



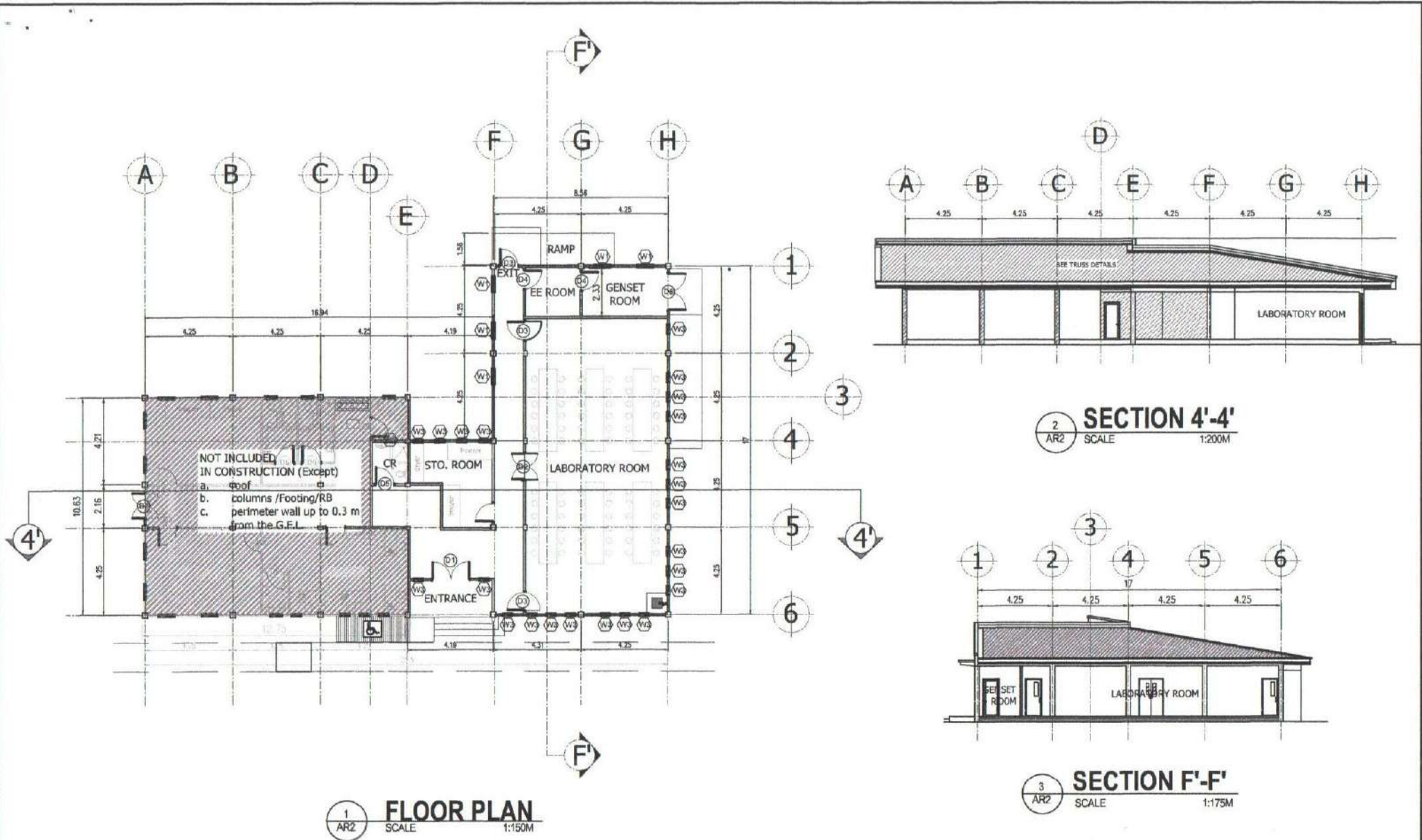
2  
A1  
**LOCATION PLAN**  
SCALE 1:175M



1  
A1  
**SITE DEVELOPMENT PLAN**  
SCALE N.D.T.S

1  
A1  
**PERSPECTIVE**  
SCALE N.D.T.S

	TVN : 008-853-275 PRC : 0019370 PTR : 069739 Date : 20 JANUARY 2021 PLISS : JAVIER, LEYTE	Design & Sketch  <b>ARCH. ELVIN A. CABANERO</b> ARCHITECT - PPDMD	Project Title * PROPOSED * <b>CONSTRUCTION OF DBS VERTEBRAE ANATOMY BUILDING</b> LOCATION: NATIONAL HIGHWAY, VSU-MAIN, BAYBAY CITY	Checked by:  <b>ENGR. MARCELO T. ABRERA JR.</b> DIRECTOR-PPDMD	Noted by:  <b>DR. DANIEL LESLIE S. TAN</b> D.PAF	Approved by:  <b>DR. EDGARDO E. TULIN</b> VSU PRESIDENT	SHEET CONTENTS: PERSPECTIVE LOCATION PLAN SITE DEVELOPMENT PLAN	A4 01 SHEET NO. 01 19
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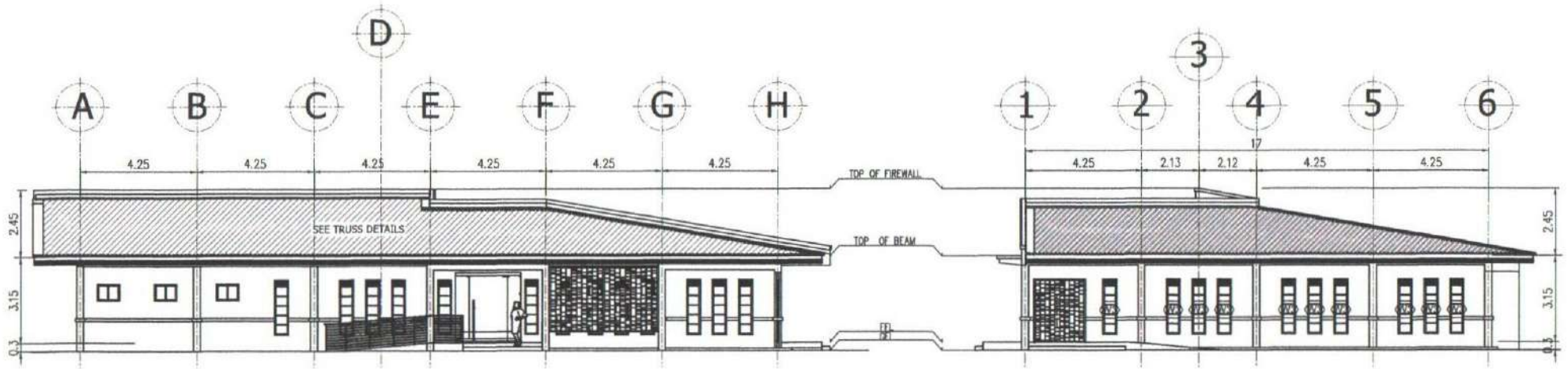


**1 FLOOR PLAN**  
SCALE 1:150M

**2 SECTION 4'-4'**  
SCALE 1:200M

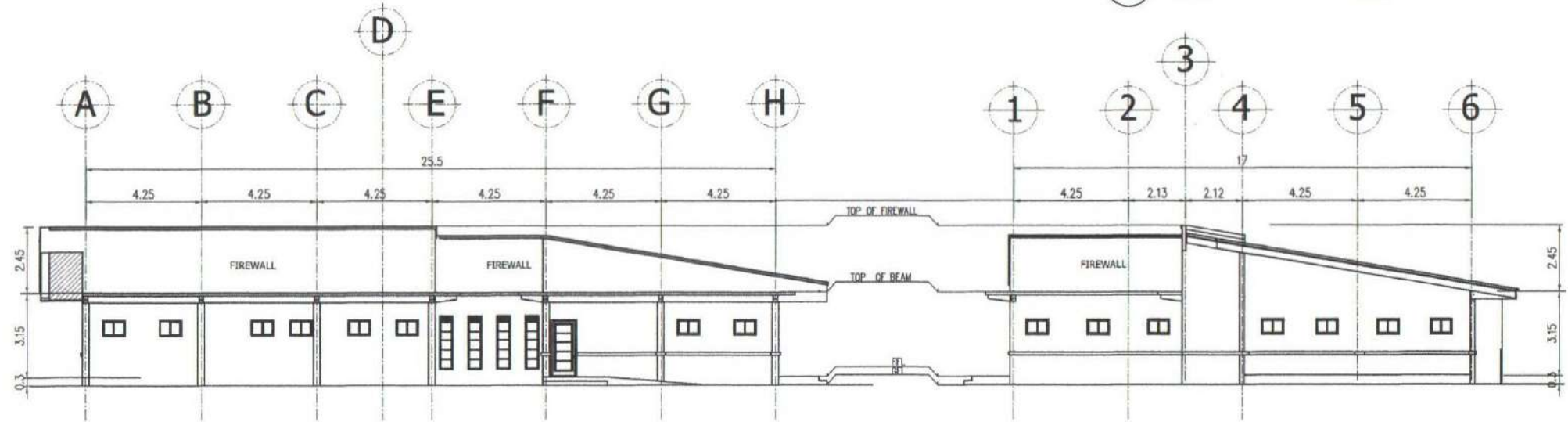
**3 SECTION F'-F'**  
SCALE 1:175M

	TIN: 938-853-275	Design & Scaled:	Project Title:	Checked by:	Noted by:	Approved by:	SHEET CONTENTS: FLOOR PLAN SECTION 4'-4' SECTION F'-F'	A4 02 SHEET NO. 02 19
	PTR: 2695789 Date: 20 JANUARY 2021 FL. ISS.: JAVIER, LEYTE	ARCH. ELVIN A. CABAÑERO ARCHITECT - P/PROJ	* PROPOSED * CONSTRUCTION OF DBS VERTEBRAE ANATOMY BUILDING LOCATION: NATIONAL HIGHWAY, VEU-MAHAL, BAYBAY CITY	ENGR. MARCELO T. ABRERA JR. DIRECTOR - P/PROJ	Dr. DANIEL LESLIE S. TAN O.P/F	Dr. EDGARDO E. TULIN VSU/RESIDENT		




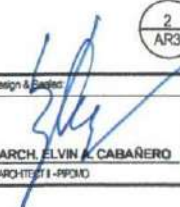

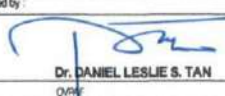

**1 FRONT VIEW**  
SCALE 1:150M

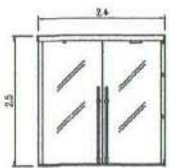
**3 RIGHT SIDE VIEW**  
SCALE 1:150M



**2 REAR VIEW**  
SCALE 1:175M

**4 LEFT SIDE VIEW**  
SCALE 1:175M

	TIN: 938-853-275	Design & Project	Project Title	Checked by:	Noted by:	Approved by:	SHEET CONTENTS: FRONT VIEW REAR VIEW RIGHT SIDE VIEW LEFT SIDE VIEW	A4 03 SHEET NO. 03 19			
	PRC: 0018270		*PROPOSED*								
	PTR: 2005700		CONSTRUCTION OF DBS VERTEBRAE ANATOMY BUILDING						ENGR. MARCELO T. ABRERA JR.	Dr. DANIEL LESLIE S. TAN	Dr. EDGARDO E. TULIN
	Date: 20 JANUARY 2021		ARCH. ELVIN A. CABANERO						LOCATION: NATIONAL HIGHWAY, VSU-MAIN, BAYBAY CITY	DIRECTOR-PPOMD	OVAF
PL. ISS.: JAVIER, LEYTE	ARCHITECTS - PPOMD										



D1

ALUMINUM GLASS DOOR ANALOK (1 UNIT)



D2

WOODEN FLUSHED DOOR W/ GLASS WINDOW (DOUBLE SWING) (1 UNIT)



D3

WOODEN PANEL DOOR W/ GLASS WINDOW (3 UNITS)



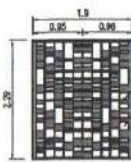
D4

WOODEN PANEL DOOR (2 UNITS)



D5

WOODEN PANEL DOOR W/ GLASS WINDOW (1 UNITS)



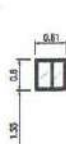
D6

DECORATIVE METAL DOOR (1 UNITS)



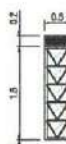
W1

ALUMINUM SLIDING GLASS WINDOW ANALOK (15 UNITS)



W2

ALUMINUM SLIDING GLASS WINDOW ANALOK (4 UNIT)

