

TECHNICAL EDUCATION
AND
SKILLS DEVELOPMENT
AUTHORITY

PROPOSED TESDA RTC-BATANGAS INNOVATION CENTER

ENGR. JOHN ADRIAN. SANTOS PMU-SIPTVETS ENGINEERING SECTION DIR. ENRICQ C. BANARIO PMU-SPTVETS SEC. SUHARTO T. MANGUDADATU, Ph.D.

MISCELLANEOUS DETAILS -TYPICAL GROUNDING AND LIGHTNING PROTECTION DETAILS

E-7

GENERAL NOTES AND SPECIFICATIONS

- 1. ALL WORKS HEREIN INCLUDED SHALL BE EXECUTED IN ACCORDANCE WITH THE PROVISION OF THE LATEST EDITION OF THE PHILIPPINE ELECTRICAL CODE, THE RULES AND REGULATIONS OF THE LOCALITY AND THE REQUIREMENTS OF THE CLIENT/OWNER.
- ALL WORKS HEREIN INCLUDED SHALL BE EXECUTED BY EXPERIENCED MEN UNDER THE DIRECT SUPERVISION OF A FULL TIME LICENSED ELECTRONICS AND COMMUNICATIONS ENGINEER (ECE). ALL WORKS SHALL BE NEATLY PLACED, SECURELY FASTENED AND PROPERLY FINISHED.
- 3. MATERIALS SHALL BE NEW AND SHALL CONFORM WITH THE STANDARD AMERICAN UNDERWRITER'S LABORATORIES, INC., IN EVERY CASE WERE SUCH A STANDARD HAS BEEN ESTABLISHED FOR THE PARTICULAR TYPE OF MATERIAL IN QUESTION. ALL EQUIPMENT SHALL BE PURCHASED ACCORDING TO
- 4. ALL EXPOSED & CEILING CONCEALED CONDUITS SHALL BE OF INTERMEDIATE METALLIC CONDUIT ON HIGH STRENGTH AND CALVANIZED WITH AN ADDITIONAL INTERIOR PROTECTIVE COLUMN SHALL BE USED OR AS INDICATED IN THE PLANS. ALL EMBEDDED CONDUITS SHALL BE OF POLYMINT, CHLORIDE, ALL EXPOSED AND NOT PROVE TO DAMAGE CONDUITS SHALL BE OF ELECTRICAL METALLIC TUBBRS.
- INTERFERENCE (EMI), TO MEET OR EXCEED THE EIA/TIA 568A CABLING STANDARD.
- 7. ALL CONDUIT BENDS SHALL BE FIELD-MADE USING HYDRAULIC BENDERS. MINIMUM BENDING RADIUS SHALL BE IN ACCORDANCE WITH THE CODE.
- 8. ALL PIPES AND FITTINGS ON EXPOSED WORK SHALL BE SUPPORTED AND SECURED BY MEANS OF C-CHANNELS AND CLAMPS.
- 9. THE POSITION OF ALL ELECTRONICS EQUIPMENT AS SHOWN IN THE DRAWINGS ARE APPROXIMATE ONLY. THE EXACT POSITIONS SHALL BE DETERMINED ON SITE.
- 10. ALL MDF'S AND IDF'S SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST EDITION PF PHILIPPINE ELECTRICAL/ELECTRONICS, EIA AND BICSI CODE. THEY SHALL BE PAINTED WITH A COAT OF ANTI-RUST PAINT AND TWO COATS OF SEMI-GLASS TEAK PAINT OF BEST QUALITY TO THE APPROVAL OF THE CONSULTANT.
- ALL ELECTRONICS EQUIPMENT AND DEVICES LOCATIONS SHOWN ARE INDICATIVE ONLY AND THE ELECTRICAL CONTRACTOR MUST COORDINATE WITH THE ARCHITECT AND OR THE INTERIOR DESIGNER, AS WELL AS EQUIPMENT SUPPLIERS.
- 12. ALL ELECTRONICS EQUIPMENT & ACCESSORIES THAT ARE EXPOSED OR LESS THAN 2.0m AWAY FROM WATER SOURCES SHALL BE OF WATERPROOF TYPE.
- 13. COLOR FOR ALL TELECOMMUNICATION FACE PLATES SHALL BE AS PER ARCHITECT'S/INTERIOR DESIGNER'S SELECTION.
- TO FABRICATION, LOCATION OF PULLBOXES SHALL BE AS APPROVED BY THE ARCHITECT/ENGINEER AND MUST BE REFLECTED ON THE "AS-BUILT"
 PLANS.
- 15. MOUNTING HEIGHTS OF DEVICES (RJ-45 JACKS) SHALL BE AS APPROVED BY THE ARCHITECT OR AS FOLLOWS:

TELECOM/DATA OUTLET0.30m ABOVE FINISHED FLOOR TO CENTER OF DEVICE 0.15m ABOVE WORKING COUNTER TO CENTER OF DEVICE

- 16. ALL ITEMS OF MATERIAL NOT FURNISHED BY REQUISITION AND REQUIRED TO COMPLETE THE INSTALLATION IN A GOOD, WORKMANLIKE MANNER SHALL BE
- 18. UPON COMPLETION OF IT CABLING WORKS, THE FOLLOWING TESTS SHALL BE PERFORMED BY THE CONTRACTOR INCLUSIVE OF THE INSTALLATION TO BE REPORTED IN DETAILS AND IN FORMS APPROVED BY THE OWNERS REPRESENTATIVE;
 - A. SIGNAL ATTENUATION TEST B. CONTINUITY TEST C. NEAR-END CROSSTALK TEST

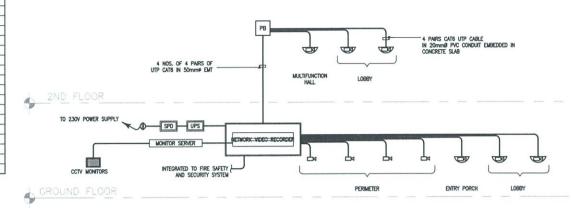
D. IMPEDANCE TEST E. RESISTANCE TEST F. WIRE MAP TEST

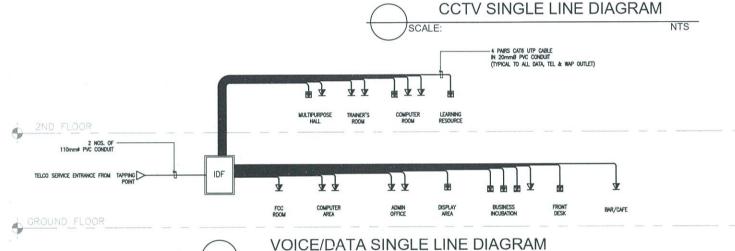
ABBREVIATIONS

CP	ACCESS CONTROL PANEL
ics	ACCESS CONTROL SYSTEM
BGM	BACKGROUND MUSIC
C	CONDUIT
CAT	CATEGORY
COP	COMMUNICATION DISTRIBUTION PANEL
CATY	COMMUNITY ANTENNA TELEVISION
CCTV	CLOSED CIRCUIT TELEVISION
DC	DOOR CONTACT
DOL	DIRECT ON LINE
EMT	ELECTROMETALLIC TUBING
ELV	EXTRA LOW VOLTAGE
EVAC	EMERGENCY VOICE ALARM COMMUNICATION
FA	FIRE ALARM
FR	FIRE RATED
WR	NETWORK VIDEO RECORDER
PVC	POLYVINYL CHLORIDE
PATB	PUBLIC ASDRESS TERMINAL BOARD
TEL	TELEPHONE
тс	TELEPHONE TERMINAL CABINET
THEN	THERMOPLASTIC HEAT RESISTANT (90°C) WITH NYLON JACKET
FCC	FIRE COMMAND CENTER
FACP	FIRE ALARM CONTROL PANEL
FATB	FIRE ALARM TERMINAL BOARD
FDAS	FIRE ALARM AND DETECTION SYSTEM
DF	INTERMEDIATE DISTRIBUTION FRAME
IMC	INTERMEDIATE METALLIC CONDUIT
NAP	NETWORK ACCESS POINT
ODF	OPTICAL DISTRIBUTION FRAME
PA	PUBLIC ASDRESS
RD	RISER DOWN
RU	RISER UP
RSC	RIGID STEEL CONDUIT
SMS	SECURITY NAVAGEMENT SYSTEM
TX	TRANSFORMER
TI-NV	THERMOPLASTIC HEAT AND MOISTURE RESISTANT
TYP	TYPICAL
UPS	UNINTERRUPTIBLE POWER SUPPLY
WP	WEATHER PROOF
FDB	FIBER DISTRIBUTION BOARD

