ANNEX A

PHASE TWO OF THE CURATORIAL DESIGN AND CONSTRUCTION OF THE PHILIPPINE SCIENCE HERITAGE CENTER

Note: This literature is both a descriptive narrative of the over-all design intent of the curator and an enumeration of the scope of work any bidding contractor should use as basis for their detailed proposals.

Narrative of Scope of Work Expected

After the success of Phase One launched in 2019 covering only less than 100 square meter of space of the entire PSHC that showcased thirteen hologram capsules and a giant video wall, Phase two will zero in on the remaining ground floor space and the conversion of Ramp into steps and seating spaces.

Phase two will focus on immersive experiences through Projection and Digital Mapping Technology. This is the heart and soul of the entire curatorial design for Salinlahi. It may seem to be a simple construction endeavor but requires utmost sensitivity in providing infrastructure support. This 21st century museum experience does away with physical objects as exhibits whereby limiting contact points and exposure to surfaces that may not be germ-free.

The manner by which the ground floor space will be structured curatorially is through the creation of walls. These walls , Wall A to Wall H, shall be the surfaces where immersive content and experiences are projected by a powerful short throw projectors creating unified and various stories about science, scientists, phenomena that are all Filipino.

Constructors for Phase Two must understand that this phase is a continuation of the over all experience that have started in the first phase. Here is a detailed scope of work that is expected as follows:

1.0 The existing video-wall shall be retrofitted to enable the whole set to be divided into two panels that are able to slide outwardly to allow entry to the rest of the ground floor. A mechanism shall be carefully designed and constructed to enable continued use of the video wall and at the same time act as a front sliding gate to the main hall. A bidding contractor should have the expertise with the existing (or latest model versions) as to know how to manipulate and reconfigure to the desired layout. Contractor must provide the shop and technical drawings before any proposal is evaluated.

2.0 The immediate area where the sliding video wall opens to shall be retrofitted to serve as a foyer and landing space. Elevating the ground floor here should be calculated for a smoother transition to the rest of the main hall both in terms of steps and ramp. (see conceptual plans). Since the curatorial and design intent is clear, bidding contractors must be ready to interpret the design intent with proper shop drawings for execution.

3.0 The entire hall is divided into designated walls. The entire hall is an open space. The ceiling will be dotted with pinlights and convenience power outlets to accommodate ceiling mounted short throw projectors. (see layout) . Depending on final layout that can be decided during execution, suffice it to say, that there is ample flexibility in the exact location of these luminaires and outlets as deemed fit by the electrical team on board under the winning contractor.

4.0 All concrete wall surfaces shall be painted (with specific coating conducive to projection technology). In the wall surface areas of existing glass and aluminum, these shall be either dismantled or covered by concrete or boards to become part of the rest of the projected wall surface. It is customary to provide swatches for approval before application of wall surface finishes. Projected images are sensitive to a particular color of walls.

5.0 Flooring shall be of the same specs as Phase 1 Flooring. Including the led floor lights and stainless steel strips. As Phase 2 is just a continuation of the Phase 1, the general look of the flooring is the same as the foyer. A pattern must be submitted to the curator for approval and can be based on actual site measurements upon final ocular.

6.0 Ceiling surfaces are painted black or dark gray. A swatch shall be provided and approved.

7.0 An electrical panel housing shall be located under the ramp. The electrical team of winning bidder shall provide the diagram and other technical shop drawings.

8.0 The ramp shall be converted into steps , bleachers style, as this space is now used for seating. (see details). Concrete reinforcement and reshaping may be considered. Subject to onsite evaluation, winning contractor shall provide their intended interpretation through their shop drawings.

9.0 Existing aluminum doors at the rear exit shall be converted into frameless sliding glass in the same manner as the main entrance of Phase 1 lobby.

10.0 The ceiling mounted exhibition (whales, etc) may still be retained but will need to be refurbished and rehabilitated with additional LED lighting features. The curatorial team may opt to remove and winning contractor should provide contingency cost for the removal and disposal.

11.0 There is also a curatorial design option to move the existing 13 hologram capsules to various spots in the open hall. Sufficient floor outlets shall also be provided for this. As this is just an option, there is also the possibility of just retaining their exact location but winning contractor should provide contingencies for rehabilitation of existing hardware and housing material if need be.

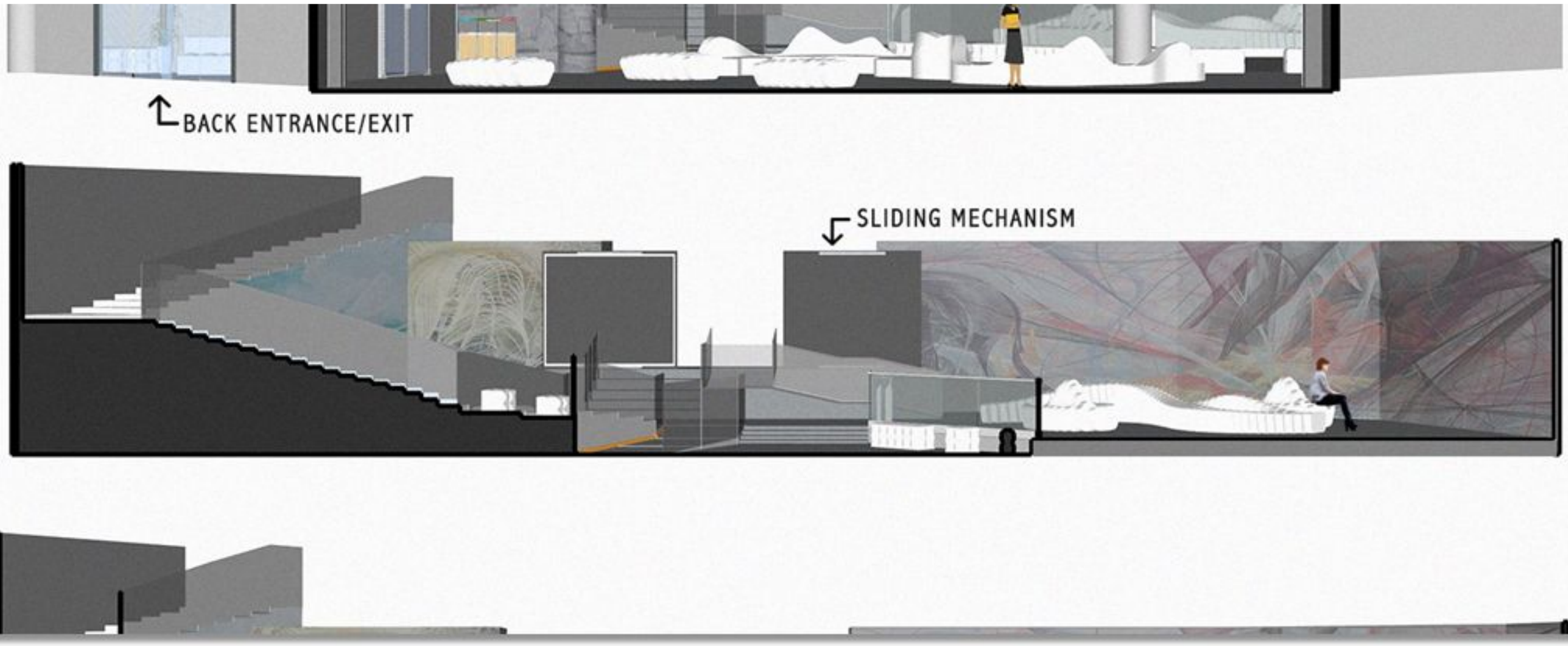
12.0 Airconditioning has already installed and fit out work should consider their presence, protection from unwanted damage, and power lines shall be completely independent from any proposed power layout for the exhibition and lighting.

13.0 As this is a curatorial and design intent plan, ambiguous areas are dealt with meeting of the minds between curatorial team, end user, and winning contractor. Sufficient shop drawings are expected to thresh out gray matters , so it is imperative that winning contractor communicates for approval through shop drawings to ensure correct interpretation of the design intent.

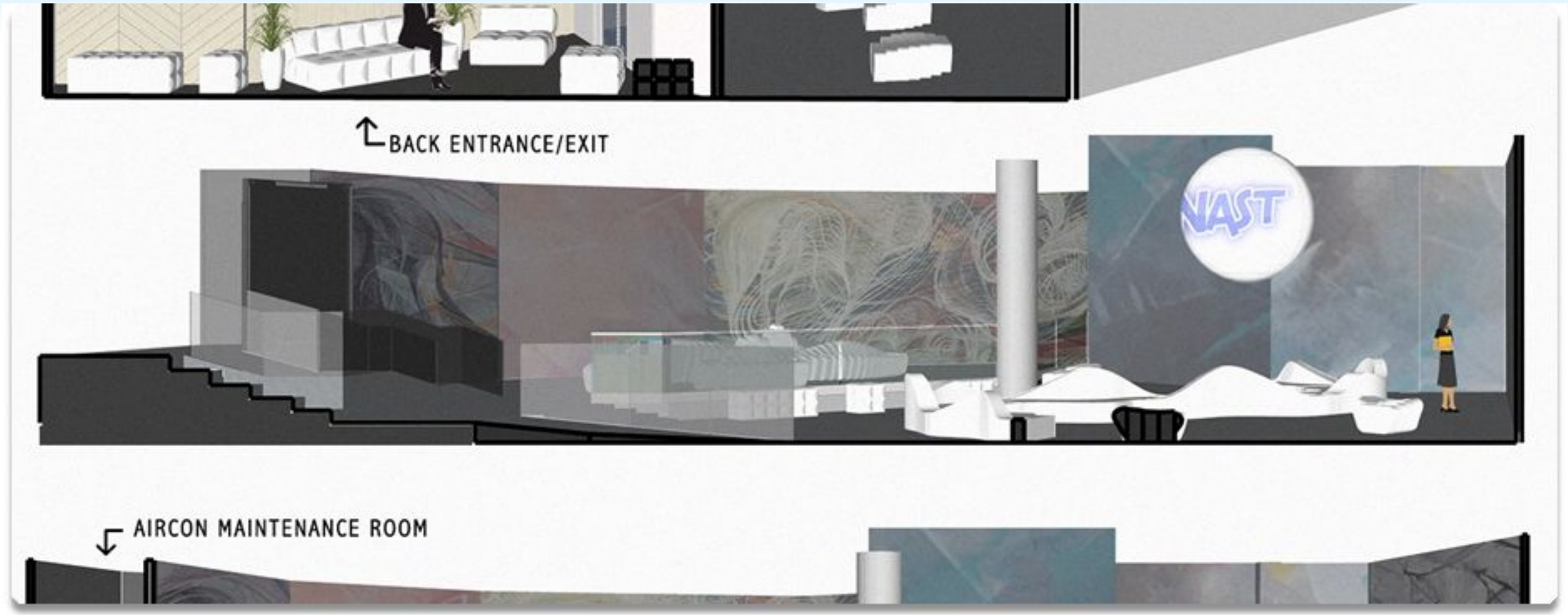
14.0 Any changes or additional items that are merited in the course of executing the project should be subject to agreement including the possibility of change orders or adjustments of costing involved.

15.0 It is assumed that the winning contractor’s scope includes a pro-active and diligent monitoring of the works being executed. Prompt action for potential problems and challenges are appreciated.

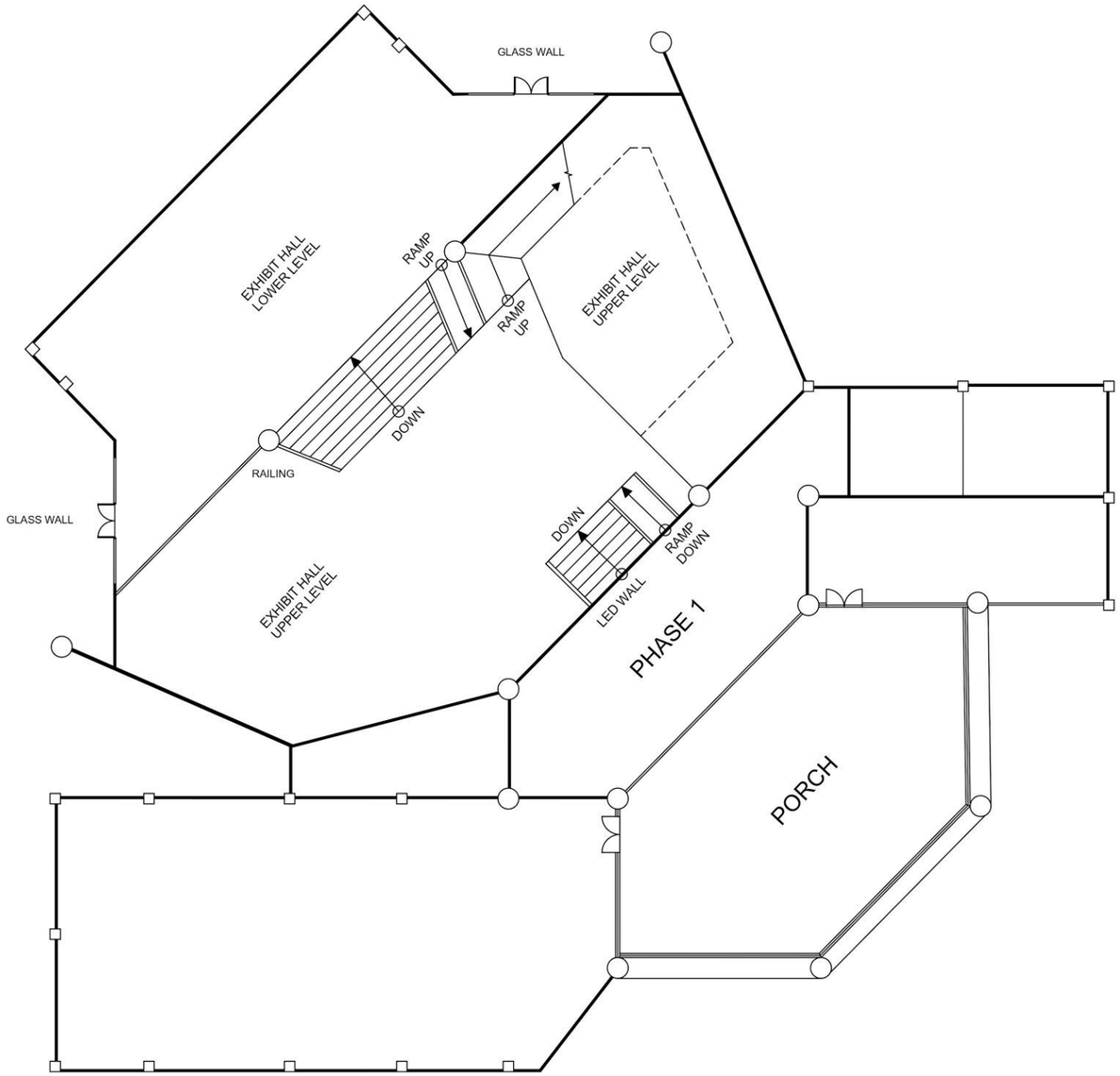
Concept | 3D



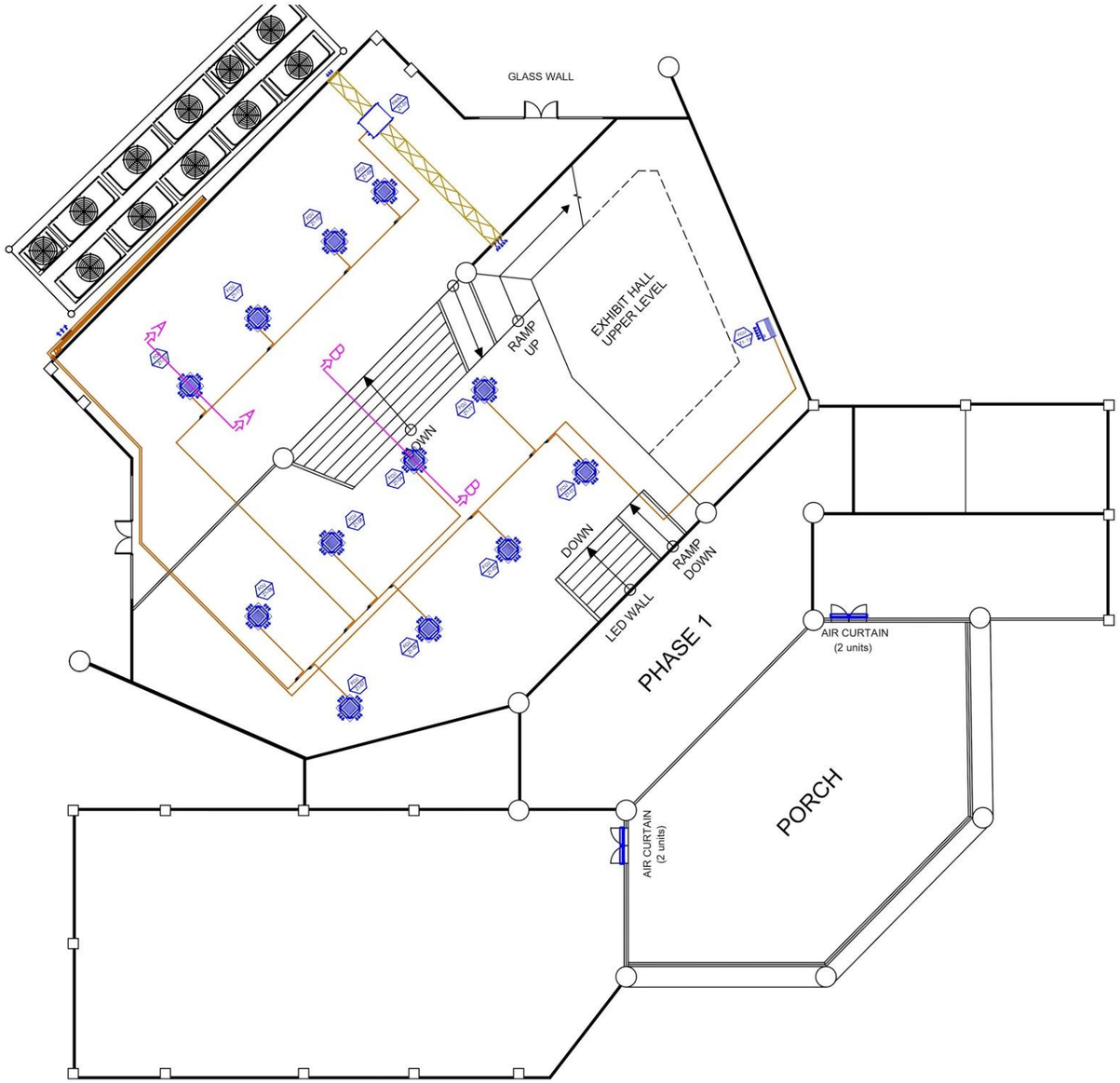
Concept | 3D

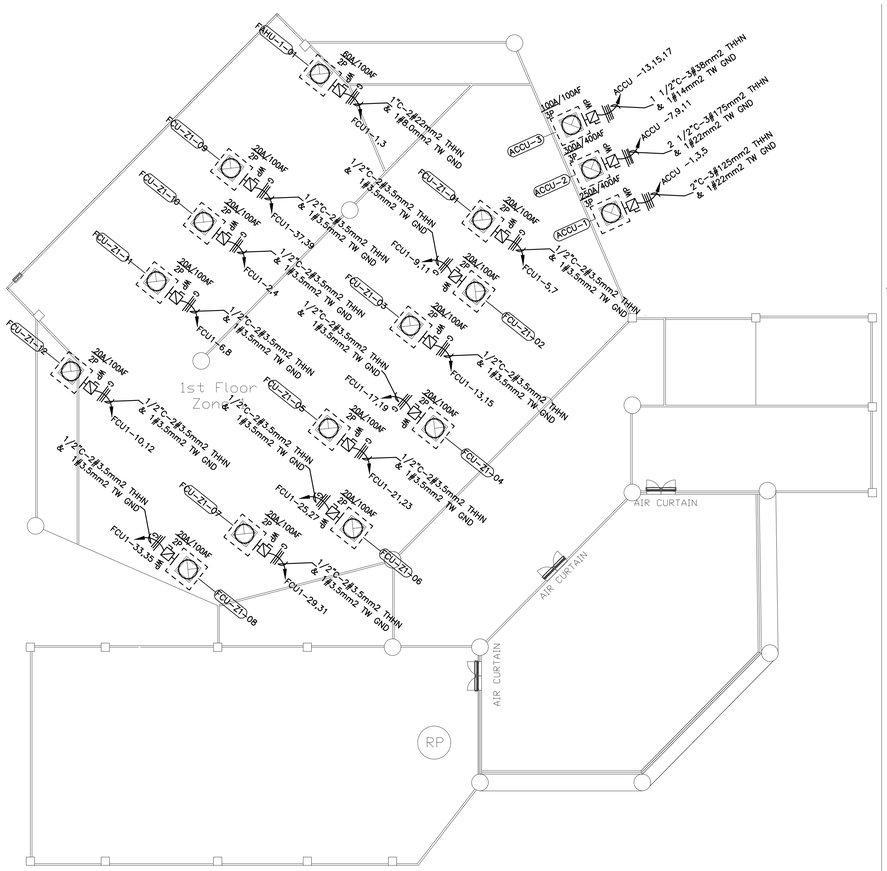


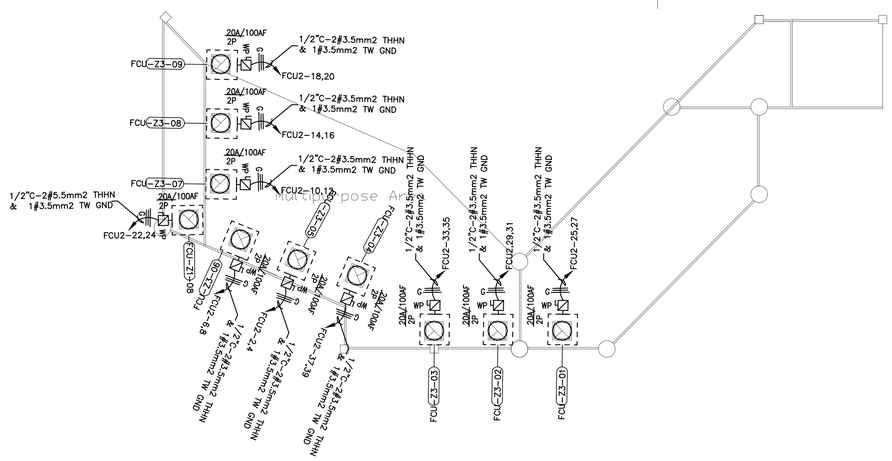
Civil Works | As Built Floor plan



Existing Air Conditioning Units







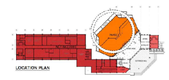
1 E2.0 HVAC LAYOUT PLAN

NOT TO SCALE

GENERAL NOTES:

1. ELECTRICAL CONTRACTOR SHALL VERIFY (E) FIELD CONDITIONS PRIOR TO BID. ANY DISCREPANCIES BETWEEN DRAWINGS & (E) CONDITIONS FOUND DURING INSTALLATION SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION & SHOULD BE RESOLVED AT NO ADDITIONAL COST TO THE OWNER.
2. ALL WIRING TO BE COPPER "THWN," UNLESS OTHERWISE NOTED. SEE PANEL SCHEDULE FOR SIZING.
3. ELECTRICAL CONTRACTOR TO SUPPLY OWNER WITH DRAWINGS OF THE AS-BUILT CONDITION OF THE WIRING SYSTEM UPON COMPLETION.
4. ALL CONSTRUCTION OF THIS PROJECT SHALL CONFORM TO ALL LOCAL CODES, ORDINANCES AND CURRENT ELECTRIC & BUILDING CODES.
5. THE E.C SHALL COMPLY WITH ALL LOCAL COUNTY, STATE AND FEDERAL CODES, ORDINANCES, RULES AND REGULATIONS INCLUDING ALL REQUIREMENTS OF GOVERNING AGENCIES. ELECTRICAL CONTRACTOR SHALL PAY ALL COSTS, ASSOCIATED WITH THE INSTALLATION, INCLUDING BUILDING APPLICATION FEES, ETC.
6. ALL ELECTRICAL ROUGH-INS SHOWN ON THIS PLAN PERTAINS ONLY TO THE EQUIPMENT BEING FURNISHED BY VENDOR. ANY ADDITIONAL REQUIREMENTS SHALL BE SPECIFIED BY THE OWNER AND/OR THE GENERAL CONTRACTOR.
7. ALL DISCONNECTING MEANS SHALL BE IDENTIFIED FOR ITS PURPOSE PER NEC 2017 ARTICLE 110.22.
8. EVERY STRUCTURE AND PORTION THEREOF, INCLUDING NONSTRUCTURAL COMPONENTS THAT ARE PERMANENTLY ATTACHED TO STRUCTURES AND THEIR SUPPORTS AND ATTACHMENTS, SHALL BE DESIGNED AND CONSTRUCTED TO RESIST THE EFFECTS OF EARTHQUAKE MOTIONS IN ACCORDANCE WITH ASCE 7, EXCLUDING CHAPTER 14 AND APPENDIX 11A. THE SEISMIC DESIGN CATEGORY FOR A STRUCTURE IS PERMITTED TO BE DETERMINED IN ACCORDANCE WITH SECTION 1613 OR ASCE 7.
9. ALL DISCONNECTING MEANS AND ELECTRICAL EQUIPMENT SHALL BE INSTALLED PER 110.3(B) OR PER THE LISTING AND LABELING INSTRUCTIONS BY THE MANUFACTURERS.
10. INSTALL BUSHING ON ALL RACEWAY ENTRIES CONNECTORS THAT CONTAIN 4 AWG OR LARGER CONDUCTORS.
11. ALL HVAC UNITS SHALL HAVE PROPERLY FUSED DISCONNECTING MEANS AND A GFCI PROTECTED RECEPTACLE SHALL BE INSTALLED WITHIN 25 FEET OF ALL HVAC AND VENTILATING EQUIPMENT ON THE ROOF.

NOTE: ELECTRICAL PLANS ARE INTENDED TO SHOW, IN A GENERAL WAY, THE APPROXIMATE LOCATION AND LOADS OF THE INTENDED EQUIPMENT. EXACT LOCATIONS AND MATERIALS SHALL BE DETERMINED IN THE FIELD BY THE INSTALLING CONTRACTOR AND SHALL CONFORM TO THE PROVISIONS AS SET FORTH IN THE 2017 EDITION OF THE PHILIPPINE ELECTRICAL CODE AND NATIONAL ELECTRICAL CODE RESPECTIVELY.



KEY PLAN :

NOTES:

PROFESSIONAL ELECTRICAL ENGINEER

PRC NO :
VALID UNTIL :
TIN :
PTR :
DATE :
PLACE :

REFERENCES

DWG. No.	REV.	DESCRIPTION

REVISION

No.	DATE	DESCRIPTION	CHECKED BY
01	15-05-2019	FOR APPROVAL	DOST
01	15-05-2019	FOR APPROVAL	GSCS

COORDINATION

	ARCH'L	CIVIL	ELECT'L	MECH'L	STRUC	SURVEY
DOST						
GSCS						

DESIGN DRAWING

CLIENT :

DOST NAST

PROJECT CONSULTANT :

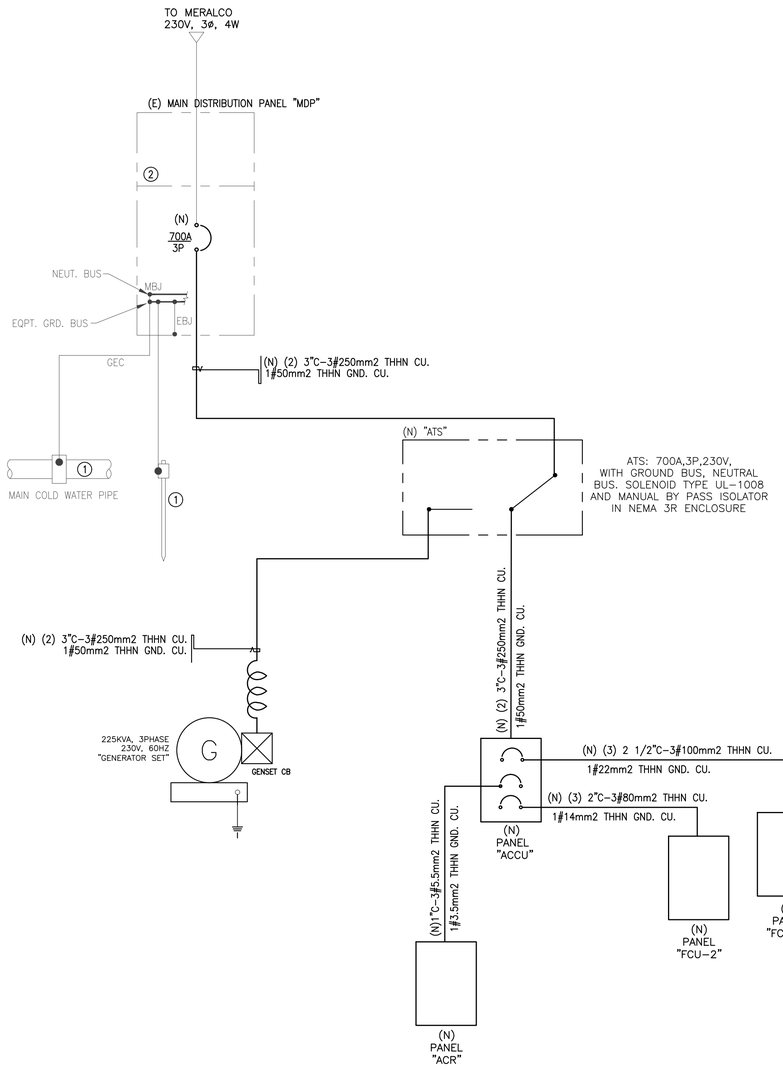
GSCS Since 2006

PROJECT LOCATION :
NATIONAL ACADEMY OF SCIENCE AND TECHNOLOGY, 2/F PHILIPPINE SCIENCE HERITAGE CENTER, DOST COMPOUND BICUTAN, TAGUIG, METRO MANILA.

PROJECT TITLE :
MECHANICAL AND ELECTRICAL DESIGN FOR THE INSTALLATION OF HVAC AND GENERATOR SET AT THE PHIL SCIENCE HERITAGE CENTER

DRAWING TITLE :
HVAC Layout Plan

SCALE : NTS	PREPARED BY:	P.P.
	CHECKED BY	
	VERIFIED BY	
DATE : 15-05-2019	REFERENCE	TRANSMITTAL NO. EDD-01
CONTRACT No. 2019-55	DRAWING No. E2.0	REVISION No. 00



1 E3.0 SINGLE LINE DIAGRAM

NOT TO SCALE

NOTES:

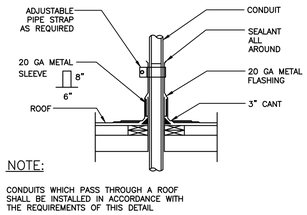
X– DENOTES FOR 3 WIRES SYSTEM INCLUDING GROUND, Y– 4WIRE+G
X–3.5 = 1/2"C (2)–3.5mm2 THHN CU. & 1–3.5mm2 THHN CU. GND
X–5.5 = 1/2"C (2)–5.5mm2 THHN CU. & 1–5.5mm2 THHN CU. GND
X–8.0 = 3/4"C (2)–8.0mm2 THHN CU. & 1–5.5mm2 THHN CU. GND
X–14 = 3/4"C (2)–14mm2 THHN CU. & 1–5.5mm2 THHN CU. GND
X–22 = 1"C (2)–22mm2 THHN CU. & 1–8.0mm2 THHN CU. GND
X–30 = 1 1/4"C (2)–30mm2 THHN CU. & 1–8.0mm2 THHN CU. GND
X–38 = 1 1/2"C (2)–38mm2 THHN CU. & 1–8.0mm2 THHN CU. GND
X–50 = 1 1/2"C (2)–50mm2 THHN CU. & 1–14mm2 THHN CU. GND
X–60 = 2"C (2–60mm2 THHN CU. & 1–14mm2 THHN CU. GND
X–80 = 2"C (2)–80mm2 THHN CU. & 1–14mm2 THHN CU. GND
X–100 = 2"C (2)–100mm2 THHN CU. & 1–22mm2 THHN CU. GND
X–125 = 2 1/2"C (2)–125mm2 THHN CU. & 1–22mm2 THHN CU. GND
X–150 = 2 1/2"C (2)–150mm2 THHN CU. & 1–30mm2 THHN CU. GND
X–175 = 2 1/2"C (2)–175mm2 THHN CU. & 1–30mm2 THHN CU. GND
X–200 = 3"C (2)–200mm2 THHN CU. & 1–50mm2 THHN CU. GND
X–250 = 3"C (2)–250mm2 THHN CU. & 1–50mm2 THHN CU. GND
X–300 = 3 1/2"C (2)–300mm2 THHN CU. & 1–50mm2 THHN CU. GND

GENERAL NOTES:

1. CONTRACTOR TO VERIFY EXISTING GROUNDING SYSTEM. GROUND RESISTANCE SHALL BE 25 OHMS OR LESS MEASURED BY THREE–POINT METHOD.
2. ELECTRICAL CONTRACTOR SHALL FIELD VERIFY THE SIZE/RATING OF ALL ELECTRICAL EQUIPMENTS AND COMPARE WITH THE DRAWINGS. ANY DISCREPANCY FOUND BETWEEN THE DRAWINGS AND ACTUAL INSTALLATION SHOULD BE IMMEDIATELY REPORTED TO THE ENGINEER UNDERSIGNED BEFORE TURNING ON THE SERVICE.
3. CONTRACTOR SHALL FIELD VERIFY EXISTING FEEDER CONDUCTORS' SIZE AND INSULATION RESISTANCE. REPLACE AS NECESSARY.
4. EXISTING SINGLE LINE IS FOR REFERENCE PURPOSES ONLY. CONTRACTOR SHALL VERIFY CONDITION OF THE EXISTING SWITCHBOARD PRIOR TO WORK ON THE GEAR.

SHEET NOTES:

1. CONTRACTOR TO TEST EXISTING GROUNDING SYSTEM. GROUND RESISTANCE SHALL BE 25 OHMS OR LESS MEASURED BY THREE–POINT METHOD.
2. CONTRACTOR SHALL FIELD VISUAL AND INSULATION TEST EXISTING FEEDER CONDUCTORS' SIZE AND INSULATION RESISTANCE. REPLACE AS NECESSARY.
3. FOR FEEDERS AND SUB FEEDERS SIZES, SEE SINGLE LINE DIAGRAM.



NOTE:

CONDUITS WHICH PASS THROUGH A ROOF SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THIS DETAIL.

2 E3.0 CONDUIT FLASHING

NOT TO SCALE

VOLTS: 230V | PHASE: 3 | WIRE: 3 | AIC: 10K

PANEL: "ACR"

MAIN: 30A,3P | BUSSING: 100A | LOCATION: Ground Floor | TYPE: BOLT-ON | ISOLATED GROUND BUS: N/A | MOUNTING: FLUSH

CKT		BKR	LOAD DESCRIPTION	LOAD (VA)	WATTS A	WATTS B	WATTS C	LOAD (VA)	LOAD DESCRIPTION	BKR		CKT
1	X-5.5	30A	AIR CURTAIN 1	200	400			200	AIR CURTAIN 2	20A	X-3.5	2
3		2P	"	200		400		200	"	2P		4
5	X-5.5	30A	AIR CURTAIN 3	200			400	200	AIR CURTAIN 4	20A	X-3.5	6
7		2P	"	200	400			200	"	2P		8
9	X-5.5	30A	AIR CURTAIN 5	200		400		200	AIR CURTAIN 6	20A	X-3.5	10
11		2P	"	200			400	200	"	2P		12
			CONNECTED kVA PER PHASE		0.80	0.80	0.80					

DEMAND FACTOR APPLICATIONS	conn. load (kVA)	demand factor (%)	demand load (kVA)
RECEPTACLE (FIRST 10kVA)	0.0	100%	0.0
RECEPTACLE (OVER 10kVA)	0.0	50%	0.0
CONTINUOUS LOADS	0.0	125%	0.0
NON-CONTINUOUS LOADS	2.4	100%	2.4

USE: 3-5.0mm2 THHN CU &1-3.5mm2 THHN CU GND IN 3/4" dia. PVC

TOTAL CONNECTED LOAD: 2.4 kVA
SPARE CAPACITY: 0.5 kVA
TOTAL DEMAND LOAD: 2.4 kVA
TOTAL SERVICE @85% D.F.: 5.1 Amps

VOLTS: 230V | PHASE: 3 | WIRE: 3 | AIC: 10K

PANEL: "ACCU"

MAIN: 700A,3P | BUSSING: 700A | LOCATION: Ground Floor | TYPE: BOLT-ON | ISOLATED GROUND BUS: N/A | MOUNTING: FLUSH

CKT		BKR	LOAD DESCRIPTION	LOAD (VA)	WATTS A	WATTS B	WATTS C	LOAD (VA)	LOAD DESCRIPTION	BKR		CKT
1		250A	ACCU-Z1-01	18333	43003			24670	FCU-1	225A		2
3	Y-125		"	18333		43003		24670	"		Y-100	4
5		3P	"	18333			37933	19600	"	3P		6
7		300A	ACCU-Z2-01	21667	38167			16500	FCU-2	200A		8
9	Y-175		"	21667		40207		18540	"		Y-80	10
11		3P	"	21667			39407	17740	"	3P		12
13		100A	ACCU-Z3-01	6667	7467			800	ACR	30A		14
15	Y-38		"	6667		7467		800	"		Y-5.5	16
17		3P	"	6667			7467	800	"	3P		18
19			SPACE		0				SPACE			20
21			"			0			"			22
23			"				0		"			24
			CONNECTED kVA PER PHASE		88.64	90.68	84.81					

DEMAND FACTOR APPLICATIONS	conn. load (kVA)	demand factor (%)	demand load (kVA)
RECEPTACLE (FIRST 10kVA)	0.0	100%	0.0
RECEPTACLE (OVER 10kVA)	0.0	50%	0.0
CONTINUOUS LOADS	0.0	125%	0.0
NON-CONTINUOUS LOADS	264.1	100%	264.1

USE: 2 SETS OF 3-250mm2 THHN CU &1-50mm2 THHN CU GND IN 3" dia. PVC

TOTAL CONNECTED LOAD: 264.1 kVA
SPARE CAPACITY: 52.8 kVA
TOTAL DEMAND LOAD: 264.1 kVA
TOTAL SERVICE @70% D.F.: 465.2 Amps

VOLTS: 230V | PHASE: 3 | WIRE: 3 | AIC: 10K

PANEL: "FCU-1"

MAIN: 225A,3P | BUSSING: 225A | LOCATION: Ground Floor | TYPE: BOLT-ON | ISOLATED GROUND BUS: N/A | MOUNTING: FLUSH

CKT		BKR	LOAD DESCRIPTION	LOAD (VA)	WATTS A	WATTS B	WATTS C	LOAD (VA)	LOAD DESCRIPTION	BKR		CKT
1	X-22	60A	FAHU-Z1-01	4261	5693			1432	FCU-Z1-10	20A	X-3.5	2
3		2P	"	4261		5693		1432	"	2P		4
5	X-3.5	20A	FCU-Z1-01	1432			2864	1432	FCU-Z1-11	20A	X-3.5	6
7		2P	"	1432	2864			1432	"	2P		8
9	X-3.5	20A	FCU-Z1-02	1432		2864		1432	FCU-Z1-12	20A	X-3.5	10
11		2P	"	1432			2864	1432	"	2P		12
13	X-3.5	20A	FCU-Z1-03	1432	2238			806	FCU-Z1-13	20A	X-3.5	14
15		2P	"	1432		2238		806	"	2P		16
17	X-3.5	20A	FCU-Z1-04	1432			3469	2037	FCU-Z2-01	30A	X-5.5	18
19		2P	"	1432	3469			2037	"	2P		20
21	X-3.5	20A	FCU-Z1-05	1432		3469		2037	FCU-Z2-02	30A	X-5.5	22
23		2P	"	1432			3469	2037	"	2P		24
25	X-3.5	20A	FCU-Z1-06	1432	3469			2037	FCU-Z2-05	30A	X-5.5	26
27		2P	"	1432		3469		2037	"	2P		28
29	X-3.5	20A	FCU-Z1-07	1432			3469	2037	FCU-Z2-08	30A	X-5.5	30
31		2P	"	1432	3469			2037	"	2P		32
33	X-3.5	20A	FCU-Z1-08	1432		3469		2037	FCU-Z2-07	30A	X-5.5	34
35		2P	"	1432			3469	2037	"	2P		36
37	X-3.5	20A	FCU-Z1-09	1432	3469			2037	FCU-Z2-09	30A	X-5.5	38
39		2P	"	1432		3469		2037	"	2P		40
			CONNECTED kVA PER PHASE		24.67	24.67	19.60					

DEMAND FACTOR APPLICATIONS	conn. load (kVA)	demand factor (%)	demand load (kVA)
RECEPTACLE (FIRST 10kVA)	0.0	100%	0.0
RECEPTACLE (OVER 10kVA)	0.0	50%	0.0
CONTINUOUS LOADS	0.0	125%	0.0
NON-CONTINUOUS LOADS	68.9	100%	68.9

USE: 3-100mm2 THHN CU &1-22mm2 THHN CU GND IN 2 1/2" dia. PVC

TOTAL CONNECTED LOAD: 68.9 kVA
SPARE CAPACITY: 0.0 kVA
TOTAL DEMAND LOAD: 68.9 kVA
TOTAL SERVICE @70% D.F.: 122.8 Amps

VOLTS: 230V | PHASE: 3 | WIRE: 3 | AIC: 10K

PANEL: "FCU-2"

MAIN: 200A,3P | BUSSING: 225A | LOCATION: Ground Floor | TYPE: BOLT-ON | ISOLATED GROUND BUS: N/A | MOUNTING: FLUSH

CKT		BKR	LOAD DESCRIPTION	LOAD (VA)	WATTS A	WATTS B	WATTS C	LOAD (VA)	LOAD DESCRIPTION	BKR		CKT
1	X-5.5	30A	FCU-Z2-03	2037	2843			806	FCU-Z3-05	20A	X-3.5	2
3		2P	"	2037		2843		806	"	2P		4
5	X-5.5	30A	FCU-Z2-04	2037			2843	806	FCU-Z3-06	20A	X-3.5	6
7		2P	"	2037	2843			806	"	2P		8
9	X-5.5	30A	FCU-Z2-06	2037		2843		806	FCU-Z3-07	20A	X-3.5	10
11		2P	"	2037			2843	806	"	2P		12
13	X-5.5	30A	FCU-Z2-10	1790	2596			806	FCU-Z3-08	20A	X-3.5	14
15		2P	"	1790		2596		806	"	2P		16
17	X-5.5	30A	FCU-Z2-11	1790			2596	806	FCU-Z3-09	20A	X-3.5	18
19		2P	"	1790	2596			806	"	2P		20
21	X-8.0	40A	FAHU-Z2-01	2851		4641		1790	FAHU-Z3-01	30A	X-5.5	22
23		2P	"	2851			4641	1790	"	2P		24
25	X-3.5	20A	FCU-Z3-01	806	2406			1600	EXFU -Z1	30A	X-5.5	26
27		2P	"	806		2406		1600	"	2P		28
29	X-3.5	20A	FCU-Z3-02	806			2406	1600	EXFU -Z2	30A	X-5.5	30
31		2P	"	806	2406			1600	"	2P		32
33	X-3.5	20A	FCU-Z3-03	806		2406		1600	EXFU -Z3	30A	X-5.5	34
35		2P	"	806			2406	1600	"	2P		36
37	X-3.5	20A	FCU-Z3-04	806	806				SPARE	20A		38
39		2P	"	806		806			"	2P		40
			CONNECTED kVA PER PHASE		16.50	18.54	17.74					

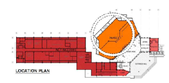
DEMAND FACTOR APPLICATIONS	conn. load (kVA)	demand factor (%)	demand load (kVA)
RECEPTACLE (FIRST 10kVA)	0.0	100%	0.0
RECEPTACLE (OVER 10kVA)	0.0	50%	0.0
CONTINUOUS LOADS	0.0	125%	0.0
NON-CONTINUOUS LOADS	52.8	100%	52.8

USE: 3-80mm2 THHN CU &1-14mm2 THHN CU GND IN 2" dia. RSC

TOTAL CONNECTED LOAD: 52.8 kVA
SPARE CAPACITY: 0.0 kVA
TOTAL DEMAND LOAD: 52.8 kVA
TOTAL SERVICE @80% D.F.: 107.2 Amps

3 E3.0 PANEL SCHEDULES

NOT TO SCALE



KEY PLAN :

NOTES:

PROFESSIONAL ELECTRICAL ENGINEER

PRC NO :
VALID UNTIL :
TIN :
PTR :
DATE :
PLACE :

REFERENCES

DWG. No.	REV.	DESCRIPTION

REVISION

No.	DATE	DESCRIPTION	CHECKED BY
01	15-05-2019	FOR APPROVAL	DOST
01	15-05-2019	FOR APPROVAL	GSCS

COORDINATION

	ARCH'L	CIVIL	ELECT'L	MECH'L	STRUC	SURVEY
DOST						
GSCS						

DESIGN DRAWING

CLIENT :

DOST NAST

PROJECT CONSULTANT :

GSCS Since 2006

PROJECT LOCATION :
NATIONAL ACADEMY OF SCIENCE AND TECHNOLOGY, 2/F PHILIPPINE SCIENCE HERITAGE CENTER, DOST COMPOUND BICUTAN, TAGUIG, METRO MANILA.