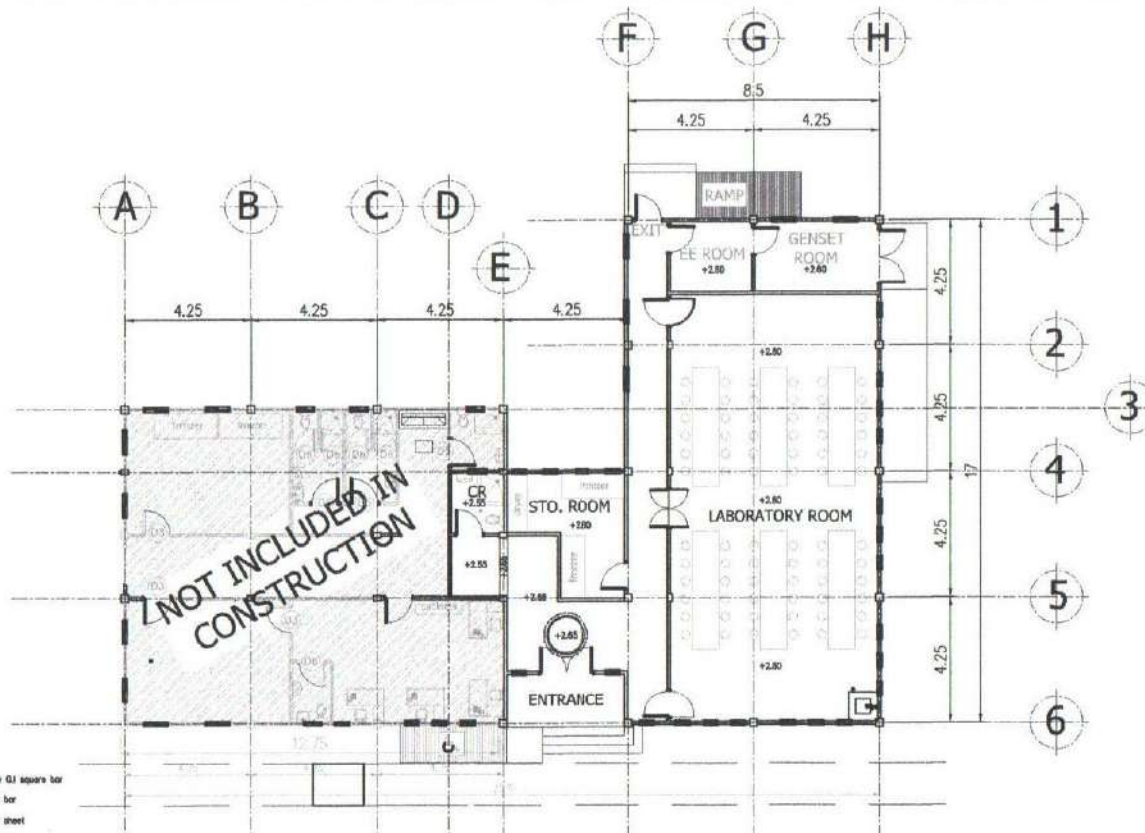


W3

ALUMINUM AWNING GLASS WINDOW ANALOK (27 UNITS)

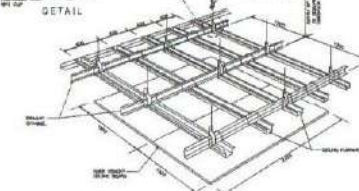
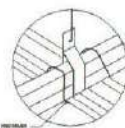


METAL SUN BREAKER (1 UNITS)

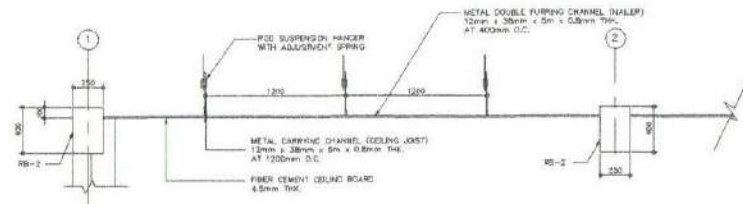


CEILING PLAN

SCALE 1:175M



PERSPECTIVE

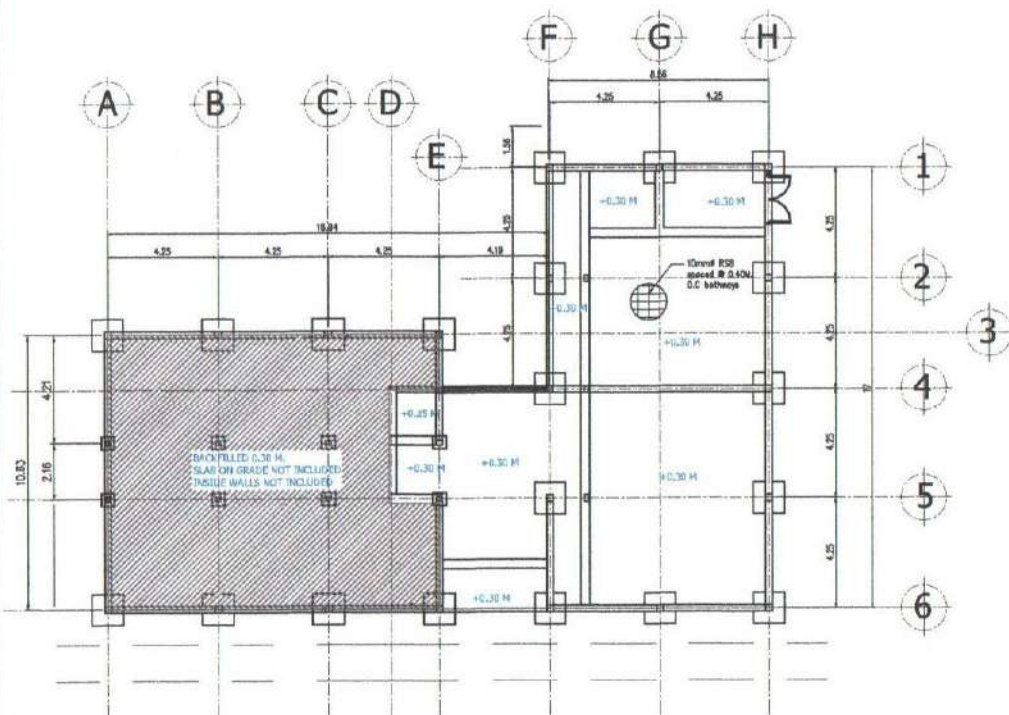


SECTION

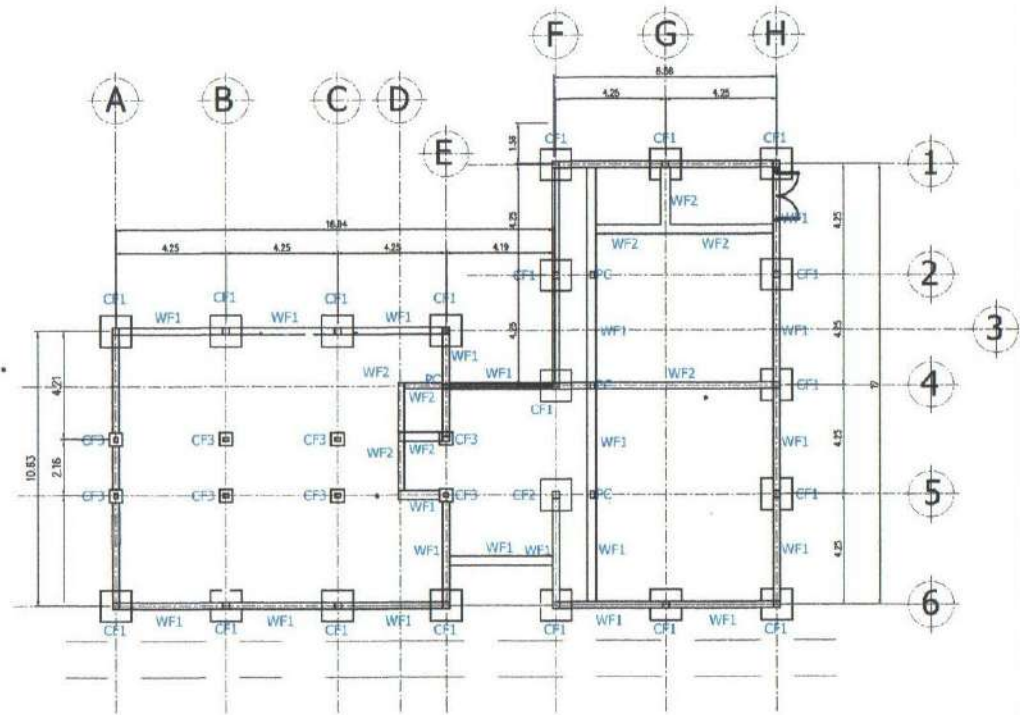
3 TYP. CEILING DETAIL SCALE N.D.T.S

1 SCHEDULE OF DOORS AND WINDOWS SCALE N.D.T.S

	TIN: 530-853-275	Design & Sealed  <b>ARCH. ELVIN A. CABAÑERO</b> ARCHITECT - PPROMO	Project Title:	Checked by:	Noted by:	Approved by:	SHEET CONTENTS: SCHEDULE OF DOORS AND WINDOWS CEILING PLAN TYP. CEILING DETAIL	A4 04 SHEET NO. 04 19
	PTR: 3492759 Date: 26 JANUARY 2021 PL. BS.: JAVIER LEYTE		"PROPOSED" CONSTRUCTION OF DBS VERTEBRAE ANATOMY BUILDING LOCATION: NATIONAL HIGHWAY, VSU-MAIN, BAYBAY CITY	 <b>ENGR. MARCELO T. ABRERA JR.</b> DIRECTOR-PPROMO	 <b>Dr. DANIEL LESLIE S. TAN</b> O.PRF	 <b>Dr. EDGARDO E. TULIN</b> VSUPRESIDENT		