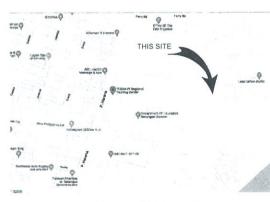
AUXILIARY SYSTEMS LEGEND AND SYMBOL

YMBOLS	DESCRIPTION
O	DOME-TYPE, IP-BASED CCTV CAMERA
	IP BASED CAMERA, FIXED TYPE, WEATHER PROOF
×	VOICE/DATA OUTLET
200	FLOOR MOUNTED VOICE/DATA OUTLET
M	INPUT MODULE
TT	GROUND BAR
0	SMOKE DETECTOR
0	HEAT DETECTOR
004	STROBE LIGHT WITH SOUNDER
	MANUAL PULL STATION
₩	FIREMAN'S TELEPHONE JACK
D4	HORN TYPE SPEAKER
5	CEILING-MOUNTED SPEAKER
12	INTERCOM UNIT
(USP)	FIRE ALARM CONTROL PANEL
• RU/RD	RISER UP/DOWN
HR	PA MICROPHONE







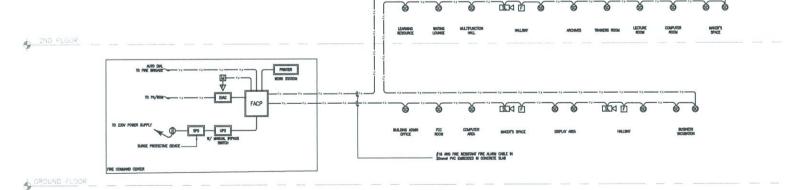


LOCATION MAP



VICINITY MAP NTS

PROJECT TITLE:



FDAS SINGLE LINE DIAGRAM SCALE

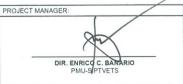
FOR APPROVAL PLANS OF **REGIONAL TVET INNOVATION CENTERS (RTICs) 2023**



PROPOSED TESDA RTC-BATANGAS INNOVATION CENTER



ELECTRICAL ENGINEER

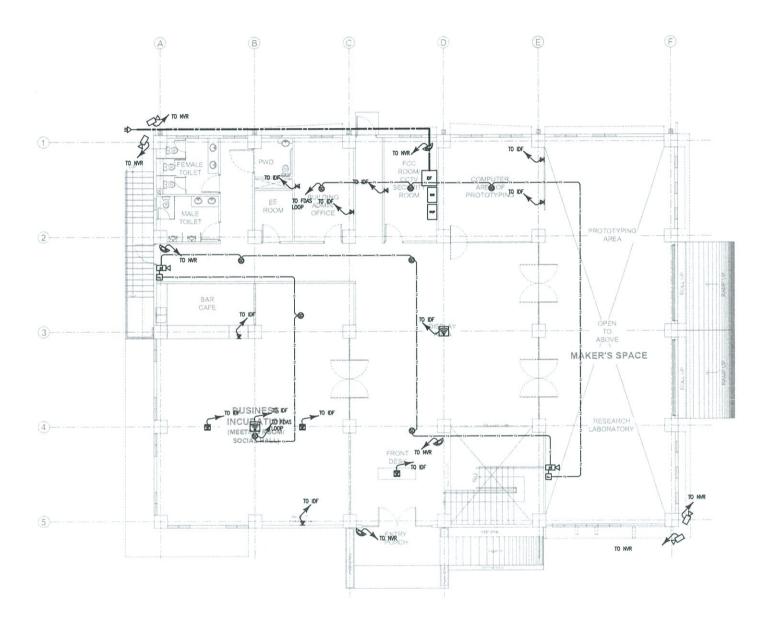


PROJECT DIRECTOR SEC. SUHARTO T. MANGUDADATU, Ph.D. PMU-SIPTVETS

ABBREVIATION LOCATION & VICINITY MAP CCTV SINGLE LINE DIAGRAM VOICE/DATA SINGLE LINE DIAGRAM

EC-0A

LEGENDS AND SYMB	OLS	
3	SMOKE DETECTOR	
F	MANUAL PULL STATION	
I	STROBE LIGHT	
₹	FIREMAN'S TELEPHONE JACK	
M	INPUT MODULE	
OM.	OUTPUT MODULE	
S	CEILING MOUNTED SPEAKER	
0	PA MICROPHONE	
⊗RU/RD	RISER UP/DOWN	
	FIXED TYPE, IP-BASED CCTV CAMERA	
	DOME TYPE, IP-BASED CCTV CAMERA	
¥	WALL MOUNTED, VOICE/DATA OUTLET	
•	FLOOR MOUNTED. VOICE/DATA OUTLET	
	WIRELESS ACCESS POINT	

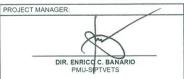






PROPOSED TESDA RTC-BATANGAS INNOVATION CENTER

ENGR. JOHN ADRIAN & SANTOS
PMU-SUPTVETS
ENGINEERING SECTION

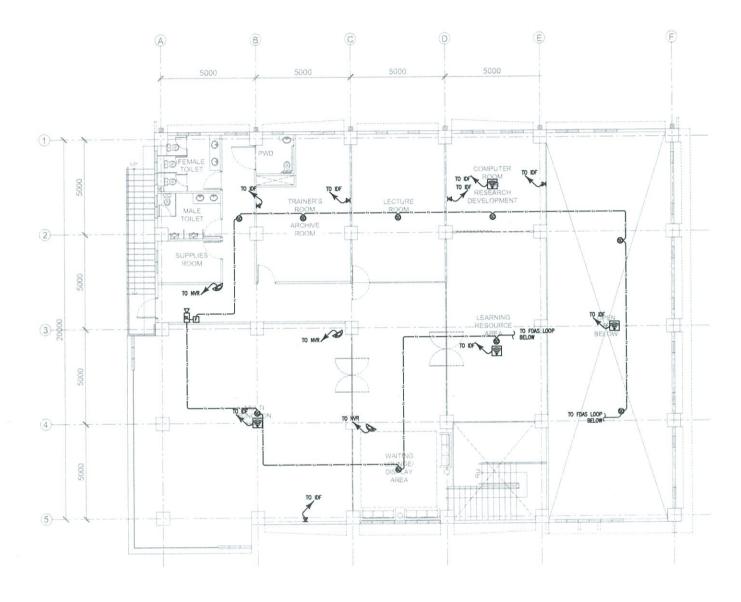


SEC, SUHARTO T. MANGUDADATU, Ph.D. PMU-SIPTVETS

SHEET CONTENTS: SHEET NO.
GROUND FLOOR AUXILIARY LAYOUT

EC-1

LEGENDS AND SYMBO	DLS
89	SMOKE DETECTOR
F	MANUAL PULL STATION
(ST)	STROBE LIGHT
₹	FIREMAN'S TELEPHONE JACK
IM	INPUT MODULE
DM	OUTPUT MODULE
[5]	CEILING MOUNTED SPEAKER
0	PA MICROPHONE
⊚RU/RD	RISER UP/DOWN
	FIXED TYPE, IP-BASED CCTV CAMERA
•	DOME TYPE, IP-BASED CCTV CAMERA
¥	WALL MOUNTED, VOICE/DATA OUTLET
₩.	FLOOR MOUNTED. VOICE/DATA OUTLET
*	WIRELESS ACCESS POINT







