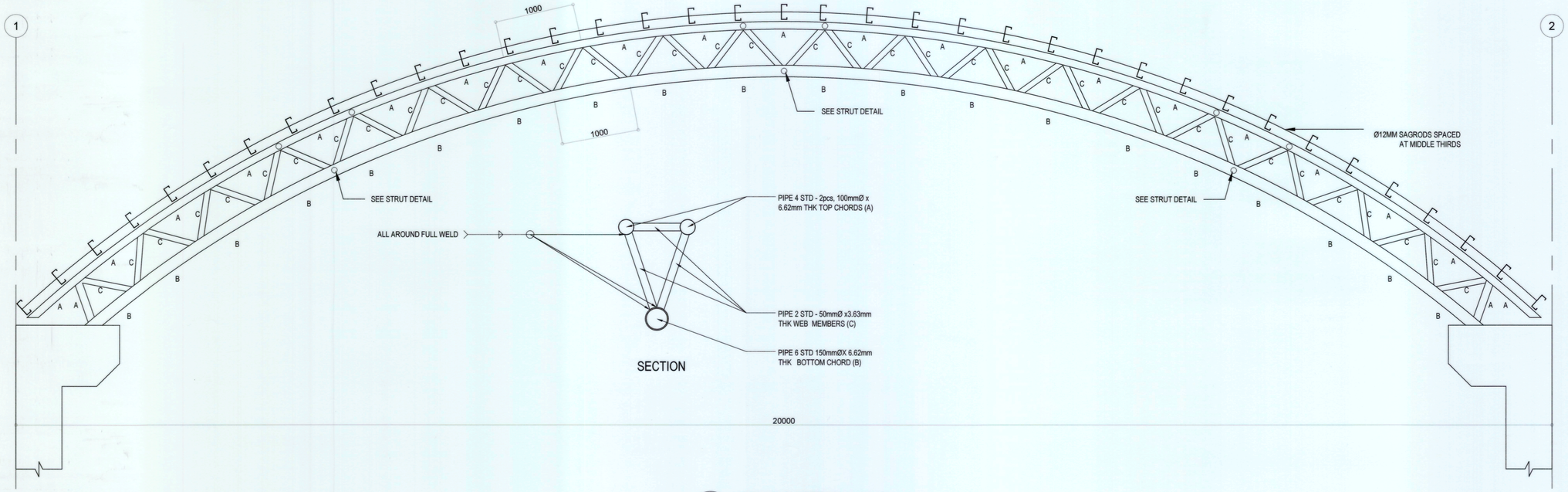
RECOMMENDING APPROVAL: *SEE COVER SHEET FOR SIGNATURE* **ARISTARCO M. DOROY** OFFICER-IN-CHARGE BUREAU OF DESIGN OCT 23 2019

APPROVED: *SEE COVER SHEET FOR SIGNATURE* **EMIL K. SADAIN, CESO I** UNDERSECRETARY FOR TECHNICAL SERVICES AND UPMO OPERATIONS

CONCURRED: *SEE COVER SHEET FOR SIGNATURE AND APPROVAL* **JAMES PATRICK R. BONDOC** VICE PRESIDENT CORPORATE SOCIAL RESPONSIBILITY

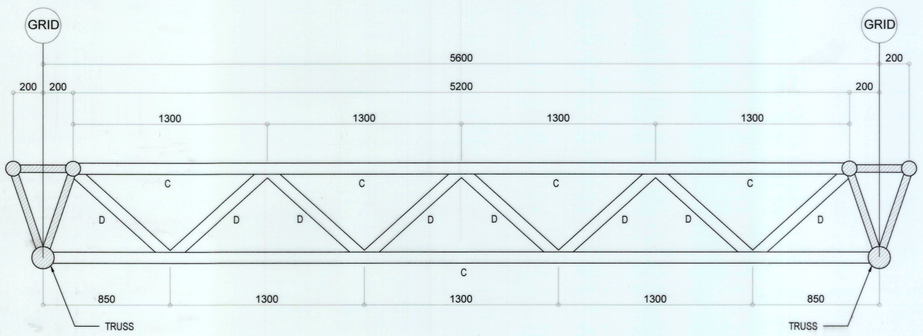
SET NO.: BOD B

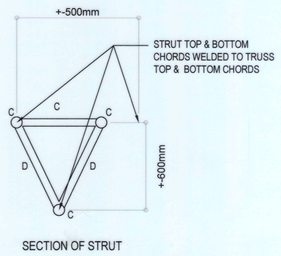
SHEET NO.: S-4 6 18



1 / S-5 **TRUSS DETAIL (T-1)**

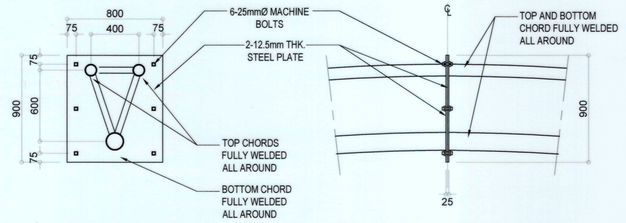
SCALE 1:30 MTS.





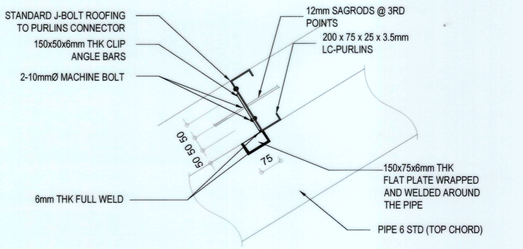
2 / S-5 **STRUT DETAIL (ST-1)**

SCALE 1:20 MTS.



3 / S-5 **TRUSS SPLICING DETAIL (TYP)**

SCALE 1:25 MTS.



4 / S-5 **PURLIN TO TRUSS CONNECTION DETAIL**

SCALE 1:10 MTS.

SCHEDULE OF MEMBERS AND WELDS

MARK	TRUSS MEMBER SIZES	WELDS	REMARKS
A	PIPE 4 STD - 4.5 " Ø x 0.221" THK (2pcs-100mmØ x 5.61mm THK.)	5mm THK., FILLET WELD ALL AROUND	TOP CHORD
B	PIPE 6 STD - 6.63" Ø x 0.261" THK (150mmØ x 6.62mm THK.)	6mm THK., FILLET WELD ALL AROUND	BOTTOM CHORD
C	PIPE 3 STD - 3.50 " Ø x 0.201" THK (75mmØ x 5.10 mm THK.)	5mm THK., FILLET WELD ALL AROUND	WEB MEMBERS
D	PIPE 2 STD - 2.38 " Ø x 0.143" THK (50mmØ x 3.63 mm THK.)	3mm THK., FILLET WELD ALL AROUND	SECONDARY WEB MEMBERS & STRUT

NOTE:
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BUILDINGS DIVISION
BONIFACIO DRIVE PORT AREA, MANILA

PROJECT AND LOCATION:
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STANDARD PAGCOR MULTI-PURPOSE EVACUATION CENTER
(OPTION 1)
(FOR WIND VELOCITY OF 270KPH)

SHEET CONTENTS:
TRUSS DETAIL (T-1)
STRUT DETAIL (ST-1)
TRUSS SPLICING DETAIL (TYP.)
PURLIN TO TRUSS CONNECTION DETAIL
SCHEDULE OF MEMBERS AND WELDS

DESIGNED: **STRUCTURAL SECTION**
CADD: **JASON FRANKLIN L. CARANDANG** ENGINEER II
CHECKED: **KATHRINE ANNE C. MACOY** ENGINEER IV

SUBMITTED: **JOSEPHINE P. ISTURIS** CHIEF, BUILDINGS DIVISION

RECOMMENDING APPROVAL: *SEE COVER SHEET FOR SIGNATURE* **ARISTARCO M. DOROY** OFFICER-IN-CHARGE BUREAU OF DESIGN OCT 23 2019

APPROVED: *SEE COVER SHEET FOR SIGNATURE* **EMIL K. SADAIN, CESO I** UNDERSECRETARY FOR TECHNICAL SERVICES AND UPMO OPERATIONS

CONCURRED: *SEE COVER SHEET FOR SIGNATURE AND APPROVAL* **JAMES PATRICK R. BONDOC** VICE PRESIDENT CORPORATE SOCIAL RESPONSIBILITY

SET NO.: BOD B

SHEET NO.: S-5 6 | 18

NOTE:
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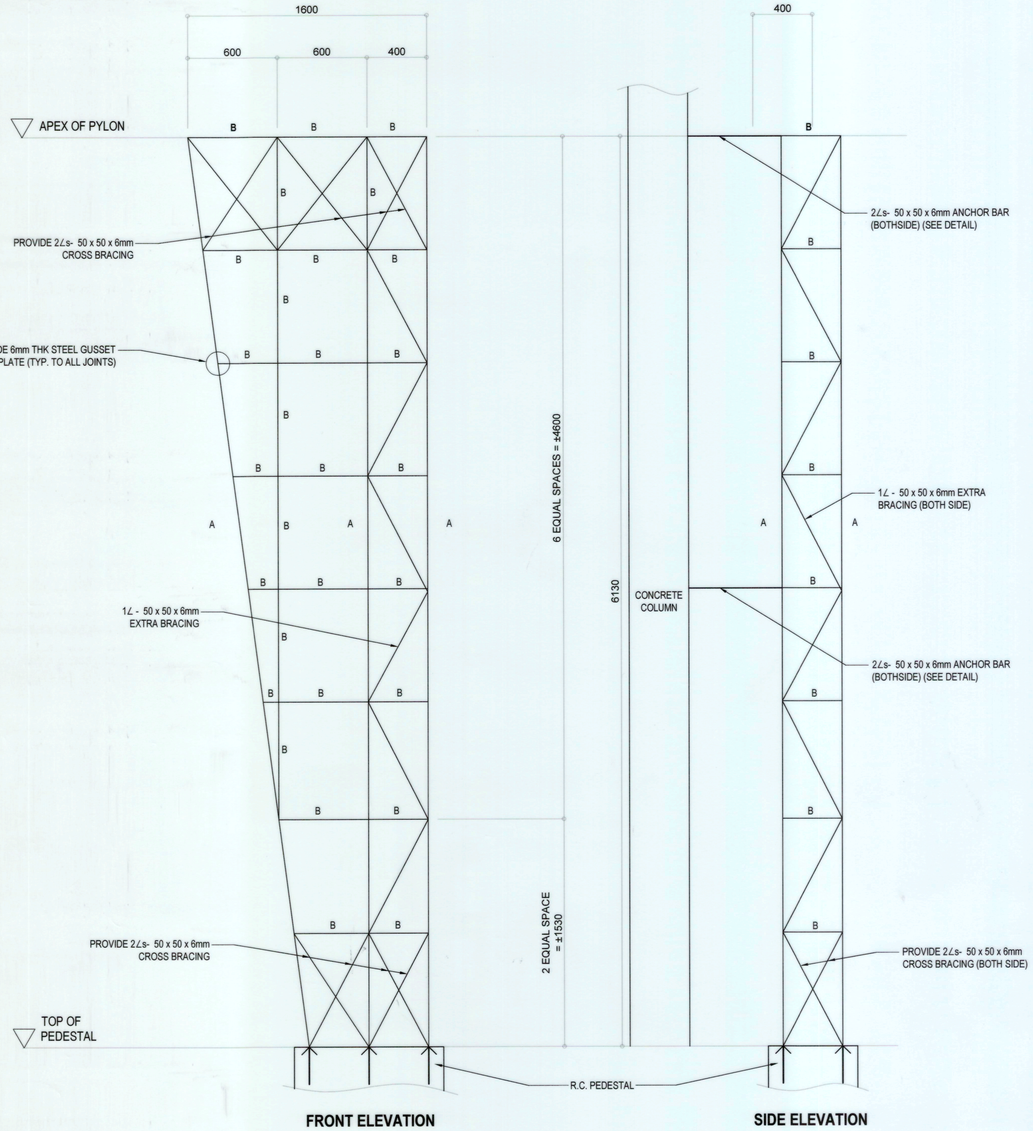
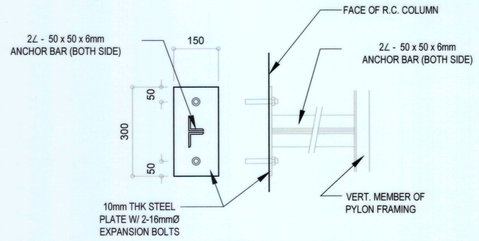


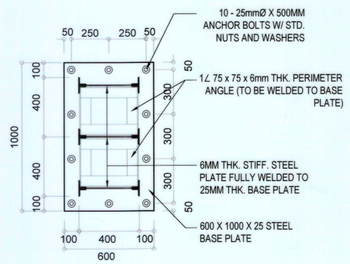
1 S-6 **PYLON FRAMING DETAIL**
SCALE 1:20 MTS.



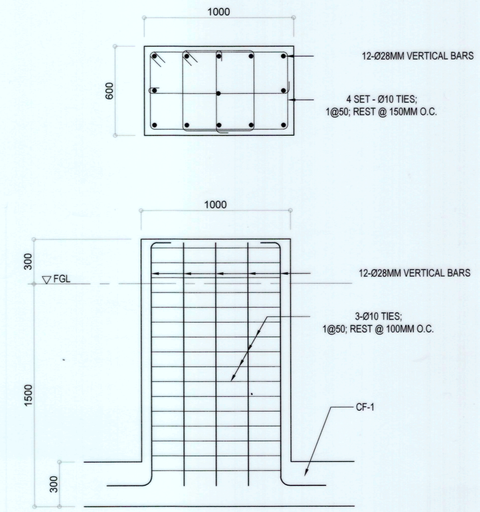
2 S-6 **DETAIL OF ANCHOR BAR**
SCALE 1:10 MTS.

SCHEDULE OF MEMBERS AND WELDS

MARK	TRUSS MEMBER SIZES	WELD				REMARKS
		THICKNESS	LENGTH (mm)			
			L_1	L_2	L_3	
A	2∠s - 50mm X 50mm X 6mm VERTICAL MEMBERS (2∠s - 2" X 2" X $\frac{1}{4}$")	4mm	FULL WELD (TO GUSSET PLATE)			(FILLET WELD)
B	1∠ - 50mm X 50mm X 6mm HORIZONTAL MEMBERS (1∠ - 2" X 2" X $\frac{1}{4}$")	4mm	-DO-			(FILLET WELD)



3 S-6 **PYLON TO PEDESTAL CONNECTION DETAIL**
SCALE 1:20 MTS.



4 S-6 **PEDESTAL DETAIL**
SCALE 1:20 MTS.

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
BUREAU OF DESIGN
BUILDINGS DIVISION
BONIFACIO DRIVE PORT AREA, MANILA

PROJECT AND LOCATION:
PROPOSED:
STANDARD PAGCOR MULTI-PURPOSE EVACUATION CENTER
(OPTION 1)
(FOR WIND VELOCITY OF 270KPH)

SHEET CONTENTS:
PYLON FRAMING DETAIL
PYLON TO PEDESTAL CONNECTION DETAIL
PEDESTAL DETAIL
DETAIL OF ANCHOR BAR
SCHEDULE OF WELDS AND MEMBER

DESIGNED: **STRUCTURAL SECTION**
CADD: **JASON FRANKLIN L. CARANDANG** ENGINEER II
CHECKED: **KATHRINE ANNE C. MACOY** ENGINEER IV

SUBMITTED:
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CHIEF, BUILDINGS DIVISION

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OFFICER-IN-CHARGE
BUREAU OF DESIGN
OCT 23 2019

APPROVED:
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CONCURRED:
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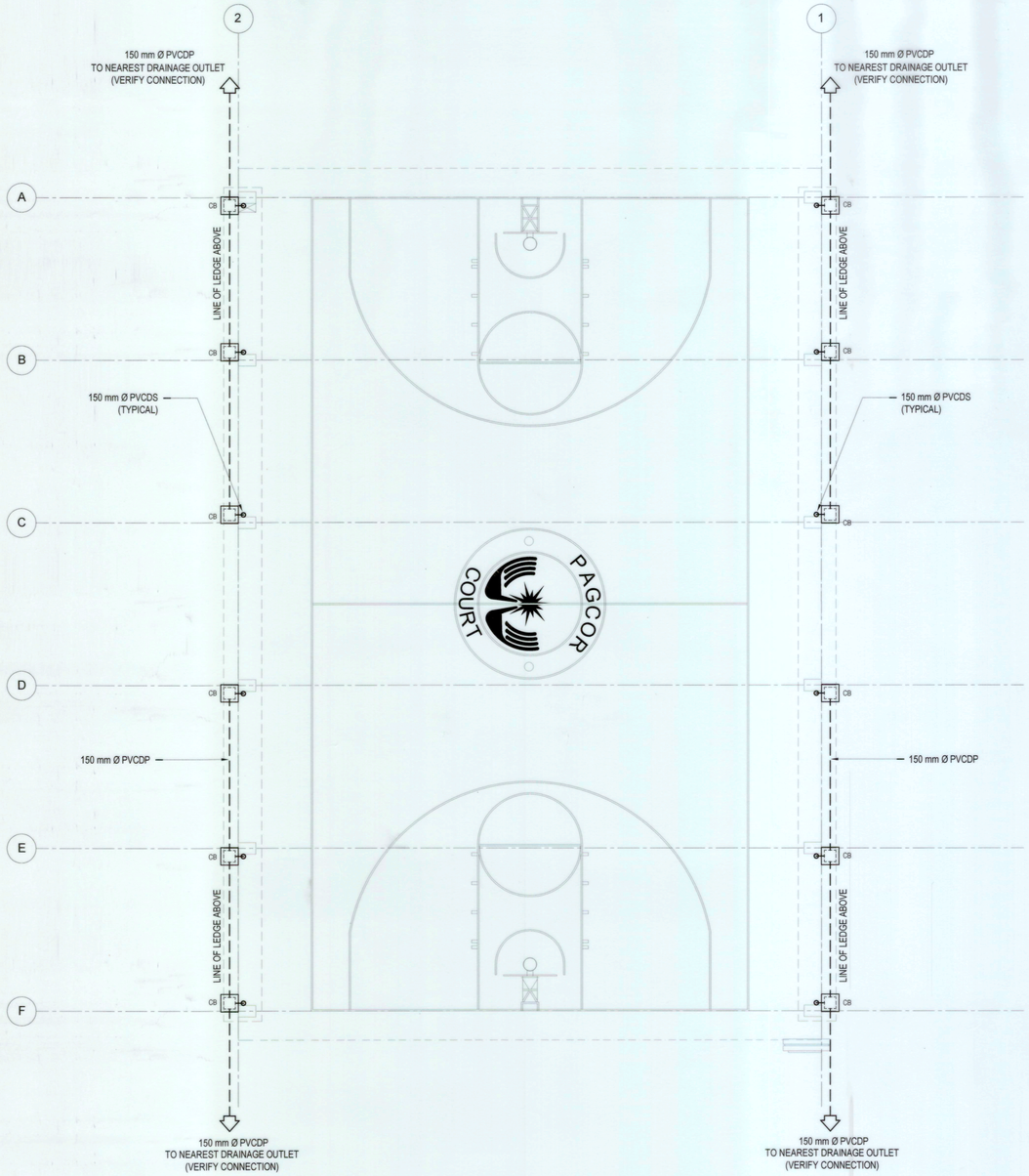
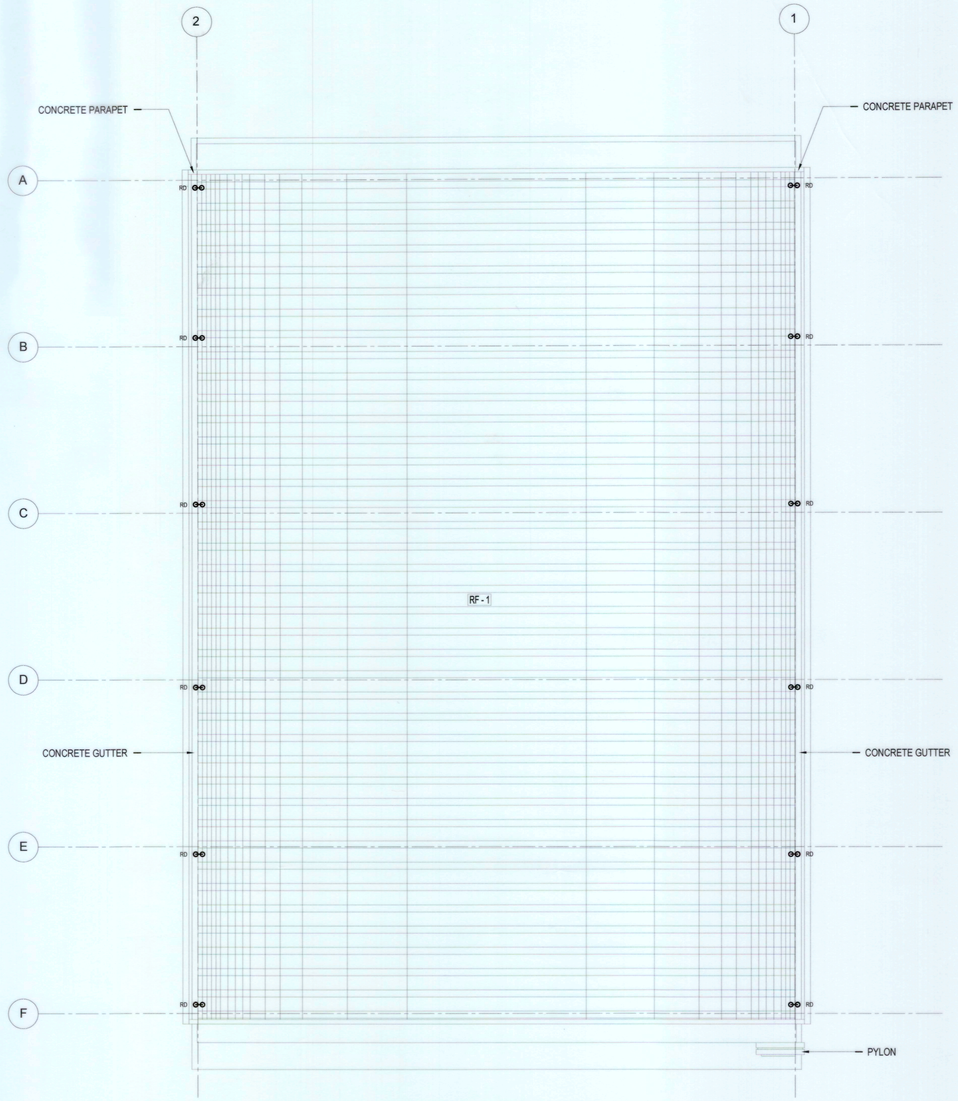
VICE PRESIDENT
CORPORATE SOCIAL RESPONSIBILITY

SET NO.: BOD B
SHEET NO.: S-6 6 18



1 / P-1 **GROUND FLOOR PLAN** (OPTION 1) **(DRAINAGE LAYOUT)**
SCALE 1:100 MTS.



2 / P-1 **ROOF PLAN** (OPTION 1) **(DRAINAGE LAYOUT)**
SCALE 1:100 MTS.

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BUREAU OF DESIGN
BUILDINGS DIVISION
BONIFACIO DRIVE PORT AREA, MANILA

PROJECT AND LOCATION:
PROPOSED:
STANDARD PAGCOR MULTI-PURPOSE/ EVACUATION CENTER
(OPTION 1)
(FOR WIND VELOCITY OF 270KPH)

SHEET CONTENTS:
GROUND FLOOR PLAN
ROOF PLAN
- DRAINAGE LAYOUT

DESIGNED BY: **REUBEN C. RAMOS** ENGINEER II
CADD BY: **REUBEN C. RAMOS** ENGINEER II
CHECKED: **FRANCIS G. SERRANO** ARCHITECT IV

SUBMITTED:
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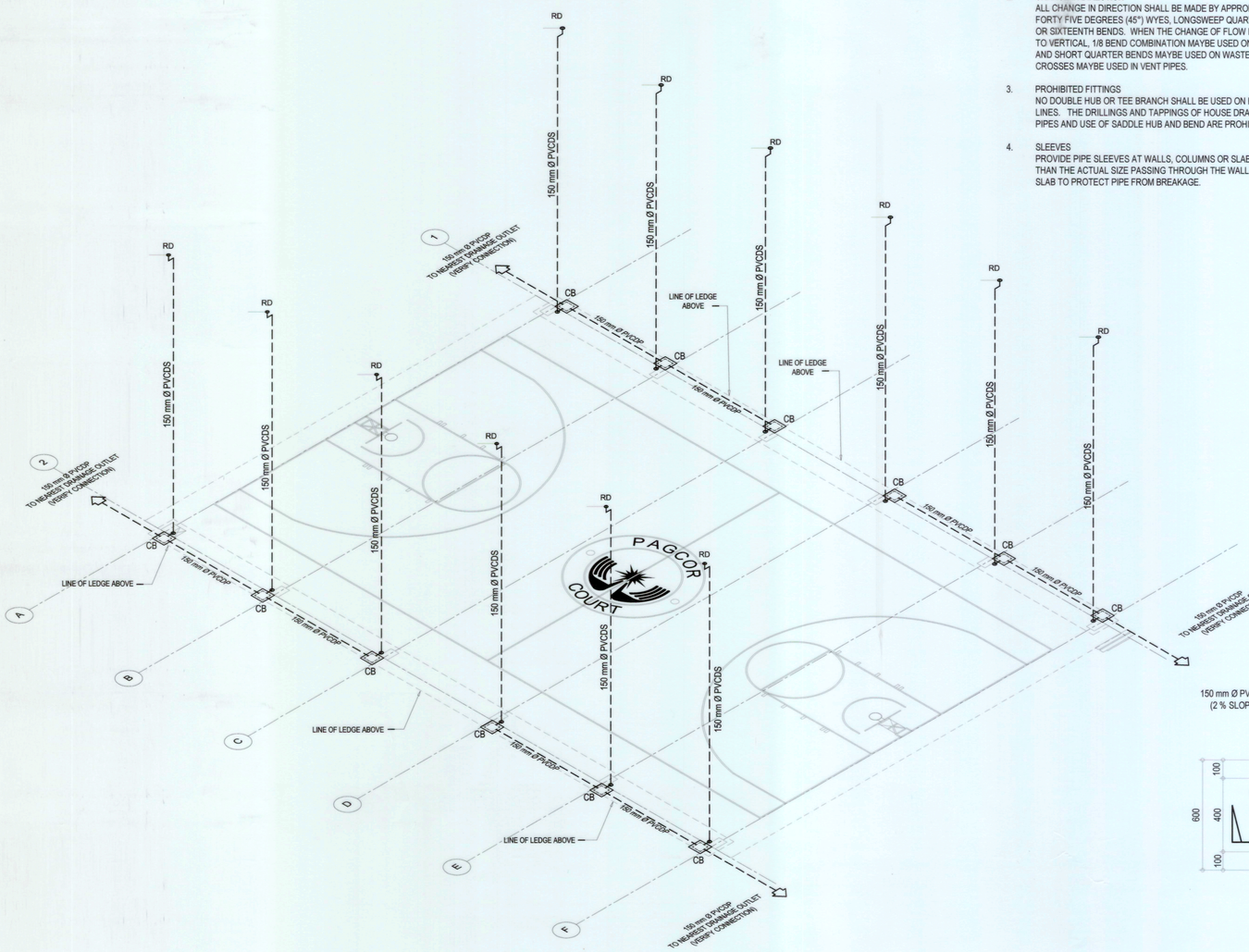
SET NO.: BOD / B

SHEET NO.: P-1 / 2 | 18



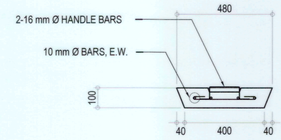
1 P-2 **ISOMETRIC DIAGRAM** (OPTION 1) **(DRAINAGE LAYOUT)**
NOT TO SCALE

PLUMBING NOTES:

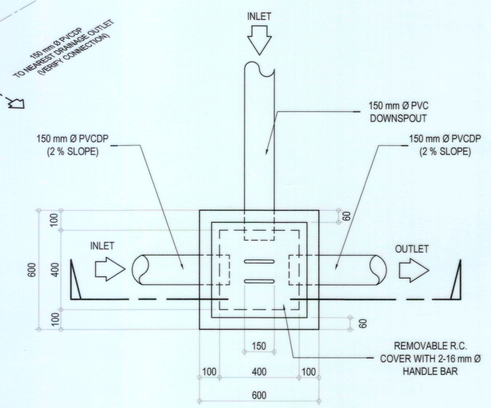
1. GRADES OF HORIZONTAL PIPING
   RUN ALL HORIZONTAL PIPINGS IN PERFECT ALIGNMENT AND AT A FORM GRADE OF NOT LESS THAN TWO PERCENT (2%).
2. CHANGE IN DIRECTION
   ALL CHANGE IN DIRECTION SHALL BE MADE BY APPROPRIATE USE OF FORTY FIVE DEGREES (45°) WYES, LONGSWEEP QUARTER BEND, SIX-EIGHT OR SIXTEENTH BENDS. WHEN THE CHANGE OF FLOW IS FROM HORIZONTAL TO VERTICAL, 1/8 BEND COMBINATION MAYBE USED ON VERTICAL STACKS AND SHORT QUARTER BENDS MAYBE USED ON WASTE LINE. TEE AND CROSSES MAYBE USED IN VENT PIPES.
3. PROHIBITED FITTINGS
   NO DOUBLE HUB OR TEE BRANCH SHALL BE USED ON HORIZONTAL WASTE LINES. THE DRILLINGS AND TAPPINGS OF HOUSE DRAIN, WASTE OR VENT PIPES AND USE OF SADDLE HUB AND BEND ARE PROHIBITED.
4. SLEEVES
   PROVIDE PIPE SLEEVES AT WALLS, COLUMNS OR SLABS ONE SIZE BIGGER THAN THE ACTUAL SIZE PASSING THROUGH THE WALLS, COLUMNS OR UNDER SLAB TO PROTECT PIPE FROM BREAKAGE.
5. PIPE CLEAN-OUTS
   PIPE CLEAN-OUTS ARE REQUIRED UNDER THE FOLLOWING CONDITIONS:
   a. EVERY CHANGE IN HORIZONTAL DIRECTIONS EXCEEDING TWENTY-TWO AND ONE-HALF DEGREES (22 1/2°).
   b. ONE AND ONE-HALF METERS (1.50 m) INSIDE THE PROPERTY LINE BEFORE THE HOUSE DRAINAGE CONNECTION.
   c. EVERY FIFTEEN METERS (15.00 m) IN HORIZONTAL RUN OF PIPES.
   d. AT THE END OF ANY HORIZONTAL PIPE LINES.
6. THE DIGESTION CHAMBER OF SEPTIC VAULT MUST BE WATERPROOFED.
7. NOT LESS THAN 300 mm OF AIR SPACE MUST BE LEFT BETWEEN THE TOP OF THE SEWAGE AND THE UNDER PART OF THE VAULT ROOF SLAB.
8. NO SEPTIC VAULT MUST BE CONSTRUCTED UNDER THE BUILDING.
9. ALL PLUMBING WORKS SHALL BE DONE BY A LICENSED MASTER PLUMBER AND A LICENSED PLUMBING CONTRACTOR.

PLUMBING LEGEND:

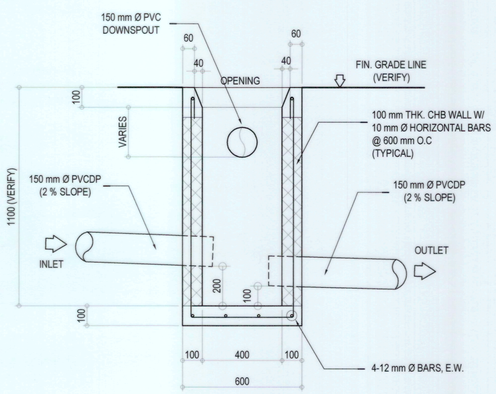
PVCDP	POLYVINYL CHLORIDE DRAIN PIPE (SERIES 1000)
PVCDS	POLYVINYL CHLORIDE DOWNSPOUT
RD	ROOF DRAIN
CB	CATCH BASIN



REMOVABLE CB COVER



DETAIL PLAN



DETAIL SECTION

2 P-2 **DETAIL OF CATCH BASIN (CB)**
SCALE NTS.

REPUBLIC OF THE PHILIPPINES
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STANDARD PAGCOR MULTI-PURPOSE/ EVACUATION CENTER
(OPTION 1)
(FOR WIND VELOCITY OF 270KPH)

SHEET CONTENTS:
ISOMETRIC DIAGRAM
- DRAINAGE LAYOUT
PLUMBING NOTES
PLUMBING LEGEND
DETAIL OF CATCH BASIN

DESIGNED BY: **REUBEN C. RAMOS** ENGINEER II
CADD BY: **GLAISA B. DIMAANO-TUSCANO** ARCHITECT II
CHECKED: **FRANCIS G. SERRANO** ARCHITECT IV

SUBMITTED:
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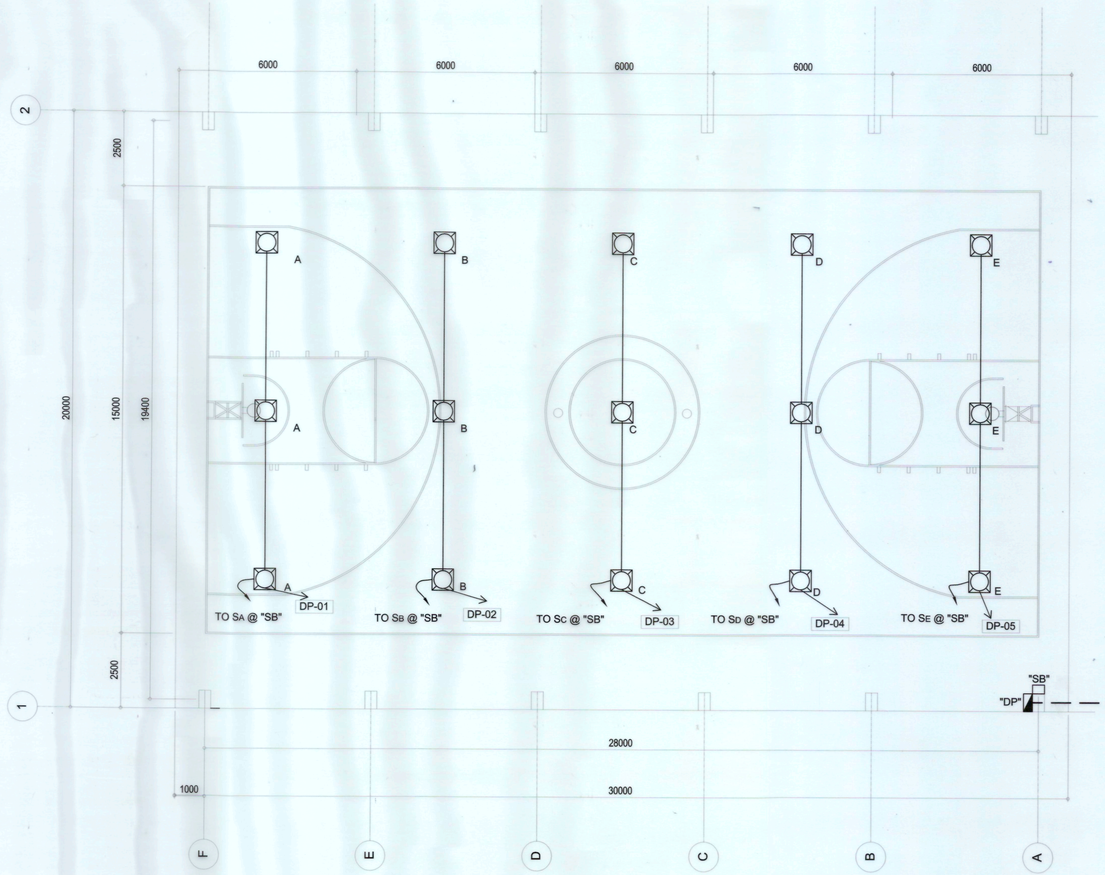
CORPORATE SOCIAL RESPONSIBILITY

SET NO.: BOD B

SHEET NO.: P-2 2 18



1 / E-1 **LIGHTING LAYOUT PLAN**
SCALE 1:100MTS

ELECTRICAL SYMBOLS

- ONE (1)-400W METAL HALLIDE, 230V, HIGH BAY LIGHTING FIXTURE OR APPROVED EQUAL (SUSPENDED 0.5 M BELOW CEILING LINE)
- ELECTRICAL RISER
- S — SINGLE POLE WALL SWITCH, WEATHERPROOF (15 AMPS, 250VOLTS) IP66 WATER AND DUST PROTECTION
- DUPLEX CONVENIENCE OUTLET, GROUNDING TYPE (20 AMPS, 250VOLTS) "WP" DENOTES WEATHERPROOF
- "EF" — SINGLE CONVENIENCE OUTLET, GROUNDING TYPE (15 AMPS, 250VOLTS) "EF" DENOTES EXHAUST FAN
- "SB" — SWITCH BANK
- "DP" — DISTRIBUTION PANEL
- UNDERGROUND OR UNDERFLOOR CONDUIT RUN
- CONCEALED OR EMBEDDED CONDUIT RUN
- CIRCUIT HOMERUN
- SERVICE ENTRANCE WITH CONDULET
- (M) — ELECTRIC SERVICE METER
- GROUNDING SYSTEM

SWITCH BANK DETAIL

- SA • SD
- SB • SE
- SC

GENERAL NOTES:

1. ALL ELECTRICAL WORKS SHALL BE DONE IN ACCORDANCE WITH THE PROVISIONS OF THE LATEST EDITION OF THE PHILIPPINE ELECTRICAL CODE, EXISTING LOCAL ORDINANCES AND REQUIREMENTS OF THE LOCAL POWER COMPANY.
2. THE TYPE OF SERVICE POWER SUPPLY TO BE USED SHALL BE SINGLE-PHASE, 2-WIRE, 230V, 60 HERTZ, A.C.
3. THE CONTRACTOR SHALL VERIFY AND ORIENT THE ACTUAL LOCATION OF SERVICE ENTRANCE FOR CONNECTION TO THE POWER COMPANY SERVICE POINT.
4. UNLESS OTHERWISE SPECIFIED, THE MINIMUM SIZES OF WIRE AND GALVANIZED RIGID STEEL CONDUIT TO BE USED SHALL BE 3.5mm²,THHN AND 15mm NOMINAL DIAMETER, RESPECTIVELY. LIKEWISE ALL ELECTRICAL WIRES SHALL BE COLOR-CODED.
5. ALL LIGHTING CIRCUIT HOMERUNS SHALL BE WIRED WITH NOT LESS THAN 3.5mm² IN SIZE. ALL 20 AMPERES CIRCUIT HOMERUNS TO PANELBOARD MORE THAN 30 METERS IN LENGTH SHALL BE WIRED WITH NOT LESS THAN 5.5 mm² THHN IN SIZE, UNLESS OTHERWISE INDICATED IN THE PLAN.
6. WHEREVER REQUIRED AND NECESSARY, PULL OR JUNCTION BOXES SHALL BE INSTALLED AT CONVENIENT AND INCONSPICUOUS LOCATION, ALTHOUGH SUCH BOXES ARE NOT SHOWN ON THE PLAN NOR MENTIONED IN THE SPECIFICATIONS.
7. ALL NON-CURRENT CARRYING METAL PARTS OF ELECTRICAL EQUIPMENT SHALL BE PROPERLY GROUNDED IN ACCORDANCE WITH THE PROVISIONS IN ARTICLE 2.50 "GROUNDING" PHILIPPINE ELECTRICAL CODE, VOLUME 1, 2000 EDITION.
8. ALL MATERIALS TO BE USED SHALL BE BRAND NEW AND OF THE APPROVED TYPE FOR LOCATION AND PURPOSE.
9. STANDARD TYPE OF ACCESSORIES, SPLICING DEVICES, TERMINATIONS AND OTHER APPURTENANCES FOR THE ENTIRE ELECTRICAL INSTALLATION SHALL BE USED.
10. ALL WALL OUTLETS SHALL BE INSTALLED AT LEAST 1200 mm ABOVE THE FINISHED FLOOR LEVEL UNLESS NOTED IN THE PLANS.
11. ALL ELECTRICAL WORKS SHALL BE DONE UNDER THE DIRECT AND IMMEDIATE SUPERVISION OF A DULY REGISTERED ELECTRICAL ENGINEER.

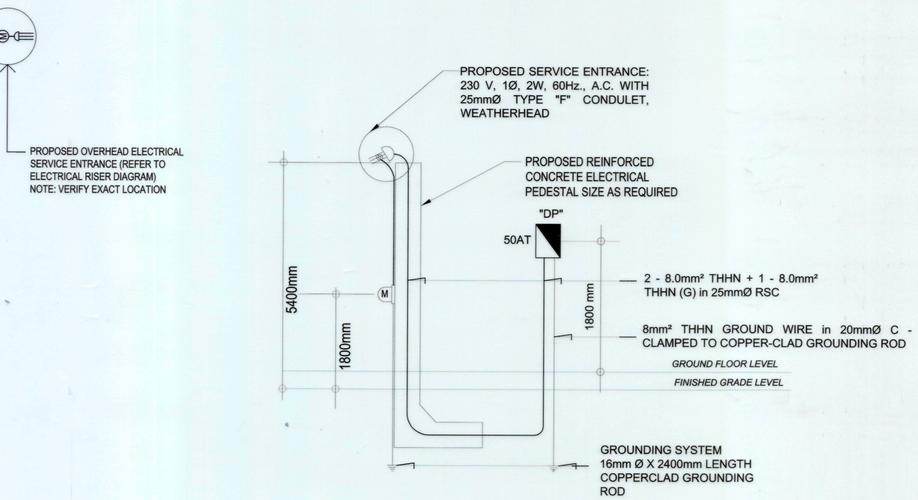
SCHEDULE OF LOADS AND COMPUTATIONS :

DISTRIBUTION PANELBOARD: "DP"

CKT. NO.	LOAD DESCRIPTION	VA PER CKT.	VOLTS	BRANCH BREAKER RATING			SIZE OF HOMERUN (WIRES IN CONDUIT)
				AF	P	AT	
1	LIGHT OUTLETS	1500	230	50	2	20	2 - 3.5mm² THHN + 1 - 3.5mm² THHN (G) IN 15mm Ø C
2	LIGHT OUTLETS	1500	230	50	2	20	2 - 3.5mm² THHN + 1 - 3.5mm² THHN (G) IN 15mm Ø C
3	LIGHT OUTLETS	1500	230	50	2	20	2 - 3.5mm² THHN + 1 - 3.5mm² THHN (G) IN 15mm Ø C
4	LIGHT OUTLETS	1500	230	50	2	20	2 - 3.5mm² THHN + 1 - 3.5mm² THHN (G) IN 15mm Ø C
5	LIGHT OUTLETS	1500	230	50	2	20	2 - 3.5mm² THHN + 1 - 3.5mm² THHN (G) IN 15mm Ø C
6	SPARE	1500	230	50	2	20	
TOTAL CONNECTED LOADS		9000	MAIN ACB: 50AF, 2P, 240V, 50 AT, 10kAIC				

I_L @ 85% D.F. = $\left(\frac{9000}{230}\right)$ (0.85) = 33.26 AMPERES

USE : 2 - 8.0mm² THHN + 1 - 8.0mm² THHN (G) IN 25mm Ø RSC (33.26A / 55A)



ELECTRICAL RISER DIAGRAM

NOT TO SCALE

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
BUREAU OF DESIGN
BUILDINGS DIVISION
BONIFACIO DRIVE PORT AREA, MANILA

PROJECT AND LOCATION:
PROPOSED: **STANDARD PAGCOR MULTI-PURPOSE EVACUATION CENTER** (OPTION 1) (FOR WIND VELOCITY OF 270KPH)

SHEET CONTENTS:
LIGHTING LAYOUT PLAN
GENERAL NOTES
ELECTRICAL SYMBOLS
SCHEDULE OF LOADS
ELECTRICAL RISER DIAGRAM

DESIGNED BY: VINCENT A. BERAN, ENGINEER III
CADD: MARU BRYAN T. ZAPLAN, ENGINEER II
CHECKED: ERIBERTO B. SIOSON, ENGINEER IV

SUBMITTED: JOSEPHINE P. ISTURIS, CHIEF, BUILDINGS DIVISION

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APPROVED: *SEE COVER SHEET FOR SIGNATURE* EMIL K. SADAIN, CESO I, UNDERSECRETARY FOR TECHNICAL SERVICES AND UPMO OPERATIONS

CONCURRED: *SEE COVER SHEET FOR SIGNATURE AND APPROVAL* JAMES PATRICK R. BONDOC, VICE PRESIDENT CORPORATE SOCIAL RESPONSIBILITY

SET NO.: BOD / B

SHEET NO.: E-1 / 1 18

SUMMARY OF QUANTITIES AND SCOPE OF WORK

SCOPE OF WORK	UNIT	QUANTITY
A. ARCHITECTURAL WORKS		
I. FINISHES		
A. FLOOR FINISHES:		
1. (FL-1) NON - SKID PLAIN CEMENT FLOOR FINISH (PROVIDE FLOOR HARDINER)	m²	220
2. (FL-2) PLAIN CEMENT FLOOR FINISH WITH FLOOR HARDINER, MARKING SIDELINE/BASELINE PAINTED FINISH	m²	420
3. (FL-4) RC GUTTER, PROVIDE INTEGRATED WATERPROOFING MEMBRANE	m²	45
B. FLOOR FINISHES:		
1. 50X50MM. HOR. GROOVE LINES SPACED @0.30m O.C. IN PLAIN CEMENT PLASTER FINISH	m²	104
2. ALUMINUM CLADDING	m²	75
II. CEILING		
1. (CF-2) EXPOSED RC/UNDERSLAB BEAM SOFFIT	m²	179
III. ROOFING		
1. 0.50 THK. (BASE METAL), PRE-PAINTED RIB TYPE ROOFING SHT. (LONG SPAN), PROVIDE 6MM THK. BUBBLE TYPE FLEXIBLE THERMAL ROOFING INSULATION WITH 2-SIDED ALUMINUM FOIL	m²	660
III. PAINTING WORKS		
1. PAINTING ON CONCRETE SURFACE	m²	283
B. ELECTRICAL WORKS		
I. PANELBOARDS		
1. DISTRIBUTION PANELBOARD "DP"		
MAIN CIRCUIT BREAKER RATING:	set	1
50 AF, 50AT, 2P, 250V BOLT-ON TYPE CIRCUIT BREAKER IN NEMA-1 ENCLOSURE		
BRANCHES:		
6- 50 AF, 20 AT, 2P, 250 V		
II. WIRES AND CABLES		
1. 3.5mm² THHN (150m/roll)	rolls	4
2. 8.0mm² THHN	mts	100
III. SWITCHES AND RECEPTACLES		
1. SWITCHBANK	set	1
6 - SINGLE POLE WALL SWITCH IN ONE SWITCH PLATE, 15AMP., 250V., IP WATER AND DUST PROTECTION		
2. ELECTRICAL TAPE	rolls	3
3. RUBBER TAPE	roll	1
4. MASKING TAPE	roll	1

SCOPE OF WORK	UNIT	QUANTITY
III. LIGHTING FIXTURES AND LAMPS		
1. ONE (1)-400W METAL HALLIDE, 230V, HIGH BAY LIGHTING FIXTURE OR APPROVED EQUAL (SUSPENDED 0.5 M BELOW CEILING LINE)	sets	15
III. CONDUITS AND FITTINGS		
1. 15MMØ X 3 M RSC	length	67
2. 25MMØ X 3 M RSC	length	12
3. METAL OCTAGONAL/JUNCTION BOX 102MM X 102MM X 54 MM DEEP WITH PLATE COVER	pcs	25
4. METAL UTILITY BOX 50MM X 102MM X 54MM DEEP	pcs	10
5. COPPERCLAD GROUNDING ROD, 16MMØ X 2400MM	pc	1
6. 25MMØ X 90° TYPE "F" CONDULET	pc	1
7. G.I. WIRE	pc	1
8. CONSUMABLES	lot	1
C. PLUMBING WORKS		
A. DRAINAGE LINES:		
1. 150mm Ø PVC PIPE	pcs	80
2. DOME-TYPE ROOF DRAIN W/ STRAINER	pcs	12
B. CATCH BASIN:		
1. CATCH BASIN	units	12
D. STRUCTURAL WORKS		
I. EARTHWORKS:		
1. STRUCTURE EXCAVATION	m3	299
2. GRAVEL FILL	m3	74
3. EMBANKMENT (FROM STRUCTURE EXCAVATION)	m3	127
4. EMBANKMENT (FROM BORROW)		473
5. BACK FILL (FROM STRUCTURE EXCAVATION)	m3	246
II. TERMITE CONTROL WORKS		
1. SOIL POISONING	m2	600
III. CONCRETE WORKS		
A. CONCRETE		
1. 28 MPA/4,000PSI (BEAMS,COLUMNS,FOOTINGS)	m3	113
2. 17 MPA/2500PSI (SLAB ON FILL)	m3	63
B. REINFORCING BARS		

SCOPE OF WORK	UNIT	QUANTITY
1. 275 MPA/40,000PSI (FOR BAR < 16MMØ)	kg	8,660
2. 414 MPA/60,000PSI (FOR BAR 16MMØ AND GREATER)	kg	19,893
C. FORMWORKS (FULL CONTACT AREA/1-USE)	m2	960
IV. ROOF FRAMING AND ROOFING		
A. ROOF FRAMING		
1. MAIN TRUSS		
1.1 PIPE 6 STD 150mmØ X 6.62MM THK	lim	139
1.2 PIPE 4 STD - 100MMØ X 5.61MM THK	lim	277
1.3 PIPE 3 STD - 75MMØ X 5.10MM THK	lim	1052
2. TRUSS ACCESSORIES		
2.1 STEEL PLATE 800 X 900 MM	kgs	254
2.2 MACHINE BOLTS 25MM Ø	pcs	108
2.3 C-PURLINS 70X200X15X3MM THK	kgs	9,672
2.4 CLIP ANGLE BARS 150X50X6MM THK	kgs	2,905
2.5 SAGROD 12MM Ø	kgs	2,051
2.6 CROSS BRACE WITH TURNBUCKLE 20MMØ	lim	317
2.7 CORBEL SOLE PLATE 400 X 750 X 16MM	kgs	475
2.8 CORBEL BASE PLATE 400 X 1050 X 25MM	kgs	1,039
2.9 LEVELING GROUT 25MM THK	cum	1
2.10 LONG ANCHORED BOLTS 32MM Ø X 400MM	pcs	50
2.11 ANCHOR BOLTS 28MM X 500L	pcs	144
2.12 ANCHOR BOLTS 25MM X 500L	pcs	48
2.13 STIFFENER PLATE 6MM THK	kgs	18
3. PURLIN TO TRUSS MACHINE BOLT CONNECTION		
3.1 MACHINE BOLTS 10MM Ø	pcs	467
3.2 STIFFENER PLATE 6MM THK	kgs	329
3.3 FLAT PLATE 150 X 75 X 6MM	kgs	494
4. PURLIN TO PEDESTAL CONNECTION		
4.1 STEEL PLATE 6MM	kgs	6
4.2 BASE PLATE 6MM	kgs	30

REPUBLIC OF THE PHILIPPINES
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PROJECT AND LOCATION:
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STANDARD PAGCOR MULTI-PURPOSE/ EVACUATION CENTER
(OPTION 1)
(FOR WIND VELOCITY OF 270KPH)

SHEET CONTENTS:
SUMMARY OF QUANTITIES AND SCOPE OF WORK

BILL OF QUANTITIES:
BUILDINGS DIVISION
CADD: L.M. DEVERA / R. MIRAFLORES
ARCHITECT II / ENGINEERING ASSITANT
CHECKED: **FRANCIS G. SERRANO**
ARCHITECT IV

SUBMITTED:
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CHIEF, BUILDINGS DIVISION

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VICE PRESIDENT
CORPORATE SOCIAL RESPONSIBILITY

SET NO.: BOD / B
SHEET NO.: BOQ-1 / 2 2

SUMMARY OF QUANTITIES AND SCOPE OF WORK

SCOPE OF WORK	UNIT	QUANTITY
4.3 LEVELING GROUT 25MM THK	cum	1
4.4 ANCHOR BOLTS W/ STD NUTS & WASHERS 25MMØ X 500MM	pcs	11
4.5 ANGLE BAR 1∠-75 X 75 X 6MM THK	kgs	27
5. PYLON ITEMS		
5.1 ANGLE BAR 50MM X 50MM X 6MM	kgs	1,490
5.2 STEEL PLATE 150MM X 300MM X 10MM	kgs	2
5.3 EXPANSION BOLT 16MMØ X L = 100MM	pcs	4

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(FOR WIND VELOCITY OF 270KPH)

SHEET CONTENTS:
SUMMARY OF QUANTITIES AND SCOPE OF WORK

BILL OF QUANTITIES:
BUILDINGS DIVISION

CADD:
L.M. DEVERA / R. MIRAFLORES
ARCHITECT II / ENGINEERING ASSITANT

CHECKED:
FRANCIS G. SERRANO
ARCHITECT IV

SUBMITTED:
JOSEPHINE P. ISTURIS
CHIEF, BUILDINGS DIVISION

RECOMMENDING APPROVAL:
SEE COVER SHEET FOR SIGNATURE
ARISTARCO M. DOROY
OFFICER-IN-CHARGE
BUREAU OF DESIGN
OCT 23 2019

APPROVED:
SEE COVER SHEET FOR SIGNATURE
EMIL K. SADAIN, CESO I
UNDERSECRETARY FOR TECHNICAL SERVICES AND UPMO OPERATIONS

CONCURRED:
SEE COVER SHEET FOR SIGNATURE AND APPROVAL
JAMES PATRICK R. BONDOC
VICE PRESIDENT
CORPORATE SOCIAL RESPONSIBILITY

SET NO.: BOD / B

SHEET NO.: BOQ-2 / 2 | 2