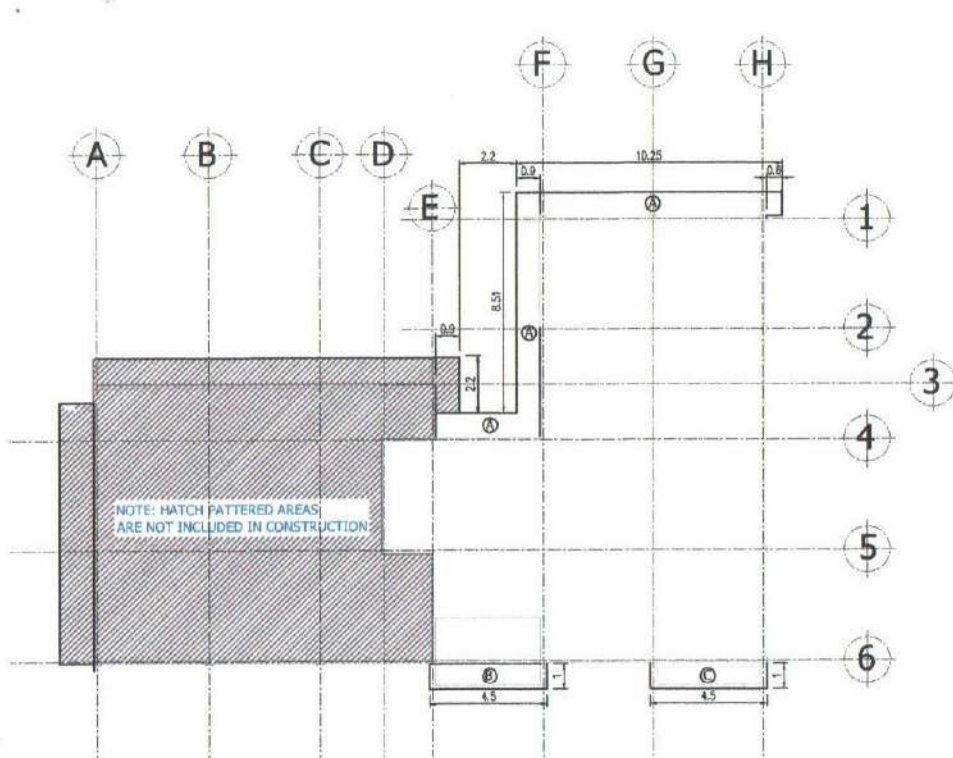


1 **BASE PLAN**  
ST1 SCALE 1:200M

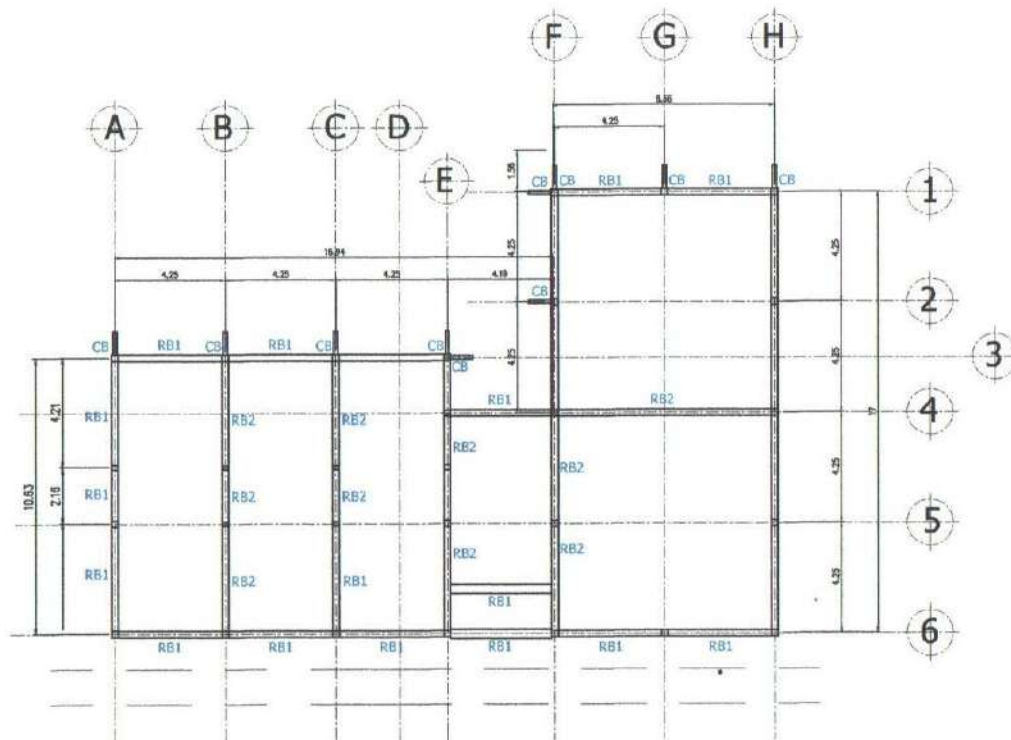


2 **STRUCTURAL PLAN**  
ST1 SCALE 1:200M

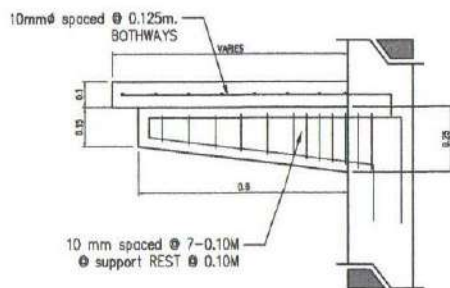
	TN: 474-984-480	Design & Sealed:	Project Title:	Checked by:	Noted by:	Approved by:	SHEET CONTENTS: BASE PLAN STRUCTURAL PLAN	ST6 01 SHEET NO. 05 19
	PTR: 0141361 PTR: 470892 Date: 20022023 P.L. SS.: WAASH CITY	 ENGR. JIEN APRIL B. JUALO ENGINEER-PROVIDOR	*PROPOSED* CONSTRUCTION OF DBS VERTEBRAE ANATOMY BUILDING LOCATION: NATIONAL HIGHWAY, VSU-MAIN, BAYSAY CITY	 ENGR. MARCELO T. ABRERA JR. DIRECTOR-PROVIDOR	 Dr. DANIEL LESLIE S. TAN D/PAF	 Dr. EDGARDO E. TULIN VSU PRESIDENT		



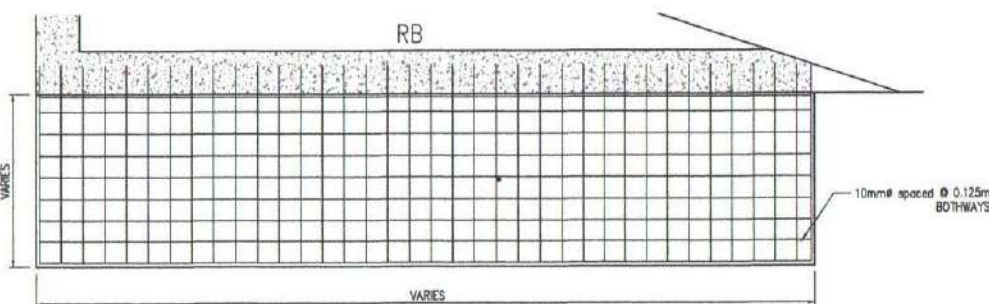
1  
ST2  
CONCRETE CANOPY PLAN  
SCALE 1:200M



2  
ST2  
ROOF BEAM PLAN  
SCALE 1:200M








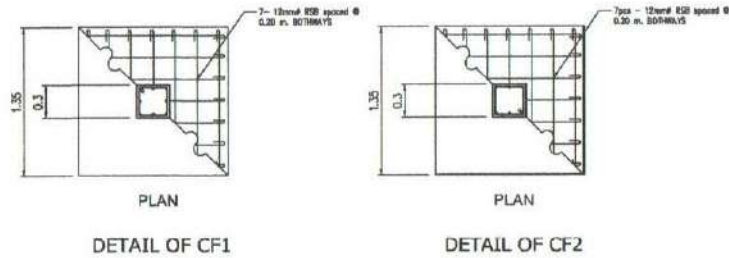
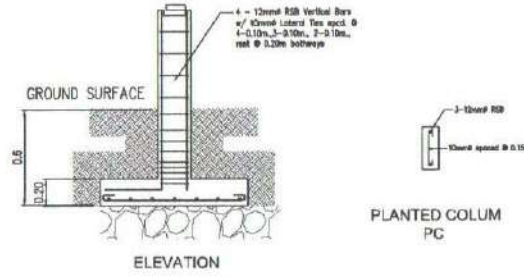
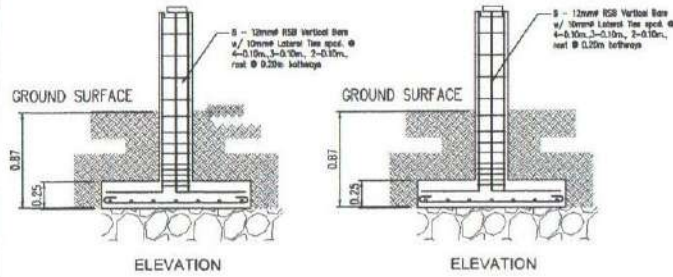
CORBEL SECTION PLAN



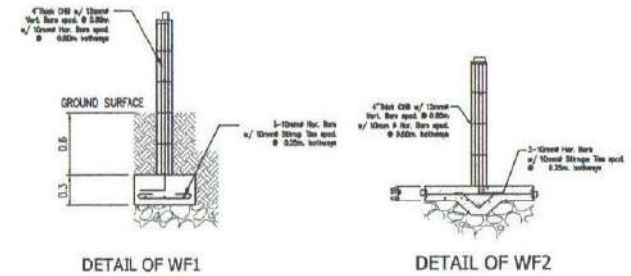
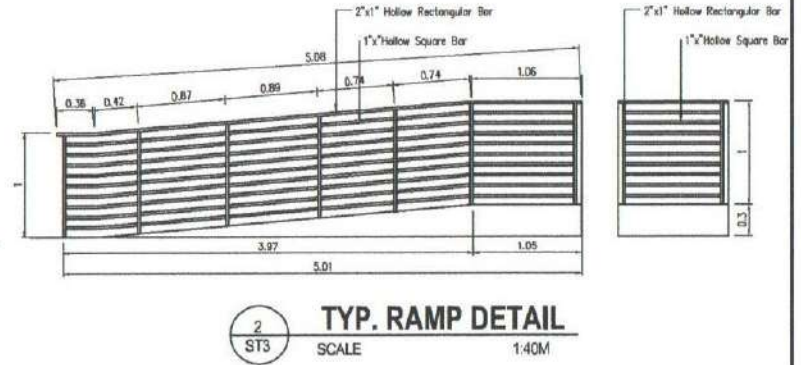
CONCRETE CANOPY TYP. DETAIL

3  
ST2  
CORBEL AND CONCRETE CANOPY DETAILS  
SCALE 1:200M

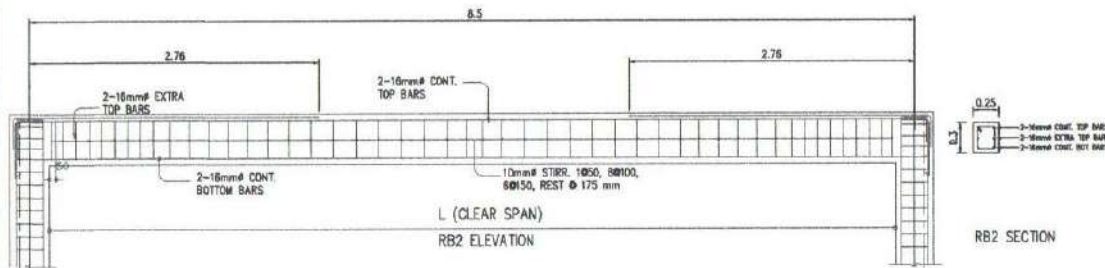
	TIN : 474-884-889	Design & Sealed	Project Title:	Checked by:	Noted by:	Approved by:	SHEET CONTENTS: CONCRETE CANOPY PLAN ROOF BEAM PLAN CORBEL AND CONCRETE CANOPY DETAILS	ST6 02 SHEET NO. 06 19
	PRC : 0141581 PTR : 470882 Date : 20002022 PL. ISS. : BAYBAY CITY	 ENGR. JEY APRIL B. JUAJE ENGINEER-PROVIDOR	"PROPOSED" CONSTRUCTION OF DBS VERTEBRAE ANATOMY BUILDING LOCATION: NATIONAL HIGHWAY, VSU-MAIN, BAYBAY CITY	 ENGR. MARCELO T. ABRERA JR. DIRECTOR-PRMO	 Dr. DANIEL LESLIE S. TAN CIVIL	 Dr. EDGARDO E. TULIN V&S PRESIDENT		



**1 COLUMN/FOOTING DETAIL**  
SCALE N.D.T.S

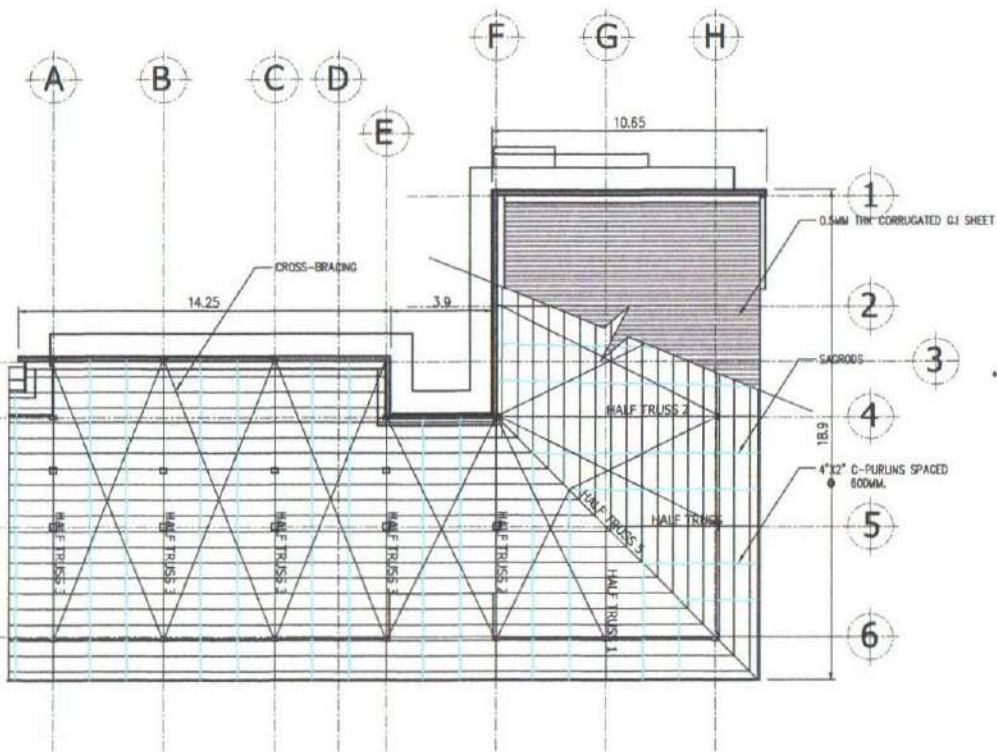


**3 WALL FOOTING DETAIL**  
SCALE N.D.T.S

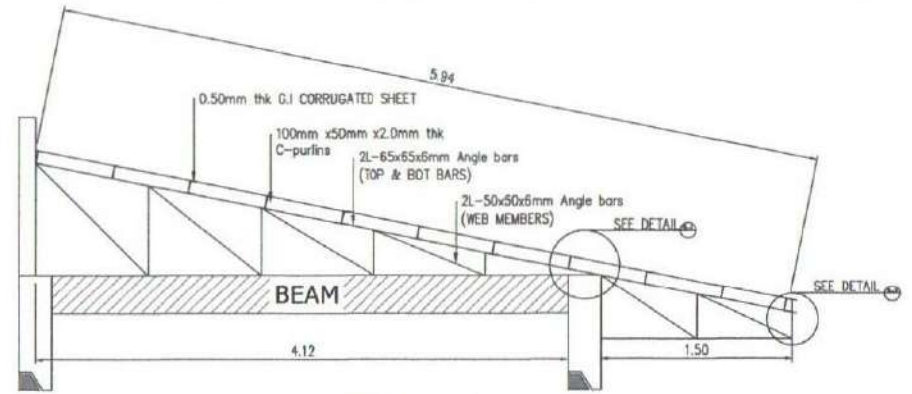


**4 ROOF BEAM DETAIL**  
SCALE N.D.T.S

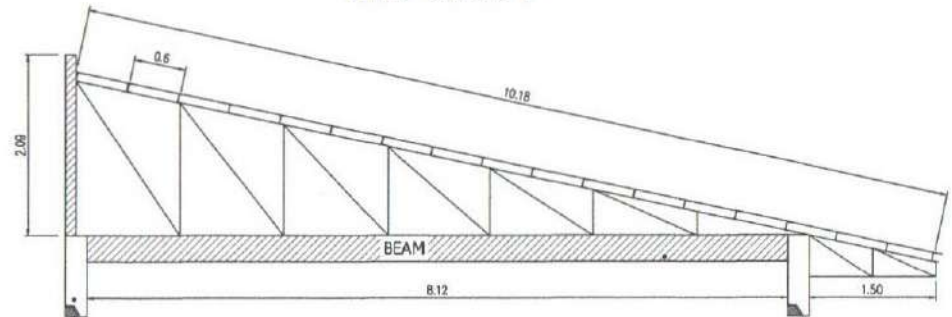
	TIN: 474-984-480 PRC: 0141901 PTR: 470662 Date: 2/6/2023 PL. ISS.: MAASSIN CITY	Design & Sealer:  <b>ENGR. JIEN APRIL B. JUALO</b> (ENGINEER-PPDMD)	Project Title: <b>*PROPOSED*</b> <b>CONSTRUCTION OF DBS VERTEBRAE ANATOMY BUILDING</b> LOCATION: NATIONAL HIGHWAY, VSU MAIN, BAYBAY CITY	Checked by:  <b>ENGR. MARCELO T. ABRERA JR.</b> DIRECTOR-PPDMD	Noted by:  <b>Dr. DANIEL LESLIE S. TAN</b> ON/PRF	Approved by:  <b>Dr. EDGARDO E. TULIN</b> VSURESIDENT	SHEET CONTENTS: COLUMN/FOOTING DETAIL WALL FOOTING DETAIL ROOF BEAM PLAN	<b>ST603</b> SHEET NO. <b>07 19</b>
	Design & Sealer:							