PROPOSED TESDA RTC-BATANGAS INNOVATION CENTER ENGR. JOHN ADRIAN C. SANTOS
PMO-SIPTVETS
ENGINEERING SECTION

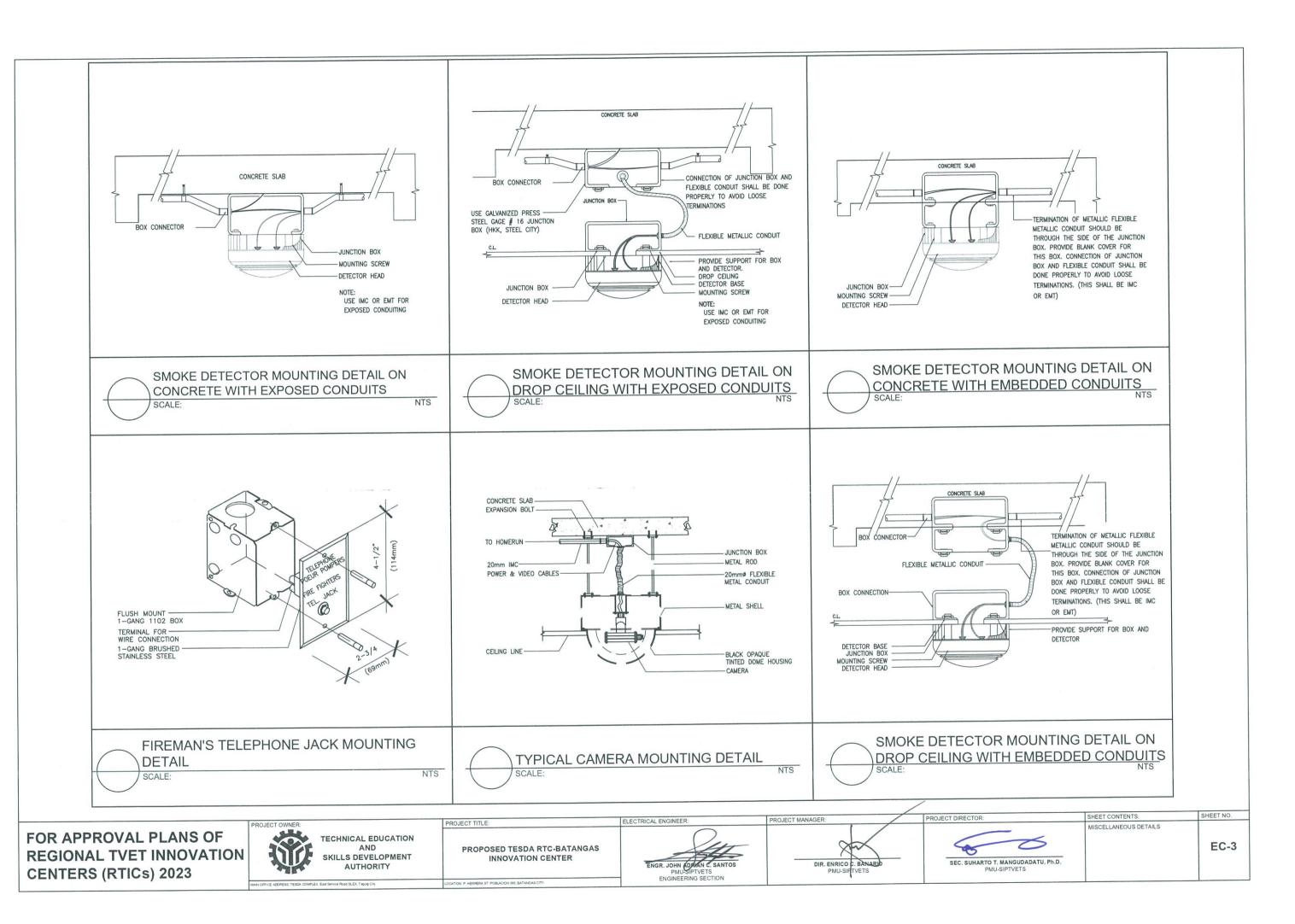
DIR. ENRICO C. BANARIO
PMU-SPTVETS

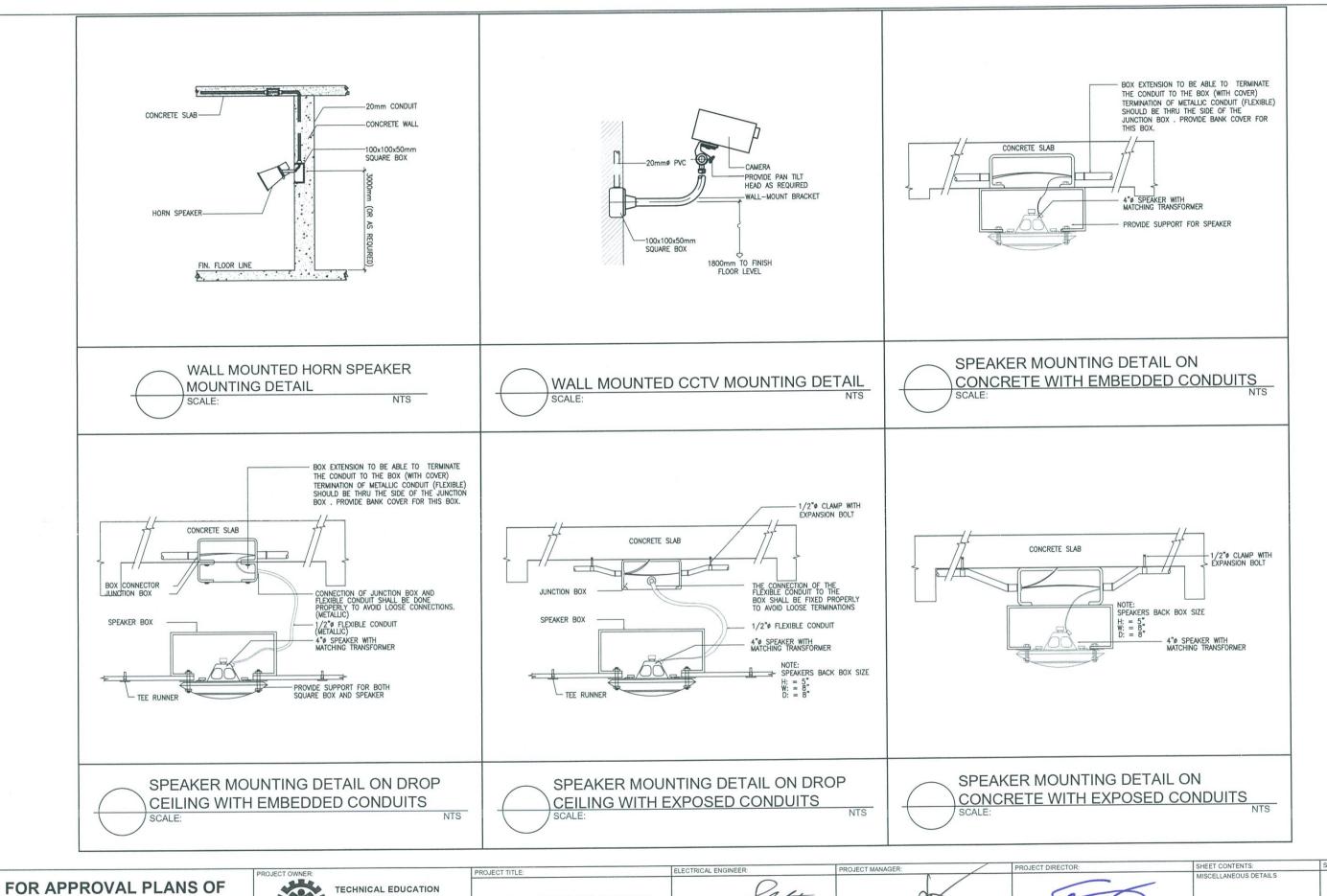
SEC SUHARTO T MANGUDADATU. Ph.D.

SHEET CONTENTS: SHEET NO.
2ND FLOOR AUXILIARY LAYOUT

SEC. SUHARTO T. MANGUDADATU, Ph.D.
PMU-SIPTVETS

EC-2





REGIONAL TVET INNOVATION CENTERS (RTICs) 2023



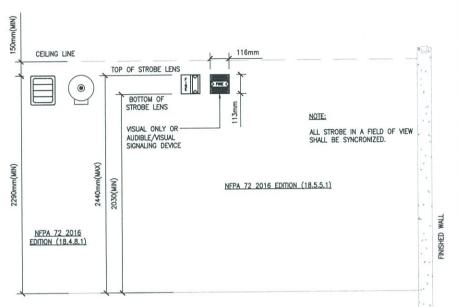
PROPOSED TESDA RTC-BATANGAS INNOVATION CENTER

ENGINEERING SECTION



SHEET NO. EC-4

SEC. SUHARTO T. MANGUDADATU, Ph.D.



NFPA 72 2016 EDITION (18.4); AUDIBLE CHARACTERISTICS

NFPA 72 2016 EDITION (18.4.8): LOCATION OF AUDIBLE NOTIFICATION APPLIANCES FOR BUILDING OR STRUCTURES.

NFPA 72 2016 EDITION (18.4.8.1): IF CEILING HEIGHTS ALLOW, AND UNLESS OTHERWISE PERMITTED BY 18.4.8.2 THOUGH 18.4.8.5, WALL—MOUNTED APPLIANCES SHALL HAVE THEIR TOPS ABOVE THE FINISHED FLOORS AT HEIGHTS OF NOT LESS THAN 2290mm(90in.) AND BELOW THE FINISHED CEILING AT DISTANCES OF NOT LESS THAN 150mm(6in.)