PROJECT TITLE :
MECHANICAL AND ELECTRICAL DESIGN FOR THE INSTALLATION OF HVAC AND GENERATOR SET AT THE PHIL SCIENCE HERITAGE CENTER

DRAWING TITLE :
Single Line Diagram & Panel Schedules

SCALE :	PREPARED BY:	P.P.
NTS	CHECKED BY	
	VERIFIED BY	
DATE : 15-05-2019	REFERENCE	TRANSMITTAL NO. EDD-01
CONTRACT No. 2019-55	DRAWING No. E3.0	REVISION No. 00

Visualization | Render

Visualization | Render

Visualization | Render

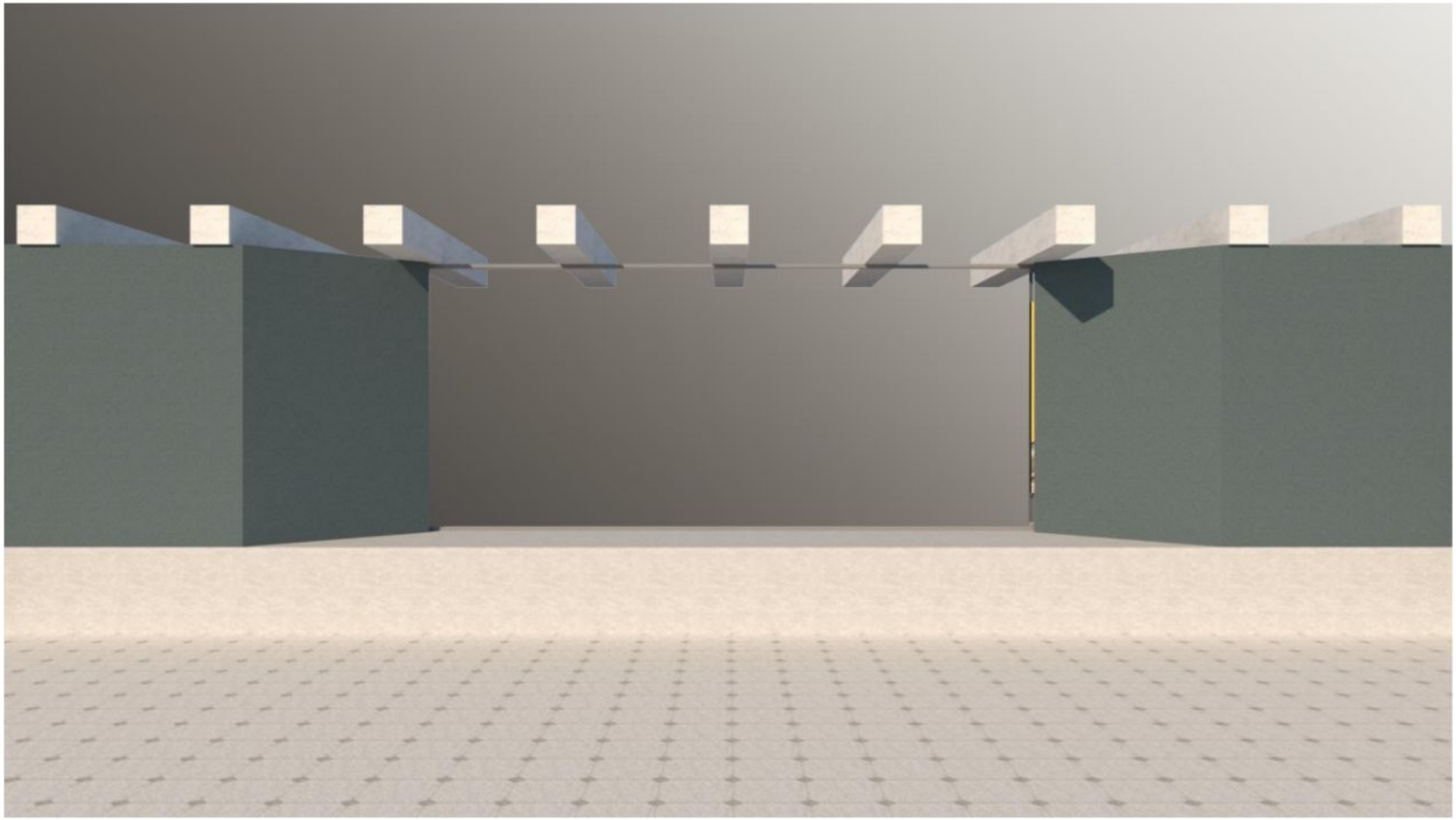
Visualization | Render

Visualization| walkthrough

LED Door (closed)

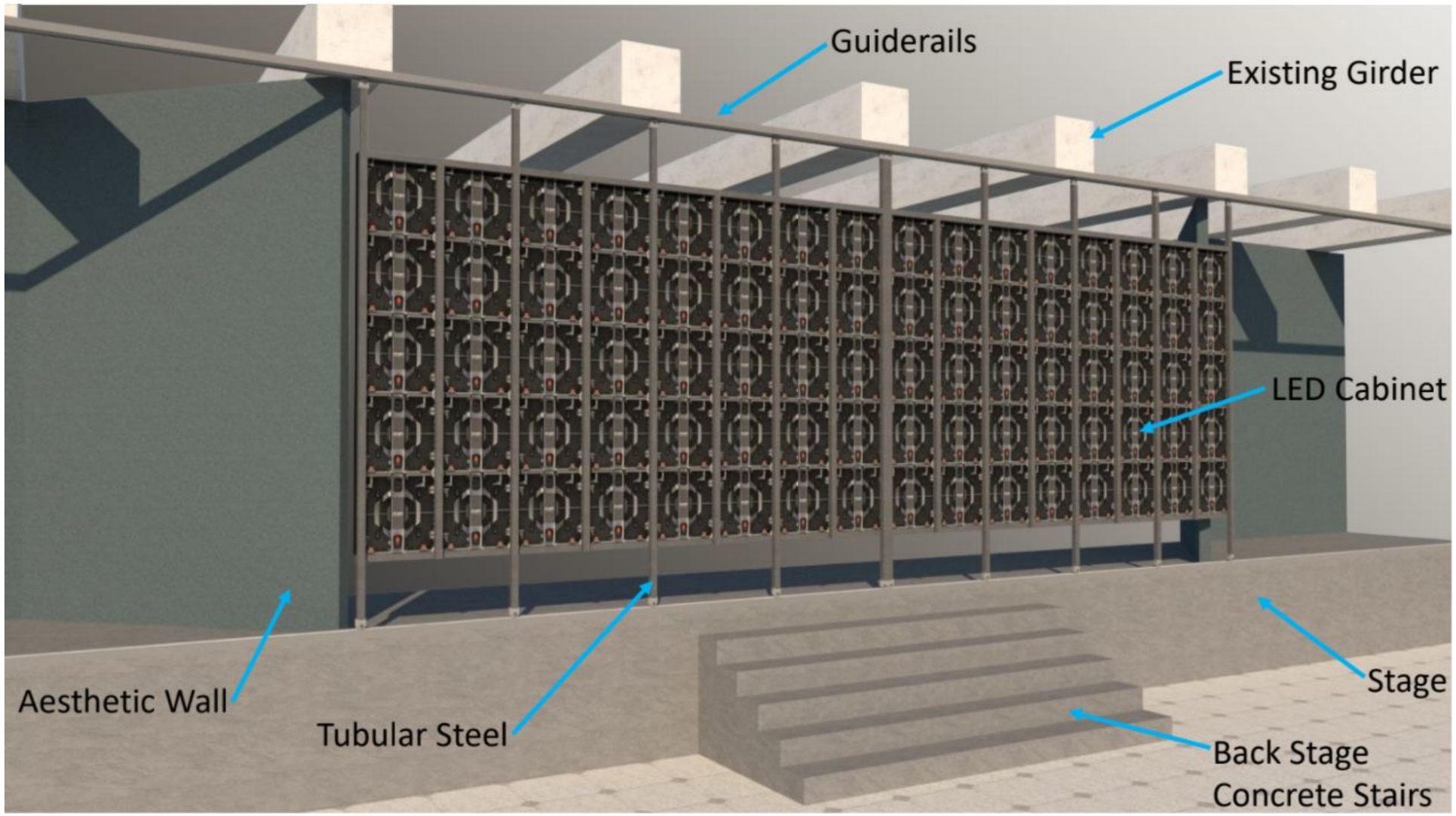
LED size 2 sets of 4.0m(w) x 2.5m(h)

LED Door (open)

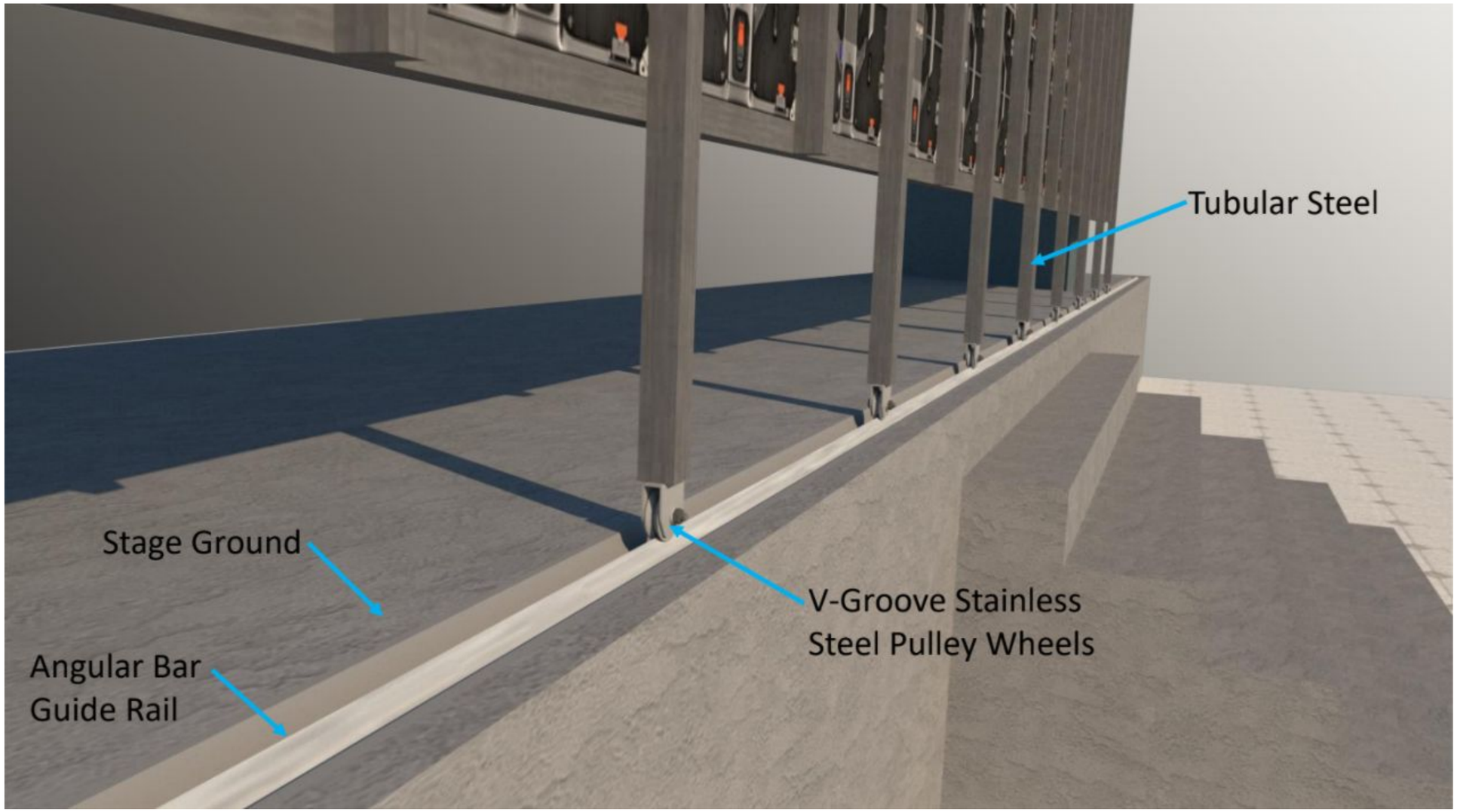


LED size 2 sets of 4.0m(w) x 2.5m(h)

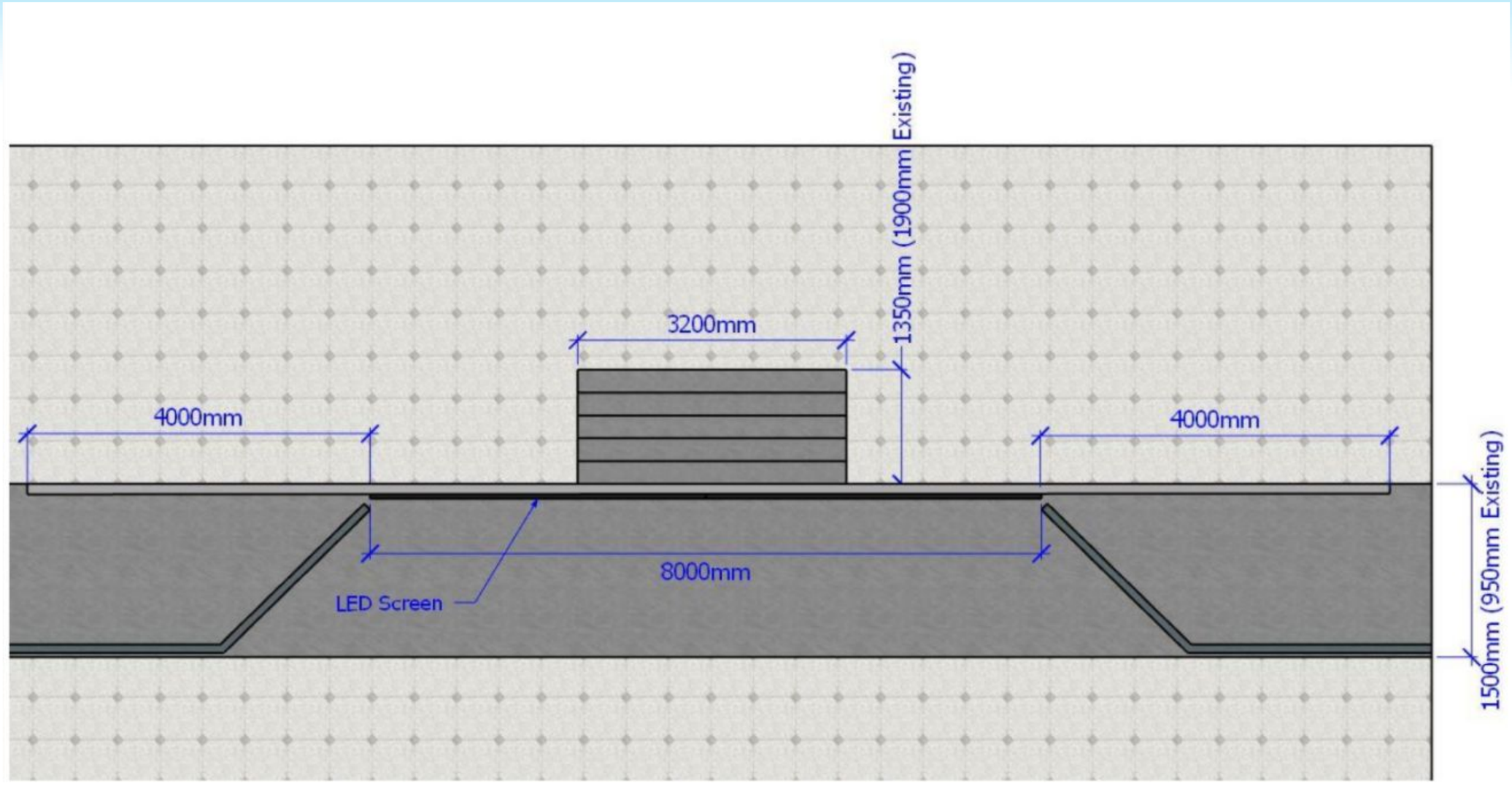
LED Door (structural)



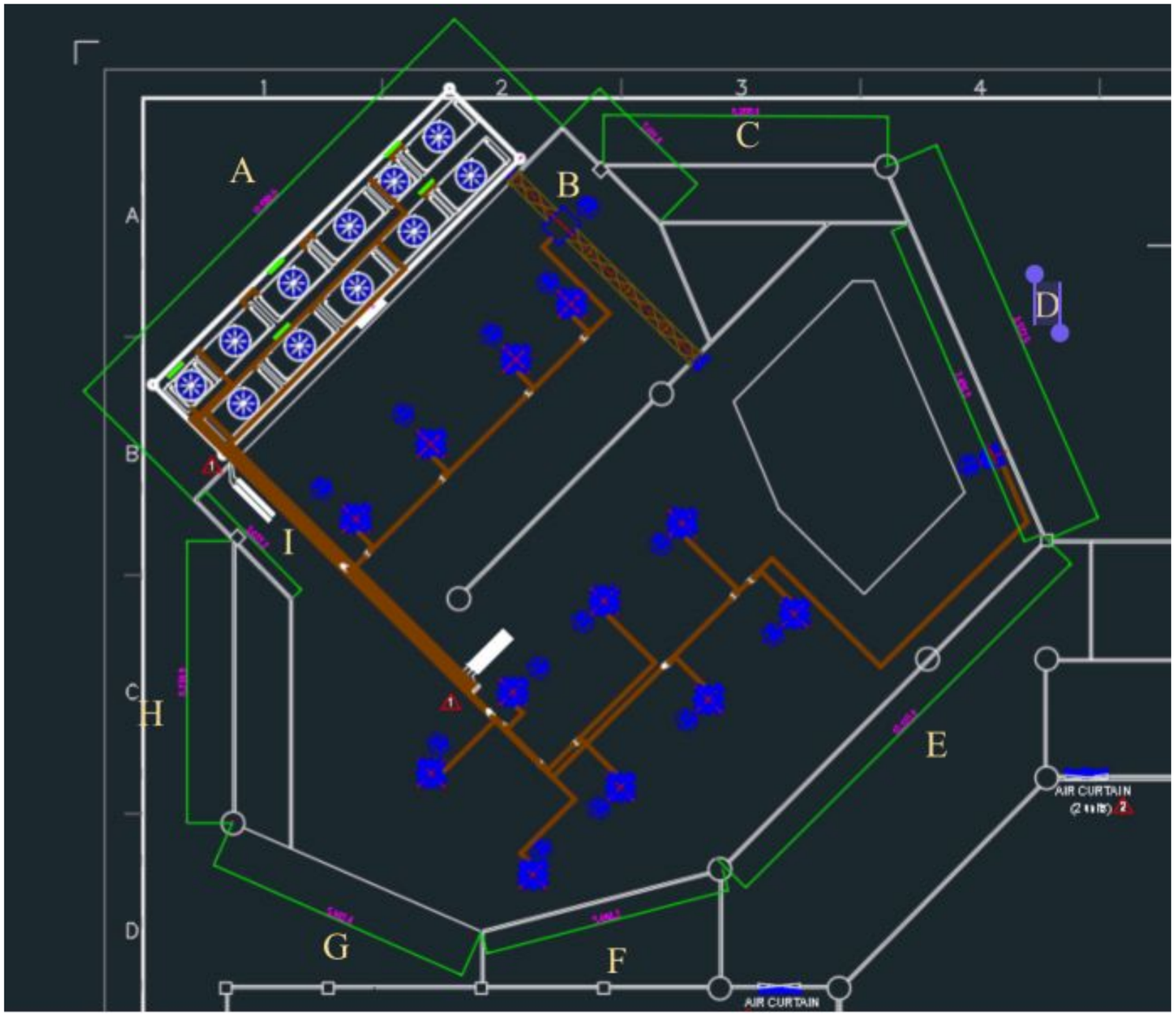
LED Door (structural)



LED Door (top view)



Wall labels and measurement



Wall labels and measurement

A - 11.58m

B - 3.01m

C - 6.26m

D - 8.97m

E - 10.12m

F - 5.48m

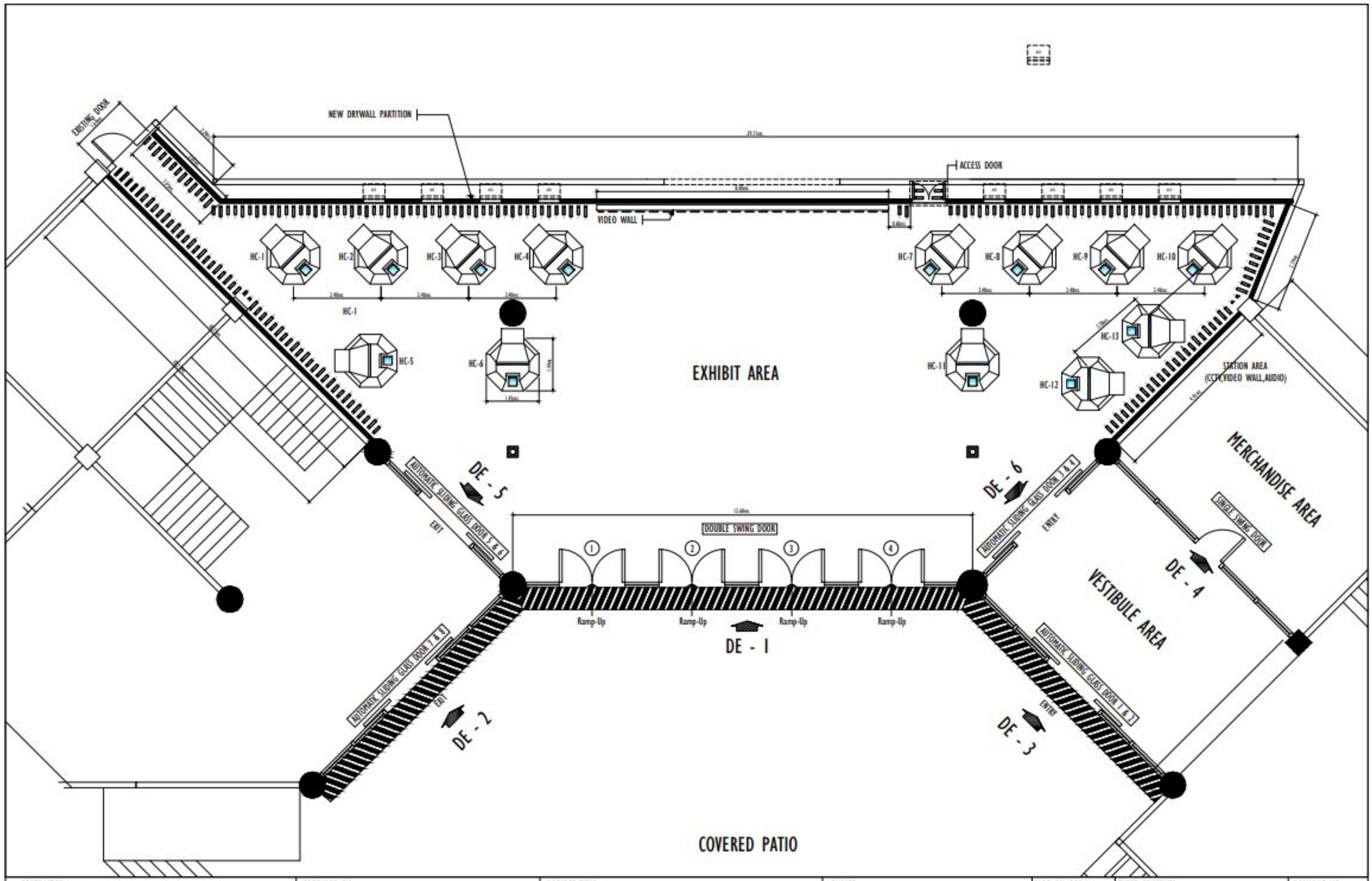
G - 5.98m

H - 6.23m

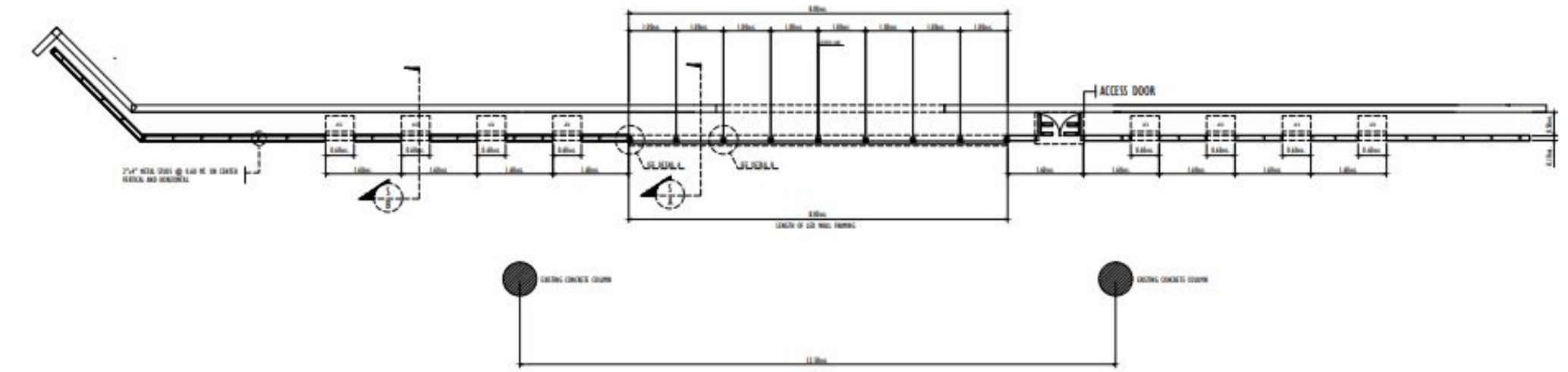
I - 3.03m

Estimated Height : 7.5 m
Estimated Floor Space : 698.90 sq M

PHASE 1

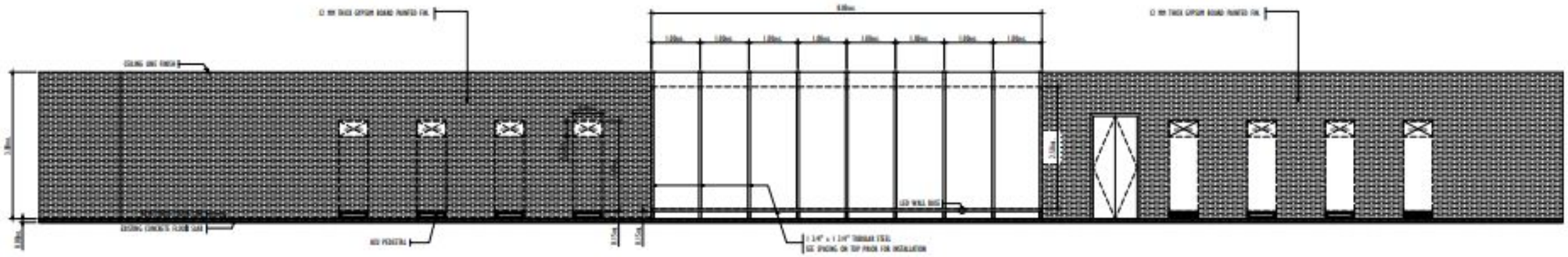


CONTRACTOR	PREPARED BY:	PROJECT TITLE:	OWNER:	CADD BY: RPR	SHEET CONTENTS:	DRAWING NO.
SAFARI BUILDERS INC. GENERAL CONTRACTOR ARCHITECTURAL AND ENGINEERING DESIGN	CRIZALDO F. CABE PROJECT ENGINEER PRC NO. 0088542 EXPD DATE 4/04/20 TIN NO. 163-315-446 PTR NO. 8105655 Date Issued: JAN. 23, 2019	INTERIOR RENOVATION AND CURATORIAL UPGRADE FOR THE PHILIPPINES SCIENCE HERITAGE CENTER PROJECT LOCATION: DOST Compound, Bicutan, Taguig City.	DOST - NAST ADDRESS:	REVIEWED BY: CHECK BY: DATE: DATE PRINT :03-20-19	AS BUILT-PLAN EXHIBIT GROUND FLOOR LAYOUT	AB-1 A-1



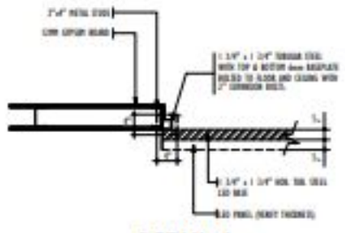
DRYWALL ACU OPENING AND LED WALL FRAMING PLAN

SCALE 1:100 MT.

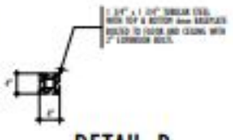


DRYWALL AND LED WALL FRAMING ELEVATION

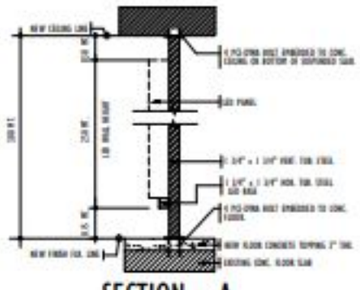
SCALE 1:100 MT.



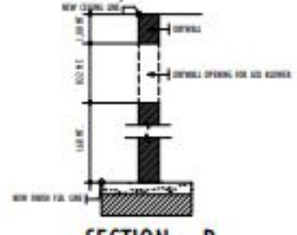
DETAIL A



DETAIL B

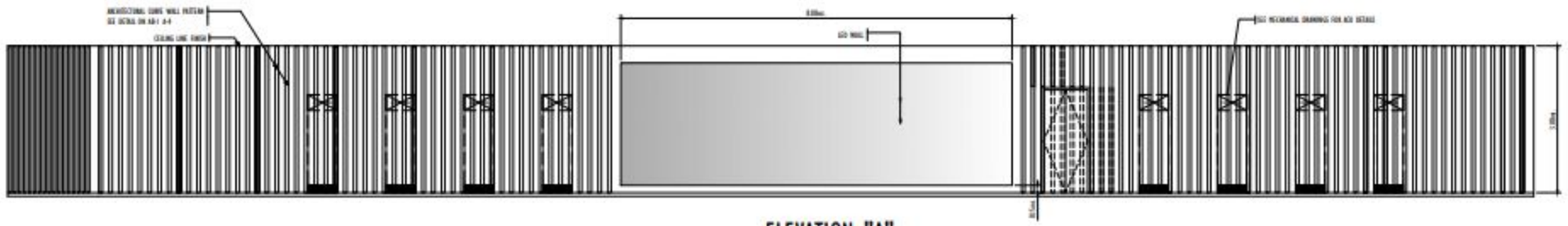


SECTION - A



SECTION - B

CONTRACTOR	PREPARED BY:	PROJECT TITLE:	OWNER:	CADD BY: RPR	SHEET CONTENTS:	DRAWING NO.
SAFARI BUILDERS INC. GENERAL CONTRACTOR ARCHITECTURAL AND ENGINEERING DESIGN	CRIZALDO F. CABE PROJECT ENGINEER PRC NO. 0088542 VALID UNTIL: 4/04/20 TIN NO. 163-315-446 PTR NO. 8105655 Date Issued: JAN. 23, 2019	INTERIOR RENOVATION AND CURATORIAL UPGRADE FOR THE PHILIPPINES SCIENCE HERITAGE CENTER PROJECT LOCATION: DOST Compound, Bicutan, Taguig City.	DOST - NAST ADDRESS:	REVIEWED BY: CHECK BY: DATE: DATE PRINT :03-20-19	AS BUILT-PLAN INTERIOR WALL ELEVATIONS INTERIOR GLASS DOOR & FIXED WINDOWS ELEV.	AB-1 A-3



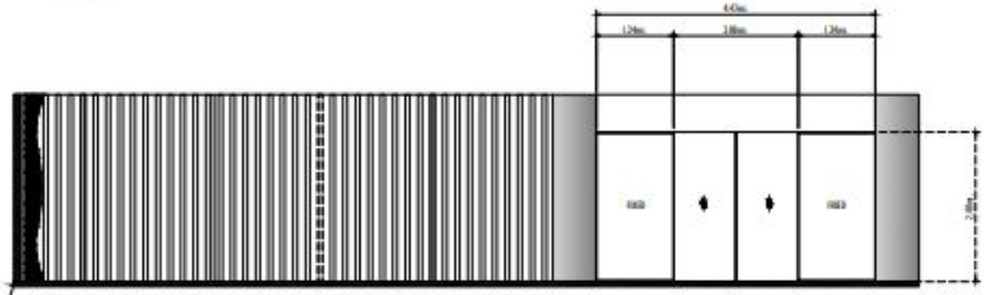
ELEVATION "A"

SCALE 1:100 MT.

ELEVATION - 5

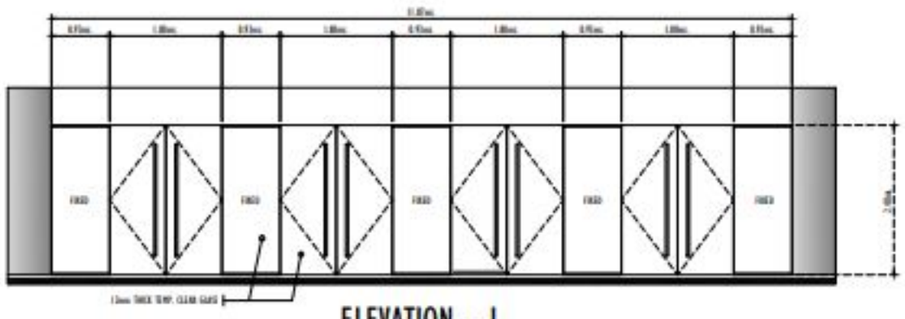
SCALE 1:100 MT.

NEW FINISH FLOOR LINE



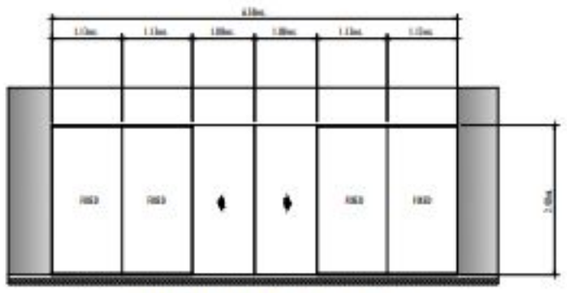
ELEVATION - 6

SCALE 1:100 MT.



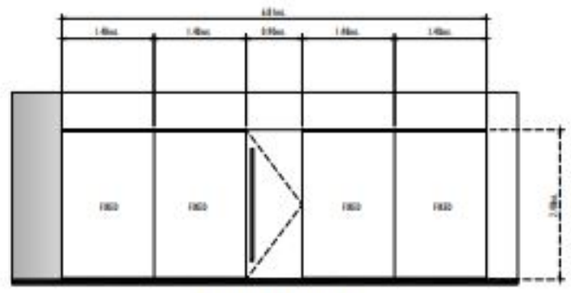
ELEVATION - 1

SCALE 1:100 MT.



ELEVATION (Typ.) - 2 & 3

SCALE 1:100 MT.



ELEVATION - 4

SCALE 1:100 MT.

CONTRACTOR	PREPARED BY:	PROJECT TITLE:	OWNER:	CADD BY: RPR	SHEET CONTENTS:	DRAWING NO.
SAFARI BUILDERS INC. GENERAL CONTRACTOR ARCHITECTURAL AND ENGINEERING DESIGN	CRIZALDO F. CABE PROJECT ENGINEER PRC NO. 0088542 PAID UNTIL: 4/04/20 TIN NO. 163-315-446 PTR NO. 8105655 Date Issued: JAN. 23, 2019	INTERIOR RENOVATION AND CURATORIAL UPGRADE FOR THE PHILIPPINES SCIENCE HERITAGE CENTER PROJECT LOCATION: DOST Compound, Bicutan, Taguig City.	DOST - NAST ADDRESS:	REVIEWED BY: CHECK BY: DATE: DATE PRINT :03-20-19	AS BUILT-PLAN INTERIOR WALL ELEVATIONS INTERIOR GLASS DOOR & FIXED WINDOWS ELEV.	AB-1 A-2

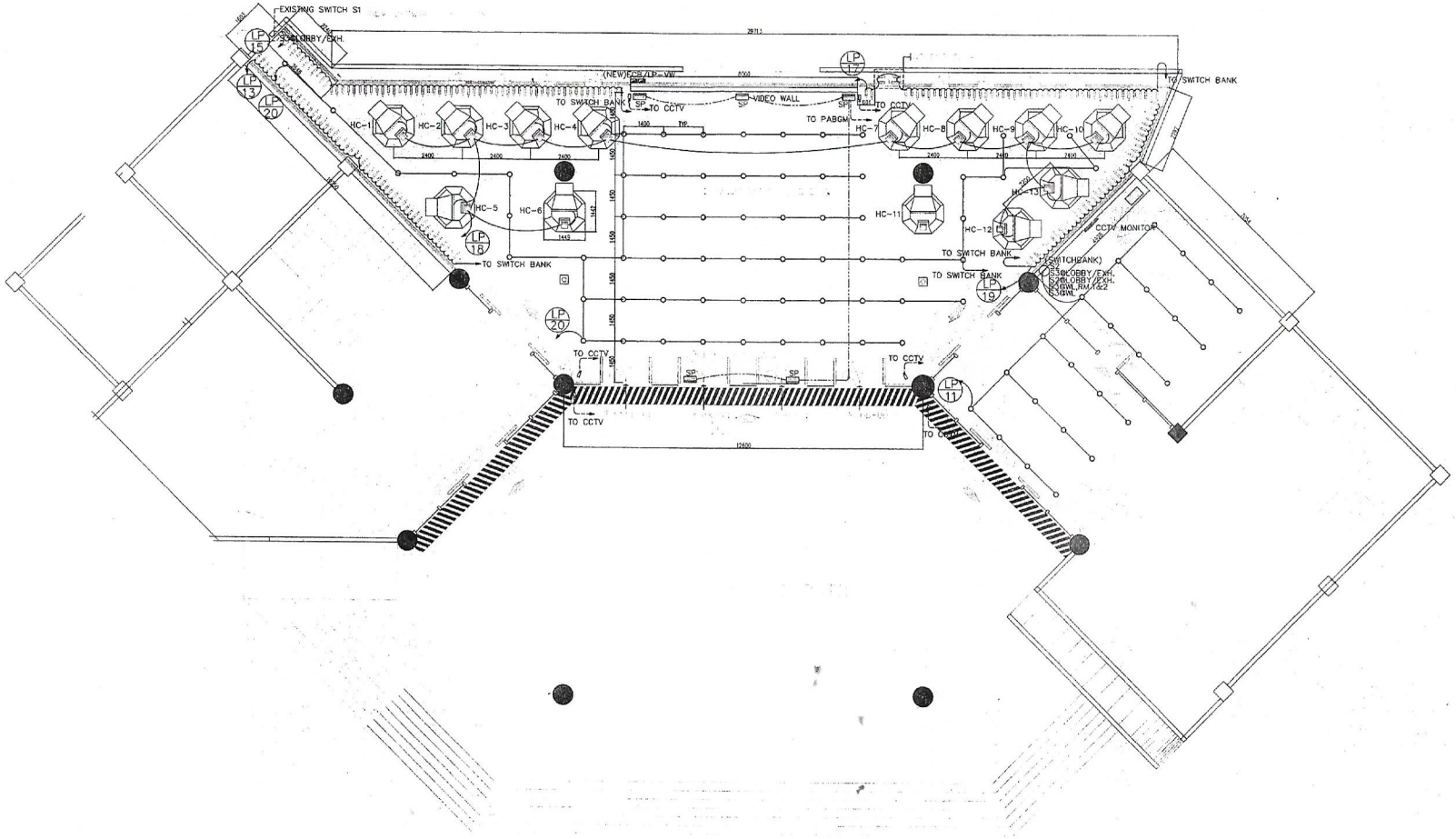


EXHIBIT GROUND FLOOR LIGHTING, & CCTV LAYOUT PLAN

E
2-1

SCALE : 1: 100 MTS.

CONTRACTOR: SAFARI BUILDERS INC. GENERAL CONTRACTOR ARCHITECTURAL & ENGINEERING DESIGN	ELECTRICAL ENGINEER: EDGARDO H. LIGAS PROFESSIONAL ELECTRICAL ENGINEER REG. NO. 1838 - TIN 180-033-271	PROJECT TITLE: INTERIOR RENOVATION AND CURATORIAL UPGRADE FOR PSPC (Phase-1)	OWNER: NATIONAL ACADEMY OF SCIENCE & TECHNOLOGY	REVISIONS: AS - BUILT	DESIGN BY: CADD BY: JFG	SHEET CONTENTS: EXHIBIT GROUND FLOOR LIGHTING & CCTV LAYOUT PLAN
	REG.NO.				CHECKED BY: HBH	
	PTR NO. LOT 3 BLK 5 AMLAC VILLE SUBDIVISION, LITEX ROAD PAYATAS "I" QUEZON CITY ISSUED: PTR NO. 7303774 E - 1-3-07				APPROVED BY:	
	ISSUED AT.	LOCATION: DOST COMPLEX, BICUTAN, TAGUIG CITY	ADDRESS: 3RD LEVEL SCIENCE HERITAGE BUILDING, DOST COMPOUND, BICUTAN, TAGUIG CITY		DESIGN BY: DATE: MAY.20,2019	SCALE: AS SHOWN

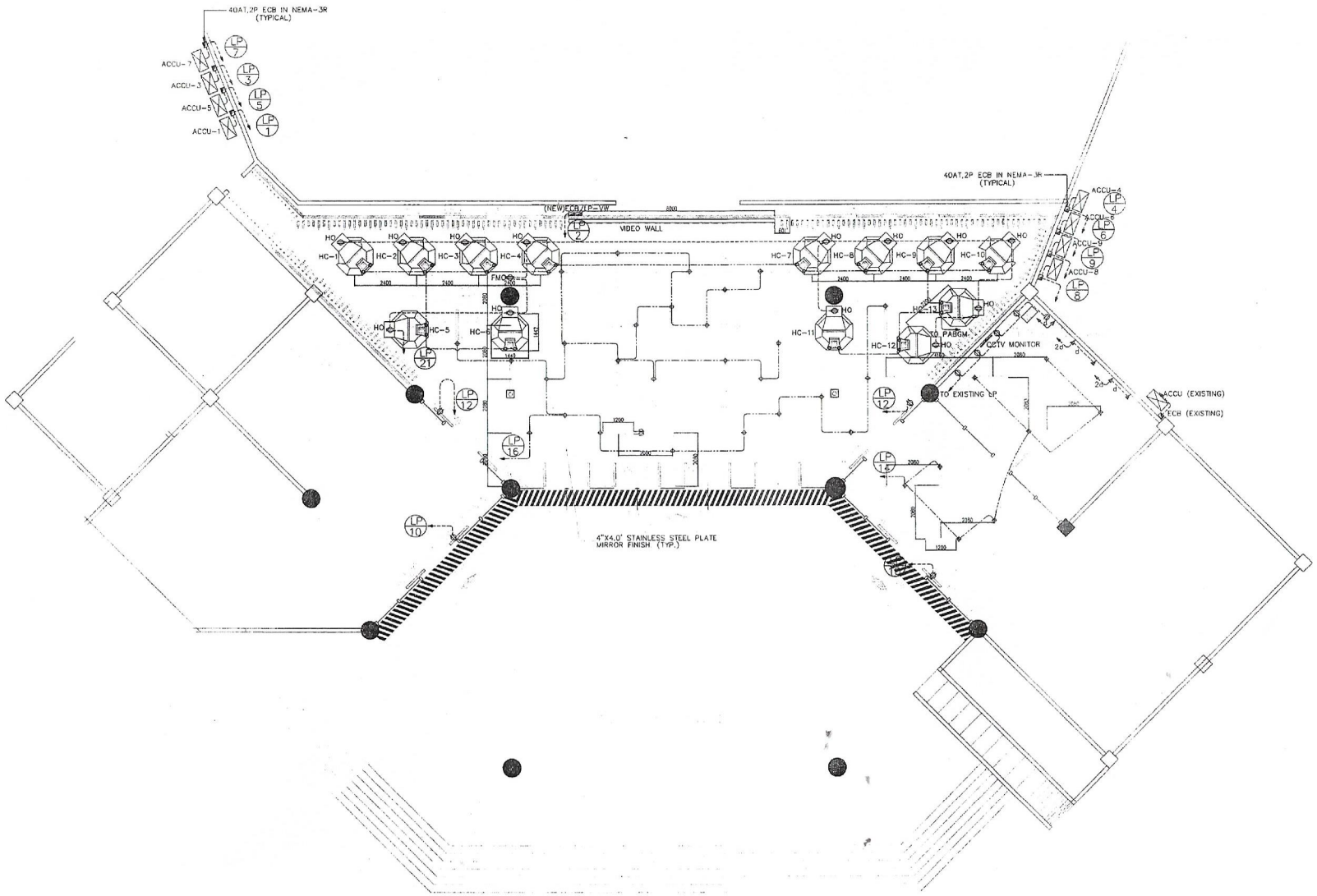


EXHIBIT GROUND FLOOR LIGHTING POWER & TELEPHONE LAYOUT PLAN

E 2-1

SCALE : 1: 100 MTS.

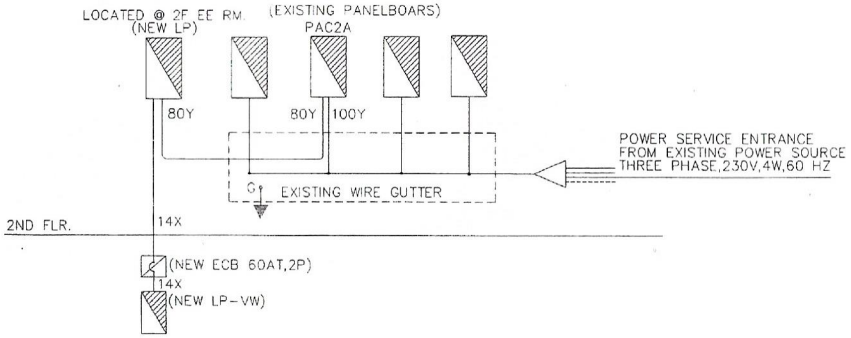
CONTRACTOR: SAFARI BUILDERS INC. GENERAL CONTRACTOR ARCHITECTURAL & ENGINEERING DESIGN	ELECTRICAL ENGINEER: EDGARDO F. LIGAS PROFESSIONAL ELECTRICAL ENGINEER PRC REG. NO. 0019533 PROFESSIONAL ELECTRICAL ENGINEER LOT-3-SLK-5 ANGAT ROAD SUBDIVISION LITEX ROAD PANATIAS, TE QUEZON CITY	PROJECT TITLE: INTERIOR RENOVATION AND CURATORIAL UPGRADE FOR PSPC (Phase-1)	OWNER: NATIONAL ACADEMY OF SCIENCE & TECHNOLOGY	REVISIONS: AS - BUILT	DESIGN BY: CADD BY: JFG CHECKED BY: HBH APPROVED BY: DESIGN BY:	SHEET CONTENTS: EXHIBIT GROUND FLOOR LIGHTING POWER & TELEPHONE LAYOUT PLAN
	REG.NO. PTR NO. 7323774 A - 1-3-19 DATE ISSUED:		ADDRESS: 3RD LEVEL SCIENCE HERITAGE BUILDING,			
	ISSUED AT:	LOCATION: DOST COMPLEX,BICUTAN,TAGUIG CITY	DOST COMPOUND, BICUTAN, TAGUIG CITY		DATE: MAY.20,2019	SCALE: AS SHOWN

E 1-1 GENERAL NOTES:

1. ALL ELECTRICAL INSTALLATIONS HEREIN SHALL CONFORM TO THE LATEST EDITION OF THE PHILIPPINE ELECTRICAL CODE THE RULES & REGULATIONS OF THE LOCAL UTILITY COMPANIES AND THE LAWS AND ORDINANCES OF THE LOCAL CODE ENFORCING AUTHORITIES CONCERNED.
2. POWER SERVICE ENTRANCE VOLTAGE SHALL BE 230V,3–PHASE,60HZ.
3. MINIMUM SIZE OF CONDUCTOR & TO BE USED SHALL BE 3.5MM2 TYPE THHN (#12 AWG) AND 15MM(1/2") NOMINAL DIAMETER RESPECTIVELY.
4. MOUNTING HEIGHTS:
   - PANEL BOARDS --- 1.80 M.ABOVE FIN.FLR.LVL.
   - SWITCHES --- 1.20 M.ABOVE FIN. FLR.LVL.
   - CONV.OUTLETS --- 0.30 M.ABOVE FIN.FLR.LVL.
5. LIGHTING SWITCHES SHALL BE QUIETMATIC TYPE RATED 5 AMPS 1– POLE,230V.
6. CONVENIENCE OUTLETS SHALL BE DUPLEX TYPE PARALLEL SLOTS,RATED 10 AMPS.
7. ALL ELECTRICAL WORKS/INSTALLATIONS SHALL BE UNDER THE DIRECT SUPER–VISION OF A QUALIFIED LICENSED ELECTRICAL ENGINEER.

E 1-2 LEGEND / SYMBOLS:

- POWER SERVICE ENTRANCE
- MDP — MAIN DISTRIBUTION PANEL
- LP — PANELBOARD
- ECB — ENCLOSED CIRCUIT BREAKER
- DOWN LIGHT 22W
- FLOOR LIGHT 22W
- WALL / STRIP LIGHT
- CCTV — INDOOR/OUTDOOR CCTV
- SP — SPEAKER
- FMO — FLOOR MOUNTED OUTLET
- HO — HOLOGRAM OUTLET
- DUPLEX CONVENIENCE OUTLET
- DATA OUTLET
- CP — CIRCUIT HOMERUN
- FCU — FAN COIL UNIT
- ACCU — AIR CON. CONDENSER UNIT
- Sa — ONE GANG SWITCH
- Sbc — TWO GANG SWITCH
- Sbcd — THREE GANG SWITCH



E 1-3 POWER SINGLE LINE DIAGRAM

SCALE: N.T.S.

WIRING LEGEND:

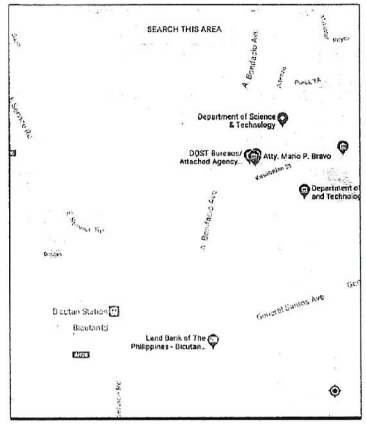
100Y	3–100mm2 THHN + 1–22mm THHN G.IN 80mm DIA. IMC
80Y	3–80mm2 THHN + 1–14mm THHN G.IN 65mm DIA. IMC
14X	2–14mm2 THHN + 1–5.5mm TW G.IN 32mm DIA. IMC
8X	2–8.0mm2 THHN + 1–5.5mm TW G.IN 25mm DIA. PVC
5.5X	2–5.5mm2 THHN + 1–3.5mm TW G.IN 20mm DIA. PVC
3.5X	2–3.5mm2 THHN + 1–3.5mm TW G.IN 15mm DIA. PVC

E 1-4 LOAD SCHEDULE & COMPUTATIONS:

PANELBOARD - LP (NEW)

CKT. NO.	LIGHTING LOAD FL (12W)	DL (22W)	SL (12W)	HL (100W)	CO. (200W)	MOTOR LOAD QTY	HP	P/H	OTHER LOADS KIND	RATING	PHASE	VOLTS	TOTAL WATTS	AMPERE LOAD AB	BC	CA	3P	SIZE OF WIRES AND CONDUITS	CIRCUIT BRE AT	AF	POL
1						1	5TR		ACCU/FCU–1	6.75KW	1	230	6750	29.35				8X	40	50	2
2									ECB/LP–WALL VIDEO	5KW	1	230	5000	21.74				14X	63	100	2
3						1	5TR		ACCU/FCU–3	6.75KW	1	230	6750			29.35		8X	40	50	2
4						1	5TR		ACCU/FCU–4	6.75KW	1	230	6750			29.35		8X	40	50	2
5						1	5TR		ACCU/FCU–5	6.75KW	1	230	6750		29.35			8X	40	50	2
6						1	5TR		ACCU/FCU–6	6.75KW	1	230	6750		29.35			8X	40	50	2
7						1	5TR		ACCU/FCU–7	6.75KW	1	230	6750	29.35				8X	40	50	2
8						1	5TR		ACCU/FCU–8	6.75KW	1	230	6750	29.35				8X	40	50	2
9						1	5TR		ACCU/FCU–9	6.75KW	1	230	6750			29.35		8X	40	50	2
10					2				DOOR OUTLET/RM.1		1	230	400			1.74		5.5X	32	50	2
11		24							CEILING LIGHT/RM.1&2		1	230	528		2.29			5.5X	32	50	2
12					2				DOOR OUTLET/EXH.AREA		1	230	400		1.74			5.5X	32	50	2
13			65						WALL LIGHT/STRIP LTS		1	230	780	3.39				3.5X	20	50	2
14	8								FLOOR LIGHT/RM.1&2		1	230	96	0.42				3.5X	20	50	2
15			51						WALL LIGHT/STRIP LTS		1	230	612			2.66		3.5X	20	50	2
16	28								FLOOR LIGHT/EXH.AREA		1	230	616			2.68		3.5X	20	50	2
17			52						WALL LIGHT/STRIP LTS		1	230	624		2.71			3.5X	16	50	2
18				13					CEILING LIGHT/HOLOGRAM		1	230	1300		5.65			3.5X	20	50	2
19			38						WALL LIGHT/STRIP LTS		1	230	456	1.98				3.5X	16	50	2
20		63							CEILING LIGHT/EXH.AREA		1	230	1386	6.03				3.5X	20	50	2
21					14				OUTLET/HOLOGRAM		1	230	2800			12.17		3.5X	20	50	2
22									SPACE		1	230								50	2
	36	87	206	13	18				TOTAL=				68,998	121.61	71.09	107.30		ML= 29.35			

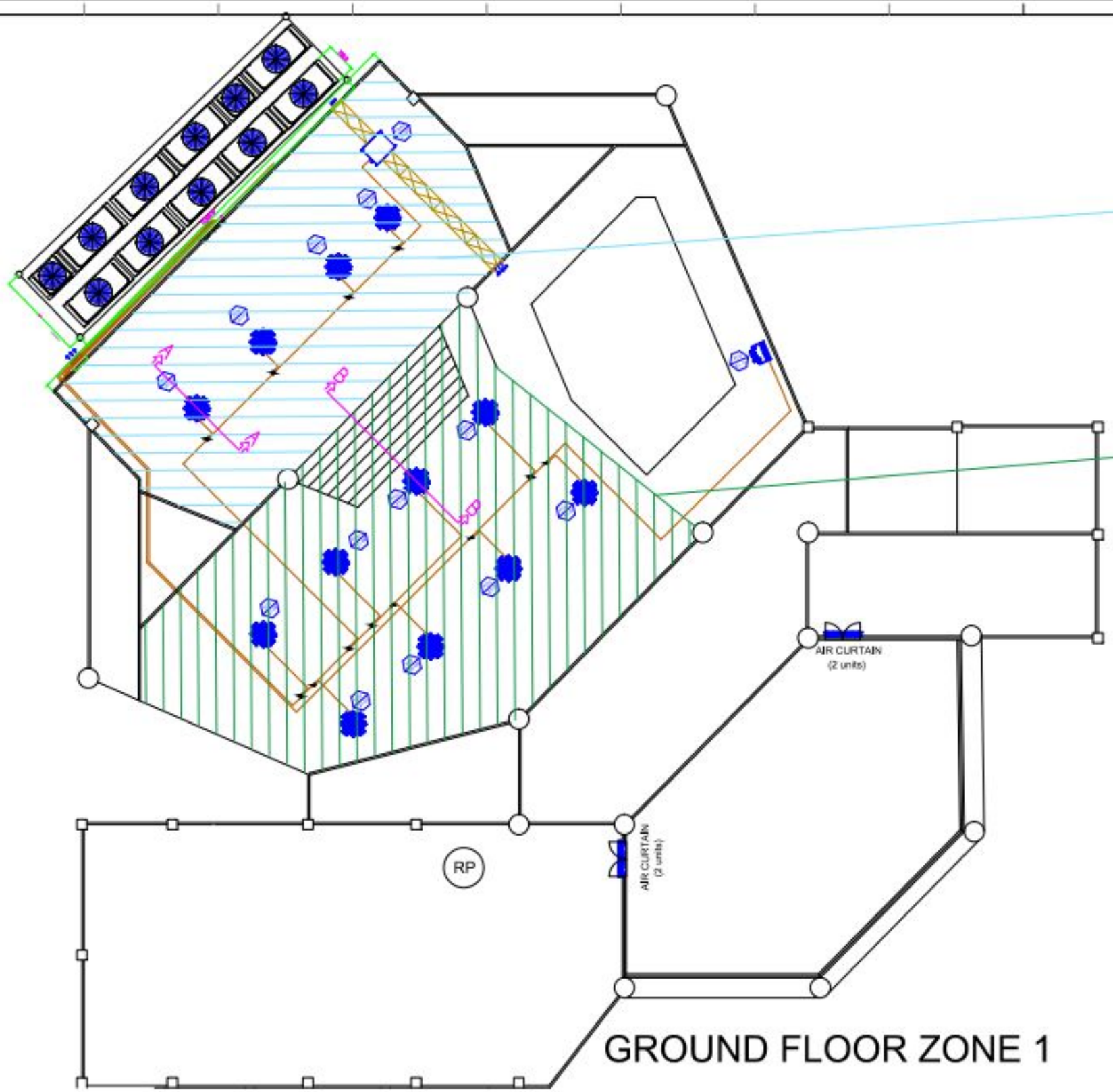
IFL = 121.61(1.732)(80%DF)+25% (29.35) = 175.83 AMPS
FEEDER : 3–80mm2 THHN & 1–14mm2 THHN in 65mm (2,1/2") DIA.IMC
MAINS : 200A MCCB,2P,25 KAIC
PANELBOARD : 1–PHASE,230V,3–WIRE COMPLETE W/ GROUND BUS AND TERMINAL LUGS



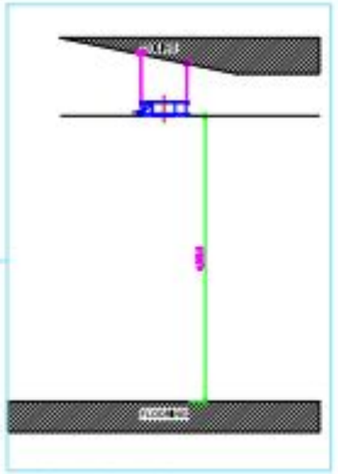
E 1-5 VICINITY MAP

SCALE: N.T.S.

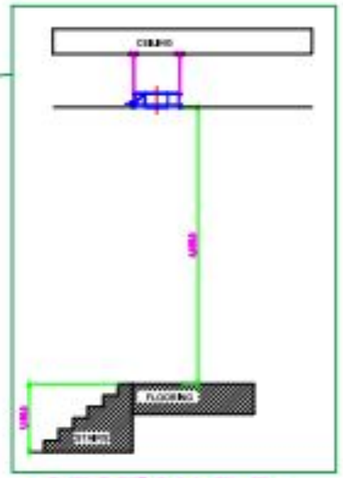
CONTRACTOR: SAFARI BUILDERS INC. GENERAL CONTRACTOR ARCHITECTURAL & ENGINEERING DESIGN	ELECTRICAL ENGINEER: EDGARDO H. LIGAS PROFESSIONAL ELECTRICAL ENGINEER REG. NO. 1936 TIN 183-533-271 PROFESSIONAL ELECTRICAL ENGINEER LOT 1 BLK 2 AMLAC VILLE SUBDIVISION-LITEX ROAD ENGINEER PAYATAS B, QUEZON CITY PTR NO. 7323774 JO 1-3-19	PROJECT TITLE: INTERIOR RENOVATION AND CURATORIAL UPGRADE FOR PSPC (Phase-1)	OWNER: NATIONAL ACADEMY OF SCIENCE & TECHNOLOGY	REVISIONS: AS - BUILT	DESIGN BY: CADD BY: JFG CHECKED BY: HBH APPROVED BY: DESIGN BY:	SHEET CONTENTS: GENERAL NOTES LEGEND/SYMBOLS POWER SINGLE LINE DIAGRAM LOAD SCHEDULE & COMPUTATIONS VICINITY MAP
	REG.NO. PTR NO. DATE ISSUED: ISSUED AT:		ADDRESS: 3RD LEVEL SCIENCE HERITAGE BUILDING, LOCATION: DOST COMPLEX,BICUTAN,TAGUIG CITY		DATE: MAY.20,2019	SCALE: AS SHOWN
			DOST COMPOUND, BICUTAN, TAGUIG CITY			



GROUND FLOOR ZONE 1



SECTION A-A



SECTION B-B

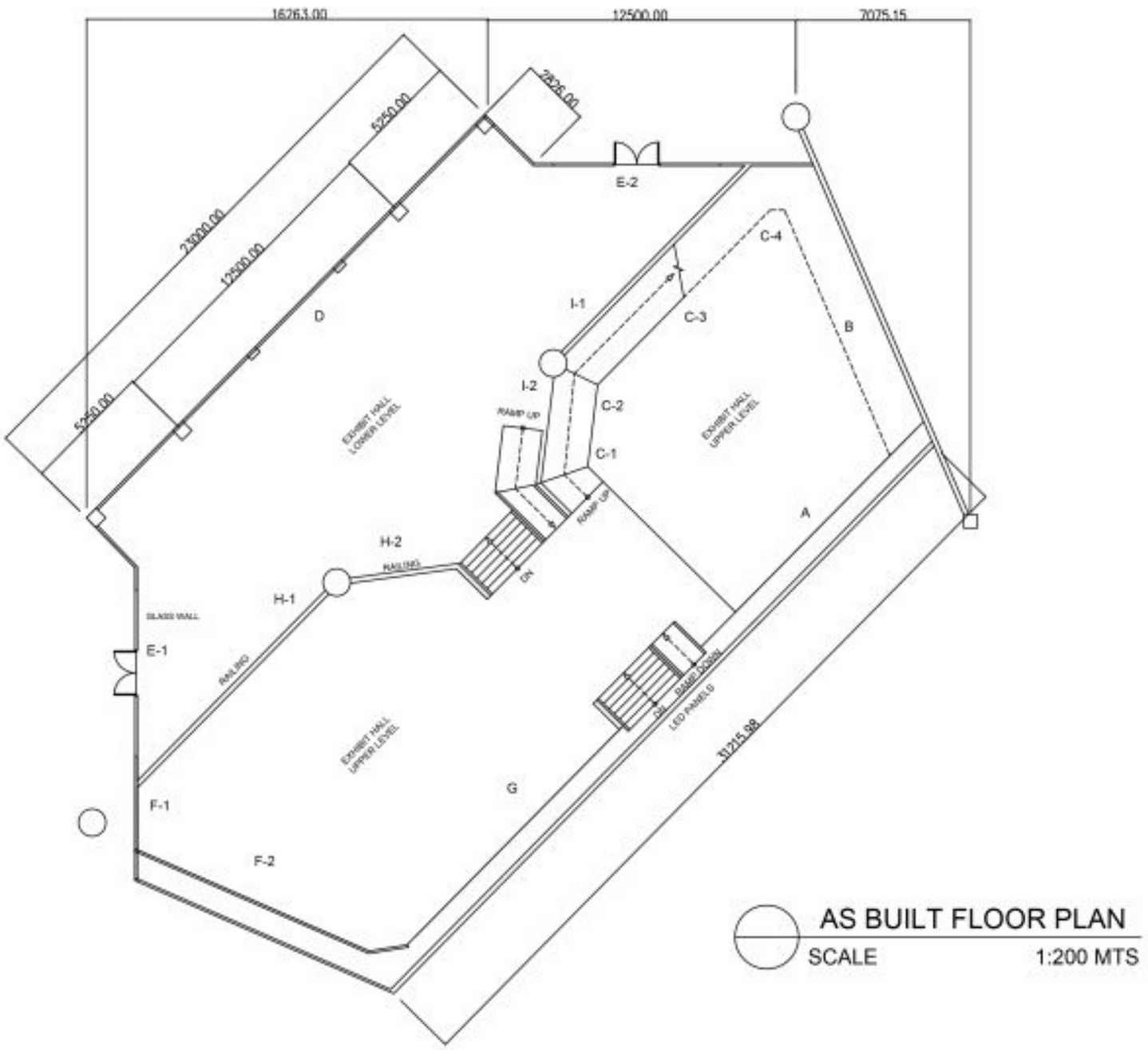
DESIGN DRAWING

PROJECT :
SUPPLY AND INSTALLATION OF MECHANICAL AND ELECTRICAL OF HVAC AND GENERATOR SET AT THE PHILIPPINE SCIENCE HERITAGE CENTER

DRAWING TITLE :
INDOOR UNIT LEVEL GROUND FLOOR

COORDINATION					CHECKED BY:	DRAWN BY:
ARCH.	STRUCT.	ELECH.	MECH.	OTHERS		
					FILE NO.	DATE:
						SCALE:
ENVIRONMENTAL NO.		DATE: JANUARY 2021			DRAWING NO.	REVISION NO.
QUALITY CONTROL		DATE:				

PHASE 2 - TECHNICAL DRAWINGS

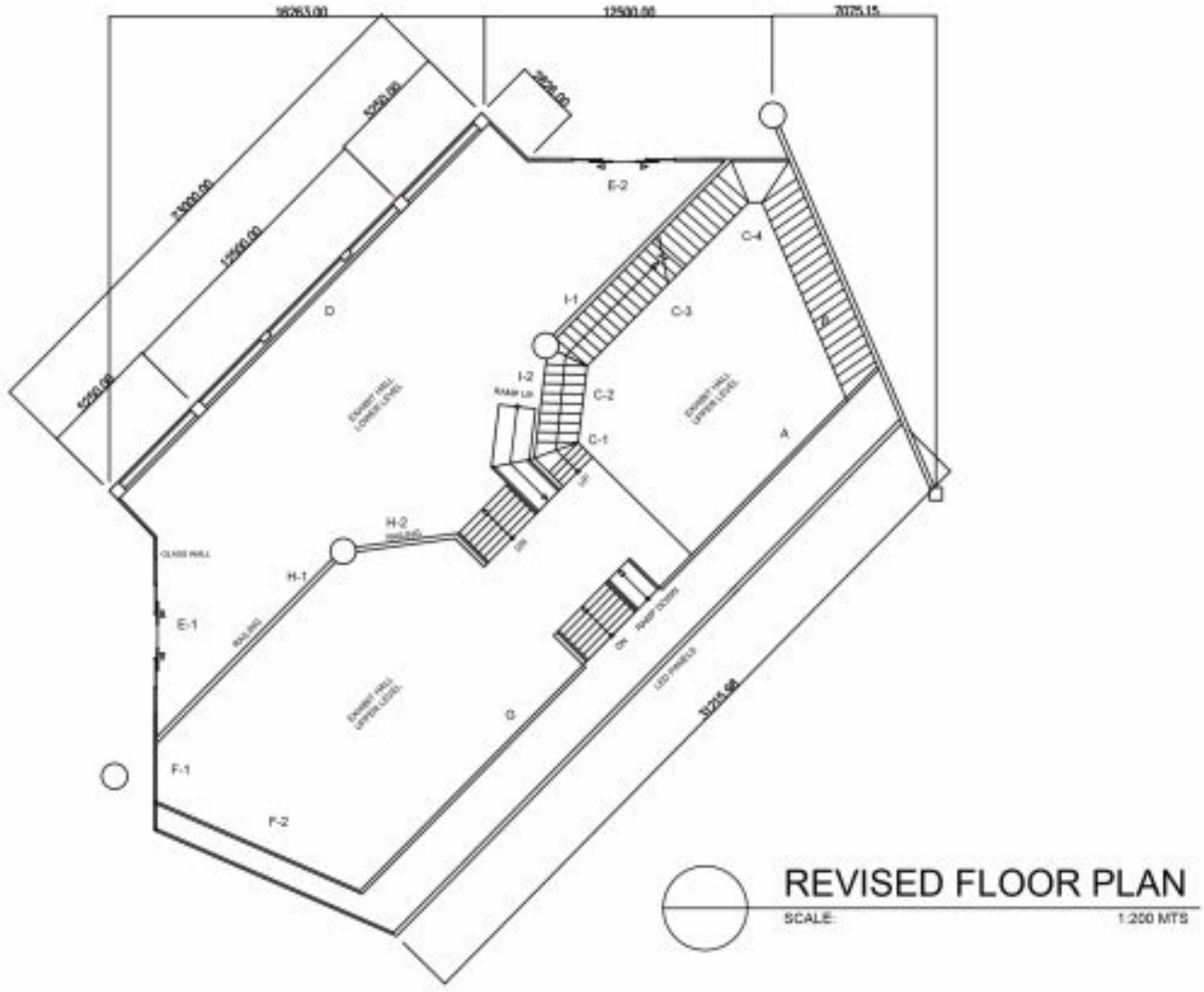


NAST DOST PHASE 2

DOST TAGUIG CITY

PREPARED BY: AR. GARCIA

APRIL 15, 2021



REVISED FLOOR PLAN

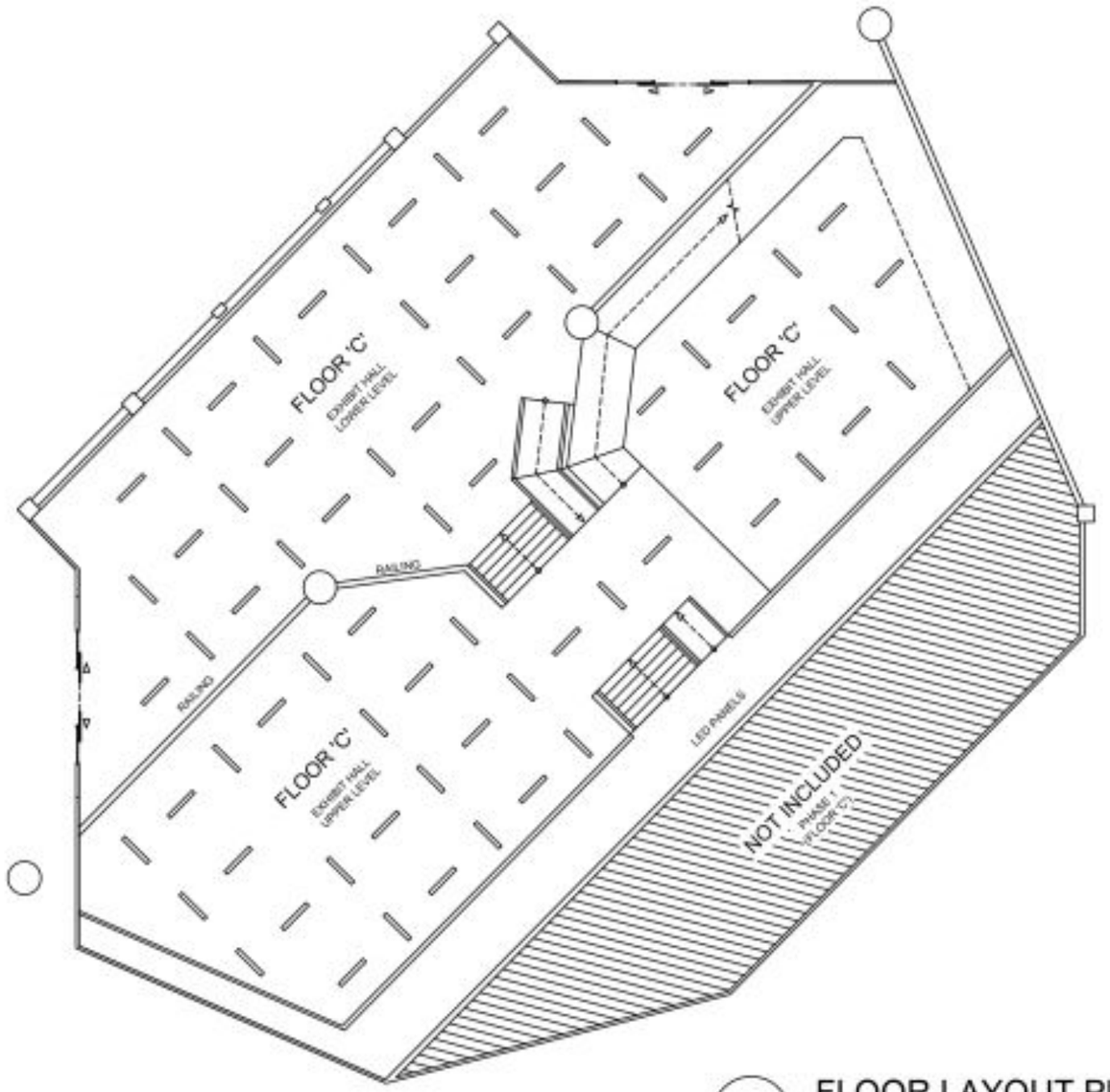
SCALE: 1:200 MTS

NAST DOST PHASE 2 - REVISED FLOOR PLAN

DOST TAGUIG CITY

PREPARED BY: AR. GARCIA

APRIL 15, 2021



FLOOR LAYOUT PLAN
SCALE 1:200 MTS

FLOOR LEGEND

FLOOR 'A'	EXISTING 60x60cm WHITE TILES TO BE RETAINED
FLOOR 'B'	EXISTING 30x30cm WHITE TILES TO BE RETAINED
FLOOR 'C'	NEW POLISHED HARDENED CONCRETE
▭	METAL FLOOR INSERT w/ INGROUND LED LIGHT

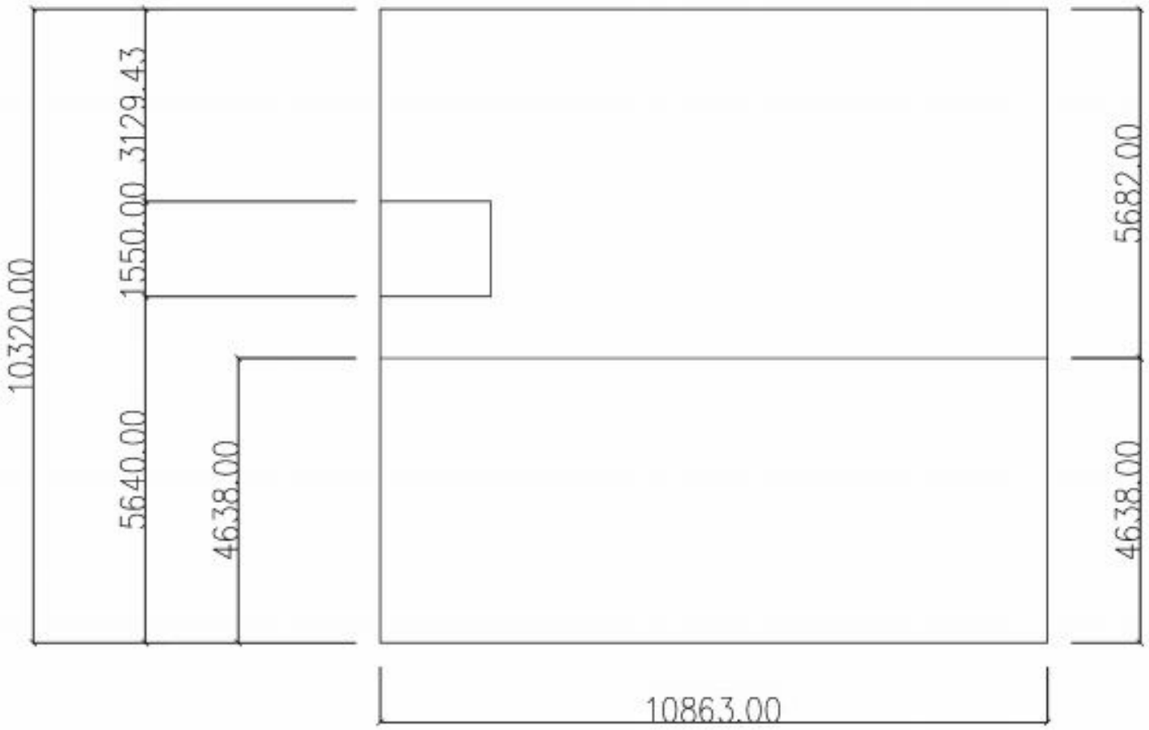
NAST DOST PHASE 2
DOST TAGUIG CITY

PREPARED BY: AR. GARCIA
APRIL 15, 2021

WALL A ELEVATION

TOTAL AREA: 109.31sqm

SCALE : 1:100 MTS.



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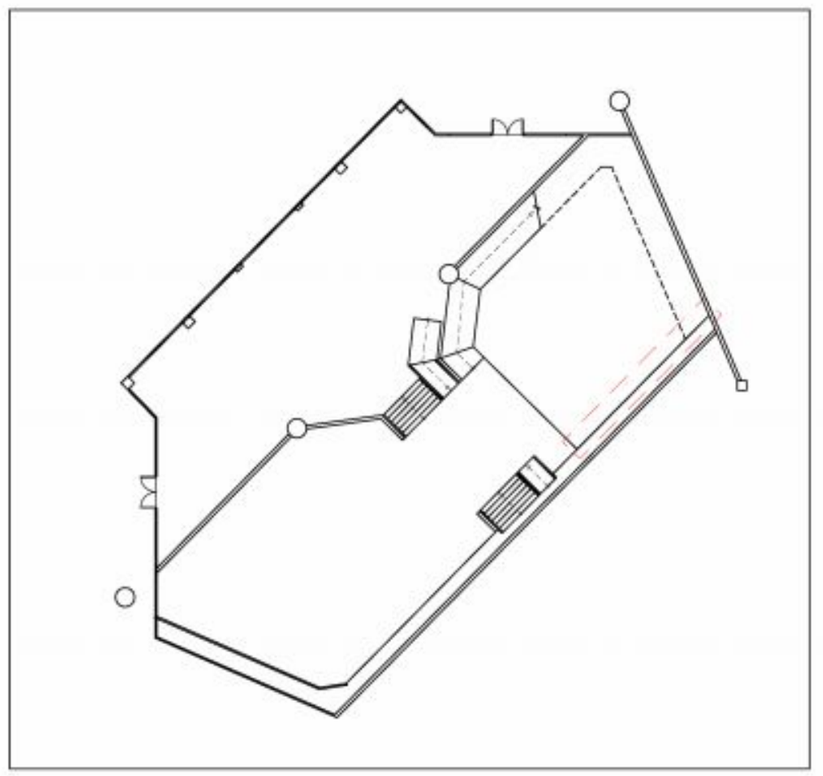


NAST DOST PHASE 2 - WALL A ELEVATION

DOST TAGUIG CITY

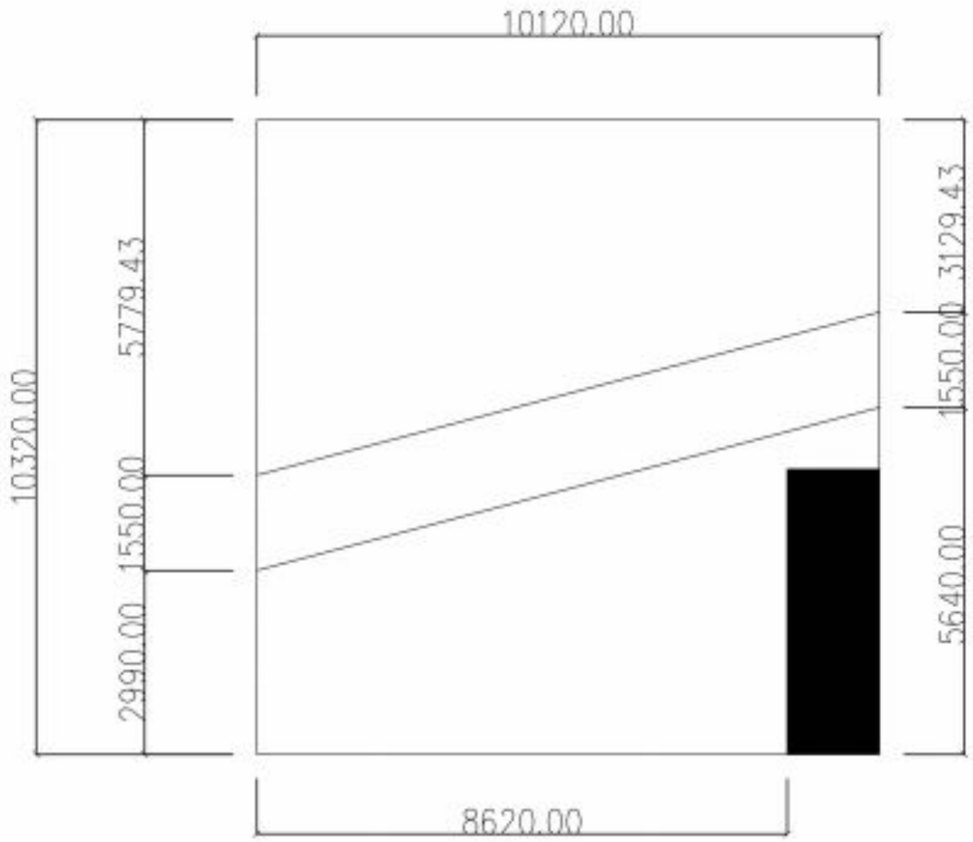
PREPARED BY: AR. GARCIA

APRIL 15, 2021

WALL B ELEVATION

TOTAL AREA: 97.48sqm

SCALE : 1:100 MTS.



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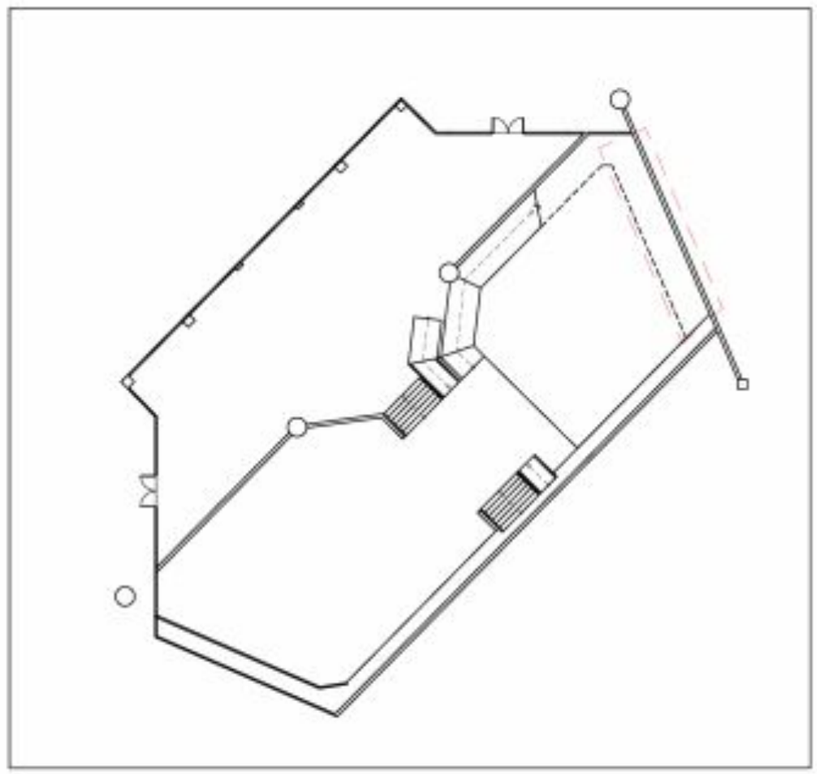


NAST DOST PHASE 2 - WALL B ELEVATION

DOST TAGUIG CITY

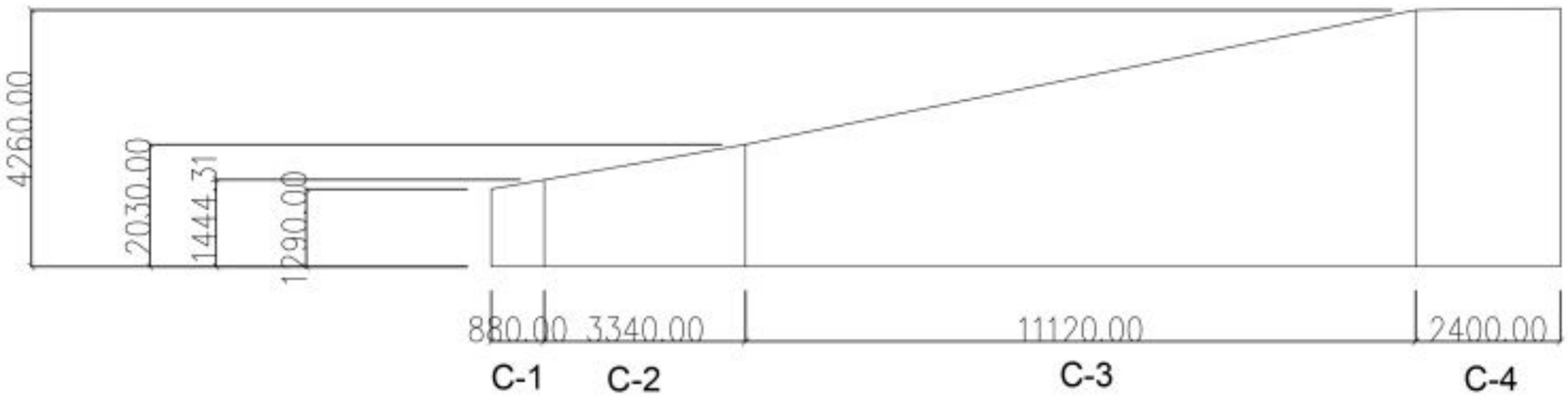
PREPARED BY: AR. GARCIA

APRIL 15, 2021

WALL C ELEVATION

TOTAL AREA: 52.20sqm

SCALE : 1:100 MTS.



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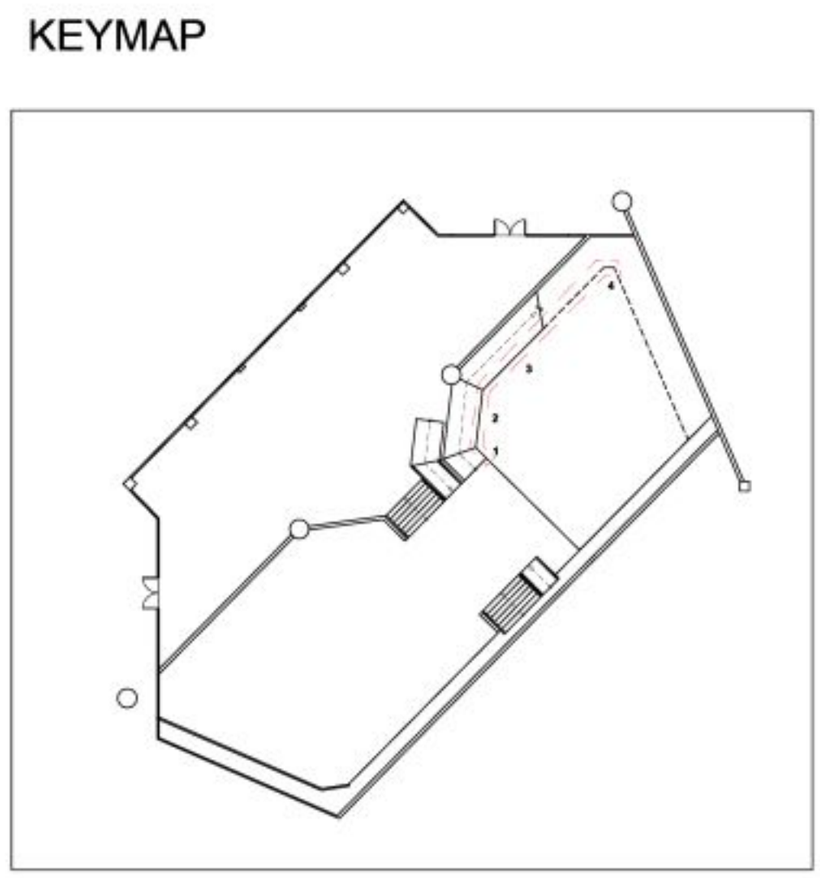


NAST DOST PHASE 2 - WALL F ELEVATION

DOST TAGUIG CITY

PREPARED BY: AR. GARCIA

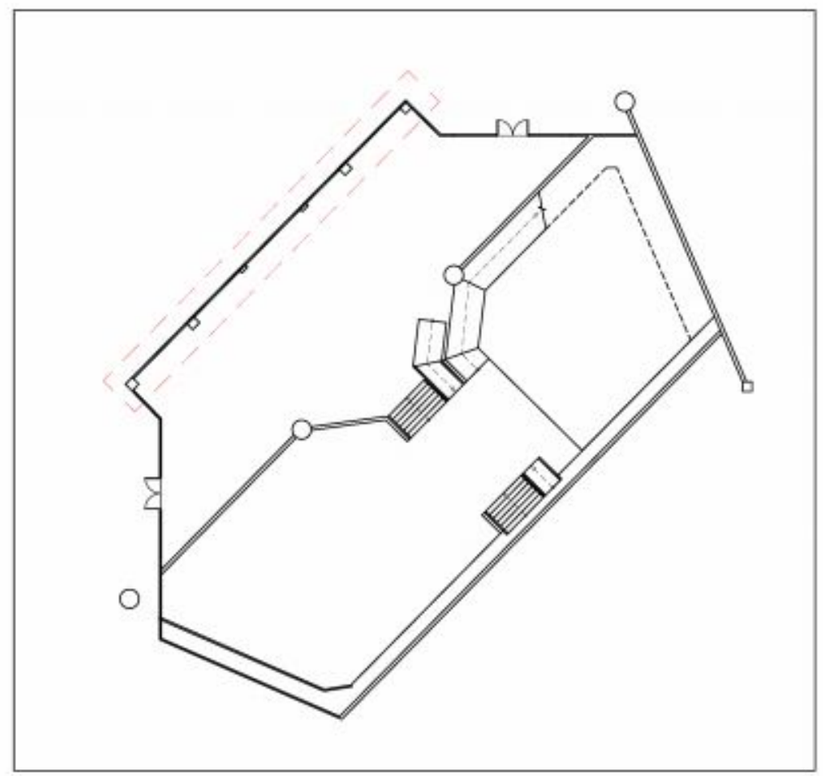
APRIL 15, 2021

WALL D ELEVATION

TOTAL AREA: 102.41sqm

SCALE : 1:100 MTS.

KEYMAP



NAST DOST PHASE 2 - WALL D ELEVATION

DOST TAGUIG CITY

PREPARED BY: AR. GARCIA

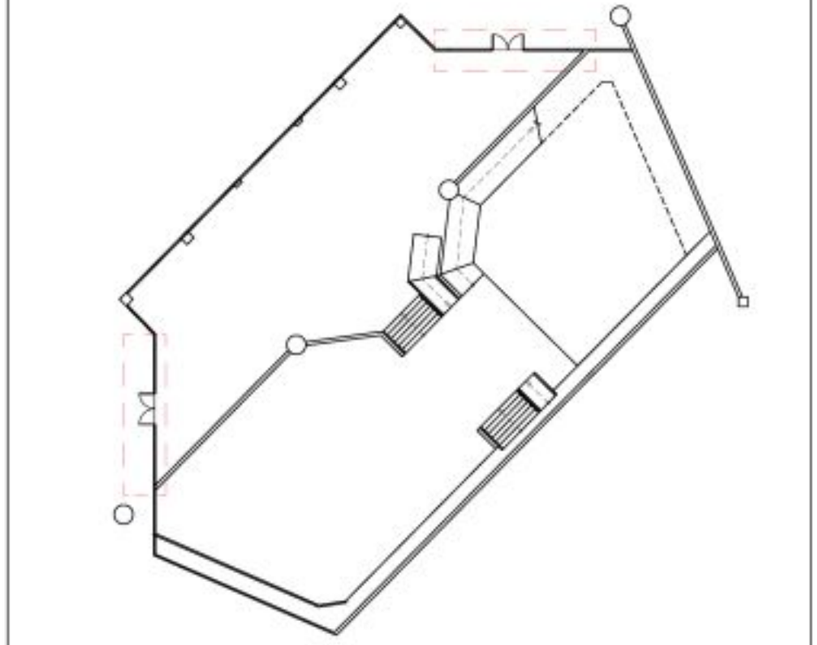
APRIL 15, 2021

WALL E-1 & E-2 ELEVATION

TOTAL AREA: 68.90 sqm

SCALE : 1:100 MTS.

KEYMAP

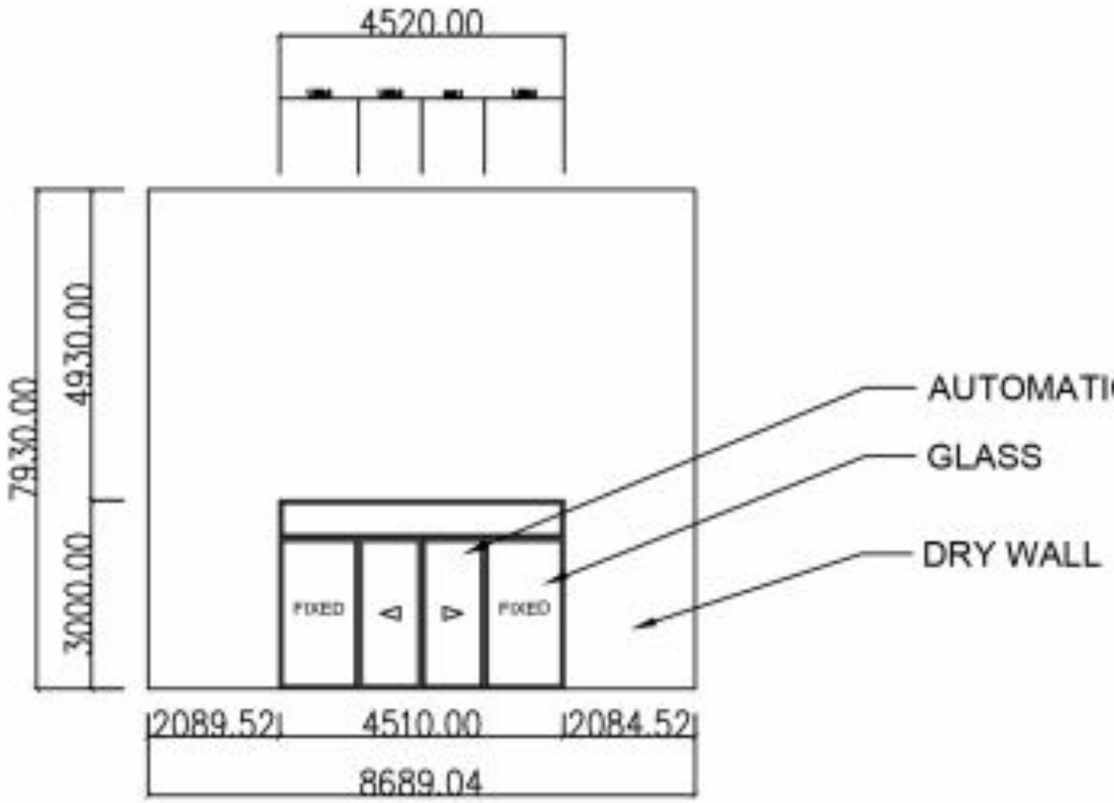


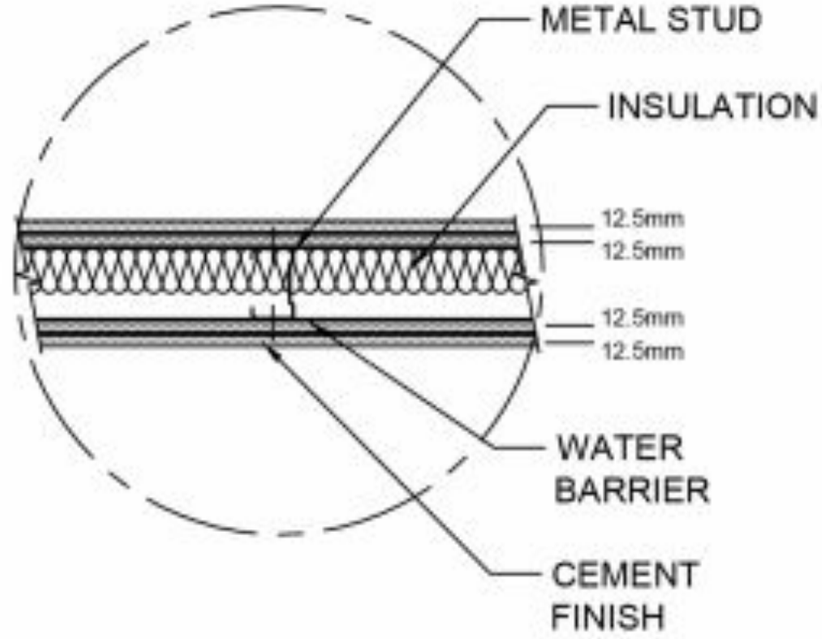
NAST DOST PHASE 2 - WALL E - 1 & E - 2 ELEVATION

DOST TAGUIG CITY

PREPARED BY: AR. GARCIA

APRIL 15, 2021





WINDOW & WALL DETAIL

TOTAL AREA: 68.90 sqm

DRY WALL SECTION

NAST DOST PHASE 2 - WALL E-1 & E-2 / BACK DOOR DETAIL

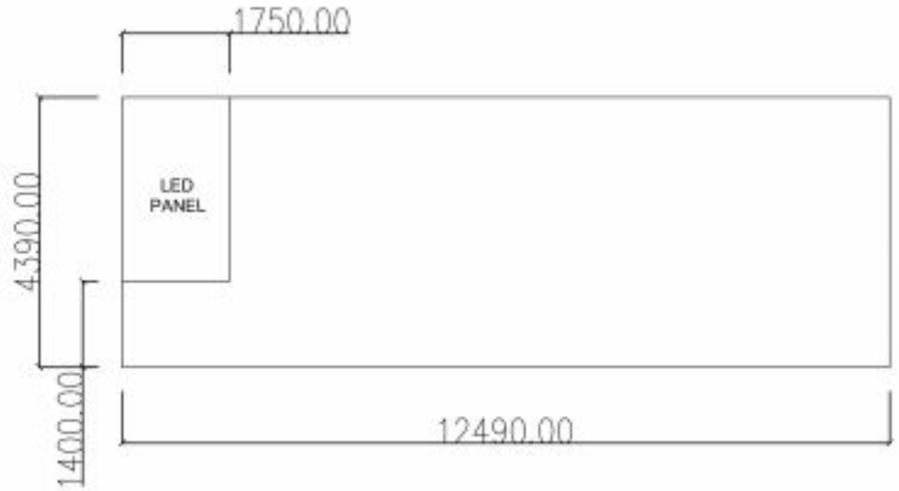
DOST TAGUIG CITY

PREPARED BY: AR. GARCIA
APRIL 15, 2021

WALL G ELEVATION

TOTAL AREA: 54.83 sqm

SCALE : 1:100 MTS.



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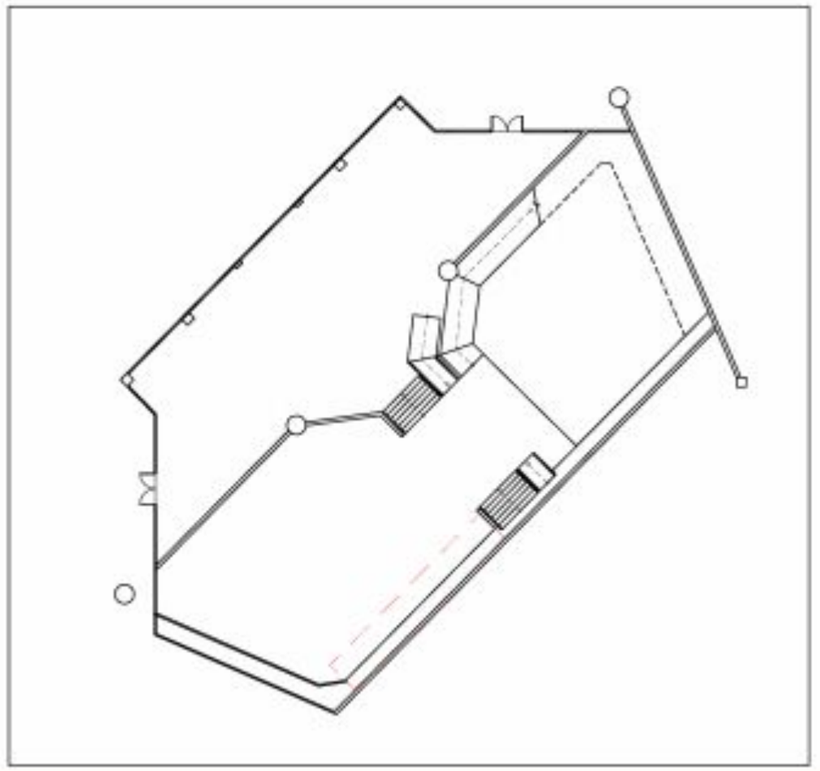


NAST DOST PHASE 2 - WALL G ELEVATION

DOST TAGUIG CITY

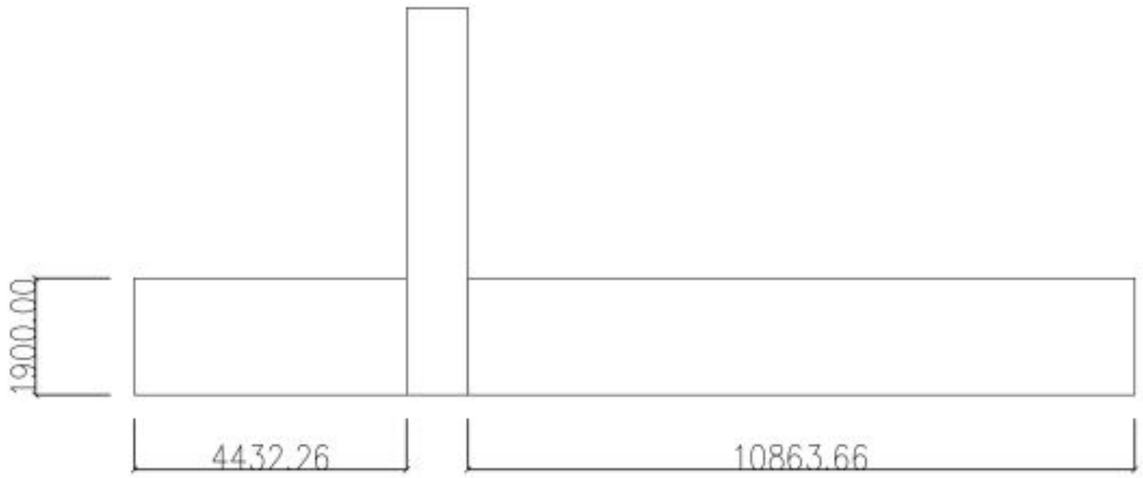
PREPARED BY: AR. GARCIA

APRIL 15, 2021

WALL H ELEVATION

TOTAL AREA: 35.36 sqm

SCALE : 1:100 MTS.



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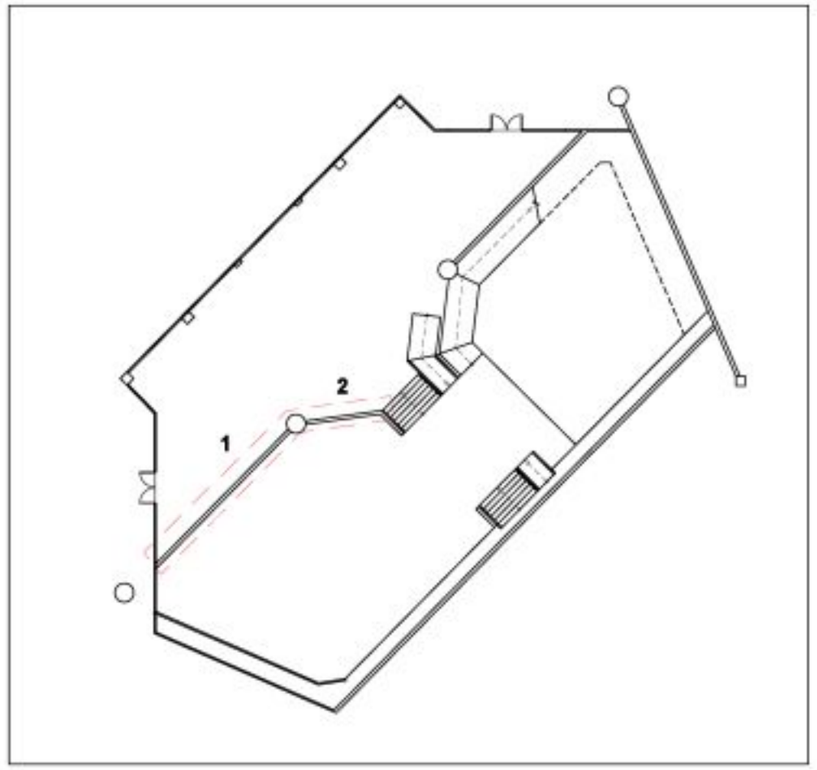


NAST DOST PHASE 2 - WALL H ELEVATION

DOST TAGUIG CITY

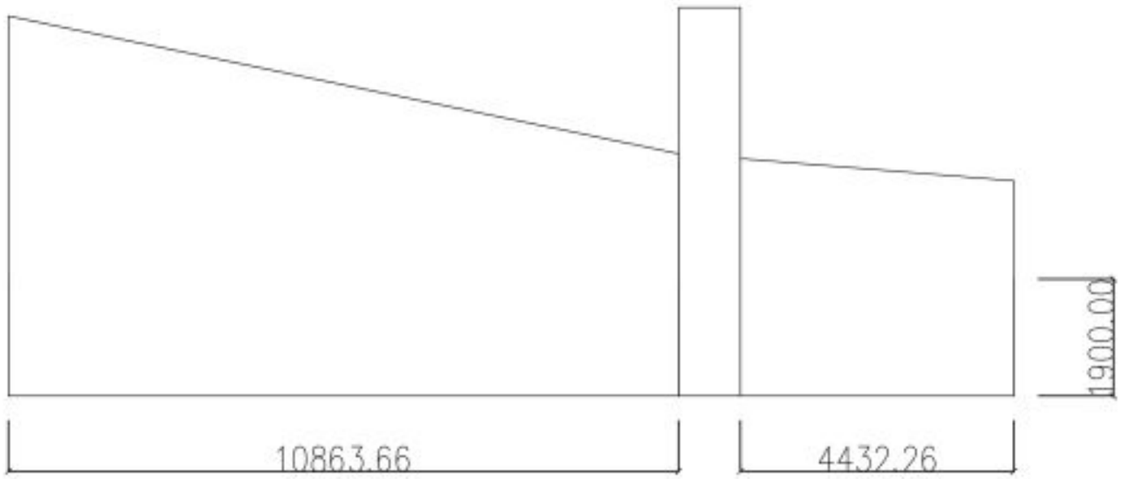
PREPARED BY: AR. GARCIA

APRIL 15, 2021

WALL I ELEVATION

TOTAL AREA: 77.37 sqm

SCALE : 1:100 MTS.



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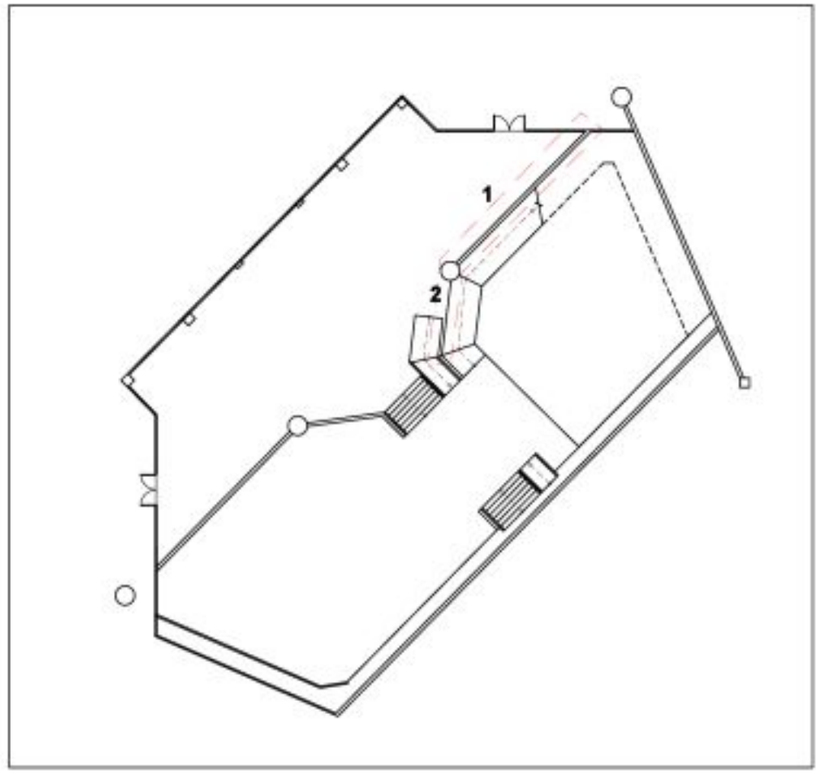


NAST DOST PHASE 2 - WALL I ELEVATION

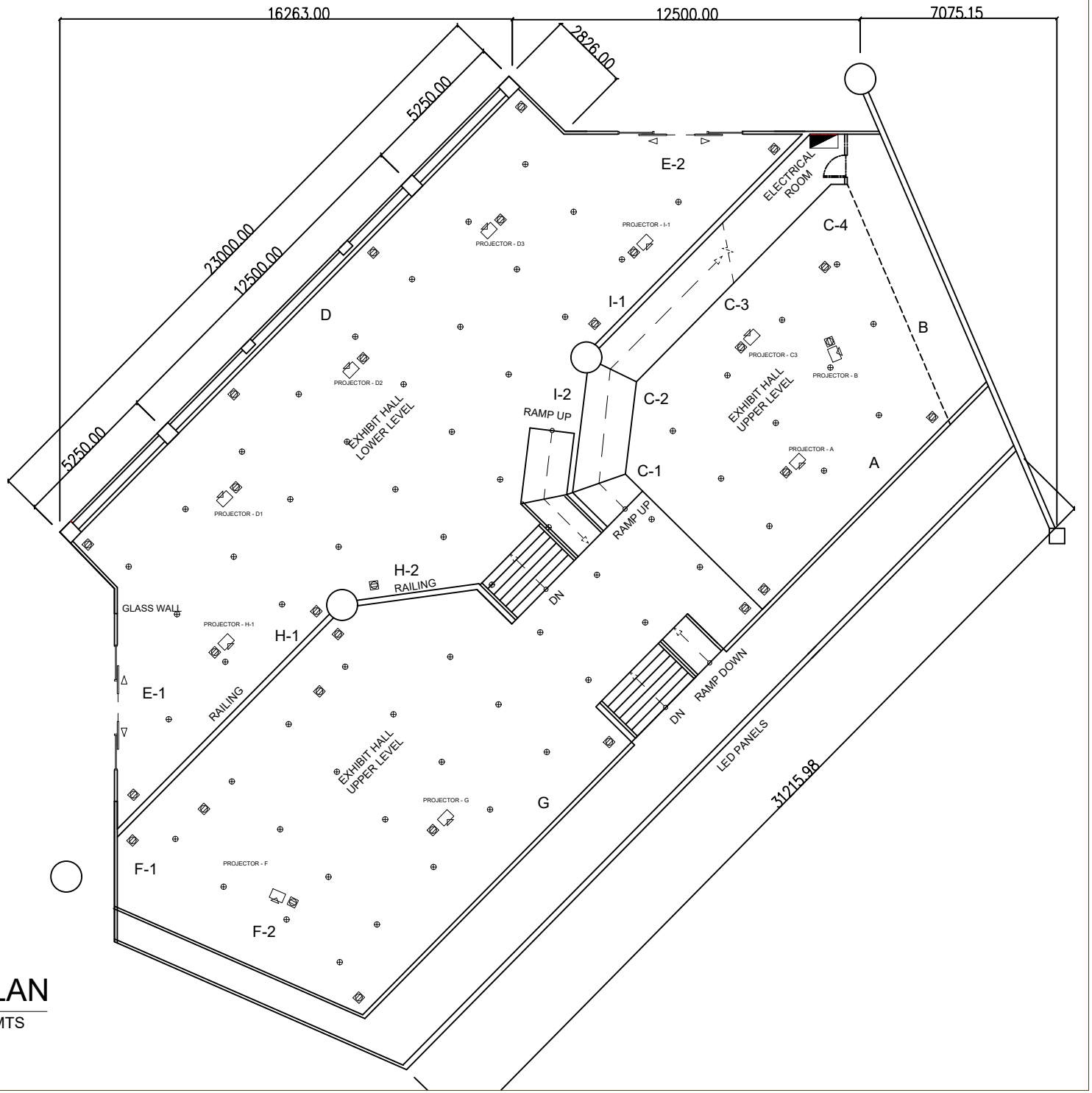
DOST TAGUIG CITY

PREPARED BY: AR. GARCIA

APRIL 15, 2021

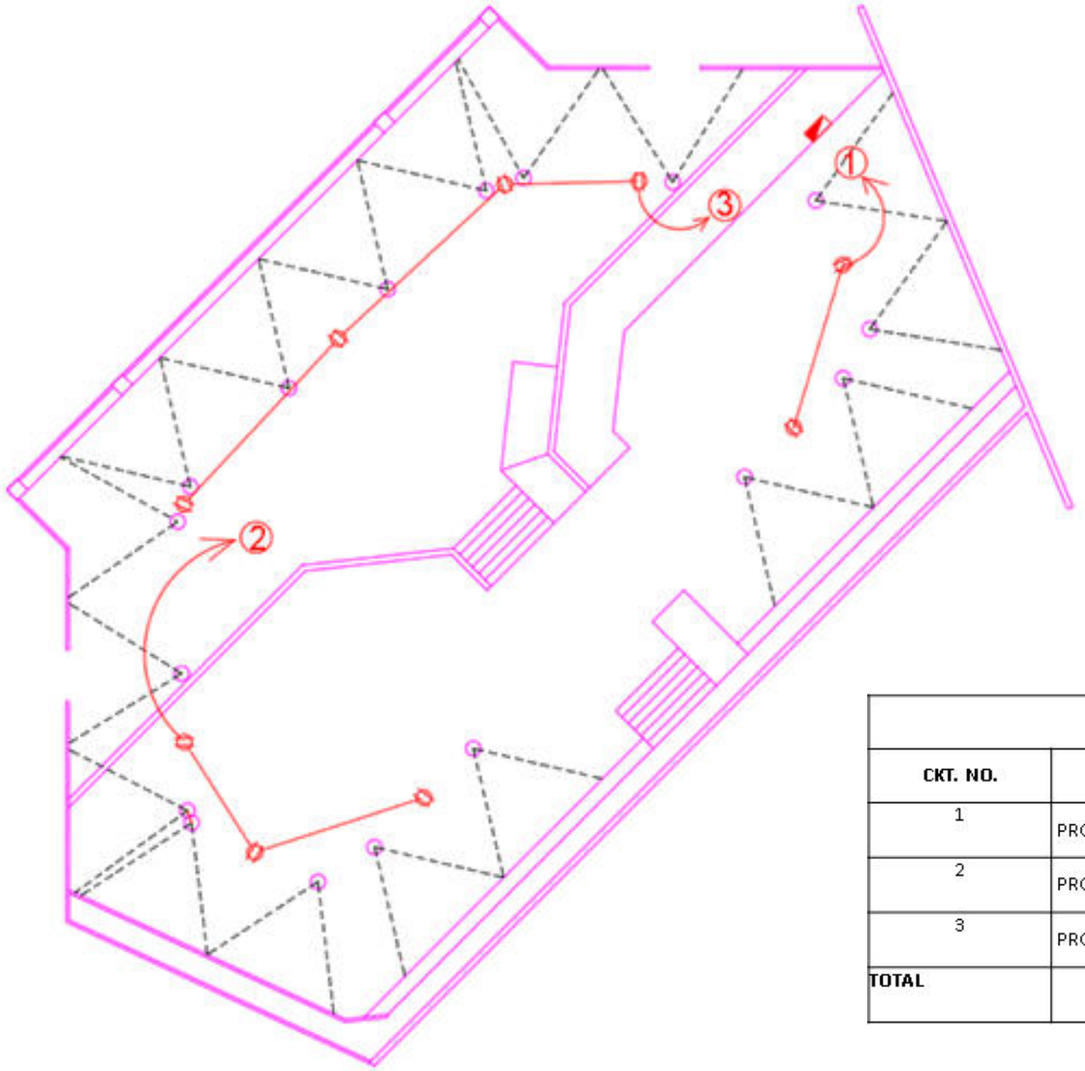
SYMBOLS

- CEILING MOUNTED PROJECTOR
- PIN LIGHT
- CEILING MOUNTED OUTLET



REFLECTED CEILING PLAN

SCALE : 1:200 MTS



LEGEND:	
SYMBOL	DESCRIPTION
	PANELBOARD
	CIRCUIT HOMERUN
	TWO GANG OUTLET
	PROJECTOR
	PROJECTOR LIGHT

SCHEDULE OF LOAD

CKT. NO.	DESCRIPTION	LOAD (W)	VOLTS	A	AT	SIZE OF WIRES	CONDUIT
1	PROJECTOR 01	2900	230V	15.76	20AT, 2P	2 - 3.5 mm2 THHN 1 - 3.5 mm2 THHN	
2	PROJECTOR 01	2900	230V	15.76	20AT, 2P	2 - 3.5 mm2 THHN 1 - 3.5 mm2 THHN	
3	PROJECTOR 01	2900	230V	15.76	20AT, 2P	2 - 3.5 mm2 THHN 1 - 3.5 mm2 THHN	
TOTAL		**8700 W**		**38.04 A**			

LOAD COMPUTATION:
Itotal= 8,700W/ 230V
= (37.83) / (80 %)
= 47.28 AMP

MAIN OCPD: 50AT, 2P, 60AF, 240V, 60Hz, BOLT ON, HCB
MAIN CABLE: 2- 8.0mm^2 + 1- 5.5mm^2 THHN STRANDED WIRE
CONDUIT: 20mmØ PVC CONDUIT PIPE

ENGINEER:	OWNER:	PROJECT TITLE:	REVISIONS:	SHEET CONTENTS:	SHEET NO.
			REV–00	ELECTRICAL PLAN	E-1
TIN.: REG. NO: PTR. NO.: DATE:			PROJECT NO.: FILENAME:	DRAWN BY: DATE: CHECKED BY: DATE:	

PHASE 2 - RENDERS

NAST DOST PHASE 2 - WALL H ELEVATION

DOST TAGUIG CITY

PREPARED BY: AR. GARCIA

APRIL 15, 2021

NAST DOST PHASE 2 - WALL H ELEVATION

DOST TAGUIG CITY

PREPARED BY: AR. GARCIA

APRIL 15, 2021

NAST DOST PHASE 2 - WALL H ELEVATION

DOST TAGUIG CITY

PREPARED BY: AR. GARCIA

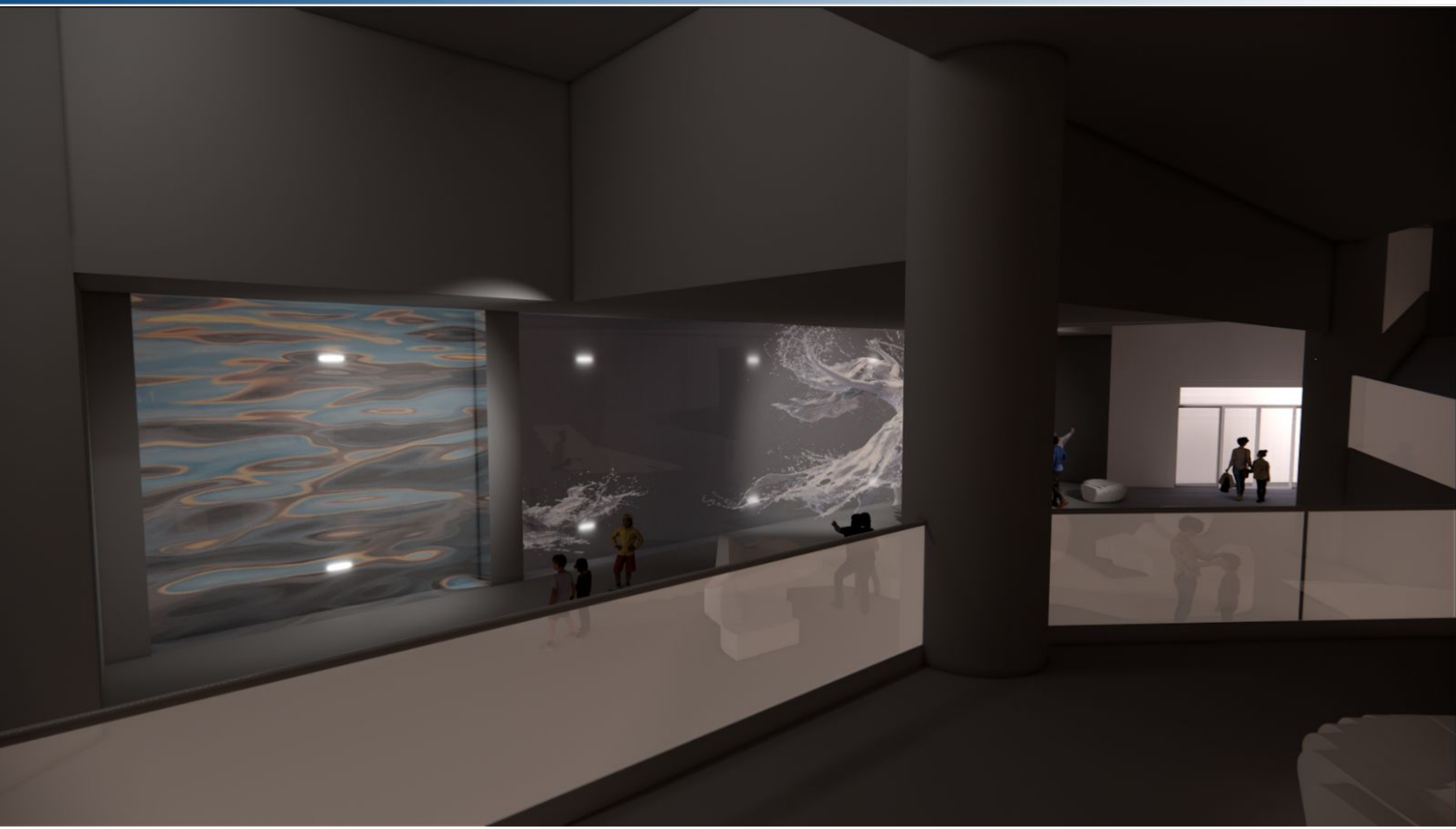
APRIL 15, 2021

NAST DOST PHASE 2 - WALL H ELEVATION

DOST TAGUIG CITY

PREPARED BY: AR. GARCIA

APRIL 15, 2021



NAST DOST PHASE 2 - WALL H ELEVATION

DOST TAGUIG CITY

PREPARED BY: AR. GARCIA

APRIL 15, 2021

NAST DOST PHASE 2 - WALL H ELEVATION

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NAST DOST PHASE 2 - WALL H ELEVATION

DOST TAGUIG CITY

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APRIL 15, 2021

NAST DOST PHASE 2 - WALL H ELEVATION

DOST TAGUIG CITY

PREPARED BY: AR. GARCIA

APRIL 15, 2021

BILL OF QUANTITIES

Project Title: **Interior Renovation for PSHC Phase II**
Project Location: **Science Heritage Building, DOST Compound, Gen. Santos Ave., Bicutan, Taguig City**

ITEM NO.		DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL COST
I.	**General Requirements**					
		Mobilization and Demobilization	1.00	lot		
		Environment, Safety and Health	1.00	lot		
		Hauling & Disposal of Debris	1.00	lot		
		As built plans submission	1.00	lot		
	CIVIL WORKS					
II.	**Demolition Works**					
	1	Stripping of Existing Vinyl Tiles	808.00	sqm		
	2	Chipping of Existing Concrete Topping of Floor Vinyl Tiles	808.00	sqm		
	3	Demolition and hauling of existing paritions and exhibits	1.00	lot		
III.	**Ceiling Works**					
	1	Supply and Installation of ceiling boards, metal furring systems	808.00	sqm		
	2	Painting of ceiling board surfaces	808.00	sqm		
IV.	**Drywall Works**					
	1	Supply and Installation of drywall system along the perimeter of Phase 2	1,180.80	sqm		
	2	Soundproofing walls	590.40	sqm		
	3	Painting of drywall board surfaces	1,180.80	sqm		
V.	**Floor Finishing Works**					
	1	Polishing of existing concrete surface	808.00	sqm		
	2	Application of epoxy seal on concrete surface	808.00	sqm		
VI.	**Video Wall Base Flooring Adjustment**					
	1	Adjustment of base flooring	1.00	lot		
VII.	**Main Starwell Alteration**					
	1	Demolition and relocation of of existing main stairwell	1.00	lot		
VIII.	**Conversion of ramp to stairs**					
	1	Conversion of existing ramp to stairs	1.00	lot		
		Polished concrete finish	*30.00*	*sqm*		
		Supply and installation of tempered glass staircase railing (perimeter)	*50.00*	*lm*		
IX.	**Upgrade of existing back door/ exit**					
	1	Upgrade of existing back door/ exit	1.00	lot		
		Existing double swing door with glass panel and awning window				
		(D1/ GW-10); 6750mmW x 3200mmH				
		Upgrade to automated sliding door (12mm thk. Tempered glass)	*2.00*	*set*		
X.	**Electrical roughing ins and lighting**					
	1	Panel Board	1.00	lot		
		Surface mounted panel board 600x400x250	*1.00*	*lot*		
		90AT MCCB Main Breaker , 2P, 240v, 60hz	*1.00*	*pc*		
		20AT MCB Sub Breaker , 2P, 240v, 60hz	*3.00*	*pc*		
		16AT MCB Sub Breaker , 2P, 240v, 60hz	*7.00*	*pc*		
		#12 AWG THHN (Black)	*60.00*	*lm*		
		#14 AWG THHN (Green)	*30.00*	*lm*		
		Din rail 2m	*1.00*	*pc*		
		Grounding Terminal	*1.00*	*pc*		
		Terminal Lugs	*1.00*	*lot*		
		M4 screw with plastic expansion tube	*1.00*	*lot*		
		1ft, 3/4" width bus bars with red poly insulator	*1.00*	*lot*		
		Bolts and Nuts	*1.00*	*lot*		
		1" EMT Pipe 3m long	*10.00*	*pc*		
		1" EMT Elbow	*10.00*	*pc*		
		1" EMT Connector with locknut	*4.00*	*pc*		
		1" EMT Coupling	*10.00*	*pc*		
		1" EMT Clamp	*20.00*	*pc*		
		#2 AWG THHN (Black)	*200.00*	*lm*		
		#8 AWG THHN (Green)	*100.00*	*lm*		
	2	Ceiling lights and Roughing ins	1.00	lot		
		30W LED Downlights	*167.00*	*pc*		
		55W LED Battery pack	*167.00*	*pc*		

ITEM NO.	DESCRIPTION		QUANTITY	UNIT	UNIT PRICE	TOTAL COST
		2-gang Lighting switch	*8.00*	*pc*		
		PVC junction box	*167.00*	*pc*		
		1/2" PVC Pipe 3m long	*150.00*	*pc*		
		1/2" PVC Elbow	*60.00*	*pc*		
		1/2" PVC Connector with locknut	*320.00*	*pc*		
		1/2" PVC Coupling	*170.00*	*pc*		
		1/2" EMT Pipe 3m long	*30.00*	*pc*		
		1/2" EMT Elbow	*20.00*	*pc*		
		1/2" EMT Connector with locknut	*30.00*	*pc*		
		1/2" EMT Coupling	*30.00*	*pc*		
		1/2" EMT Clamp	*40.00*	*pc*		
		#12 AWG THHN (Black)	*900.00*	*lm*		
		#14AWG THHN (Green)	*450.00*	*lm*		
		Electrical tape black	*10.00*	*pc*		
		3.5mm termnal lugs y type	*300.00*	*pc*		
		Termnial block 15A, 6 pins	*167.00*	*pc*		
	3	Floor linear lights and Roughing ins	1.00	lot		
		32W LED Liear floor light	*75.00*	*set*		
		2-gang Lighting switch	*4.00*	*pc*		
		PVC junction box	*75.00*	*pc*		
		1/2" PVC Pipe 3m long	*116.00*	*pc*		
		1/2" PVC Elbow	*60.00*	*pc*		
		1/2" PVC Connector with locknut	*160.00*	*pc*		
		1/2" PVC Coupling	*118.00*	*pc*		
		#12 AWG THHN (Black)	*700.00*	*lm*		
		#14AWG THHN (Green)	*350.00*	*lm*		
		Electrical tape black	*10.00*	*pc*		
		3.5mm termnal lugs y type	*300.00*	*pc*		
		Termnial block 15A, 6 pins	*75.00*	*pc*		
	4	Power outlet and Roughing ins	1.00	lot		
		Duplex convenience outlet set with cover	*8.00*	*pc*		
		1/2" EMT Pipe 3m long	*33.00*	*pc*		
		1/2" EMT Elbow	*20.00*	*pc*		
		1/2" EMT Connector with locknut	*30.00*	*pc*		
		1/2" EMT Coupling	*30.00*	*pc*		
		1/2" EMT Clamp	*40.00*	*pc*		
		#12 AWG THHN (Black)	*230.00*	*lm*		
		#14AWG THHN (Green)	*115.00*	*lm*		
		Electrical tape black	*6.00*	*pc*		
		3.5mm termnal lugs y type	*100.00*	*pc*		
XI.	**Installation of new CCTV Systen**					
	1	Dome Camera	2.00	pcs		
	2	Mini PTZ Camera	3.00	pcs		
	3	NVR, Monitor, Storage, Cable and other accessories	1.00	lot		
XII.	**Adjustment on Airconditioning Housing (Phase 1)**					
	1	Wire adjustments, refrigerant pipes, ducts, etc.	1.00	lot		
	2	Steel Rack Platform	1.00	lot		
XIII.	**Video Wall Alteration**					
	1	Framing System of Sliding LED	1.00	lot		
	2	Mechanical and Electrical system of sliding LED	1.00	lot		
TOTAL						

Republic of the Philippines
NATIONAL ACADEMY OF SCIENCE AND TECHNOLOGY
3rd Level, Science Heritage Building, DOST Compound, Bicutan, Taguig City
Tel Nos. 837-2071 loc. 2170; 838-7792; Fax: 837-3070

SUPPLEMENTAL/BID BULLETIN NO. 1

This Supplemental/Bid Bulletin is issued to inform prospective bidders of the procurement project "**Interior Renovation for Philippine Science Heritage Center (PSHC) Phase II"** of the following:

1. Bid data Sheet

ITB Clause		
10.5	The minimum major equipment requirements are the following: Equipment — Capacity — Number of Units Service Vehicle — at least 5 seaters — at least 1 Delivery/ Moving Truck — at least 1,200kg load capacity — at least 1 Lifting equipment — at least 100kg-1,000kg — at least 1 Electric Hand drill — at least 4 Jackhammer, electric — at least 1 Scaffolding — at least 20 Grinder/Tile cutter — at least 2 Jigsaw — at least 2 Circular saw — at least 2 Spray gun and compressor — at least 1 Electrofusion Machine — at least 1	This is a minimum requirement, if the supplier/bidder can give more than the minimum requirement, the better.

For other concerns:
a. Whether the workers are allowed to stay in the compound – we have no space for the workers;
b. Barracks or storage area – We will provide storage area where equipment can be kept;
c. Sub-meter for electricity and water – yes, we allow sub-meter

2. Amendment on the Specifications/Scope of Work – Annex A
3. Drawings –Annex B
4. Bill of Quantities (BOQ) – Annex C

This bulletin shall form an intergral part of the Bid Documents for the said project.

For guidance and information of all concerned.

GUADA B. RAMOS-DIMAYA
Chair, NAST-BAC