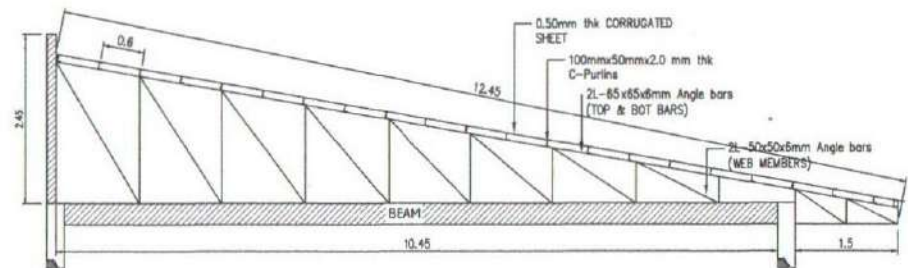
1  
ST4  
**ROOF FRAMING PLAN**  
SCALE 1:200M



**HALF TRUSS 1**



**HALF TRUSS 2**

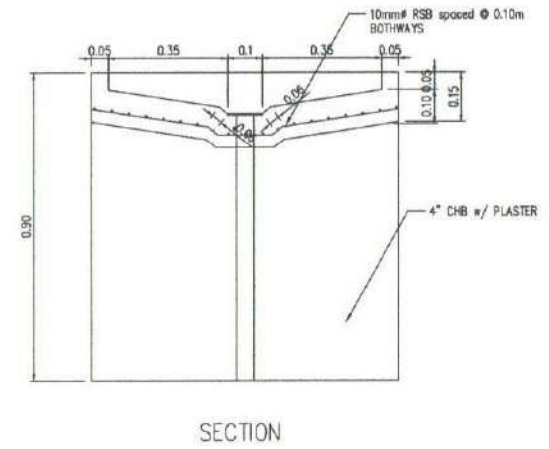
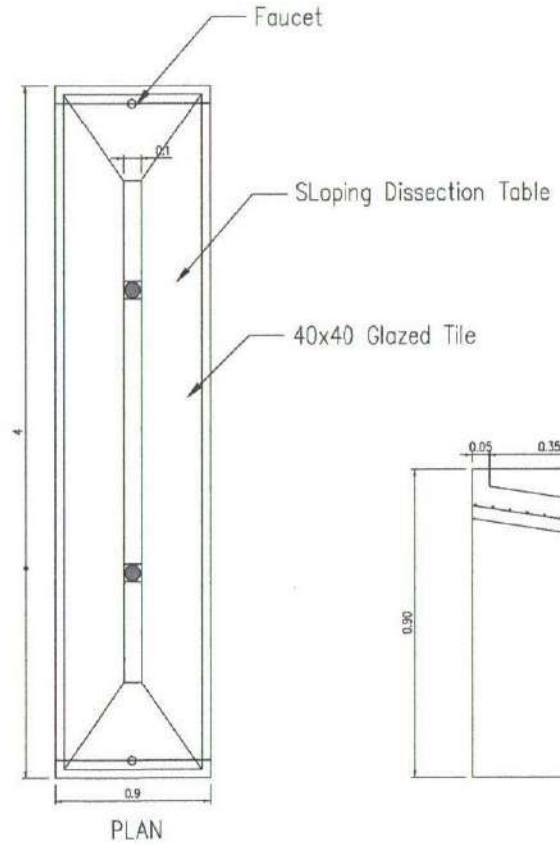
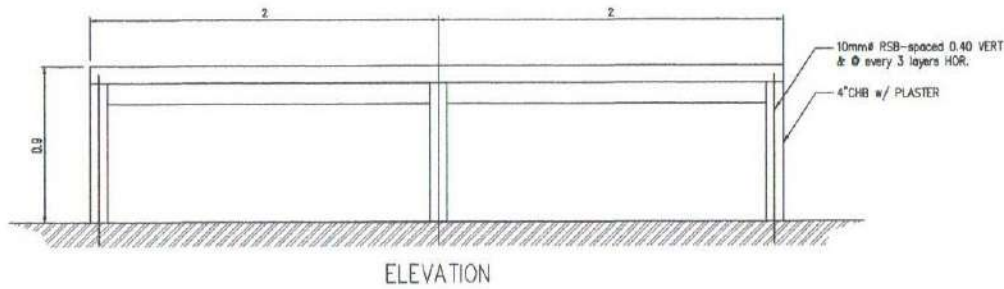
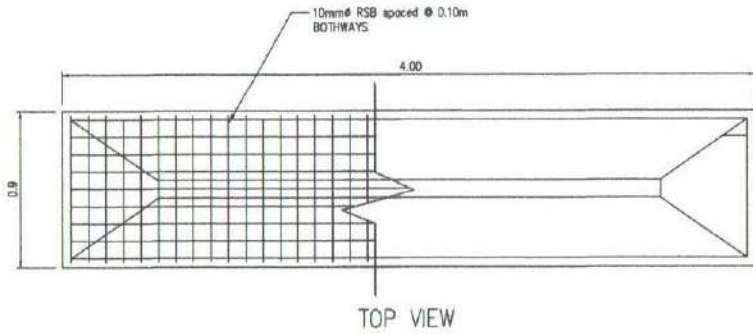


**HALF TRUSS 3**

2  
ST4  
**TRUSS DETAILS**  
SCALE N.D.T.S

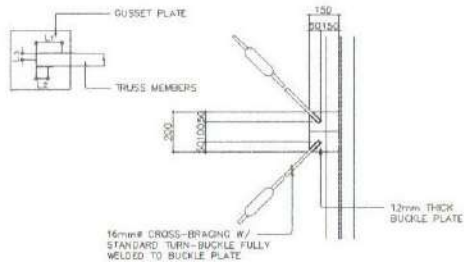
	TIN: 474-884-488 PNC: 2181581 PTR: 470882 Date: 30/07/23 PL. BS.: MAASSIN CITY	Design & Sealed:  <b>ENGR. JIEN APRIL B. JUAJAO</b> ENGINEER-PROVIDOR	Project Title: <b>"PROPOSED"</b> <b>CONSTRUCTION OF DBS VERTEBRAE ANATOMY BUILDING</b> LOCATION: NATIONAL HIGHWAY, VSU-MAIN, BAYBAY CITY	Checked by:  <b>ENGR. MARCELO T. ABRERA JR.</b> DIRECTOR-PROVIDOR	Noted by:  <b>Dr. DANIEL LESLIE S. TAN</b> O/P/AT	Approved:  <b>Dr. EDGARDO E. TULIN</b> VSU PRESIDENT	SHEET CONTENTS: ROOF FRAMING PLAN TRUSS DETAILS	ST6 04 SHEET NO. 08 19



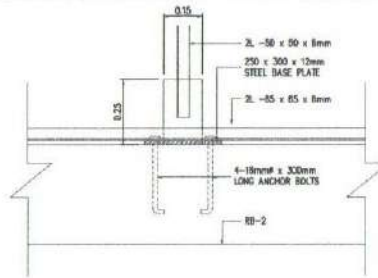


**1** **ANIMAL DISSECTION TABLE DETAILS**  
 ST5 SCALE N.D.T.S

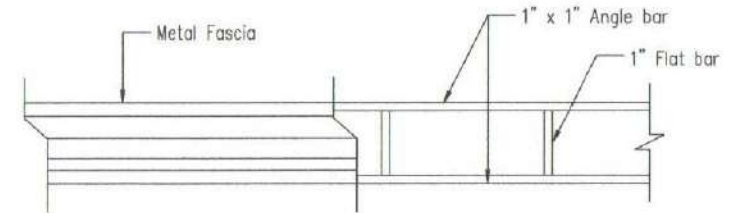
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	PRC : 841591		*PROPOSED*							
	PTR : 470892		CONSTRUCTION OF DBS VERTEBRAE ANATOMY BUILDING					ENGR. MARCELO T. ABRERA JR. DIRECTOR-PEDMG	Dr. DANIEL LESLIE S. TAN O/PFF	Dr. EDGARDO E. TULIN VSU PRESIDENT
	Date : 2062292		ENGR. JERN APRIL B. JUALO ENGINEER-PE/CMC					LOCATION: NATIONAL HIGHWAY, VSU-MAIN, BAYBAY CITY		
PL ISS : MAASIN CITY										



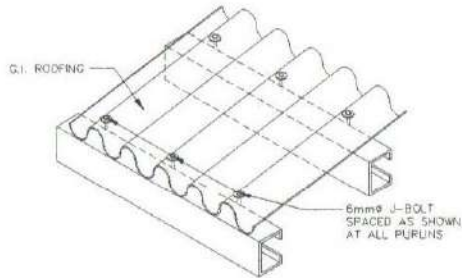
**1**  
ST6 SCALE N.D.T.S  
**DETAIL CONN. OF CROSS BRACING**



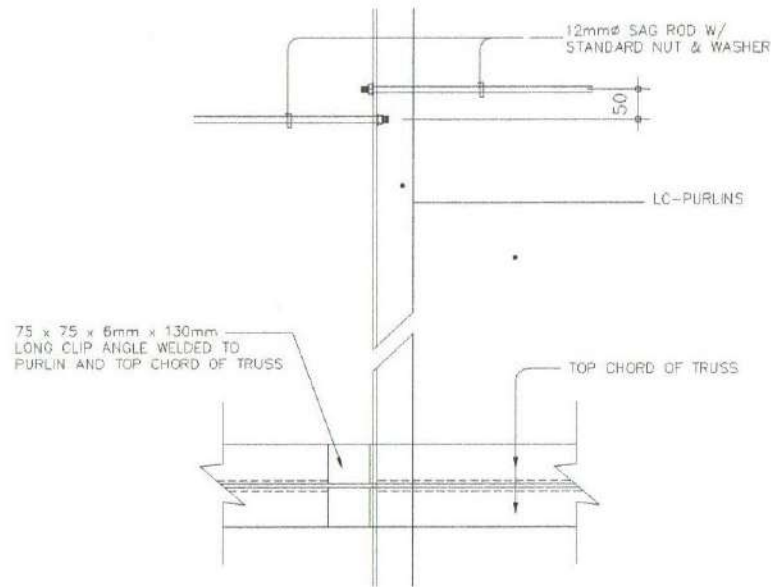
**4**  
ST6 SCALE N.D.T.S  
**SPOT DETAIL**



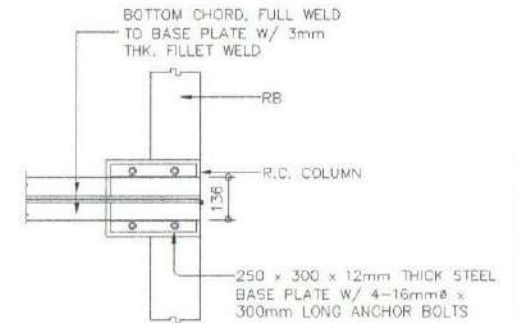
**6**  
ST6 SCALE N.D.T.S  
**SPOT DETAIL (METAL FASCIA)**



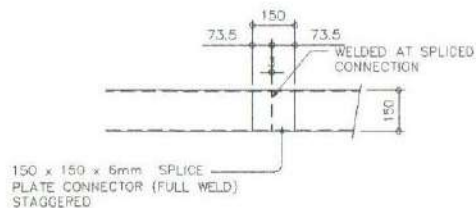
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ST6 SCALE N.D.T.S  
**CONNECTION OF G.I. SHEET TO PURLIN**



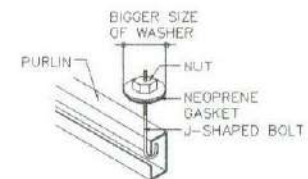
**5**  
ST6 SCALE N.D.T.S  
**DETAIL PLAN CONN. OF PURLINS AND SAGROD**