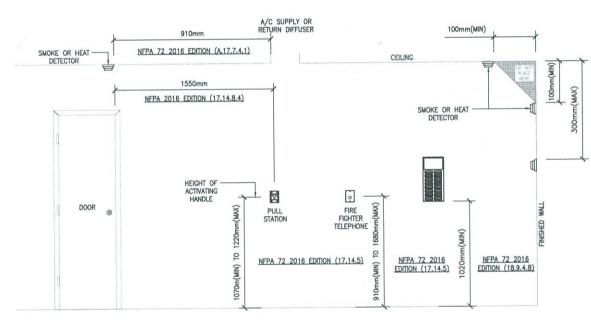
NFPA 72 2016 EDITION (18.4.8.3); IF COMBINATION AUDIBLE/ATSIBLE APPLIANCES ARE INSTALLED, THE LOCATION OF THE APPLIANCE SHALL BE DETERMINED BY THE REQUIREMENTS OF 18.5.5

NFPA 72 2016 EDITION (18.5): VISIBLE CHARACTERISTICS PUBLIC MODE.

NFPA 72 2016 EDITION (18.5.5): APPLIANCES LOCATION.

NFPA 72 2016 EDITION (18.5.5.1): WALL MOUNTED APPLIANCES SHALL BE MOUNTED SUCH THAT THE ENTIRE LENS IS NOT LESS THAN 2030mm (80in) AND NOT GREATER THAN 2440mm (96in). ABOVE THE FINISHED FLOOR OR AT THE MOUNTING HEIGHT SPECIFIED USING THE PERFORMANCE BASED ALTERNATIVE. AT NFPA 2016 EDITION (A7.5.4.5).

NFPA 72 2016 EDITION (18.5.5.5.5): VISIBLE NOTIFICATION APPLIANCES SHALL BE LOCATED NOT MORE THAN 4570mm(15ft.) FROM THE END OF THE CORRIDOR WITH A SEPARATION NOT GREATER THAN 30500mm(100ft) BETWEEN APPLIANCES.



NFPA 72 2016 EDITION
17.6.3.1.3.1 HEAT — UNLESS OTHERWISE MODIFIED BY 17.6.3.2.2 OR
17.6.3.3.2 OR 17.6.3.7 SPOT—TYPE HEAT—SENSING FIRE DETECTORS
SHALL BE LOCATED ON THE CEILING NOT LESS THAN 100mm (4in)
FROM THE SIDEWALL OR ON THE SIDEWALLS BETWEEN 100mm AND
300mm (4in. AND 12 in.) FROM THE CEILING.

NEPA 72 2016 EDITION (A.17.7.4.1): DETECTORS SHOULD NOT BE LOCATED IN A DIRECT AIRFLOW OR CLOSER THAN 910mm(36in.) FROM AN AIR SUPPLY OF RETURN AIR OPENING, SUPPLY OR RETURN SOURCES LARGER THAN THOSE COMMONLY FOUND IN RESIDENTIAL AND SMALL COMMERCIAL ESTABLISHMENT CAN BE REQUIRE GREATER CLEARANCE TO SMOKE DETECTORS.

NFPA 72 2016 EDITION (17.14.8.4): MANUAL FIRE ALARM BOXES SHALL BE LOCATED WITHIN 1.5m (Sft.) OF EACH EXIT DOORWAY ON EACH FLOOR.

NFPA 72 2018 EDITION (17.14,5); THE OPERABLE PART OF A MANUALLY ACTIVATED ALARM INITIATING DEVICE SHALL BE NOT LESS THAN 42in. (1070mm) AND NOT MORE THAN 48in. (1220mm) FROM THE FINISHED FLOOR.

NFPA 72 2016 EDITION (17.7.3.2.1): SPOT-TYPE SMOKE DETECTORS SHALL BE LOCATED ON THE CEILING OR, IF ON A SIDEWALL, BETWEEN THE CEILING AND 12in. (300mm) DOWN FROM THE CEILING TO THE TOP OF DETECTOR.

NEPA 72 2016 EDITION (24.8.17); WALL MOUNTED TELEPHONE APPLIANCES OR RELATED JACKS SHALL BE NOT LESS THAN 910mm(36in.) AND NOT MORE THAN 1680mm(66in.) ABOVE FLOOR LEVEL WITH CLEAR ACCESS TO THE APPLIANCE THAT IS AT LEAST 760mm(30in.) WIDE.

NFPA 72 2016 EDITION (18.9.4.8*): ALL CHARACTERS AND GRAPHICAL VISIBLE NOTIFICATION APPLIANCES SHALL BE A MINIMUM OF 1020mm(40in.) ABOVE THE GROUND OR FINISHED FLOOR.

NFPA 72 2016 EDITION (18.11): STANDARD EMERGENCY SERVICE INTERFACE. WHERE REQUIRED BY THE ENFORCING AUTHORITY; GOVERNING LAWS, CODES, OR STANDARDS, OR OTHER PARTS OF THIS CODE, ANNUNCATORS, INFORMATION DISPLAY SYSTEMS, AND CONTROL FOR PORTIONS OF A SYSTEM PROVIDED FOR USE BY EMERGENCY SERVICE PERSONNEL SHALL BE DESIGNED, ARRANGED, AND LOCATED IN ACCORDANCE WITH THE REQUIREMENTS OF THE ORGANIZATIONS INTENDED TO USE THE EQUIPMENT.

FIRE ALARM SYSTEM DEVICE MOUNTING HEIGHTS AND LIMITATIONS

NTS

FOR APPROVAL PLANS OF REGIONAL TVET INNOVATION CENTERS (RTICs) 2023



PROPOSED TESDA RTC-BATANGAS INNOVATION CENTER

PROJECT TITLE:





SEC. SUHARTO T. MANGUDADATU, Ph.D.

SHEET CONTENTS: SHEET NO.

FIRE ALARM SYSTEM DEVICE
MOUNTING HEIGHTS AND
LIMITATIONS

EC-5

GENERAL PLUMBING NOTES:

- 1. GENERAL NOTES ARE APPLICABLE TO ALL PLUMBING WORKING DRAWINGS
- THE WORK SHALL BE EXECUTED IN STRICT CONFORMITY WITH BASE BUILDING SPECIFICATION AND WITH THE LATEST EDITION OF CONFLICT BETWEEN THE CONTRACT DOCUMENTS AND COVERING CODE OR ORDINANCE THE MORE STRINGENT STANDARD SHALL APPLY.
- 3. ALL PLUMBING WORK SHALL BE COORDINATED WITH ALL OTHER TRADES
- NO CHARGES ARE TO BE MADE IN PLUMBING LAYOUT WITHOUT WRITTEN PERMISSION BY THE ENGINEER OR RECORDS/MASTER PLUMBER.
- 5. NO PIPING SHALL RUN EXPOSED IN SALES OR FINISHED AREA
- 6. PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR PAYING RELATED FEES.
- 7. ROUGH-IN DIMENSIONS OF TOILET FIXTURES MUST BE COORDINATED WITH GENERAL CONTRACTOR AND FIELD SUPERVISOR.
- 8. INSTALL GATE VALVES/ BALL VALVES ON ALL BRANCH SUPPLY LINES
- 9. PROVIDE ACCESS PANELS ON ALL INACCESSIBLE VALVES AND CLEANOUTS. ACCESS PANELS SHALL BE PROVIDED BY GENERAL CONTRACTOR. PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR LOCATION.
- ALL WORK SHALL BE PROPERLY TESTED, BALANCED AND CLEANED. PROVIDE ONE YEAR WARRANTY FROM DATE OF FINAL INSPECTION ON ALL PARTS AND
- 11. ALL FIXTURES TO BE SUPPLIED & INSTALLED BY PLUMBING CONTRACTOR.
- 12. GENERAL CONTRACTOR SHALL COORDINATE WATER METER LOCATION AND INSTALLATION WITH LOCAL AUTHORITIES AND CIVIL DRAWINGS
- 13. TRAP SEAL PRIMERS ARE TO BE PROVIDED AT NO ADDITIONAL COST TO OWNER/ CLIENT, IF REQUIRED BY LOCAL BUILDING CODE OFFICIALS.
- 14. ALL VENT PIPE SHALL BE EXHAUST OVER THE CEILING OF ROOF OVERHANG, NO VENT SHALL EXTENDED THRU ROOF.
- 15. APPLY A BEAD OF SEALANT AROUND ALL FIXTURES WHERE THEY MEET FLOORS, WALLS, ETC. PROVIDE PIPE SLEEVES AT ANY WALL/ FLOOR PENETRATION.
- 16. THESE DRAWINGS ARE SCHEMATIC IN NATURE AND REPRESENT ONLY THE GENERAL AND APPROXIMATE LOCATIONS OF FIXTURES, PIPING, ETC. REFER TO THE ARCHITECTURAL PLANS AND ACTUAL CONDITIONS FOR LOCATING FIXTURES, ETC.
- 17. THAT ALL WATER SUPPLIES TO FIXTURES ARE ANCHORED TO PREVENT ANY LATERAL MOVEMENT.
- 18. SUPPORT ALL PIPING EQUIPMENT, ETC. AS PER CODE REQUIREMENTS
- 19. REFER TO ARCHITECTURAL PLANS FOR MOUNTING HEIGHTS OF PLUMBING.
- 20. FURNISH AS REQUIRED FOR ALL FIXTURES, INCLUDING ONES FURNISHED BY OTHERS, P-TRAPS, ANGLE STOPS, RISERS, ESCUTCHEONS, ETC.
- 21. EACH CONTRACTOR SHALL BE RESPONSIBLE FOR VISITING THE SITE PRIOR TO BIDDING IN ORDER TO BECOME FAMILIAR WITH EXISTING CONDITIONS AND DISCREPANCIES OR QUESTIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO BIDDING.
- 22. CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING RIGHT OR LEFT
- 23. ALL PENETRATIONS OF CONCRETE FOUNDATIONS & FOOTINGS SHALL BE MINIMUM OF 50MM DIAMETER.
- 24. ALL SANITARY SEWER PIPING UNDER CONCRETE SLAB SHALL BE MINIMUM OF 50MM DIAMETER.
- 25. REFER TO ARCHITECTURAL SPECIFICATIONS FOR SOIL COMPACTING, CONCRETE AND ASPHALT REPAIR.
- 26. SUBMIT SHOP DRAWINGS ON ALL PLUMBING FIXTURES, SEE ARCHITECTURAL
- 27. USE POLYPROPYLENE FOR ALL WATER SUPPLY LINES.
- USE, POLYVINYL CHLORIDE (PVC) SERIES 1000 FOR ALL DRAINAGE LINE, OBSERVE SLOPE OF 1% FOR LONG RUNNING DRAINAGE LINE AND SLOPE OF 2% FOR SHORT RUN DRAINAGE LINE, VERIFY.

GENERAL PLUMBING NOTES:

- ALL PLUMBING WORKS INCLUDED HEREIN SHALL BE EXECUTED ACCORDING TO THE REQUIREMENTS OF THE PHILIPPINE PLUMBING CODE AND RULES AND REGULATIONS OF THE GOVERNMENT.

 COORDINATE DRAWINGS WITH OTHER RELATED DRAWINGS AND
- SPECIFICATIONS.
- 3. THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCY
- FOUND THEREIN.

 4. PIPES SHALL BE INSTALLED AS INDICATED, ANY RELOCATION REQUIRED FOR PROPER EXECUTION OF OTHER TRADES SHALL BE PIPE STRUCTURE.
- 5. ALL HORIZONTAL BRANCHES SHALL MAINTAIN 1% AS MINIMUM UNLESS NOTED OTHERWISE.
 6. ALL FIXTURES SHALL VENTED, UNLESS INDICATED.
 7. ALL INDIVIDUAL BRANCHES TO FIXTURES OR GROUP OF FIXTURES OR
- EQUIPMENT SHALL BE PROVIDED WITH AIR CHAMBER.

MATERIAL SPECIFICATIONS:

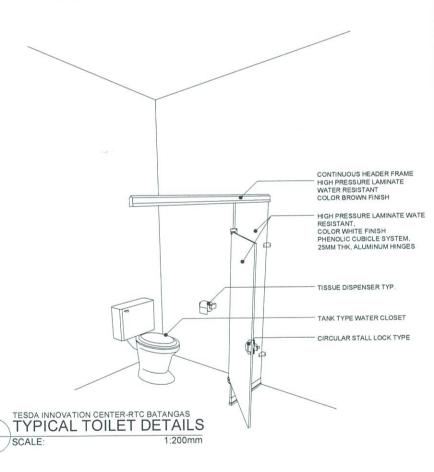
COLD WATER LINE (INTERIOR) - SHALL BE POLYPROPYLENE RANDOM (TYPE 3). HIGH RESISTANCE TO PRESSURE AND TEMPERATURE, CONFORMING TO EN ISO 15874, SIMILAR TO GEORGE FISCHER PP-R PIPE, UNITEC PP-R PIPE OR APPROVED

COLD WATER LINE (EXPOSED) - SHALL BE GALVANIZED STEEL PIPE, SCHEDULE 40, CONFORMING TO ASTM A 53 A 120. SIMILAR TO APO PIPE SCHEDULE 40 OR APPROVED EQUAL

SOIL, WASTE AND VENT LINES- SHALL BE UNPLASTICIZED POLYVINYL CHLORIDE (UPVC) PIPE CONFIRMING TO ASTM D2729, SIMILAR TO NELTEX SERIES 100 UPVC PIPE OR APPROVED EQUAL.

DOWNSPOUTS- SHALL BE UNPLASTICIZED POLYVINYL, CHLORIDE (UPVC) PIPE CONFORMING TO ASTM D2729. SIMILAR TO NELTEX/ EMERALD/ MOLDEX SERIES 100 UPVC PIPE OR APPROVED EQUAL.

DRAINAGE LINE- SHALL BE UNPLASTICIZED POLYVINYL CHLORIDE (UPVC) PIPE CONFORMING TO ASTM D2729, SIMILAR TO NELTEX/EMERALD/ MOLDEX SERIES 1000 UPVC PIPE OR APPROVED EQUAL.



LEGEND		ABBREVIATION	
	SANITARY LINE	LAV	LAVATORY
	WATER LINE	KS	KITCHEN SINK
	DRAINAGE LINE	VAC	VENT ABOVE CEILING
	VENT PIPE	VP	VENT PIPE
	GATE VALVE	VTR/VTC	VENT THRU ROOF/VENT THRU CEILING
	CHECK VALVE	ss	SOIL STACK/ WASTE PIPE
	WATER METER	AAV	AIR ADMITTANCE VALVE
co+	FLOOR CLEANOUT	PVC	POLYVINYL CHLORIDE
Ø	DIAMETER	CWL	COLD WATER LINE
		FD	FLOOR DRAIN
ABBREVIATION		SH	SHOWER HEAD
AC	AIR CHAMBER	DD	DECK DRAIN
wc	WATER CLOSET	BD	BALCONY DRAIN
URI	URINAL	mm	MILLIMETER

PLUMBING FIXTURES CONNECTION	SIZE	SCHEDULE
------------------------------	------	----------

		MIN. PIPE CONNECTION SIZE MM DIAMETER				DEMARKS
LEGEND	SYMBOL	WASTE/ SOIL	VENT	STORM	COLD WATER	REMARKS
wc	WATER CLOSET	100	50	-	20	TANK TYPE
LAV	LAVATORY	50	50	-	20	-
KS	KITCHEN SINK	50	50	-	20	-
SHO/ SD	SHOWER/ SHOWER DRAIN	50	50	-	20	-
FD	FLOOR DRAIN	50	50	-	-	WITH P-TRAP
HE	HOSE BIBB	-	-	-	20	-

SPECIFICATION

ITEMS	MATERIAL	THICKNESS	
WASTE/ SEWAGE LINE	POLYVINYL CHLORIDE (PVC)	SERIES 1000	
VENT PIPES	POLYVINYL CHLORIDE (PVC)	SERIES 1000	
STORM DRAINAGE LINE (DS)	POLYVINYL CHLORIDE (PVC)	SERIES 1000	
RAINWATER COLLECTOR	POLYVINYL CHLORIDE (PVC)	SERIES 1000	
WATERLINE (HOT/COLD)	PPR-C	PN 10	