**7**  
ST6 SCALE N.D.T.S  
**TRUSS SUPPORT CONN. DETAIL**



**3**  
ST6 SCALE N.D.T.S  
**PURLIN SPLICE**



**8**  
ST6 SCALE N.D.T.S  
**ROOFING FIXER**

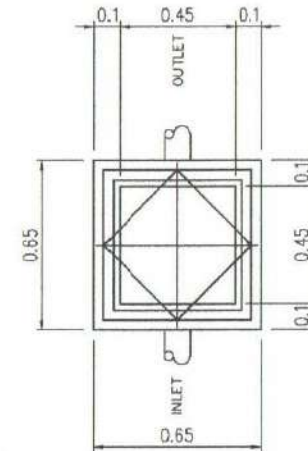
	TIN: 474-894-488 PRC: 841191 PTR: 470882 Date: 29/02/2023 PL. BS.: MAABIN CITY	Design & Scaled:  ENGR. JEM APRIAL B. JUALO ENGINEER-PE/MD	Project Title: *PROPOSED* CONSTRUCTION OF DBS VERTEBRAE ANATOMY BUILDING LOCATION: NATIONAL HIGHWAY, VSU/AMBI, BAYBAY CITY	Checked by:  ENGR. MARCELO T. ABREÑA JR. DIRECTOR-RP/MD	Noted by:  Dr. DANIEL LESLIE S. TAN O/PAF	Approved by:  Dr. EDGARDO E. TULIN VSU/ PRESIDENT	SHEET CONTENTS: DETAIL CONN. OF CROSS BRACING CONNECTION OF G.I. SHEET TO PURLIN PURLIN SPLICE SPOT DETAIL DETAIL PLAN CONN. OF PURLINS AND SAGROD SPOT DETAIL (METAL FASCIA) TRUSS SUPPORT CONN. DETAIL ROOFING FIXER	<b>ST6 06</b> SHEET NO. <b>10 19</b>
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# PLUMBING NOTES

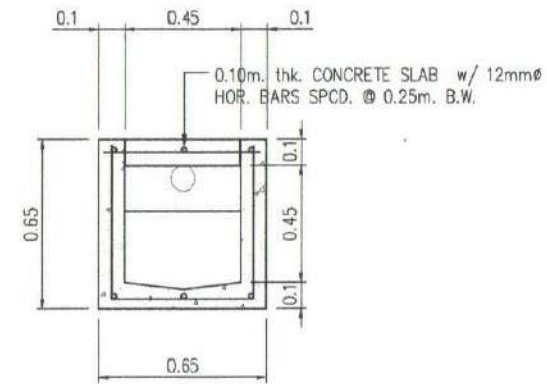
- 1 - ALL WORKS SHALL CONFORM TO THE RULES AND REGULATION OF THE NATIONAL PLUMBING CODE.
- 2 - PLUMBING INSTALLATIONS SHALL BE DONE THRU THE DIRECT SUPERVISION OF A DULY LICENSED MASTER PLUMBER.
- 3 - ALL MATERIALS TO BE USED SHALL BE NEW AND APPROVED TYPE OF LOCATION AND PURPOSE.
- 4 - RUN ALL HORIZONTAL PIPINGS IN PERFECT ALIGNMENT AND AT A FORM GRADE NOT LESS THAN TWO PERCENT ( 2% ).
- 5 - THE DIGESTION CHAMBER OF SEPTIC TANK MUST BE WATERPROOFED.
- 6 - NO SEPTIC TANK SHALL BE CONSTRUCTED UNDER THE BUILDING.  
TANK ROOF SLAB.
- 7 - NOT LESS THAN 300MM. OF AIR SPACE MUST BE LEFT BETWEEN THE TOP OF THE SEWAGE AND THE UNDER PART OF
- 8 - ALL PLUMBING WORKS SHALL BE UNDER THE DIRECT SUPERVISION OF A LICENSED MASTER PLUMBER AND ARCHITECT.

## LEGEND :

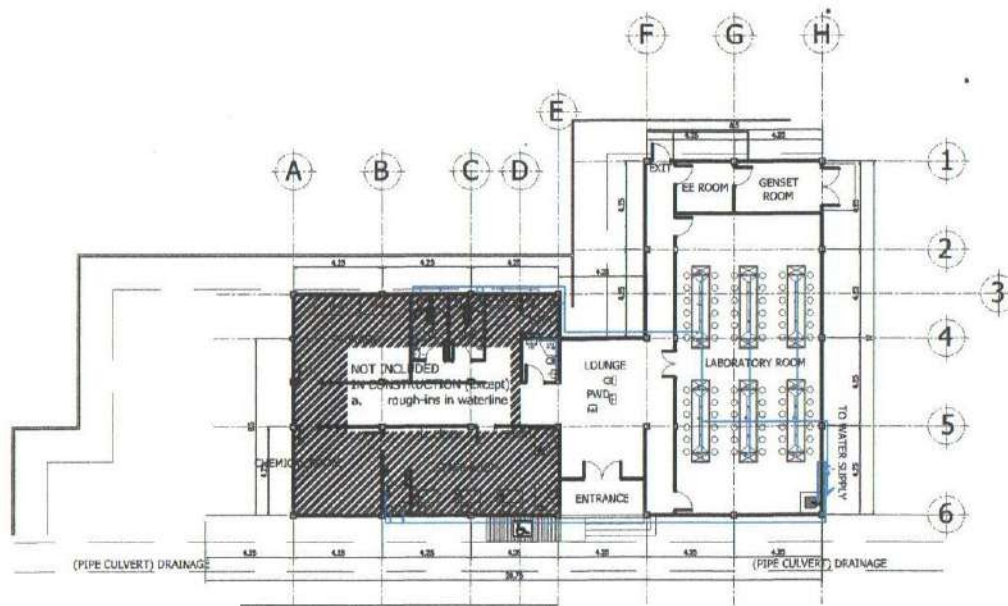
CV	CHECK VALVE
F	FALCET
FD	FLOOR DRAIN
GCO	GROUND CLEANDOUT
GV	GATE VALVE
HB	HOSE BIBS
LAV	LAVATORY
MH	MANHOLE
SH	SHOWER HEAD
SV	SEPTIC VALVE
VSTR	VENT STAGH THRU ROOF
WC	WATER CLOSET
WM	WATER METER



PLAN



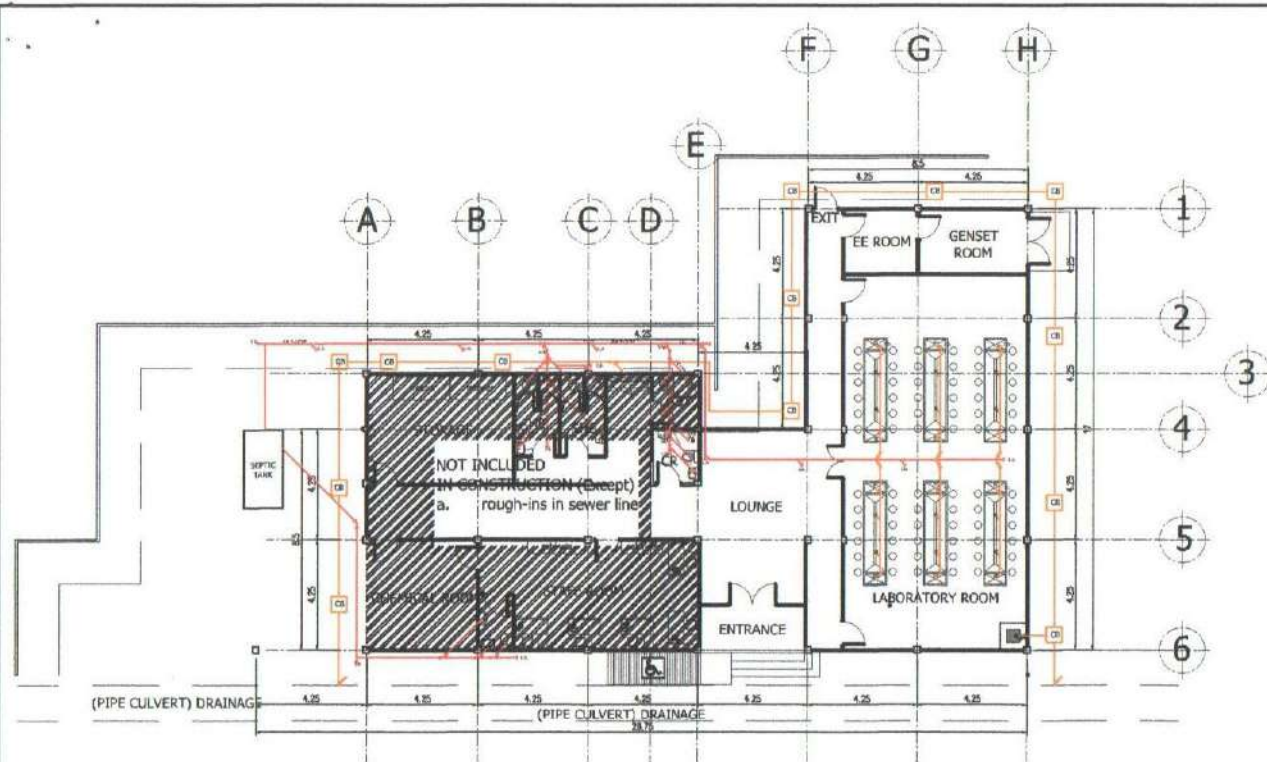
SECTION



1 WATERLINE LAY-OUT PLAN  
PL1 SCALE 1:250M

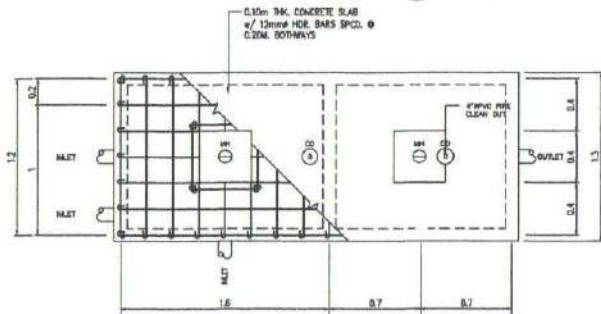
2 DETAIL OF R.C. CATCH BASIN  
PL1 SCALE 1:20M

	TIN: 468-793-887	Design & Sealed:	Project Title:	Checked by:	Noted by:	Approved by:	SHEET CONTENTS: PLUMBING NOTES LEGEND WATERLINE LAY-OUT PLAN DETAIL OF R.C. CATCH BASIN	PL2 01 SHEET NO. 11 19
	PRC: 0010946 PTR: 7929078 Date: 202202 PL. ISS.: BAYBAY CITY	 ENGR. MARCELO T. ABRERA, JR. MASTER PLUMBER	"PROPOSED" CONSTRUCTION OF DBS VERTEBRAE ANATOMY BUILDING LOCATION: NATIONAL HIGHWAY, VSU-MAJIN, BAYBAY CITY	 ENGR. MARCELO T. ABRERA JR. DIRECTOR-PPD/O	 Dr. DANIEL LESLIE S. TAN OVP/F	 Dr. EDGARDO E. TULIN VSU/PRESIDENT		