FOR APPROVAL PLANS OF **REGIONAL TVET INNOVATION CENTERS (RTICs) 2023**



PROPOSED TESDA RTC BATANGAS INNOVATION CENTER

PROJECT TITLE





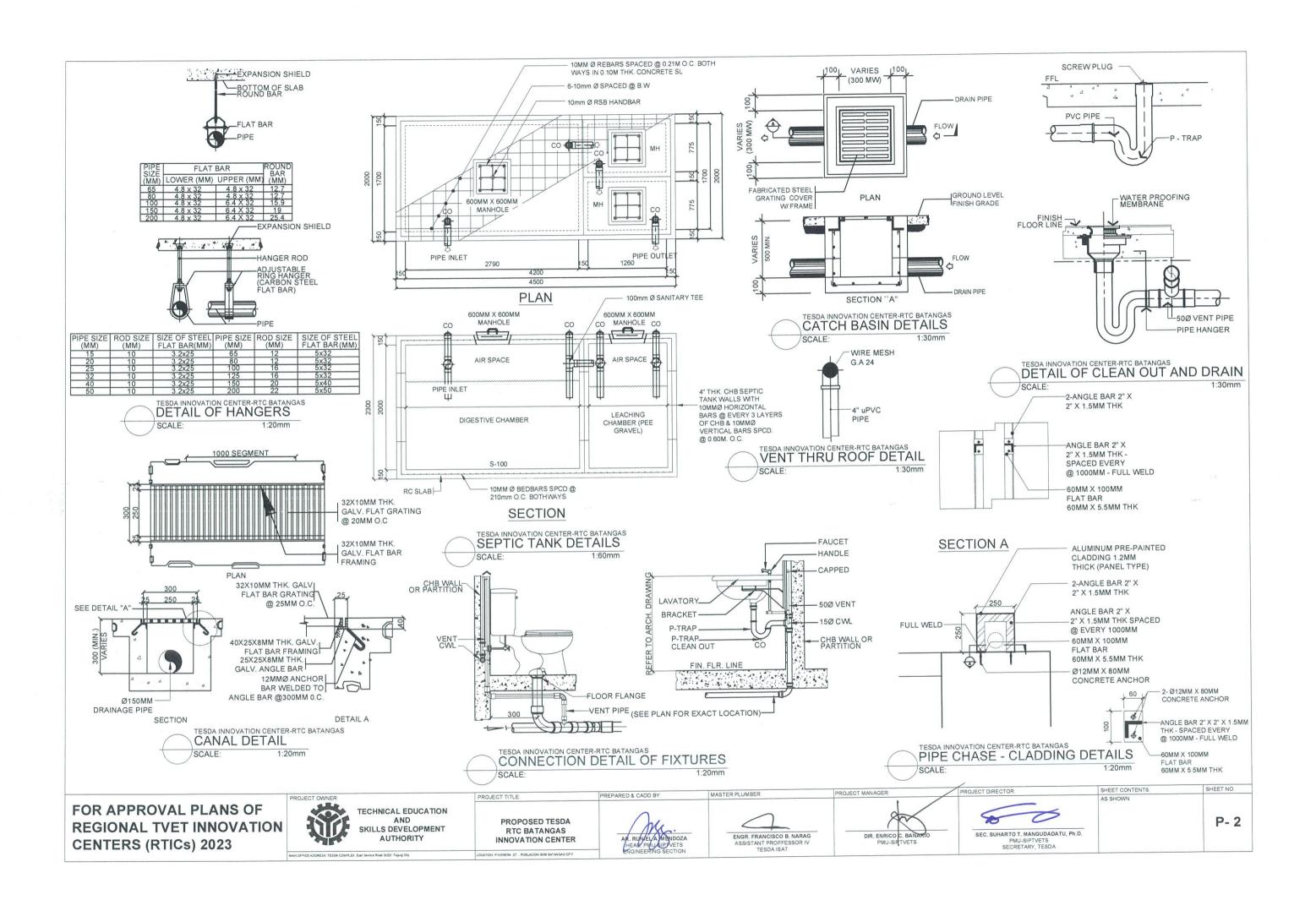
MASTER PLUMBER

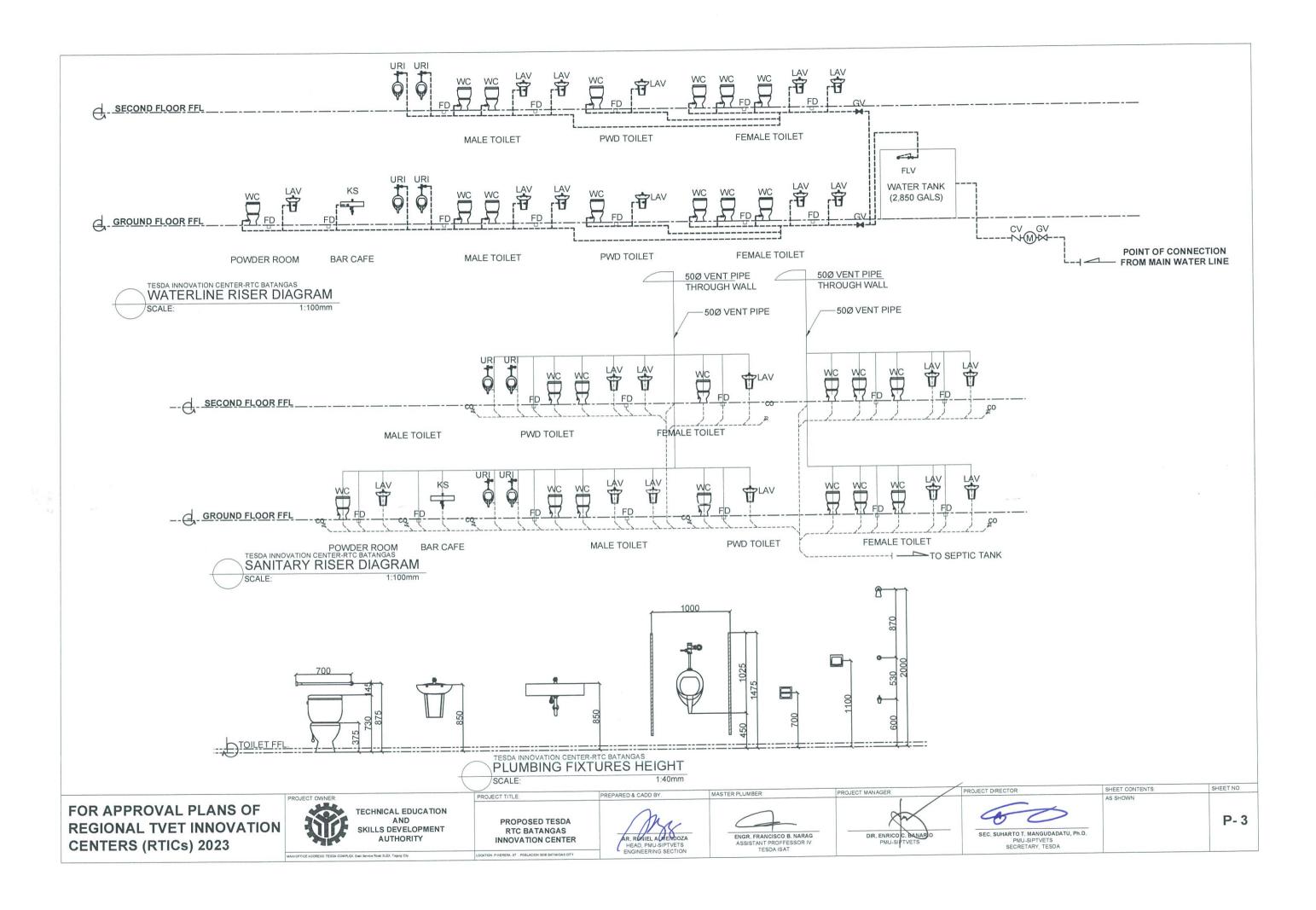


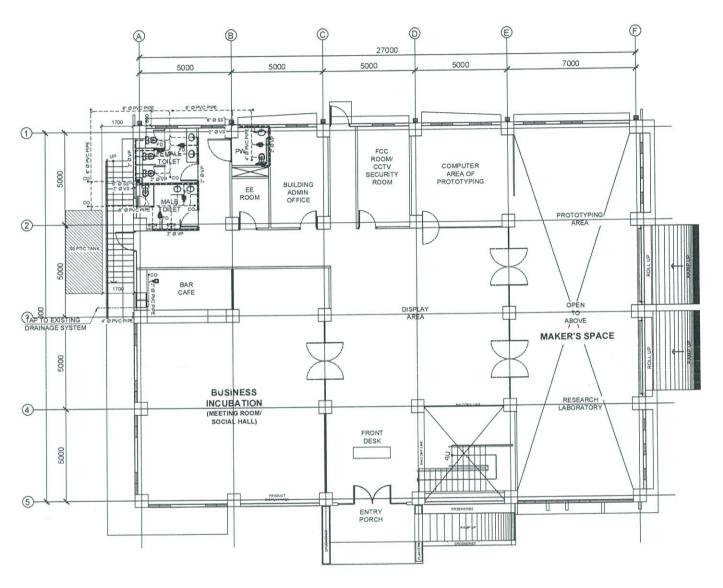
SEC. SUHARTO T. MANGUDADATU, Ph.D. PMU-SIPTVETS SECRETARY, TESDA