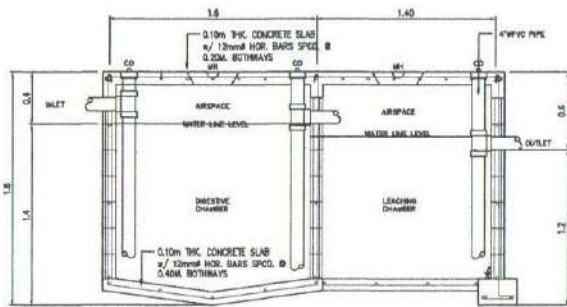


**SEWER LAY-OUT & DRAINAGE PLAN**

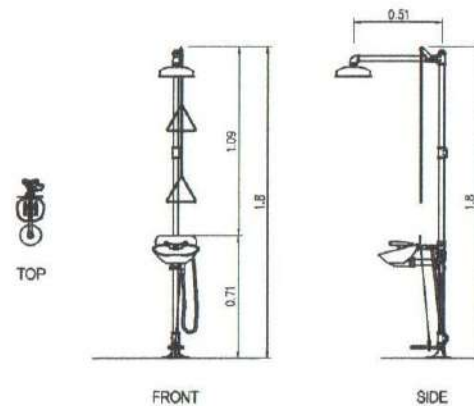
PL2 SCALE 1:200M



PLAN



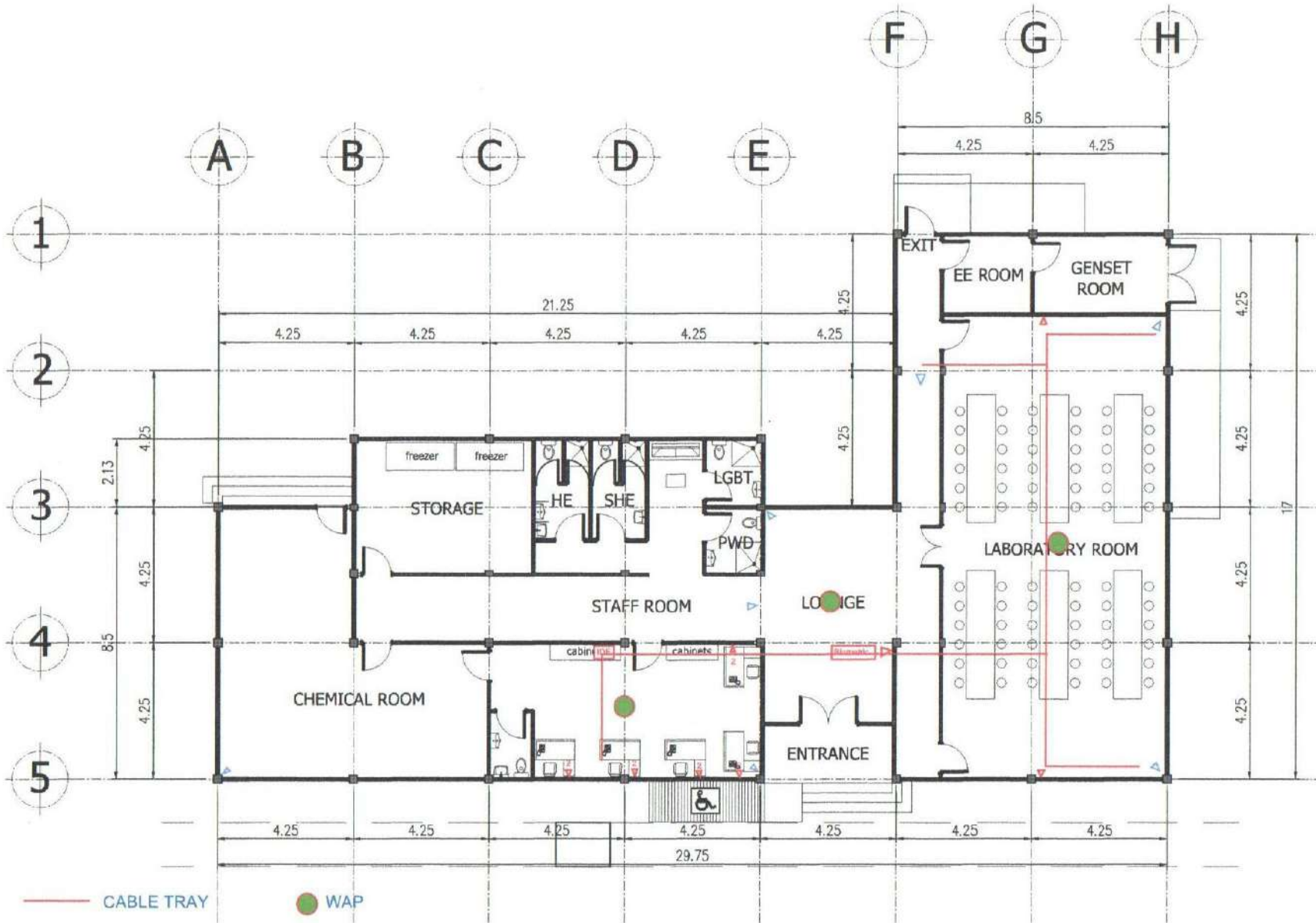
SECTION



**TYP. EMERGENCY SHOWER DETAIL**  
PL2 SCALE 1:30M

**SEPTIC TANK DETAIL**  
PL2 SCALE 1:40M

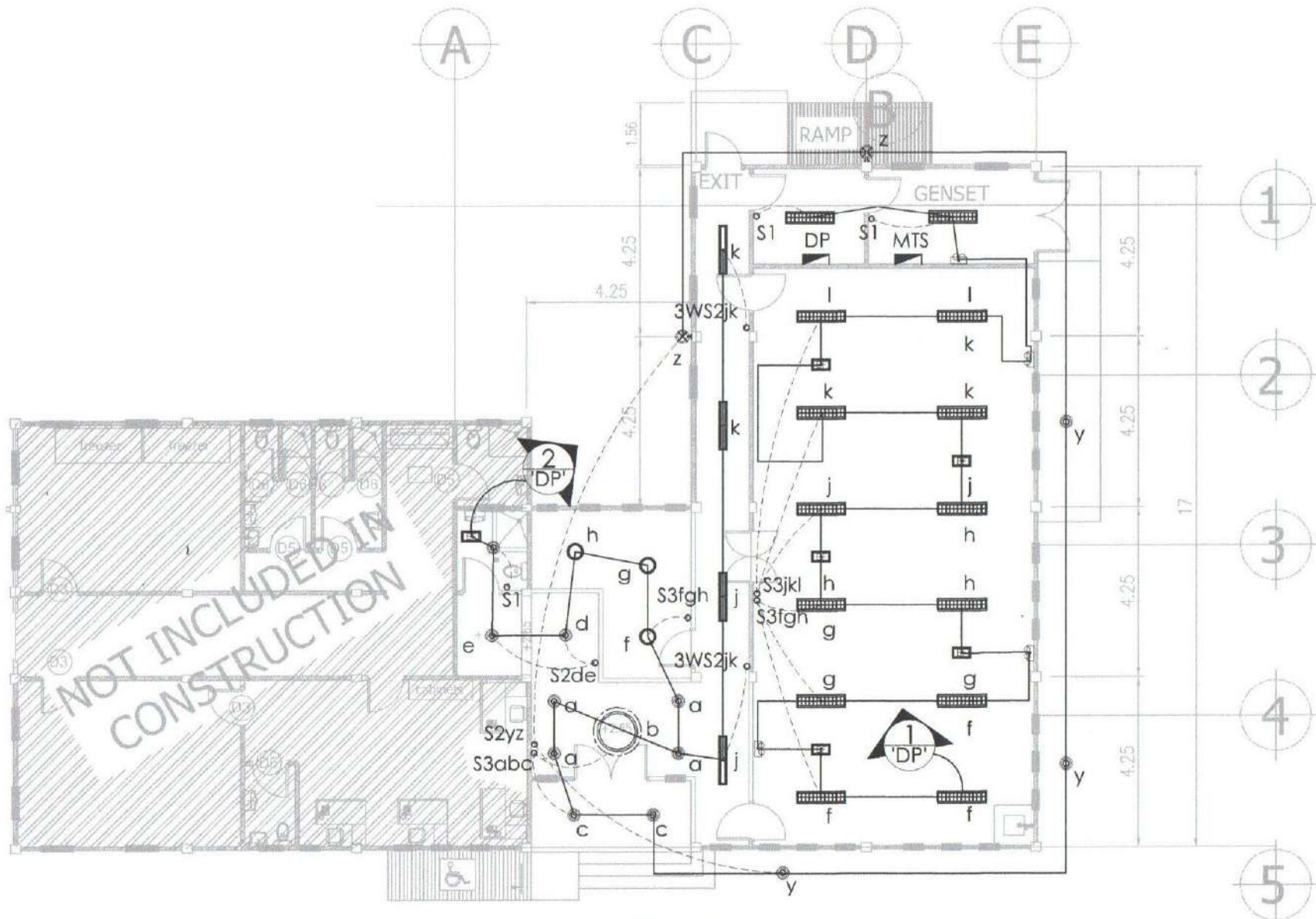
	TN: 428-703-887	Design & Sealed:	Project Title:	Checked by:	Noted by:	Approved by:	<b>SHEET CONTENTS:</b> SEWER LAY-OUT PLAN SEPTIC TANK DETAIL TYP. EMERGENCY SHOWER DETAIL	PL2 02 SHEET NO. 12 19
	PRC: 0010949 PTR: 7992078 Date: 02/23/23 PL ISS.: BAYBAY CITY	 ENGR. MARCELO T. ABRERA, JR. MASTER PLUMBER	"PROPOSED" CONSTRUCTION OF DBS VERTEBRAE ANATOMY BUILDING LOCATION: NATIONAL HIGHWAY, VSU-MAIN, BAYBAY CITY	 ENGR. MARCELO T. ABRERA, JR. DIRECTOR-PPDMD	 Dr. DANIEL LESLIE S. TAN OVPF	 Dr. EDGARDO E. TULIN VSU PRESIDENT		



- CABLE TRAY
- WAP
- ▷ CCTV
- ▷ LAN

LAN LAY-OUT PLAN  
SCALE: 1/16"

	TIN:	Design & Seal	Project Title:	Checked by:	Noted by:	Approved by:	SHEET CONTENTS:	CT 01 SHEET NO.
	PRC:		"PROPOSED"	<i>Marcelo T. Abrera</i>	<i>Daniel Leslie S. Tan</i>	<i>Edgardo E. Tulin</i>	LAN LAY-OUT PLAN	
	PTR:		CONSTRUCTION OF DBS VERTEBRAE ANATOMY	ENGR. MARCELO T. ABRERA	DR. DANIEL LESLIE S. TAN	DR. EDGARDO E. TULIN		
	Date:	ENGR. SEAN O. VILLAGONZALO	BUILDING	DIRECTOR, PPMO	VP, OPRF	VP, PRESIDENT		
	PL ISS:	HEAD, ICT	LOCATION: NATIONAL HIGHWAY, VSU-MAIN, BAYSAY CITY					



1 LIGHTING LAYOUT  
E-1 SCALE 1:100



TIN:  
PRC: 006306  
PTR:  
Date: 09/30/2015  
PL. BS.: Omcc; Cily

Prepared by:  
*Clint C. Sarvida*  
Engr. CLINT C. SARVIDA  
Electrical Engineer-II

Project Title:  
PROPOSED CONSTRUCTION OF  
DBS VERTEBRAE ANATOMY BUILDING  
LOCATION: NATIONAL HIGHWAY, VSU-MAN, BAYBAY CITY

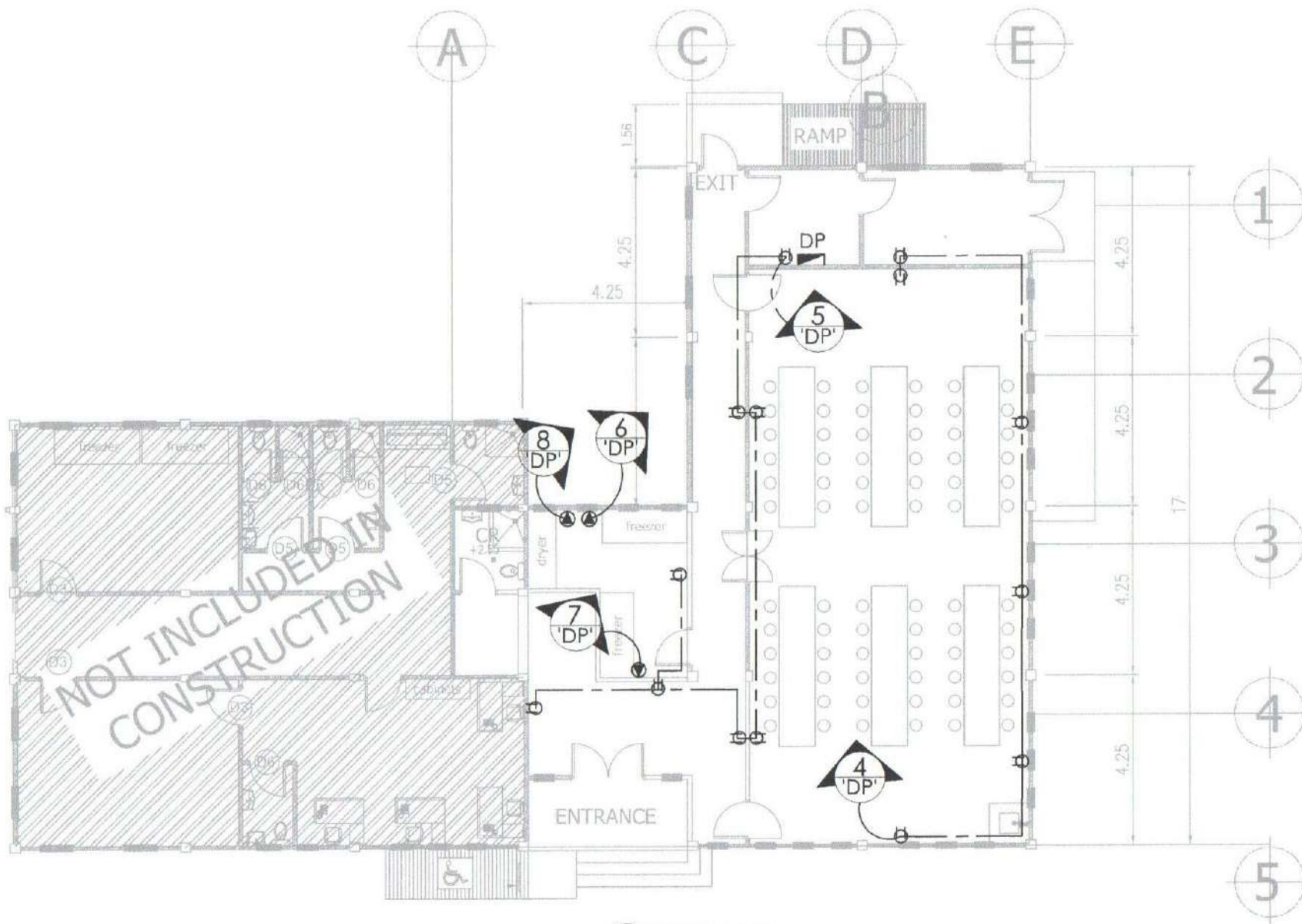
Checked by:  
*Marcelo T. Abrera*  
ENGR. MARCELO T. ABRERA  
DIRECTOR, PRCMO

Noted by:  
*Daniel Leslie S. Tan*  
Dr. DANIEL LESLIE S. TAN  
VP/DMAF

Approved by:  
*Edgardo E. Tulin*  
Dr. EDGARDO E. TULIN  
VP/PRESIDENT

SHEET CONTENTS:  
LIGHTING LAYOUT

E1 01  
SHEET NO.  
14 19



1 POWER LAYOUT  
E-2 SCALE 1:100M



TRV:  
PRC: 0058366  
PTR:  
Date: 09/30/2016  
PL. BS.: Omec City

Prepared by:  
*Clint C. Sarvida*  
Engr. CLINT C. SARVIDA  
Electrical Engineer II

Project Title:  
PROPOSED CONSTRUCTION OF  
DBS VERTEBRAE ANATOMY BUILDING  
LOCATION: NATIONAL HIGHWAY, VSU-MAIN, BAYBAY CITY

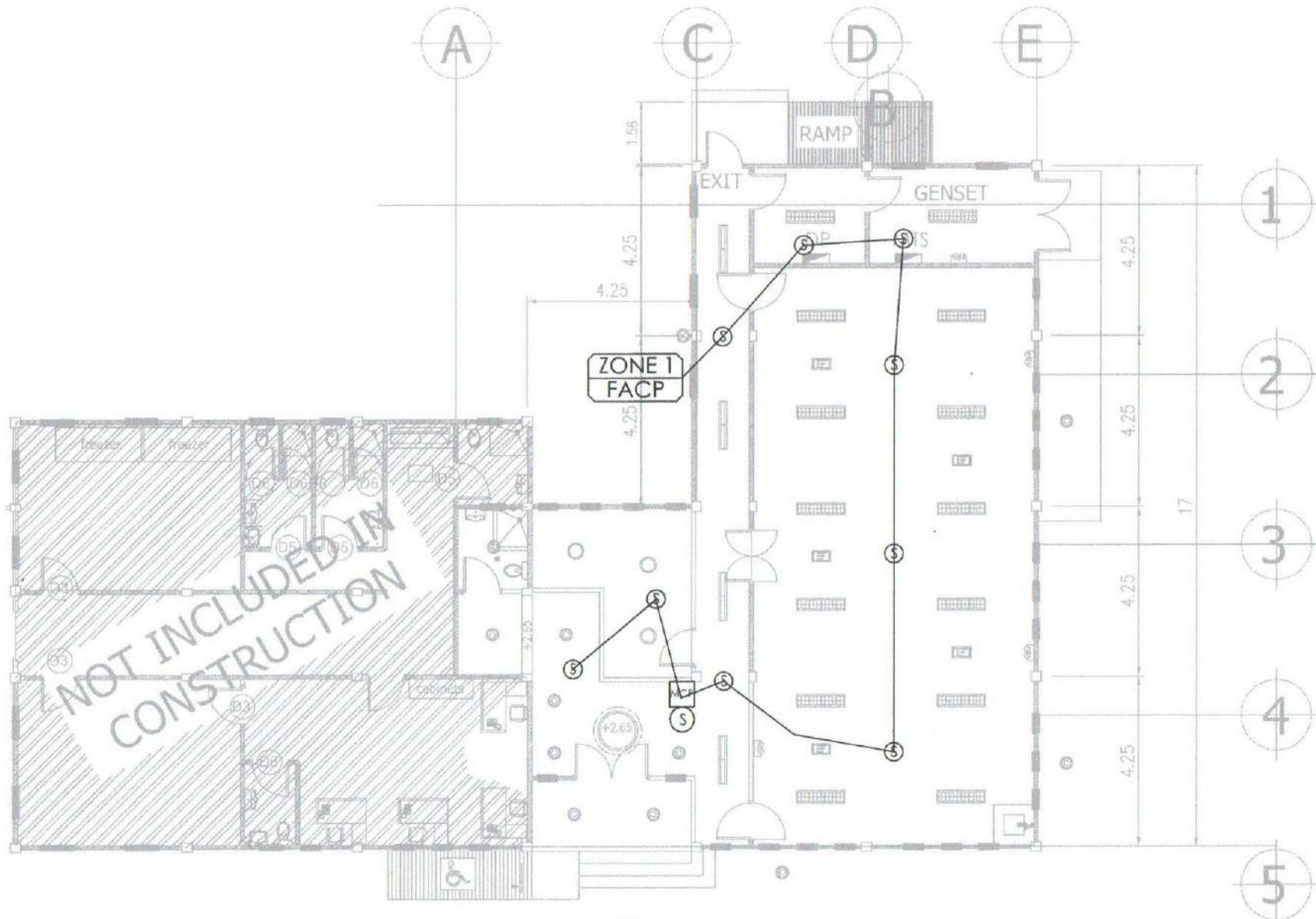
Checked by:  
*Marcelo T. Abrera*  
ENGR MARCELO T. ABRERA  
DIRECTOR/PEMD

Filed by:  
*Daniel Leslie S. Tan*  
Dr. DANIEL LESLIE S. TAN  
VP/OMRF

Approved by:  
*Edgardo E. Tulin*  
Dr. EDGARDO E. TULIN  
US/PRESIDENT

SHEET CONTENTS:  
POWER LAYOUT

E2 01  
SHEET NO.  
15 19



1 FIRE ALARM LAYOUT  
E-3 SCALE 1:100 N



TIN:  
PRC: 006986  
PTR:  
Date: 09/30/2016  
PL. 65: Cmaroc City

Prepared by:  
*Marvia*  
Engr. CLINT C. SARVIDA  
Electrical Engineer II

Project Title:  
PROPOSED CONSTRUCTION OF  
DBS VERTEBRAE ANATOMY BUILDING  
LOCATION: NATIONAL HIGHWAY, VSU-AMIN, BAYBAY CITY

Checked by:  
*Antebros*  
ENGR. MARCELO T. ABRERA  
DIRECTOR, P/DAO

Filed by:  
*T. Tan*  
Dr. DANIEL LESLIE S. TAN  
V.P./MPE

Approved by:  
*Edgardo E. Tulin*  
Dr. EDUARDO E. TULIN  
VS/PRESIDENT

SHEET CONTENTS:  
FIRE ALARM LAYOUT

E3 01  
SHEET NO.  
16 19



**1**  
**E-4** SCHEDULE OF LOADS  
NOT TO SCALE

PROJECT NAME: DBS VERTEBRAE ANATOMY BUILDING		ADDRESS: VSU MAIN CAMPUS, BAYBAY CITY, LEYTE		WIRE COLOR CODING: L1- BLACK L2(GROUNDED)WHITE G- GREEN	
PANEL NAME: LP		SYSTEM: SINGLE PHASE WITH LINE-2 BEING GROUNDED		VOLTAGE: 240 VAC	
ENCLOSURE: NEMA 3R		FREQUENCY: 60 HZ			
LOAD CONFIGURATION: 1 LINE + GROUNDED CONDUCTOR					

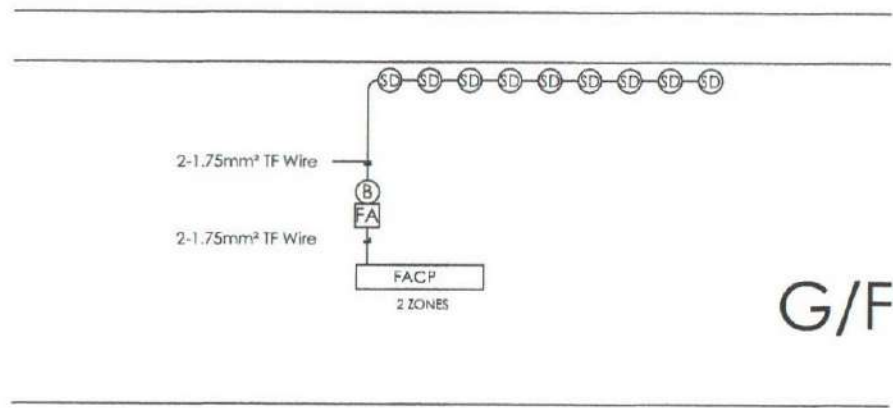
  

CKT. NO.	LOAD DESCRIPTION	LOAD(VA)	CURRENT(A)	OVERCURRENT PROTECTION (INVERSE TIME DELAY)					WIRES (THHN/THW)			CONDUITS	REMARKS
				AT	AF	P	KAIC	TYPE	SETS	PHASE	EGC		
1	LIGHTING OUTLET	1490	6.21	20	50	2	6	MCCB	1	3.5 mm2	3.5 mm2	20 mm. dia. Pvc	
2	LIGHTING OUTLET	1372	5.72	20	50	2	6	MCCB	1	3.5 mm2	3.5 mm2	20 mm. dia. Pvc	
3	FIRE ALARM CIRCUIT	500	2.08	20	50	2	6	MCCB	1	3.5 mm2	3.5 mm2	20 mm. dia. Pvc	
4	RECEPTACLE OUTLET	2200	9.17	20	50	2	6	MCCB	1	3.5 mm2	3.5 mm2	20 mm. dia. Pvc	
5	RECEPTACLE OUTLET	2400	10.00	20	50	2	6	MCCB	1	3.5 mm2	3.5 mm2	20 mm. dia. Pvc	
6	SPECIAL PURPOSE OUTLET ( FREEZER)	2000	8.33	20	50	2	6	MCCB	1	3.5 mm2	3.5 mm2	20 mm. dia. Pvc	
7	SPECIAL PURPOSE OUTLET ( FREEZER)	2000	8.33	20	50	2	6	MCCB	1	3.5 mm2	3.5 mm2	20 mm. dia. Pvc	
8	A.C.U ( 2 HP )	2810	11.71	30	50	2	6	MCCB	1	3.5 mm2	3.5 mm2	20 mm. dia. Pvc	
9	A.C.U ( 3 HP )	3680	15.33	30	50	2	6	MCCB	1	3.5 mm2	3.5 mm2	20 mm. dia. Pvc	
10	SPARE	1000	4.17	20	50	2	6	MCCB	--	--	--	20 mm. dia. Pvc	
11	SPARE	1000	4.17	20	50	2	6	MCCB	--	--	--	20 mm. dia. Pvc	
12	SPARE	1000	4.17	20	50	2	6	MCCB	--	--	--	20 mm. dia. Pvc	
<b>TOTAL</b>		<b>21452.000</b>	<b>89.383</b>										

<b>1 . TOTAL LOAD</b>	=	21452.000	VA	<b>MAIN SERVICE AND CONDUIT SIZE:</b> Use: 2-30 mm2 THHN/THW wire in 32 mm. dia. ePVC pipe
D.F. =		0.86		
<b>2 . LINE CURRENT</b>	=	75.87	A	<b>MAIN SERVICE PROTECTION SIZE:</b> Use: 80 AT/ 80 AF, 2P, 8KAIC, MCCB

**2**  
**E-4** FIRE ALARM RISER DIAGRAM  
NOT TO SCALE



	TIN: 0058366	Prepared by: <i>Edgardo E. Tulin</i>	Project Title: PROPOSED CONSTRUCTION OF DBS VERTEBRAE ANATOMY BUILDING	Checked by: <i>Marcelo T. Abrera</i>	Issued by: <i>Dr. Daniel Leslie S. Tan</i>	Approved by: <i>Edgardo E. Tulin</i>	SHEET CONTENTS: SCHEDULE OF LOADS FIRE ALARM RISER DIAGRAM	E4 02 SHEET NO. 17 19
	PL. No: 09302015	Engr. CLINT C. SARVIDA	LOCATION: NATIONAL HIGHWAY, VSU-MAIN, BAYBAY CITY	ENGR. MARCELO T. ABRERA <small>DIRECTOR/PEOCD</small>	Dr. DANIEL LESLIE S. TAN <small>VP/CSFF</small>	Dr. EDGARDO E. TULIN <small>VP/PRESIDENT</small>		
	PL. No: 09302015	Engr. CLINT C. SARVIDA						
	PL. No: 09302015	Engr. CLINT C. SARVIDA						

**1 GENERAL NOTES AND SPECIFICATIONS**  
E-5 NOT TO SCALE

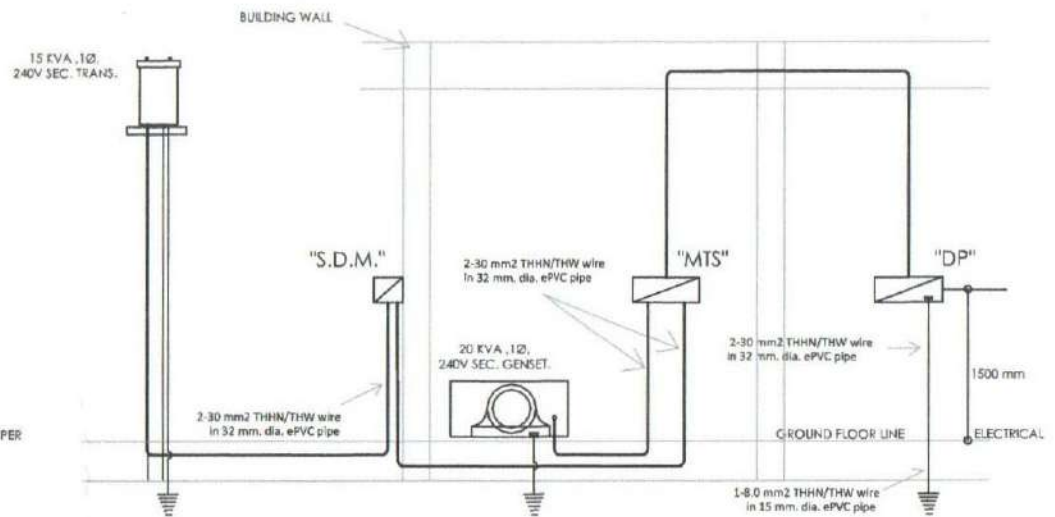
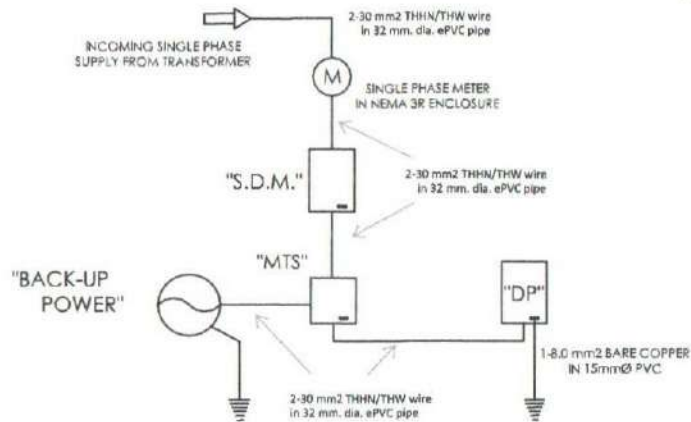
- ALL ELECTRICAL WORKS SHALL COMPLY IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS, THE APPLICABLE PROVISIONS OF THE LATEST EDITION OF THE PHILIPPINE ELECTRICAL CODE (PEC), THE RULES AND REGULATIONS OF THE LOCAL ENFORCING AUTHORITY AND THE REQUIREMENTS OF THE LOCAL POWER COMPANY. THE ELECTRICAL WORKS SHALL BE UNDER IMMEDIATE SUPERVISION OF A FULLY REGISTERED ELECTRICAL ENGINEER.
- THE ELECTRICAL SERVICE POWER IS 1 - PHASE 2 WIRE + GROUND 230 V AC, 60Hz.
- WIRING METHOD SHALL BE AS FOLLOWS:
  - FEEDERS AND RISERS - POLYVINYL CHLORIDE CONDUIT
  - LIGHTING, POWER RECEPTACLE BRANCH CKT., & AUXILIARY - POLYVINYL CHLORIDE CONDUIT
- ALL WIRES SHALL BE COPPER AND THERMOPLASTIC INSULATED TYPE "THHN" UNLESS OTHERWISE INDICATED IN THE PLAN. THE MINIMUM SIZE OF WIRE FOR POWER AND LIGHTING CIRCUIT HOME RUN SHALL BE 3.5 mm AND INSULATED FOR 600 VOLTS. SMALLEST RACEWAY SHALL BE 15 mm<sup>2</sup> TRADE/NOMINAL SIZE. LIKEWISE ALL ELECTRICAL WIRES SHALL BE COLOR CODED.
- ALL OUTLET BOXES SHALL BE GALVANIZED GAGE NO. 16 DEEP TYPE WITH FACTORY KNOCKOUTS.
- ALL MATERIALS TO BE USED SHALL BE BRAND NEW AND APPROVED TYPE FOR THE PARTICULAR LOCATION AND PURPOSE OF USAGE.
- EQUIPMENT GROUNDING SYSTEM SHALL BE PROVIDED TO ELECTRICAL SYSTEM AS PER ELECTRICAL CODE REQUIREMENT.
- MOUNTING HEIGHT OF WIRING DEVICES SHALL BE AS FOLLOWS:
  - LIGHT SWITCH - 1.20 M ABOVE FINISHED FLOOR
  - CONVENIENCE OUTLET - 0.30 M ABOVE FINISHED FLOOR
  - PANELBOARD - 1.50 M ABOVE FINISHED FLOOR
  - FIRE ALARM STATION OUTLET - 1.50 M ABOVE FINISHED FLOOR
  - PUSH BOTTOM OUTLET - 1.20 M ABOVE FINISHED FLOOR
  - FIRE ALARM AND VIBRATING BELL - 0.30 M BELOW CEILING LINE

**2 LEGEND AND SYMBOLS**  
E-5 NOT TO SCALE

- LED strip lights ( tricolor )
- 7 WATTS OUTDOOR WALL LAMP
- 7 WATTS CIRCULAR PINLIGHT
- 18 WATTS SURFACE MOUNT CIRCULAR LIGHTING FIXTURE
- 1x40 WATTS T8 LED IN LOUVER TYPE SURFACE MOUNT LIGHTING FIXTURE 1'x48"
- 2x40 WATTS T8 LED IN LOUVER TYPE SURFACE MOUNT LIGHTING FIXTURE 12'x48"
- EXHAUST FAN
- EMERGENCY LIGHT WITH BATTERY BACK-UP POWER SOURCE
- ONE GANG SWITCH WITH LED INDICATOR
- TWO GANG SWITCH WITH LED INDICATOR
- THREE GANG SWITCH WITH LED INDICATOR
- THREE WAY ONE GANG SWITCH
- THREE WAY TWO GANG SWITCH
- DUPLEX RECEPTACLE OUTLET WITH GROUND PRONG
- TABLE POP UP DUPLEX RECEPTACLE OUTLET WITH GROUND
- DUPLEX RECEPTACLE OUTLET WITH GROUND PRONG (COUNTER HEIGHT)
- SPECIAL PURPOSE OUTLET WITH GROUND PRONG
- AIRCON OUTLET
- SMOKE DETECTOR
- HEAT DETECTOR
- FIRE ALARM BELL & MANUAL CALL POINT
- FIRE ALARM CONTROL PANEL
- PANEL BOARD WITH NEMA ENCLOSURE

**4 RISER DIAGRAM**  
E-5 NOT TO SCALE

**3 SINGLE LINE DIAGRAM**  
E-5 NOT TO SCALE



	TIN:	Prepared by:	Project Title:	Checked by:	Noted by:	Approved by:	SHEET CONTENTS: GENERAL NOTES AND SPECIFICATIONS LEGEND AND SYMBOLS SINGLE LINE DIAGRAM RISER DIAGRAM	E5 04 SHEET NO. 18 19				
	PRIC: 0262056		PROPOSED CONSTRUCTION OF DBS VERTEBRAE ANATOMY BUILDING									
	PTIR:								Engr. CLINT C. SARVIDA	ENGR. MARCELO T. ABRERA	Dr. DANIEL LESLIE S. TAN	Dr. EDGARDO E. TULIN
	Date: 09/30/2015								Electrical Engineer II	LOCATION: NATIONAL HIGHWAY, VISUAMIN, BAYBAY CITY	(DIRECTOR FROM)	VP, O&P
PL-RIS - Ceres City												

**1 SHORT CIRCUIT ANALYSIS**  
E-6

**2 VOLTAGE DROP ANALYSIS**  
E-6

TRANSFORMER TO D.P.

ONE LINE DIAGRAM      IMPEDANCE DIAGRAM

SYSTEM VOLTAGE = 240 V  
BASE KVA = 10000 KVA

AVAILABLE UTILITY  
S.C. MVA = 1000

15 KVA TRANSFORMER  
240 V, SINGLE PHASE (CENTER TA)

1.2 %X  
1.3 %R

82.02 FEET - 30mm<sup>2</sup> (2 AWG)  
THHN/THW WIRES IN  
32 MM. DIA. PVC PIPE

80 AT, 2 P, MCCB

Section	PUR	PUX
Utility	---	---
Transformer	---	0.02
Line 1	8.6667	---
Line 2	4.6706	---
Line 3	---	0.3935
<b>TOTAL PUR and PUX</b>	<b>13.3373</b>	<b>9.3904</b>

$PUR = \frac{10000}{1000000} = 0.01$   
 $PUX = 2 \times 0.01 = 0.02$  (FOR SINGLE PHASE SYSTEM)

$PUR = \frac{1 \times 1.2000 \times 10000}{100 \times 15} = 8.000$   
 $PUR = \frac{1 \times 1.3000 \times 10000}{100 \times 15} = 8.667$

$PUR = 2 \times \frac{82.02}{1000} \times \frac{0.0936}{1} \times 10000 = 0.9569$   
 $PUR = 2 \times \frac{82.02}{1000} \times \frac{0.164}{1} \times 10000 = 4.6706$

$PUR = \frac{2 \times 0.0011 \times 10000}{1000 \times 0.24^2} = 0.3935$

$PUR = \frac{13.337^2 + 9.390^2}{1 \times 0.240} = 16.311$   
 $I_{S.C. \text{ sym. RMS}} = \frac{10000}{0.240} \times 16.311 = 2554.440 \text{ A}$

$I_{\text{sym. Motor contr.}} = 4.000 \times 27.04 = 108.16 \text{ A}$   
 $I_{\text{Total S.C. sym. RMS}} = 2554.44 + 108.16 = 2,662.60 \text{ A}$

$X/R \text{ RATIO} = \frac{9.3904}{13.337} = 0.7040724$   
 ASYM FACTOR = 1.0002705 (TABLE 9)

$I_{S.C. \text{ Asym. RMS}} = 2554.44 \times 1.000271 = 2,555.13 \text{ A}$   
 $I_{\text{Asym. Motor contr. (100% motor load)}} = 5 \times 27.040 = 135.20 \text{ A}$   
 $I_{\text{Total S.C. Asym. RMS}} = 2555.13 + 135.2000 = 2,690.33 \text{ A}$

Use: 8 KAIC rating, Circuit Breaker SSC protection

TITLE: VOLTAGE DROP ANALYSIS  
DATE: 26/08/2023

1ST LOCATION POINTS FROM: TRANSFORMER TO: D.P.

SYSTEM TYPE: SINGLE PHASE  
SYSTEM VOLTAGE TYPE (SECONDARY): DUAL VOLTAGE  
VOLTAGE (VOLTS): 240  
MATERIAL TYPE OF THE WIRE: COPPER  
WIRE SIZE: 30 mm<sup>2</sup> (2 AWG)  
NUMBER OF PARALLEL CONDUCTORS: 1  
DISTANCE IN METERS (ONE WAY): 25

INSTALLATION TYPE: PVC CONDUIT

LOAD DETAILS  
LOAD CURRENT (AMPERE): 76.89  
DESIRED VOLTAGE DROP PERCENTAGE: 2  
DESIRED VD PERCENTAGE (%VD): 2

TEMPERATURE AT CONDUCTOR (°C): 75

FORMULA FOR VOLTAGE DROP (VD):  

$$VD = \frac{A \times I \times L \times (R' + X')}{n}$$

where:  
 VD - is the L-N Voltage drop  
 I - Load current  
 L - Length of conductor  
 R - Resistance of the conductor (using table having resistance (R) value every 305 meters @ 75 deg.celsius)  
 X - Reactance of the conductor (using table having reactance (X) value every 305 meters @ 75 deg.celsius)  
 n - Number of parallel conductors  
 A - is 2 for single phase and 1.732 for three phase

TEMPERATURE-RESISTANCE FORMULA:  
 $R_2 = R_{REF} (1 + \alpha_{REF} (T_2 - T_{REF}))$   
 $\alpha_{REF}$  = Temperature Coefficient of Resistance at some reference temperature (usually 0 °C or 20°C)  
 $\alpha_{20}^{\circ C} = 0.00386$  for copper (@ 20 deg.celsius)  
 0.00429 for aluminum (@ 20 deg.celsius)

A. FROM: TRANSFORMER TO: D.P.

$VOLTAGE \text{ DROP (VD)} = \frac{2 \times 76.89 \times 25 \times (0.190^2 + 0.045^2)}{1 \times 305} = 2.461 \text{ V}$

$VOLTAGE \text{ DROP (VD)} = \frac{750.6626}{305} = 2.461 \text{ V}$

$VOLTAGE \text{ DROP (VP)} = 2.461 \text{ V}$

CONSIDERING TEMPERATURE EFFECTS:  
 $R_{75} = R_{20}^{\circ C} (1 + \alpha_{20}^{\circ C} (T_{75}^{\circ C} - T_{20}^{\circ C}))$   
 $2.461 = R_{20}^{\circ C} (1 + 0.00386 \times (75 - 20))$   
 $R_{20}^{\circ C} = 2.030$   
 (FINAL VD)  $R_{75} = 2.030 (1 + 0.00386 \times (75 - 20)) = 2.461 \text{ V}$

RECEIVING VOLTAGE = SENDING VOLTAGE - VOLTAGE DROP  
 $= 240.00 - 2.461 \text{ V} = 237.539 \text{ V}$   
 $\%VD = \frac{2.4612}{240} \% = 1.025 \%$

ASSESSMENT = PASSED