P-1

SHEET CONTENTS







TESDA INNOVATION CENTER-RTC BATANGAS
GROUND FLOOR SANITARY LAYOUT
SCALE 1:200MTS

FOR APPROVAL PLANS OF **REGIONAL TVET INNOVATION CENTERS (RTICs) 2023**



PROPOSED TESDA RTC BATANGAS INNOVATION CENTER

PROJECT TITLE:



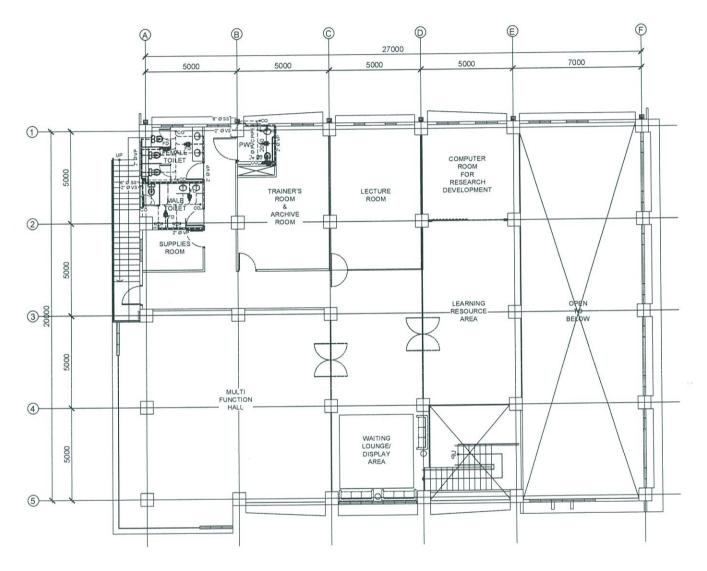
PREPARED & CADD BY:





PROJECT DIRECTOR.
90
SEC. SUHARTO T. MANGUDADATU, Ph.D.
PMU-SIPTVETS SECRETARY, TESDA

SHEET NO. P-4







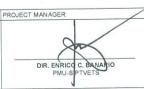
PROPOSED TESDA RTC BATANGAS INNOVATION CENTER

PROJECT TITLE:



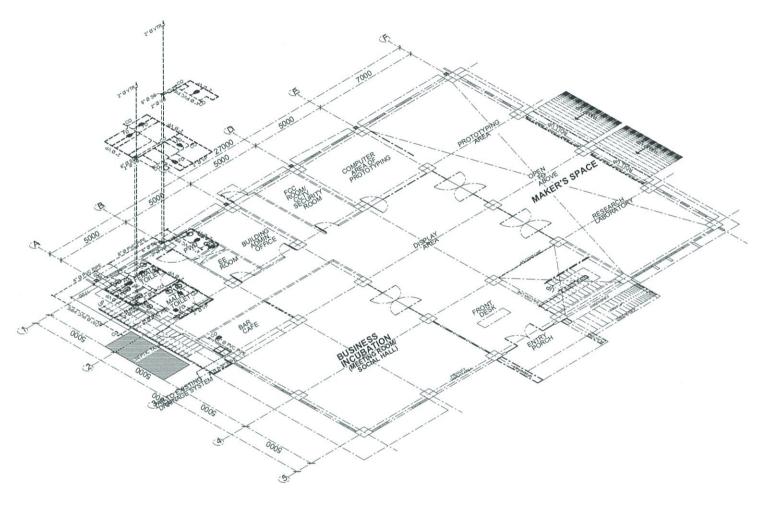
PREPARED & CADD BY:





SEC, SUHARTO T. MANGUDADATU, Ph.D.
PMU-SIPTVETS
SECRETARY, TESDA

SHEET CONTENTS SHEET NO AS SHOWN P- 5







PROPOSED TESDA RTC BATANGAS INNOVATION CENTER

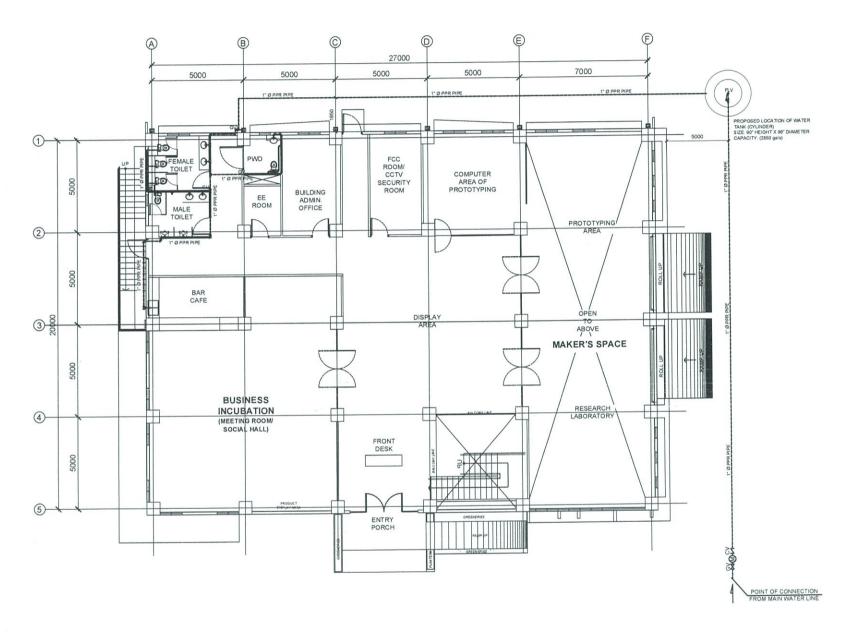






PROJECT DIRECTOR
9
SEC. SUHARTO T. MANGUDADATU, Ph.D.
PMU-SIPTVETS
SECRETARY TESDA

	SHEET CONTENTS:	SHEET NO.
ANGUDADATU, Ph.D.	AS SHOWN	P- 6
75004		







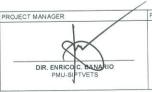
PROPOSED TESDA RTC BATANGAS INNOVATION CENTER

PROJECT TITLE:



PREPARED & CADD BY:

ENGR. FRANCISCO B. NARAG ASSISTANT PROFFESSOR IV TESDA ISAT

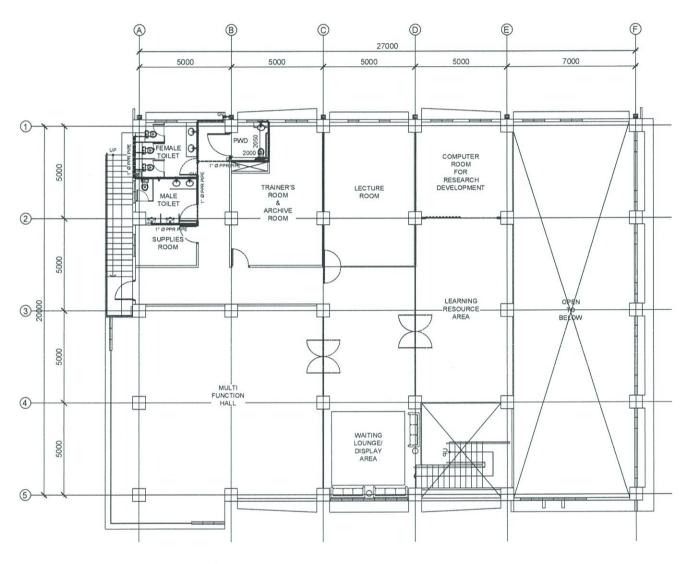


SEC. SUHARTO T. MANGUDADATU, Ph.D.
PMU-SIPTVETS
SECRETARY, TESDA

P- 7

SHEET NO

SHEET CONTENTS:







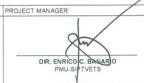
PROPOSED TESDA RTC BATANGAS INNOVATION CENTER

PROJECT TITLE:



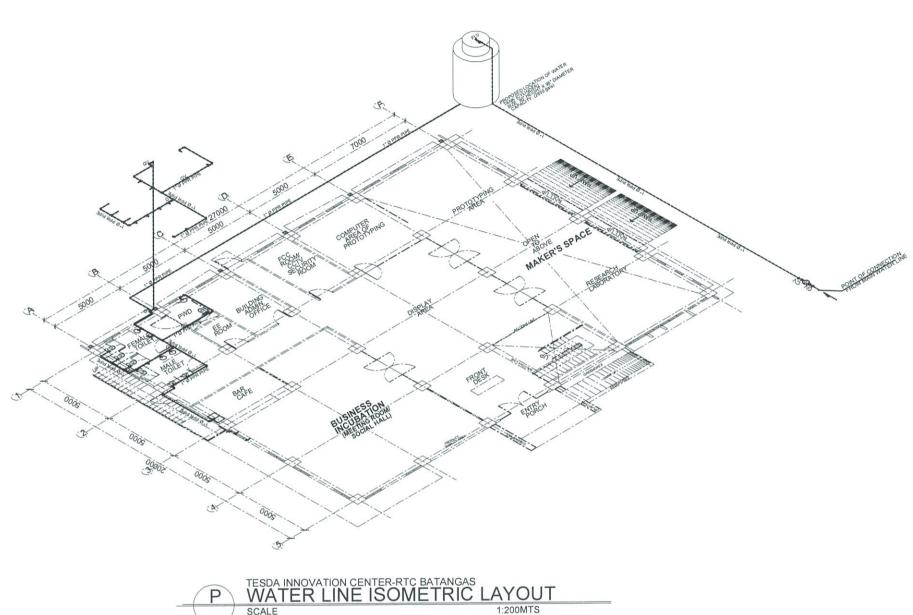
PREPARED & CADD BY:





SEC, SUHARTO T, MANGUDADATU, Ph.D.
PMU-SIPTVETS

SHEET CONTENTS: AS SHOWN P-8



TESDA INNOVATION CENTER-RTC BATANGAS WATER LINE ISOMETRIC LAYOUT SCALE 1:200MTS

FOR APPROVAL PLANS OF REGIONAL TVET INNOVATION **CENTERS (RTICs) 2023**

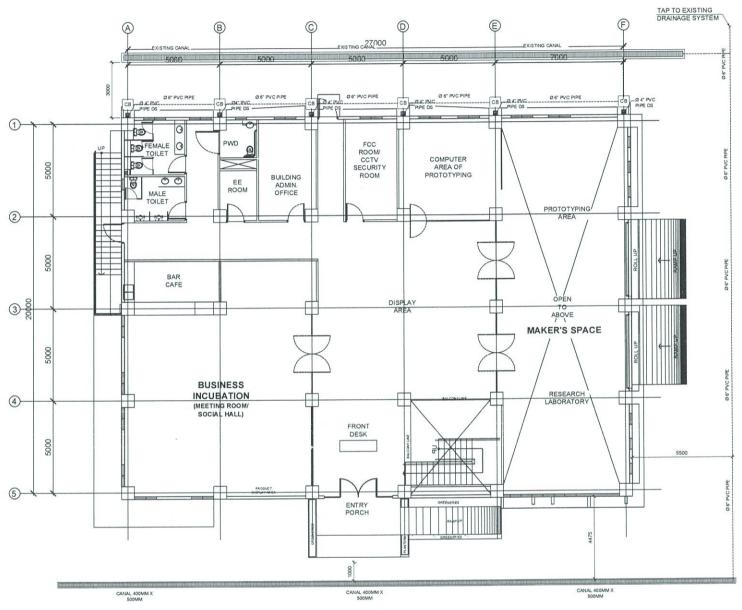


PROJECT TITLE: PROPOSED TESDA RTC BATANGAS INNOVATION CENTER

MASTER PLUMBER

SEC. SUHARTO T. MANGUDADATU, Ph.D. PMU-SIPTVETS SECRETARY, TESDA

P-9



P GROUND FLOOR STORM WATER DRAINAGE LAYOUT

SCALE 1:200MTS

FOR APPROVAL PLANS OF REGIONAL TVET INNOVATION CENTERS (RTICs) 2023



PROPOSED TESDA RTC BATANGAS INNOVATION CENTER

PROJECT TITLE:

AR, RUNIEL A, MEMDOZA HEAD, PMILSIPTVETS ENGINEERING SECTION

PREPARED & CADD BY

ENGR, FRANCISCO B. NARAG ASSISTANT PROFFESSOR IV TESDA JISAT

MASTER PLUMBER

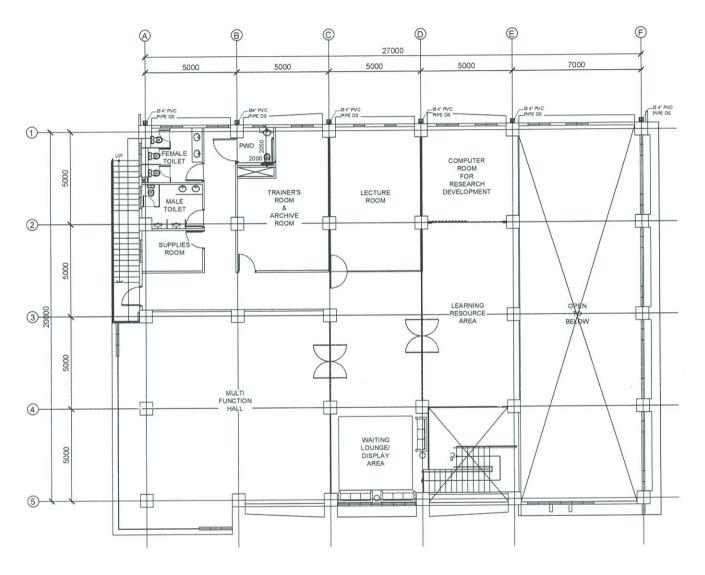
PROJECT MANAGER

DIR. ENRICO 2. BANARIO PMU-SIFTVETS

SEC, SUHARTO T. MANGUDADATU, Ph.D.
PMU.SIPTVETS
SECRETARY, TESDA

P- 10

SHEET CONTENTS:





TECHNICAL EDUCATION
AND
SKILLS DEVELOPMENT
AUTHORITY

PROPOSED TESDA RTC BATANGAS INNOVATION CENTER

PROJECT TITLE:

AR RUNEL A. MENDOZA HEAD, PMU-SUPTVETS ENGINEERING SECTION ENGR. FRANC SCO B. NARAG ASSISTANT PROFFESSOR IV TESTA ISAT

DIR. ENRICO C. BANARIO PMU-SIPTVETS

SEC, SUHARTO T. MANGUDADATU, Ph.D.
PMU-SIPTVETS
SECRETARY, TESDA

T CONTENTS: SHEET NO.

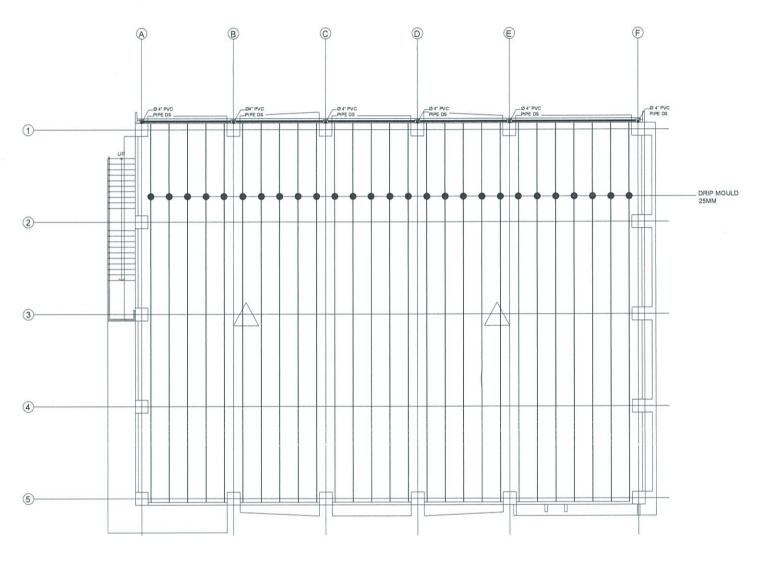
AUTHORITY INNOVATION CENTER

AR RUNEL A. MENDOZA ENGR. FRANCISCO B. NARAG DIR. ENRICO

ASSISTANT PROFFESSOR IV PMU-SI

ENGINEERING SECTION TESDA ISAT

PREPARED & CADD BY



TESDA INNOVATION CENTER-RTC BATANGAS ROOF DECK STORM WATER DRAINAGE LAYOUT

FOR APPROVAL PLANS OF **REGIONAL TVET INNOVATION** CENTERS (RTICs) 2023



PROPOSED TESDA RTC BATANGAS INNOVATION CENTER

PREPARED & CADD BY:





SHEET CONTENTS: AS SHOWN SHEET NO.

ENGR. FRANCISCO B. NARAG ASSISTANT PROFFESSOR IV TESDA ISAT

MASTER PLUMBER:

