



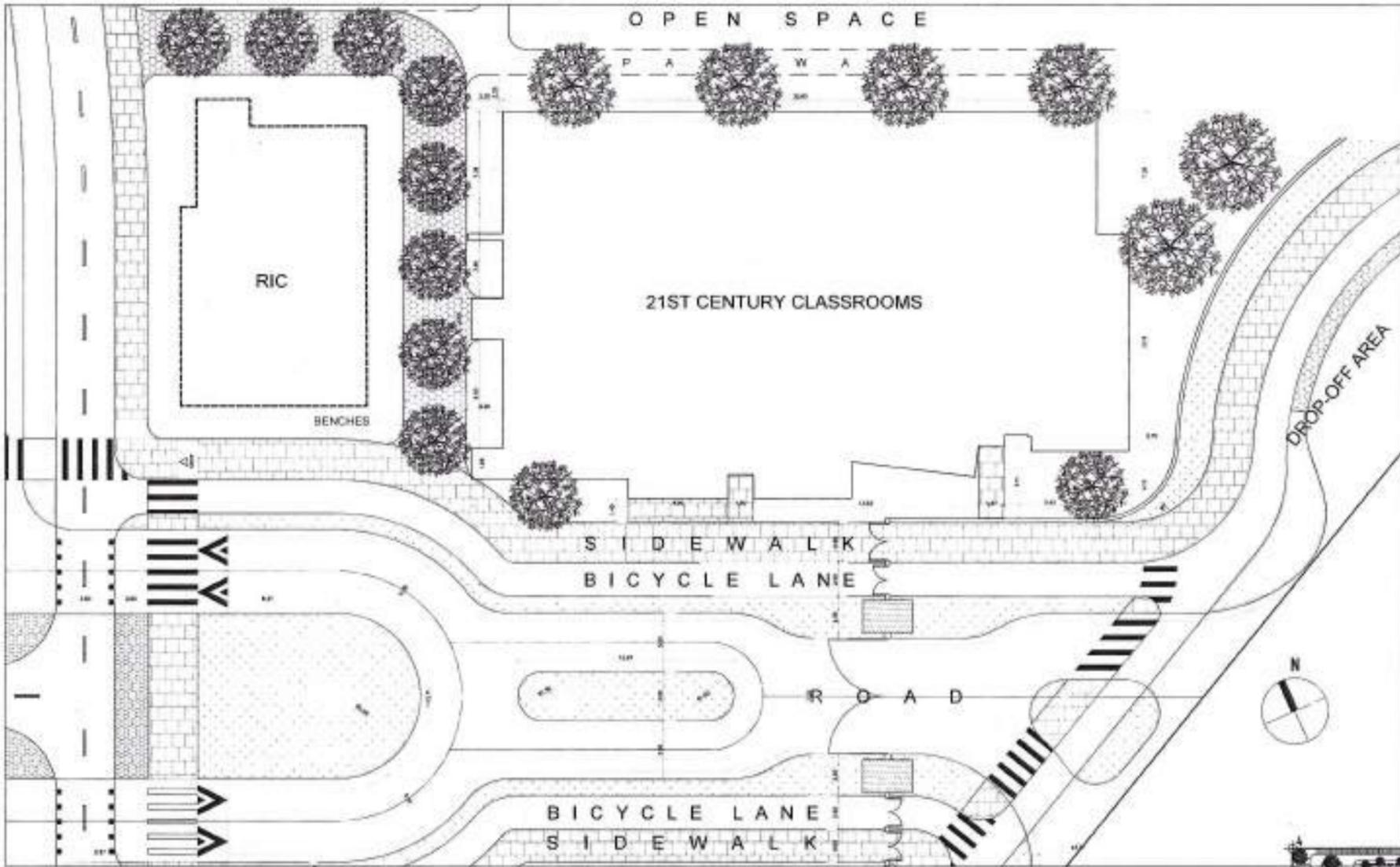
APPROVED BY:

DATE:

1. ALL PROVISIONS AND REQUIREMENTS OF THE NATIONAL BUILDING CODE AND ALL APPLICABLE LOCAL ORDINANCES SHALL BE STRICTLY OBSERVED.
2. ALL PROVISIONS AND REQUIREMENTS OF THE NATIONAL BUILDING CODE AND ALL APPLICABLE LOCAL ORDINANCES SHALL BE STRICTLY OBSERVED.
3. ALL PROVISIONS AND REQUIREMENTS OF THE NATIONAL BUILDING CODE AND ALL APPLICABLE LOCAL ORDINANCES SHALL BE STRICTLY OBSERVED.
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9. ALL PROVISIONS AND REQUIREMENTS OF THE NATIONAL BUILDING CODE AND ALL APPLICABLE LOCAL ORDINANCES SHALL BE STRICTLY OBSERVED.
10. ALL PROVISIONS AND REQUIREMENTS OF THE NATIONAL BUILDING CODE AND ALL APPLICABLE LOCAL ORDINANCES SHALL BE STRICTLY OBSERVED.

NOTES:

1. THE DESIGNER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.
2. THE DESIGNER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.
3. THE DESIGNER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.
4. THE DESIGNER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.
5. THE DESIGNER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.



6  
1 1

**SITE DEVELOPMENT PLAN**

SCALE 1:150M75

6  
1 2

**VICINITY MAP**

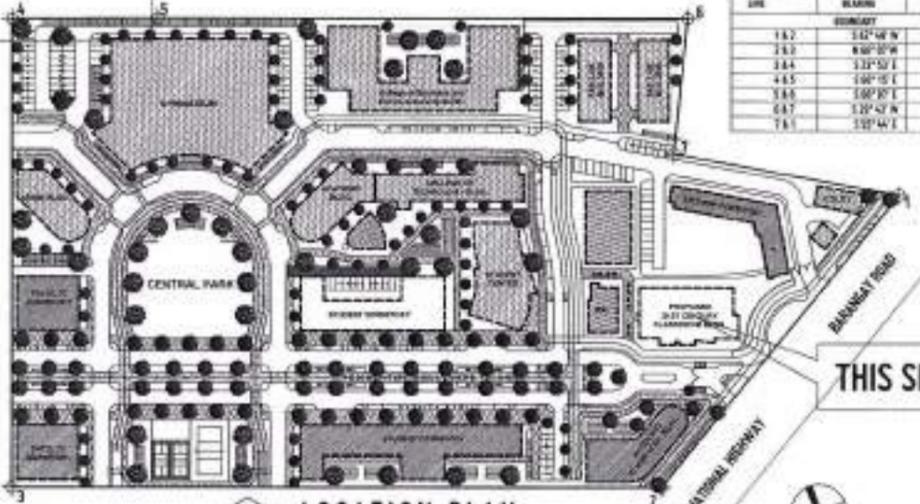
SCALE NDTS



6  
1 3

**LOCATION PLAN**

SCALE 1:100M75



LINE	BEARING	DISTANCE
1-2	135° 48' N	242.11 m
2-3	81° 00' 00" W	204.11 m
3-4	135° 50' E	176.38 m
4-5	100° 10' E	95.41 m
5-6	100° 30' E	200.76 m
6-7	120° 42' N	51.96 m
7-8	135° 44' E	96.68 m



REPUBLIC OF THE PHILIPPINES  
UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES  
CAMPUS OF BIN CAMPUS  
INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT UNIT  
LUNA BLVD. AVENUE, LANANG, CAGAYAN DE ORO CITY 9000  
TELEPHONE: DIRECT 71-40-01 / 7140-00-1100 / 7140-1110 / 7140-1111 FAX: 7140-00-4000  
WWW.USTIP.USTP.EDU.PH

PROJECT: CONSTRUCTION OF 21ST CENTURY CLASSROOM BUILDINGS PHASE III, VILLANUEVA CAMPUS  
LOCATION: USTP VILLANUEVA CAMPUS, NEGROS ORIENTAL  
OWNER: UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

DESIGNER: ENGR. ERWIN B. BUENO  
PROJECT MANAGER: ENGR. ERWIN B. BUENO  
DATE: [Blank]  
PLACE: [Blank]

RECOMMENDING APPROVAL: ENGR. SPACE C. BABA  
DIRECTOR, UPDM

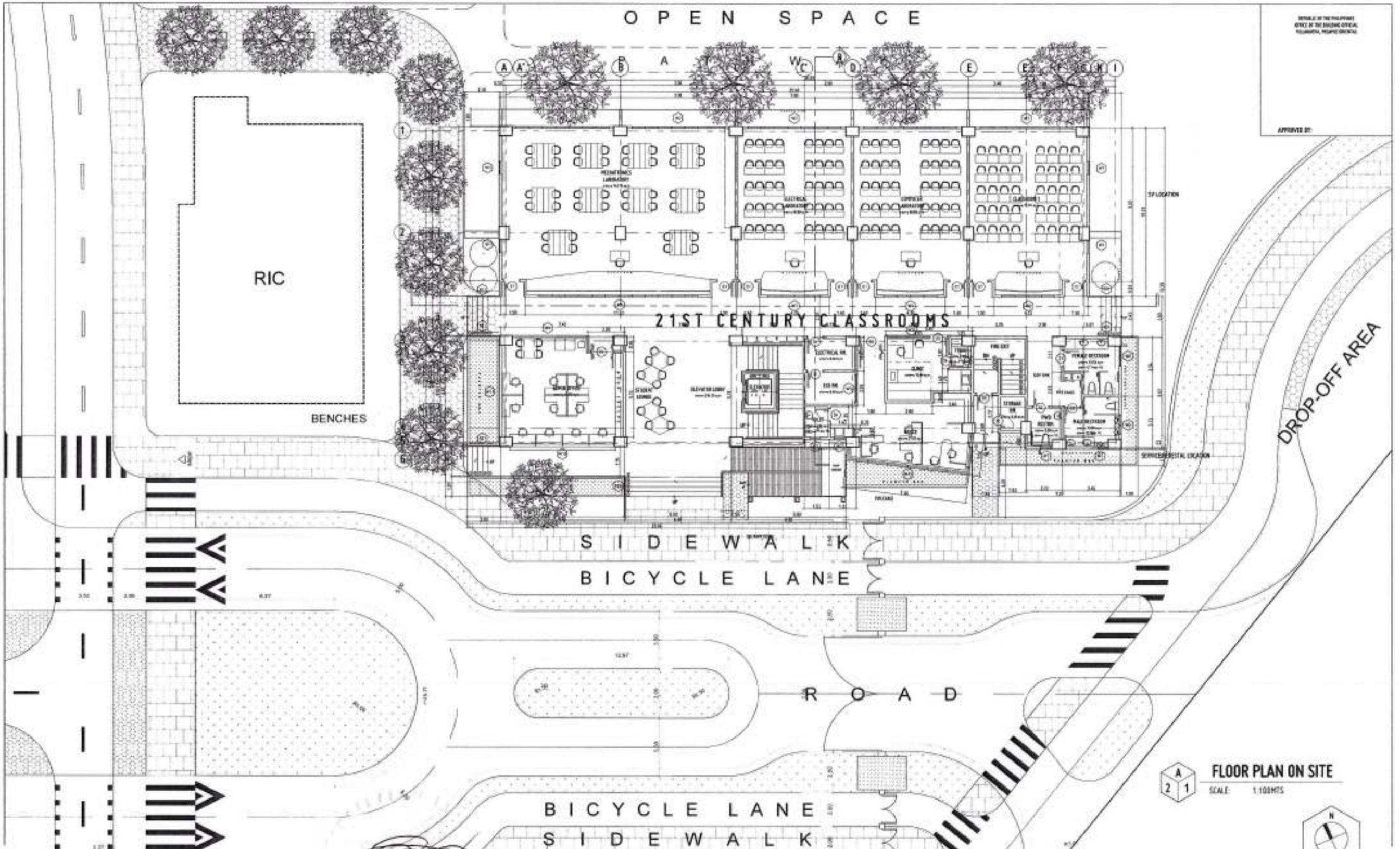
RECOMMENDING APPROVAL: APTY. ERWIN B. BUENO  
UPDM ADMINISTRATION & LEGAL AFFAIRS

APPROVED BY: DR. AMBRISIO S. CULTURA II  
PRESIDENT, USTP SYSTEM

SHEET CONTENTS:  
SITE DEVELOPMENT PLAN  
VICINITY MAP  
LOCATION PLAN

DRAWN BY: [Blank]  
DATE: [Blank]  
NO.: [Blank]

61



DETAILS OF THE PLANNING  
 CHECK BY THE ENGINEER  
 PLANNING DEPARTMENT

APPROVED BY:

**FLOOR PLAN ON SITE**  
 SCALE: 1:100M/S



**A2**



UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES  
 UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES  
 UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES  
 UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

**FERNANDO A. BARRERA**  
 ARCHITECT OF RECORD  
 PROJECT NO. 11222  
 DATE: 01-10-2015  
 SHEET NO. 11222-01-1

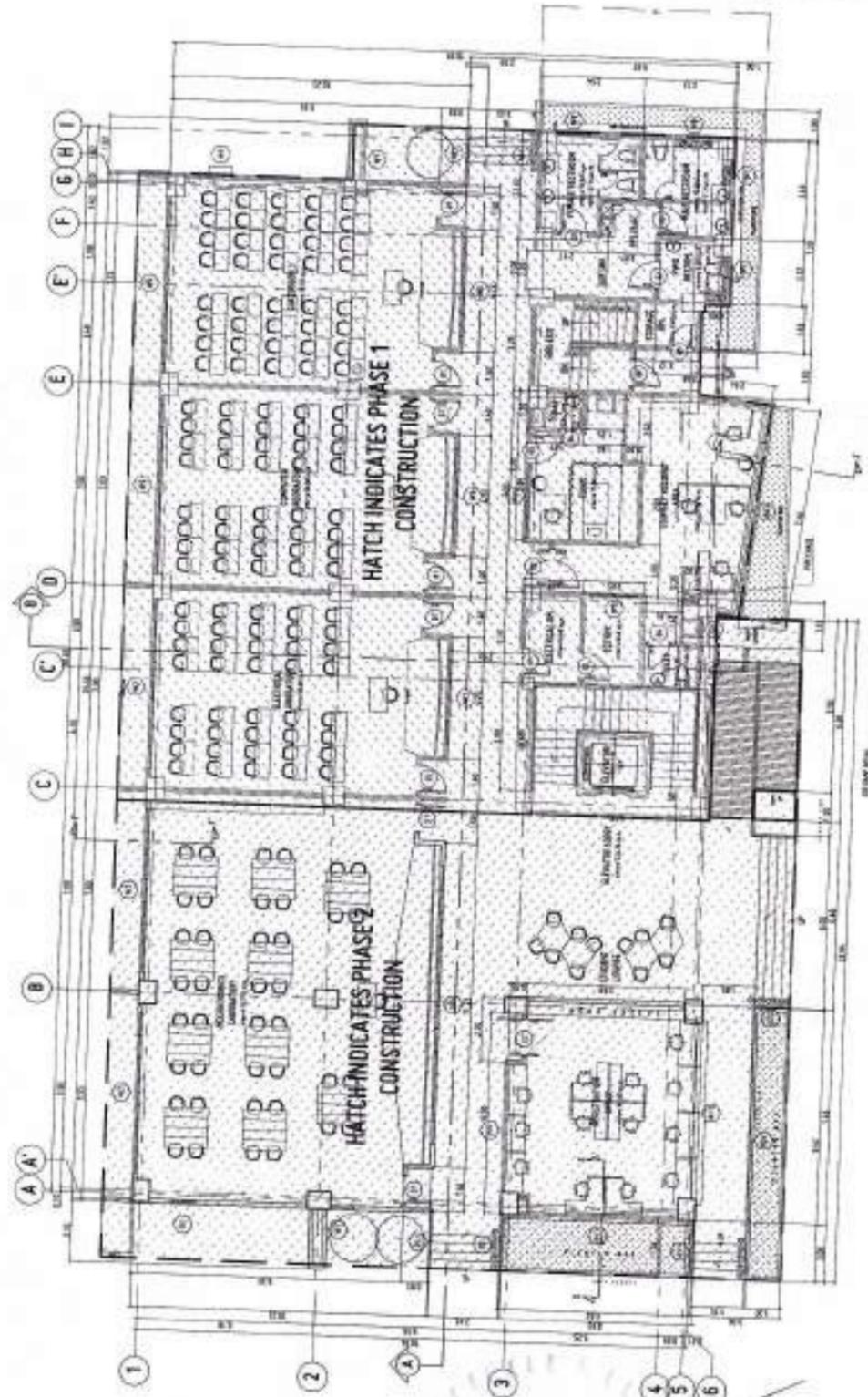
**CONSTRUCTION OF 21ST CENTURY CLASSROOM BUILDINGS PHASE III,  
 VILLANUEVA CAMPUS**  
 UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING OFFICIAL:  
**ENGR. GRACE C. BABA**  
 DIRECTOR, UPDS

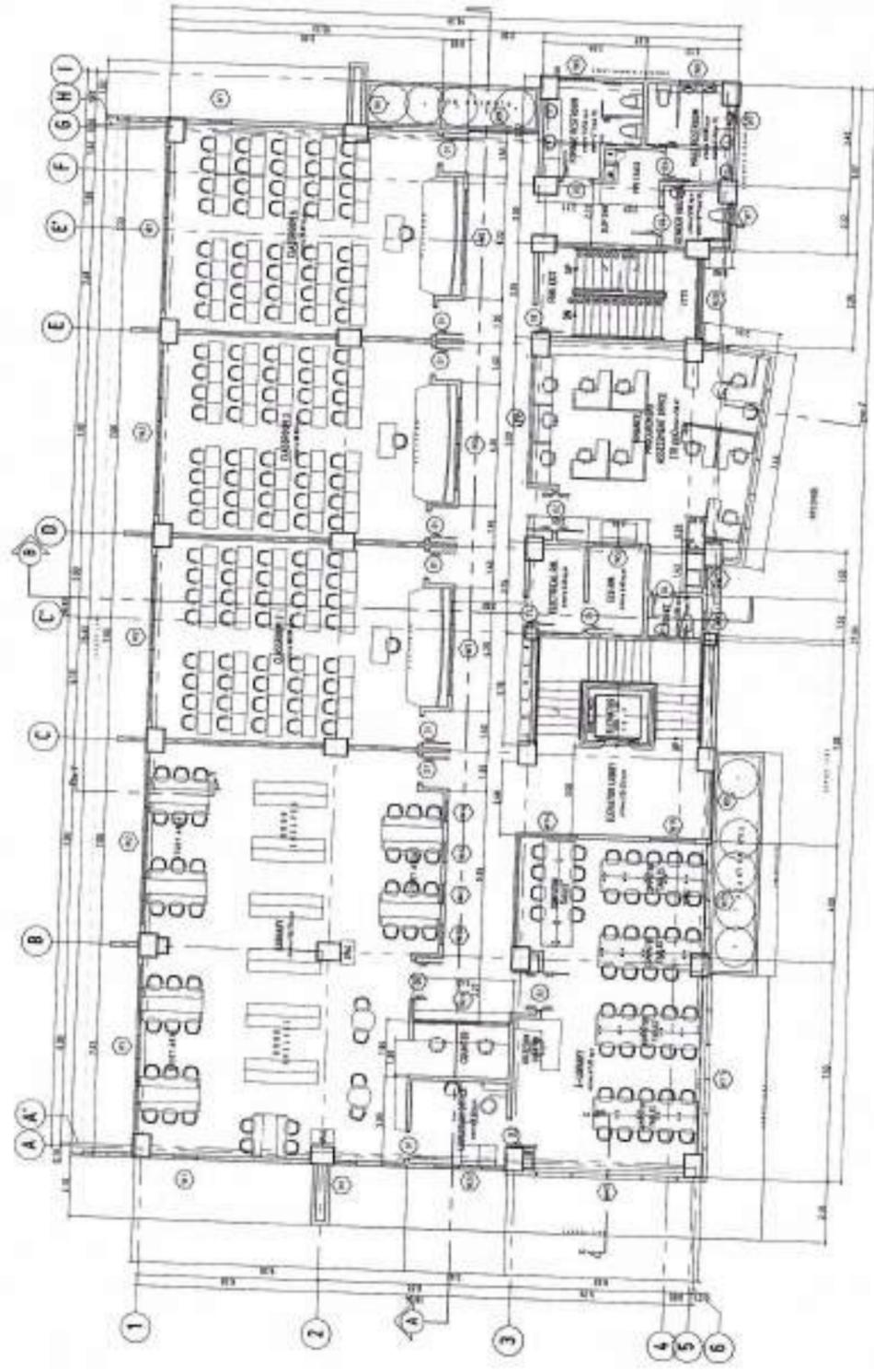
RECOMMENDING SPECIALIST:  
**ATTY. ERWIN B. BUENO**  
 UPDS ATTORNEY AT LAW

APPROVED BY:  
**DR. AMBROSIO A. CULTURA II**  
 DEAN, UPDS

SHEET CONTENTS:  
 SITE DEVELOPMENT PLAN  
 DRAWN BY:  
 DATE ISSUED:  
 DATE REVISION:  
 NO.



**GROUND FLOOR PLAN**  
SCALE: 1:100 MTS



**SECOND FLOOR PLAN**  
SCALE: 1:100 MTS



REPUBLIC OF THE PHILIPPINES  
OFFICE OF THE BUILDING OFFICIAL  
PILANUEVA, NEGROS ORIENTAL

APPROVED BY:

- GENERAL NOTES:**
1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL BUILDING CODE AND ALL APPLICABLE LOCAL ORDINANCES AND REGULATIONS.
  2. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND ALL APPLICABLE LOCAL ORDINANCES AND REGULATIONS.
  3. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL MECHANICAL CODE AND ALL APPLICABLE LOCAL ORDINANCES AND REGULATIONS.
  4. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL FIRE CODE AND ALL APPLICABLE LOCAL ORDINANCES AND REGULATIONS.
  5. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL SANITATION AND HEALTH CODE AND ALL APPLICABLE LOCAL ORDINANCES AND REGULATIONS.
  6. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL SAFETY CODE AND ALL APPLICABLE LOCAL ORDINANCES AND REGULATIONS.
  7. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL ENVIRONMENTAL CODE AND ALL APPLICABLE LOCAL ORDINANCES AND REGULATIONS.
  8. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL CONSTRUCTION CODE AND ALL APPLICABLE LOCAL ORDINANCES AND REGULATIONS.
  9. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL OCCUPANCY CODE AND ALL APPLICABLE LOCAL ORDINANCES AND REGULATIONS.
  10. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL CONSTRUCTION AND OCCUPANCY REGULATIONS AND ALL APPLICABLE LOCAL ORDINANCES AND REGULATIONS.

- REVISIONS:**
1. CHECK AND VERIFY WITH THE CLIENT BEFORE COMMENCING CONSTRUCTION.
  2. CHECK AND VERIFY WITH THE CLIENT BEFORE COMMENCING CONSTRUCTION.
  3. CHECK AND VERIFY WITH THE CLIENT BEFORE COMMENCING CONSTRUCTION.
  4. CHECK AND VERIFY WITH THE CLIENT BEFORE COMMENCING CONSTRUCTION.



UNIVERSITY OF SAN CARLOS  
OFFICE OF THE BUILDING OFFICIAL  
PILANUEVA, NEGROS ORIENTAL

**FERMINANZA DUMAS**  
ARCHITECT

PROJECT: CONSTRUCTION OF 21ST CENTURY CLASSROOM BUILDINGS PHASE II, VILLANUEVA CAMPUS  
LOCATION: USTP VILLANUEVA CAMPUS, NEGROS ORIENTAL  
OWNER: UNIVERSITY OF SAN CARLOS OFFICE OF THE BUILDING OFFICIAL

RECOMMENDING APPROVAL:  
**ENGR. GRACE C. BABA**  
REGISTERED PROFESSIONAL ENGINEER

RECOMMENDING APPROVAL:  
**ATTY. ERWIN B. SORIO**  
REGISTERED PROFESSIONAL ARCHITECT

APPROVED BY:  
**DR. AMBROSIO V. CULTURA II**  
REGISTERED PROFESSIONAL ARCHITECT

SHEET CONTENTS:  
GROUND FLOOR PLAN  
SECOND FLOOR PLAN

DATE: OCTOBER 2023  
SCALE: 1:100

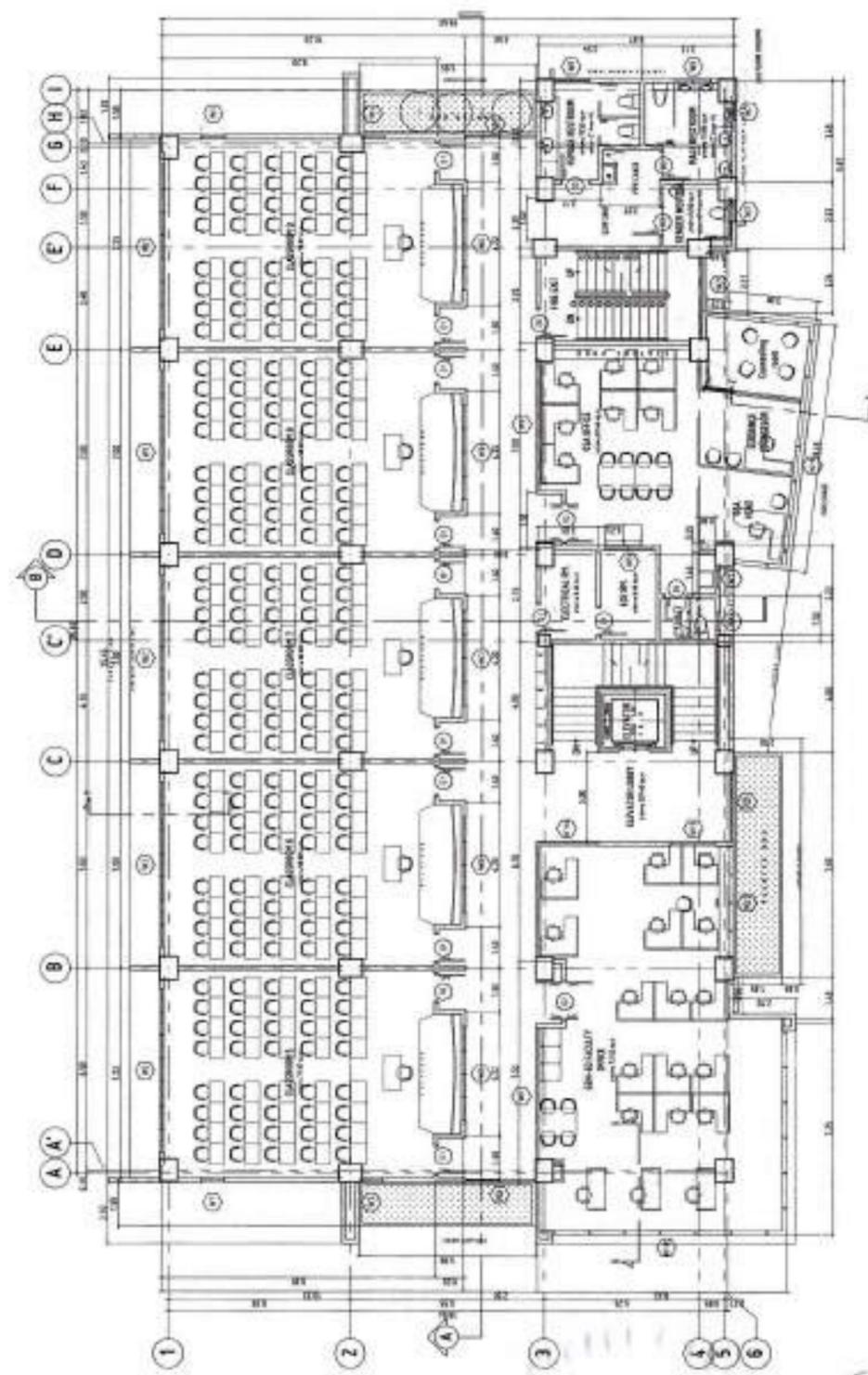


**A3**

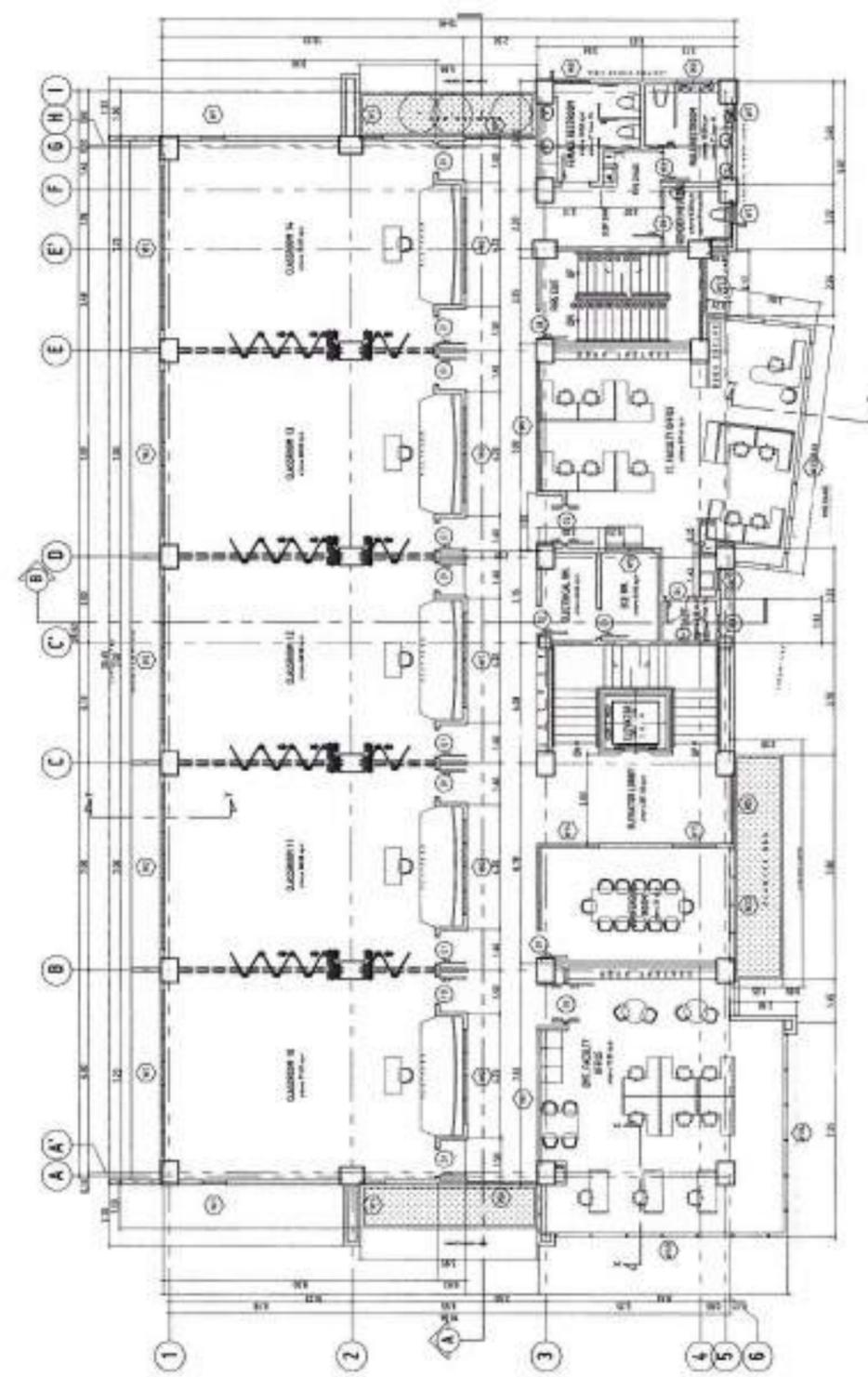
APPROVED BY:

- GENERAL NOTES:**
1. ALL WORK SHALL BE IN ACCORDANCE WITH THE NATIONAL BUILDING CODE AND ALL APPLICABLE LOCAL ORDINANCES.
  2. ALL MATERIALS AND WORKMANSHIP SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY THE BUILDING OFFICER.
  3. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND ALL APPLICABLE LOCAL ORDINANCES.
  4. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL MECHANICAL CODE AND ALL APPLICABLE LOCAL ORDINANCES.
  5. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL PLUMBING CODE AND ALL APPLICABLE LOCAL ORDINANCES.
  6. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL FIRE CODE AND ALL APPLICABLE LOCAL ORDINANCES.
  7. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL SAFETY CODE AND ALL APPLICABLE LOCAL ORDINANCES.
  8. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL ENVIRONMENTAL CODE AND ALL APPLICABLE LOCAL ORDINANCES.
  9. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL HEALTH CODE AND ALL APPLICABLE LOCAL ORDINANCES.
  10. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL SOCIAL WELFARE CODE AND ALL APPLICABLE LOCAL ORDINANCES.

- REVISIONS:**
1. CHECK AND VERIFY ALL THE DIMENSIONS AND CONSTRUCTION DETAILS AND MATERIALS AND WORKMANSHIP AND IF FOUND ANY DISCREPANCY OR ERROR, THE CONTRACTOR SHALL CORRECT IT IMMEDIATELY AND REPORT TO THE ARCHITECT FOR APPROVAL.
  2. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL BUILDING CODE AND ALL APPLICABLE LOCAL ORDINANCES.
  3. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND ALL APPLICABLE LOCAL ORDINANCES.
  4. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL MECHANICAL CODE AND ALL APPLICABLE LOCAL ORDINANCES.
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  7. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL SAFETY CODE AND ALL APPLICABLE LOCAL ORDINANCES.
  8. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL ENVIRONMENTAL CODE AND ALL APPLICABLE LOCAL ORDINANCES.
  9. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL HEALTH CODE AND ALL APPLICABLE LOCAL ORDINANCES.
  10. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL SOCIAL WELFARE CODE AND ALL APPLICABLE LOCAL ORDINANCES.



**THIRD FLOOR PLAN**  
SCALE 1:100 MTS



**FOURTH FLOOR PLAN**  
SCALE 1:100 MTS



**A4**



UNIVERSITY OF SCIENCE AND TECHNOLOGY OF THE PHILIPPINES  
OFFICE OF THE BUILDING OFFICER  
VILLANUEVA, RIGANS ORIENTAL

SENTERNANGA, RIGANS ORIENTAL  
PROJECT: CONSTRUCTION OF 21ST CENTURY CLASSROOM BUILDINGS PHASE III, VILLANUEVA CAMPUS  
LOCATION: USTP-VILLANUEVA CAMPUS, RIGANS ORIENTAL  
OWNER: UNIVERSITY OF SCIENCE AND TECHNOLOGY OF THE PHILIPPINES

RECOMMENDING APPROVAL:  
**ENGR. GRACE C. BABA**  
PROJECT OFFICER

RECOMMENDING APPROVAL:  
**ATTY. FRANK B. BULYU**  
OFFICE OF THE BUILDING OFFICER & LOCAL APPLICANT

APPROVED BY:  
**DR. AMBROSIO B. CULTURA II**  
PRESIDENT, USTP-VILLANUEVA

DATE DRAWN: SEPTEMBER 2019  
DATE CHECKED: ( )  
DATE APPROVED: ( )



UNIVERSITY OF SCIENCE AND TECHNOLOGY OF THE PHILIPPINES  
 OFFICE OF THE CHIEF ARCHITECT  
 UNIVERSITY OF SCIENCE AND TECHNOLOGY OF THE PHILIPPINES  
 1015 DAVAO DEL SUR AVENUE, DAVAO CITY, PHILIPPINES  
 TEL: (081) 226-1000 FAX: (081) 226-1001

PERONANO A. BARRERA  
 ARCHITECT  
 PROJECT NO. 113329  
 SHEETS: 00-13-001  
 DATE: 08-12-2011  
 PROJECT: 13A/13A/13-001

PROJECT: CONSTRUCTION OF 21ST CENTURY CLASSROOM BUILDINGS PHASE III, VILLANUEVA CAMPUS  
 LOCATION: USTP VILLANUEVA CAMPUS, INCORPORATED  
 OWNER: UNIVERSITY OF SCIENCE AND TECHNOLOGY OF THE PHILIPPINES

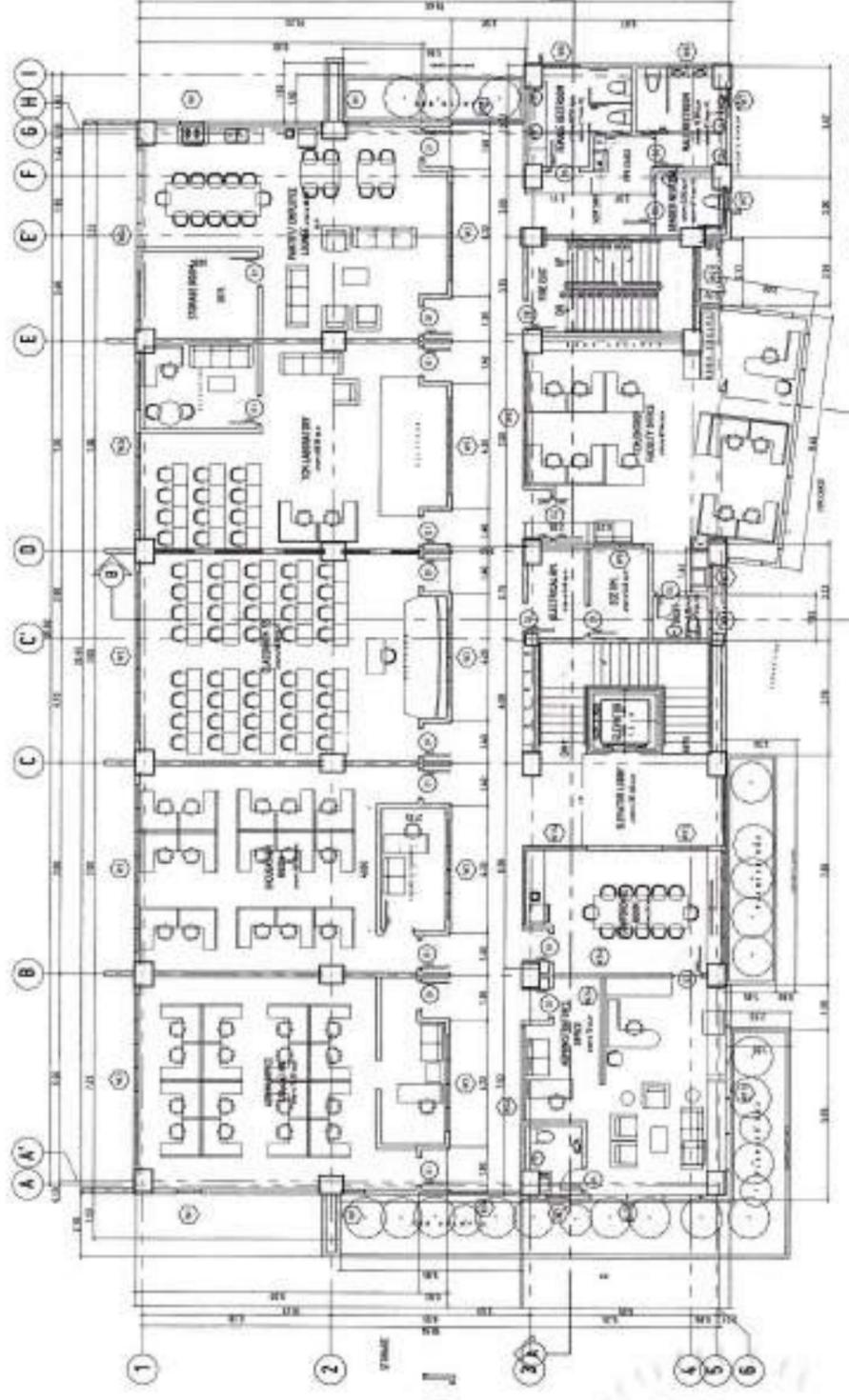
RECOMMENDING APPROVAL:  
 ENGR. GRACE C. BABA  
 PROJECT MGR

DESIGNER AND APPROVAL:  
 ATTY. ERWIN B. DILLON  
 VP FOR APPROVALS & LEGAL AFFAIRS

APPROVED BY:  
 DR. AMBROSIO B. CULTURA II  
 PRESIDENT, USTP/USTP

SHEET CONTENTS:  
 1/F FLOOR PLAN  
 ROOF DECK PLAN  
 ROOF PLAN

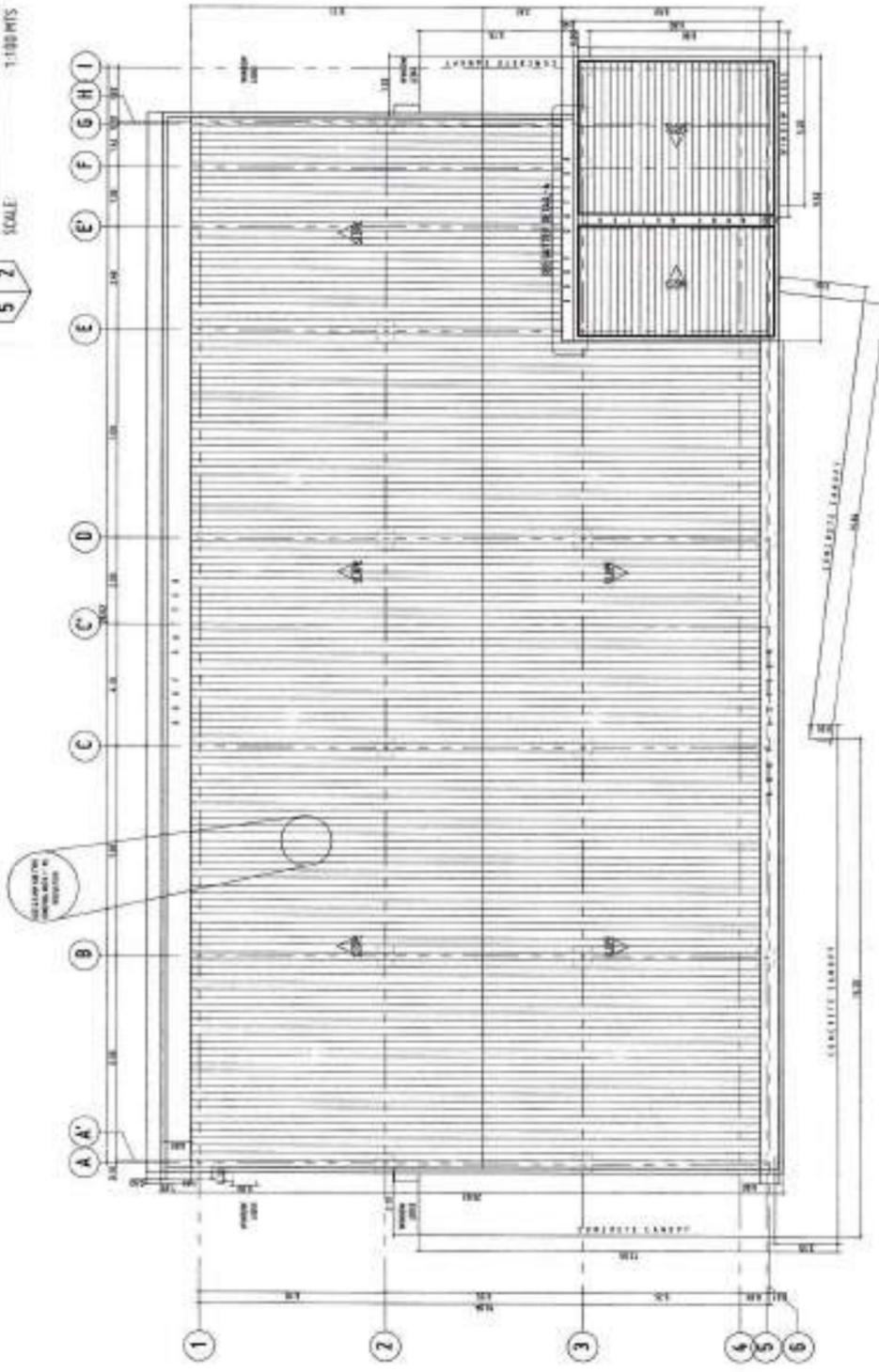
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 SHEET NO.: 001  
 SHEET TOTAL: 001



FIFTH FLOOR PLAN  
 SCALE: 1:100 MTS  
 5 1



ROOF DECK PLAN  
 SCALE: 1:100 MTS  
 5 2



ROOF PLAN  
 SCALE: 1:100 MTS  
 5 3

- APPROVED BY:
- GENERAL NOTES:
1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE NATIONAL BUILDING CODE OF THE PHILIPPINES AND ALL APPLICABLE LOCAL ORDINANCES.
  2. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE OF THE PHILIPPINES AND ALL APPLICABLE LOCAL ORDINANCES.
  3. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE NATIONAL MECHANICAL CODE OF THE PHILIPPINES AND ALL APPLICABLE LOCAL ORDINANCES.
  4. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE NATIONAL FIRE CODE OF THE PHILIPPINES AND ALL APPLICABLE LOCAL ORDINANCES.
  5. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE NATIONAL SANITATION AND PLUMBING CODE OF THE PHILIPPINES AND ALL APPLICABLE LOCAL ORDINANCES.
  6. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE NATIONAL SAFETY CODE OF THE PHILIPPINES AND ALL APPLICABLE LOCAL ORDINANCES.
  7. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE NATIONAL ENVIRONMENTAL CODE OF THE PHILIPPINES AND ALL APPLICABLE LOCAL ORDINANCES.
  8. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE NATIONAL LAND USE AND ZONING CODE OF THE PHILIPPINES AND ALL APPLICABLE LOCAL ORDINANCES.
  9. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE NATIONAL WASTE MANAGEMENT AND CLEANUP ACT AND ALL APPLICABLE LOCAL ORDINANCES.
  10. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE NATIONAL DISASTER PREVENTION AND MITIGATION ACT AND ALL APPLICABLE LOCAL ORDINANCES.

- GENERAL NOTES:
1. CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE NATIONAL BUILDING CODE OF THE PHILIPPINES AND ALL APPLICABLE LOCAL ORDINANCES.
  2. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE OF THE PHILIPPINES AND ALL APPLICABLE LOCAL ORDINANCES.
  3. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE NATIONAL MECHANICAL CODE OF THE PHILIPPINES AND ALL APPLICABLE LOCAL ORDINANCES.
  4. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE NATIONAL FIRE CODE OF THE PHILIPPINES AND ALL APPLICABLE LOCAL ORDINANCES.
  5. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE NATIONAL SANITATION AND PLUMBING CODE OF THE PHILIPPINES AND ALL APPLICABLE LOCAL ORDINANCES.
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  10. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE NATIONAL DISASTER PREVENTION AND MITIGATION ACT AND ALL APPLICABLE LOCAL ORDINANCES.



UNIVERSITY OF THE PHILIPPINES  
 OFFICE OF THE REGISTRAR  
 UNIVERSITY OF THE PHILIPPINES - VISAYAS CAMPUS  
 100 UNIVERSITY AVENUE, CEBU  
 TEL: (032) 255-5111 FAX: (032) 255-5112  
 WWW.USTIP.UTP.VI.CAMPUS

PROJECT: CONSTRUCTION OF 21ST CENTURY CLASSROOM BUILDINGS PHASE III, VILLANUEVA CAMPUS  
 LOCATION: USTP VILLANUEVA CAMPUS, MARIANAS ORIENTAL  
 OWNER: UNIVERSITY OF SCIENCES AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL: ENGR. GRACE C. BABA  
 APPROVED BY: ATTY. ERWIN S. BOGAD  
 DR. AMBROSIO S. CULTURA II

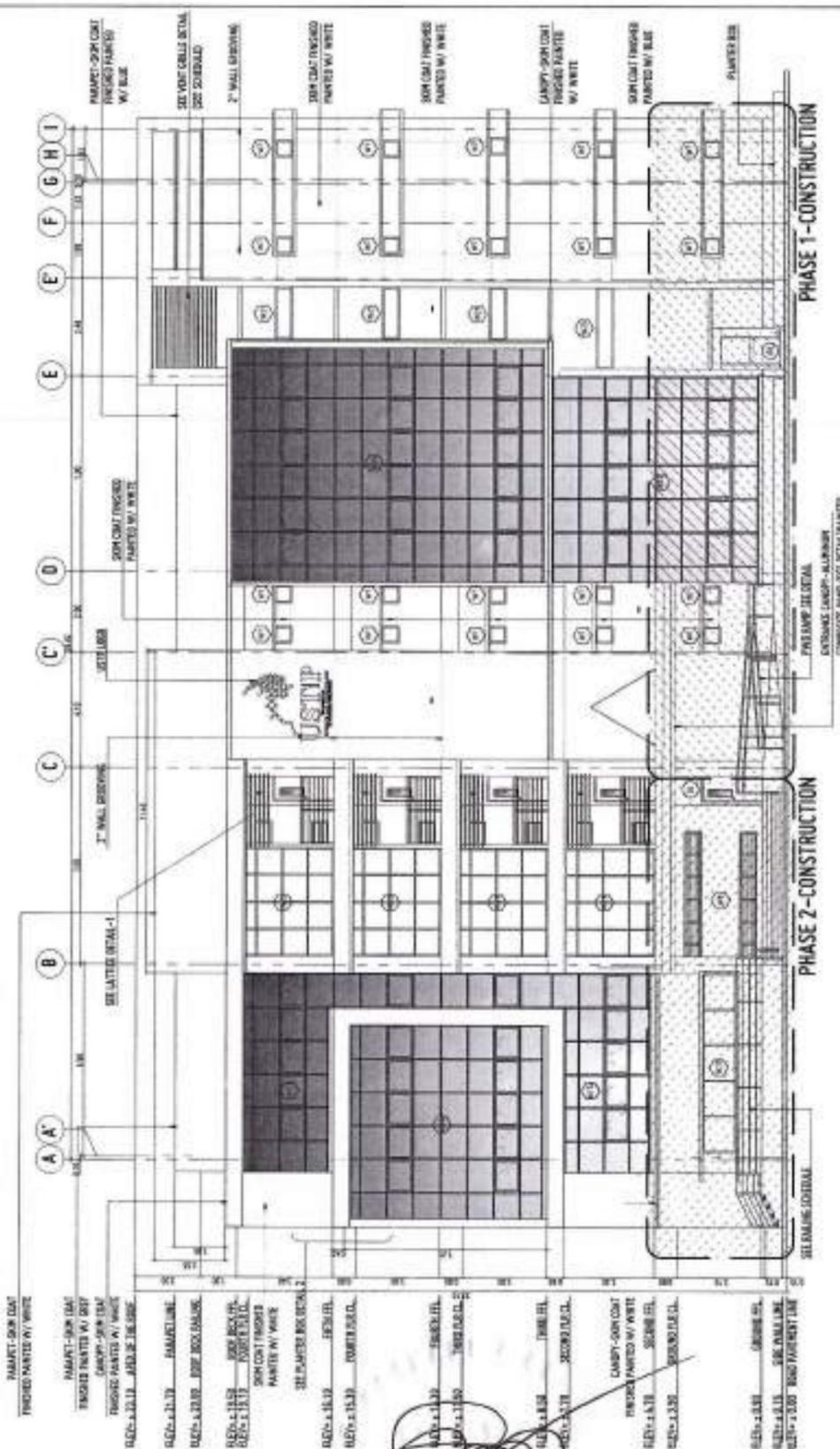
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 CHECKED BY: [Signature]  
 APPROVED BY: [Signature]

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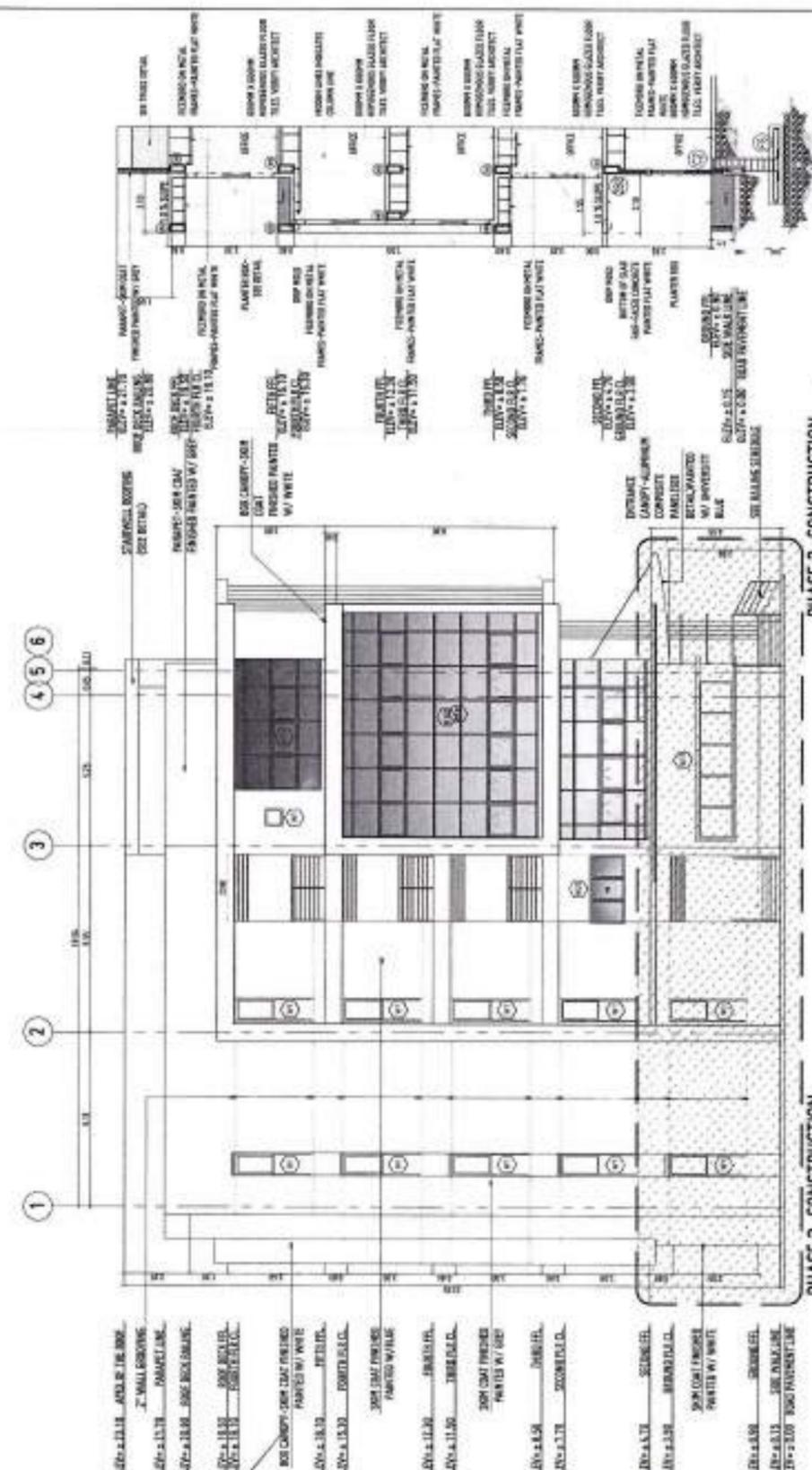
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 APPROVED BY: [Signature]

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 SHEET NO.: 05-15-2025-01  
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 CHECKED BY: [Signature]  
 APPROVED BY: [Signature]

DATE: 05-15-2025  
 SHEET NO.: 05-15-2025-01  
 DRAWN BY: [Signature]  
 CHECKED BY: [Signature]  
 APPROVED BY: [Signature]



FRONT ELEVATION  
 SCALE 1:100 MTS



LEFT SIDE ELEVATION  
 SCALE 1:100 MTS

BAY SECTION DETAIL THRU-X  
 SCALE 1:100 MTS

- APPROVED BY: [Signature]
- REVISIONS:
1. ALL INTERIOR PARTITIONS AND PARTITION WALLS ARE FINISHED WITH 1/2\"/>
- GENERAL NOTES:
1. ALL INTERIOR PARTITIONS AND PARTITION WALLS ARE FINISHED WITH 1/2\"/>

A6



OFFICE OF THE REGISTERED ARCHITECTS AND ENGINEERS OF THE STATE OF CALIFORNIA  
 REGISTERED ARCHITECTS AND ENGINEERS  
 1500 MARKET STREET, SUITE 1000, SAN FRANCISCO, CA 94102  
 TEL: 415.774.2000 FAX: 415.774.2001 WWW.CSCEA.CA.GOV

**PERDIPANO & DIMORA**  
 ARCHITECTS  
 1113 22nd St, San Francisco, CA 94132  
 TEL: 415.774.2000 FAX: 415.774.2001

**CONSTRUCTION OF 21ST CENTURY CLASSROOM BUILDINGS PHASE III, VILLANUEVA CAMPUS**  
 USTIP VILLANUEVA CAMPUS, MESA DE ORIENTAL  
 UNIVERSITY OF CALIFORNIA AND TECHNOLOGY OF CALIFORNIA VILLANUEVA

RECOMMENDING APPROVAL:  
**ENGR. GRACE C. BABA**  
 DIRECTOR, PHSB

RECOMMENDING APPROVAL:  
**ATTY. ERWIN B. BUCIO**  
 USTIP ARCHITECTURE & LEGAL SERVICES

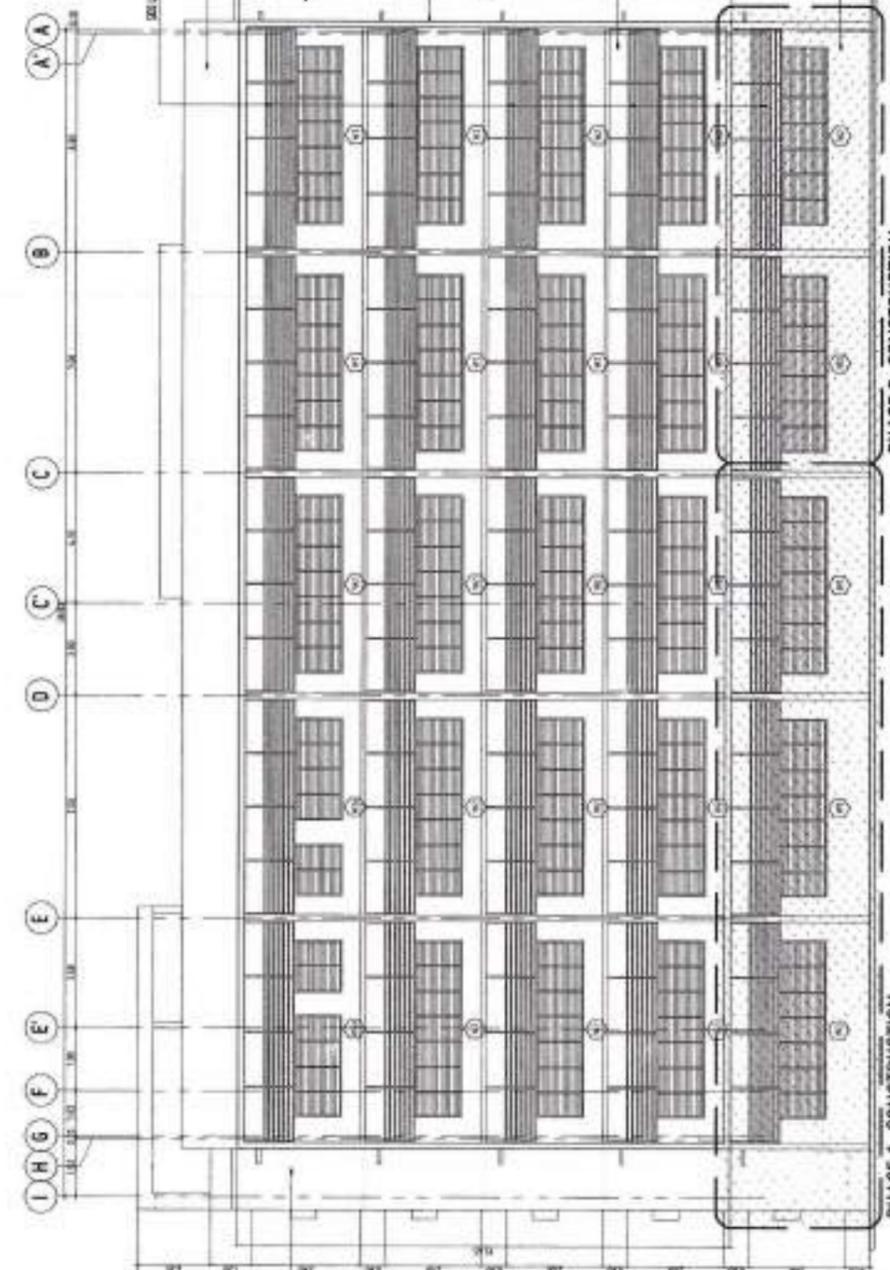
APPROVED BY:  
**DR. AMBROSIO CULTURA II**  
 CHAIRMAN, USTIP

SHEET CONTENTS:  
 REAR ELEVATION  
 RIGHT SIDE ELEVATION

DATE: OCTOBER 2011

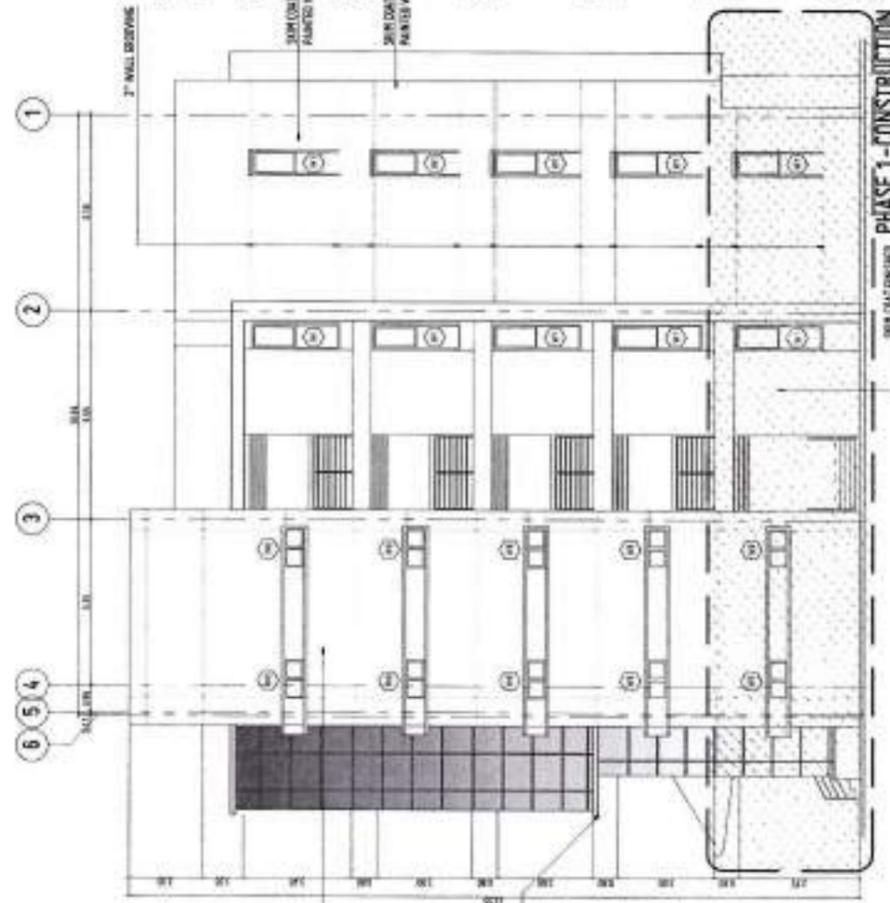
**A7**

SECTION 1.00 - FINISHES  
 1.00-1.01-01 - FLOOR FINISHES  
 1.00-1.01-02 - WALL FINISHES  
 1.00-1.01-03 - CEILING FINISHES  
 1.00-1.01-04 - EXTERIOR FINISHES  
 1.00-1.01-05 - PAINT FINISHES  
 1.00-1.01-06 - STAIR FINISHES  
 1.00-1.01-07 - ROOF FINISHES  
 1.00-1.01-08 - FLOOR FINISHES  
 1.00-1.01-09 - WALL FINISHES  
 1.00-1.01-10 - CEILING FINISHES  
 1.00-1.01-11 - EXTERIOR FINISHES  
 1.00-1.01-12 - PAINT FINISHES  
 1.00-1.01-13 - STAIR FINISHES  
 1.00-1.01-14 - ROOF FINISHES

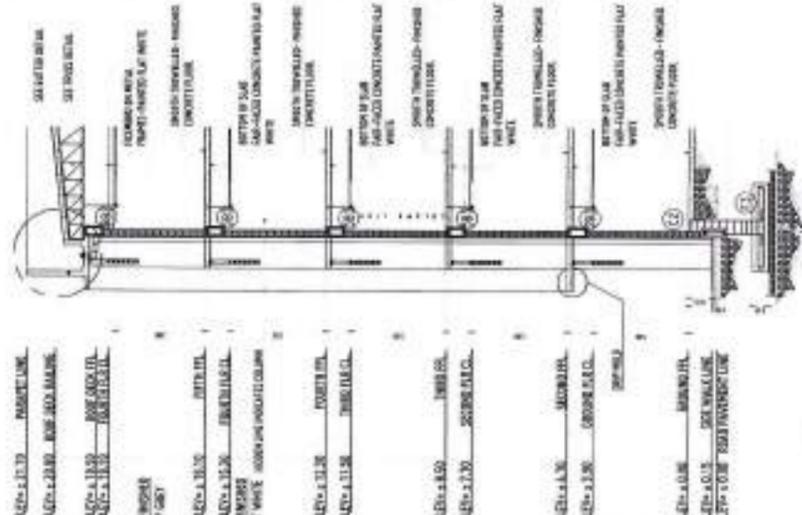


**REAR ELEVATION**  
 SCALE: 1/100 MTS

SECTION 1.00 - FINISHES  
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 1.00-1.01-02 - WALL FINISHES  
 1.00-1.01-03 - CEILING FINISHES  
 1.00-1.01-04 - EXTERIOR FINISHES  
 1.00-1.01-05 - PAINT FINISHES  
 1.00-1.01-06 - STAIR FINISHES  
 1.00-1.01-07 - ROOF FINISHES  
 1.00-1.01-08 - FLOOR FINISHES  
 1.00-1.01-09 - WALL FINISHES  
 1.00-1.01-10 - CEILING FINISHES  
 1.00-1.01-11 - EXTERIOR FINISHES  
 1.00-1.01-12 - PAINT FINISHES  
 1.00-1.01-13 - STAIR FINISHES  
 1.00-1.01-14 - ROOF FINISHES



**RIGHT SIDE ELEVATION**  
 SCALE: 1/100 MTS



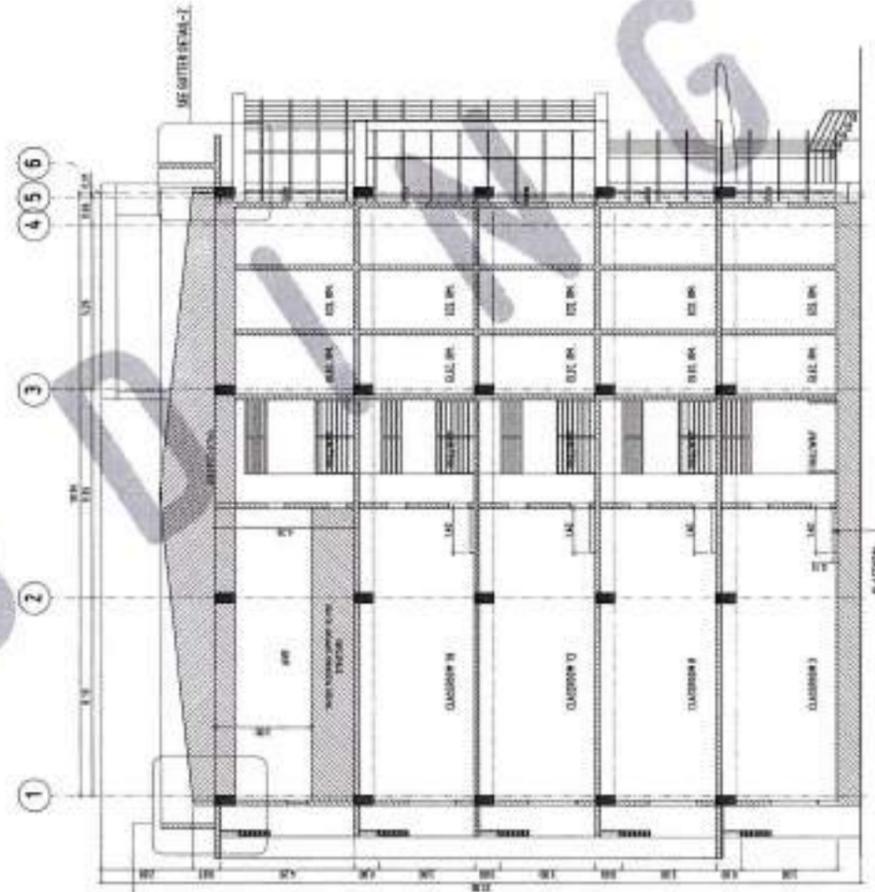
**BAY SECTION DETAIL THRU - Y**  
 SCALE: 1/100 MTS

- GENERAL NOTES:**
1. ALL FINISHES SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS AND NOTES OF THE FINISHES SCHEDULE.
  2. ALL FINISHES SHALL BE APPLIED TO THE SURFACE AS SHOWN ON THE DRAWINGS UNLESS OTHERWISE NOTED.
  3. ALL FINISHES SHALL BE APPLIED TO THE SURFACE AS SHOWN ON THE DRAWINGS UNLESS OTHERWISE NOTED.
  4. ALL FINISHES SHALL BE APPLIED TO THE SURFACE AS SHOWN ON THE DRAWINGS UNLESS OTHERWISE NOTED.
  5. ALL FINISHES SHALL BE APPLIED TO THE SURFACE AS SHOWN ON THE DRAWINGS UNLESS OTHERWISE NOTED.
  6. ALL FINISHES SHALL BE APPLIED TO THE SURFACE AS SHOWN ON THE DRAWINGS UNLESS OTHERWISE NOTED.
  7. ALL FINISHES SHALL BE APPLIED TO THE SURFACE AS SHOWN ON THE DRAWINGS UNLESS OTHERWISE NOTED.
  8. ALL FINISHES SHALL BE APPLIED TO THE SURFACE AS SHOWN ON THE DRAWINGS UNLESS OTHERWISE NOTED.
  9. ALL FINISHES SHALL BE APPLIED TO THE SURFACE AS SHOWN ON THE DRAWINGS UNLESS OTHERWISE NOTED.
  10. ALL FINISHES SHALL BE APPLIED TO THE SURFACE AS SHOWN ON THE DRAWINGS UNLESS OTHERWISE NOTED.
- REVISIONS:**
1. SEE LAST REVISION FOR ALL CHANGES TO THE DRAWING.
  2. SEE LAST REVISION FOR ALL CHANGES TO THE DRAWING.
  3. SEE LAST REVISION FOR ALL CHANGES TO THE DRAWING.
  4. SEE LAST REVISION FOR ALL CHANGES TO THE DRAWING.
  5. SEE LAST REVISION FOR ALL CHANGES TO THE DRAWING.
  6. SEE LAST REVISION FOR ALL CHANGES TO THE DRAWING.
  7. SEE LAST REVISION FOR ALL CHANGES TO THE DRAWING.
  8. SEE LAST REVISION FOR ALL CHANGES TO THE DRAWING.
  9. SEE LAST REVISION FOR ALL CHANGES TO THE DRAWING.
  10. SEE LAST REVISION FOR ALL CHANGES TO THE DRAWING.

APPROVED BY:  
 [Signature]



SECTION THRU-A  
SCALE: 1:100 MTS



SECTION THRU-B  
SCALE: 1:100 MTS

- GENERAL NOTES:**
1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
  2. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE NATIONAL BUILDING CODE OF THE PHILIPPINES AND ALL APPLICABLE LOCAL ORDINANCES.
  3. ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL BE APPROVED BY THE BUILDING OFFICIAL.
  4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE BUILDING OFFICIAL.
  5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE BUILDING OFFICIAL.
  6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE BUILDING OFFICIAL.
  7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE BUILDING OFFICIAL.
  8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE BUILDING OFFICIAL.
  9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE BUILDING OFFICIAL.
  10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE BUILDING OFFICIAL.

- REVISIONS:**
1. CHECK AND REVISIONS SHALL BE MADE IN ACCORDANCE WITH THE NATIONAL BUILDING CODE OF THE PHILIPPINES AND ALL APPLICABLE LOCAL ORDINANCES.
  2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE BUILDING OFFICIAL.
  3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE BUILDING OFFICIAL.
  4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE BUILDING OFFICIAL.

REVISION NO.	DESCRIPTION
1	REVISION NO. 1 - CORRECTED DIMENSIONS
2	REVISION NO. 2 - CORRECTED DIMENSIONS
3	REVISION NO. 3 - CORRECTED DIMENSIONS
4	REVISION NO. 4 - CORRECTED DIMENSIONS
5	REVISION NO. 5 - CORRECTED DIMENSIONS
6	REVISION NO. 6 - CORRECTED DIMENSIONS
7	REVISION NO. 7 - CORRECTED DIMENSIONS
8	REVISION NO. 8 - CORRECTED DIMENSIONS
9	REVISION NO. 9 - CORRECTED DIMENSIONS
10	REVISION NO. 10 - CORRECTED DIMENSIONS



REPUBLIC OF THE PHILIPPINES  
UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES  
DASAYAN DE ORO CAMPUS  
INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT UNIT  
1000 UNIVERSITY AVENUE, DAVAO CITY, SOUTHERN PHILIPPINES  
TEL: (81) 822-1000 / FAX: (81) 822-1001 / WWW: www.ustip.edu.ph

**FERDINAND A. BUCIO**  
REGISTERED ARCHITECT  
NO. 10000  
DATE: 01-10-2023  
PROJECT: SMART ACADEMIC BUILDING

**PROPOSED CONSTRUCTION OF SMART ACADEMIC BUILDING  
PHASE 1, JASAAAN CAMPUS**  
LOCATION: ISTP JASAAAN CAMPUS, MISAMIS ORIENTAL  
OWNER: UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL:  
**ENGR. BRUCE C. BARRA**  
DIRECTOR, INFRASTRUCTURE PLANNING & FACILITY DEVELOPMENT OFFICE

RECOMMENDING APPROVAL:  
**ATTY. ERWIN B. BUCIO**  
OFFICE ADMINISTRATOR & LEGAL ATTACHE

APPROVED BY:  
**DR. ANDRES B. CULTURA II**  
PRESIDENT, USTP SYSTEM

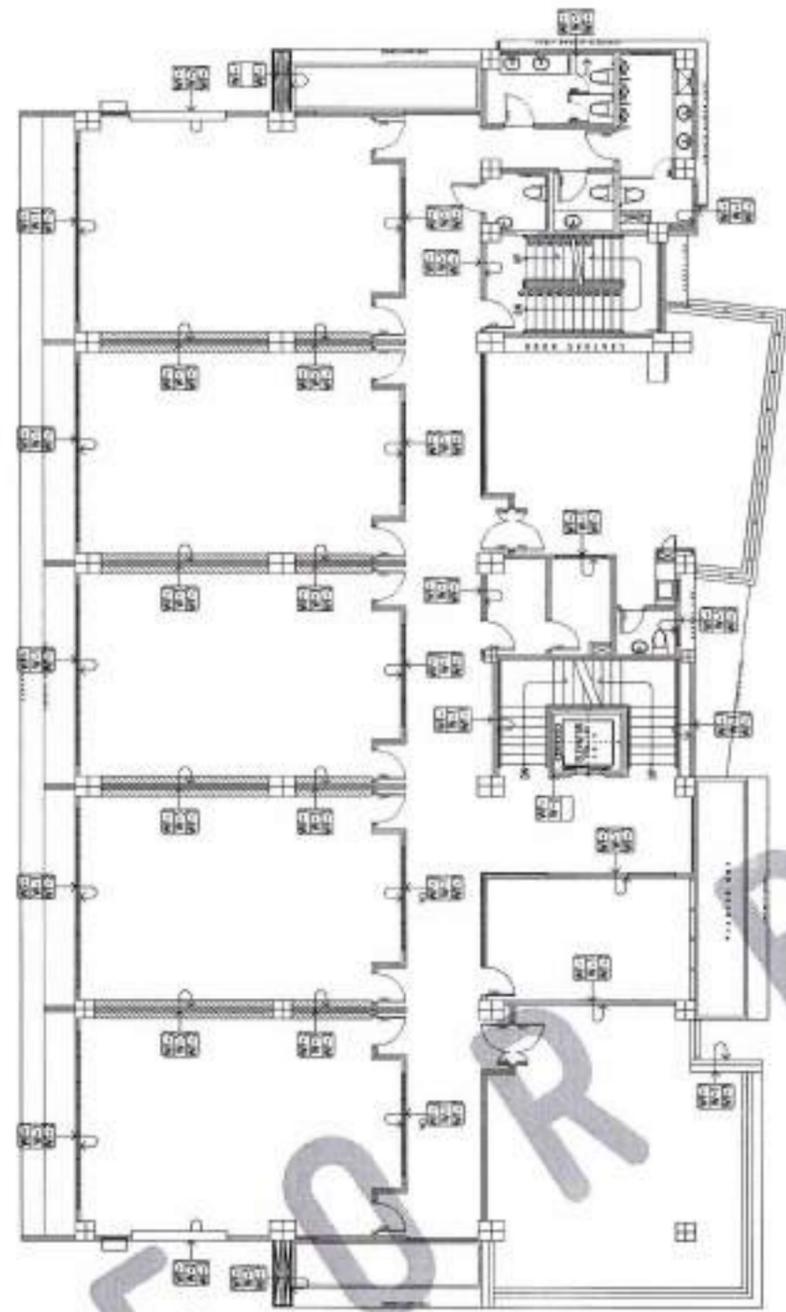
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SECTION THRU-A  
SECTION THRU-B

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DATE CHECKED:  
DATE:

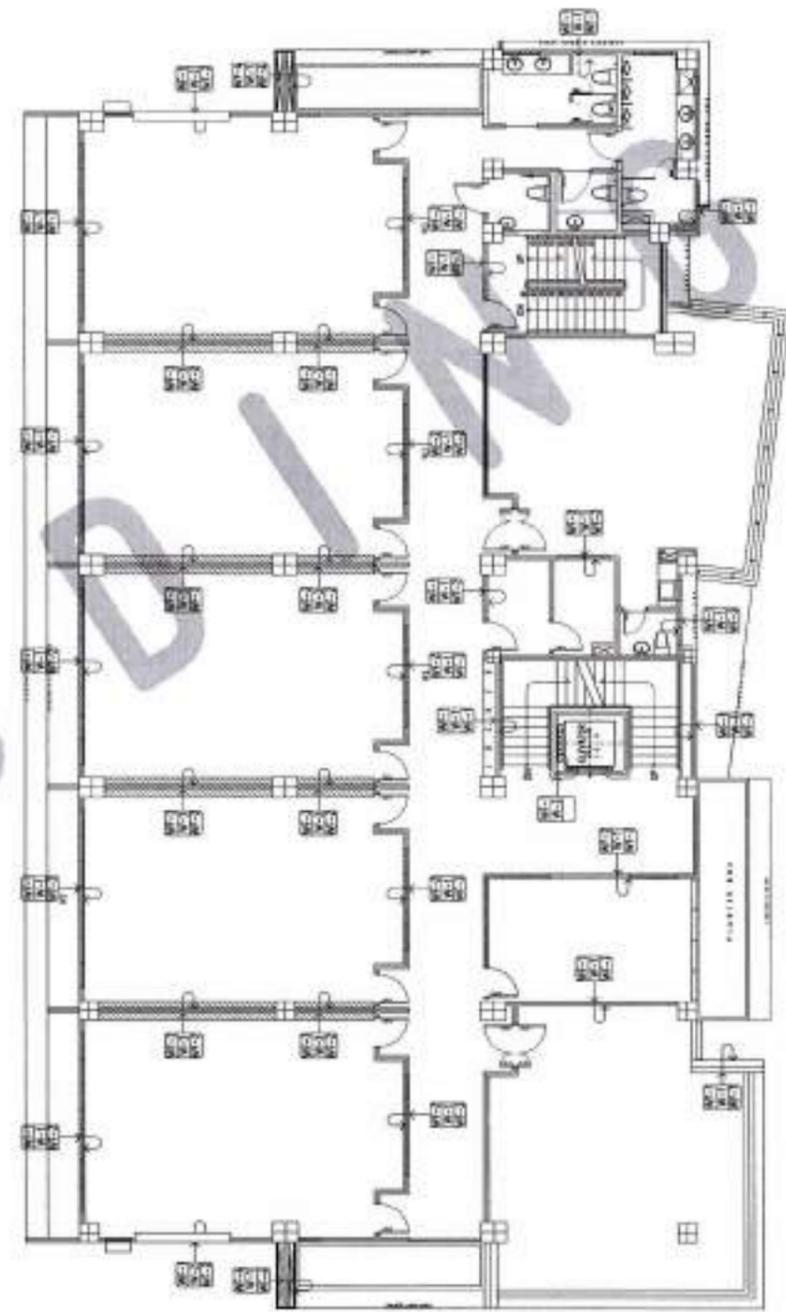


**A8**





THIRD FLOOR PLAN - WALL FINISHES  
SCALE 1:100 MTS



FOURTH FLOOR PLAN - WALL FINISHES  
SCALE 1:100 MTS

- GENERAL NOTES:**
1. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE NATIONAL BUILDING CODE OF THE PHILIPPINES (NBCP) AND ALL APPLICABLE DEPARTMENTAL ORDINANCES.
  2. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE NATIONAL BUILDING CODE OF THE PHILIPPINES (NBCP) AND ALL APPLICABLE DEPARTMENTAL ORDINANCES.
  3. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE NATIONAL BUILDING CODE OF THE PHILIPPINES (NBCP) AND ALL APPLICABLE DEPARTMENTAL ORDINANCES.
  4. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE NATIONAL BUILDING CODE OF THE PHILIPPINES (NBCP) AND ALL APPLICABLE DEPARTMENTAL ORDINANCES.
  5. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE NATIONAL BUILDING CODE OF THE PHILIPPINES (NBCP) AND ALL APPLICABLE DEPARTMENTAL ORDINANCES.
  6. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE NATIONAL BUILDING CODE OF THE PHILIPPINES (NBCP) AND ALL APPLICABLE DEPARTMENTAL ORDINANCES.
  7. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE NATIONAL BUILDING CODE OF THE PHILIPPINES (NBCP) AND ALL APPLICABLE DEPARTMENTAL ORDINANCES.
  8. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE NATIONAL BUILDING CODE OF THE PHILIPPINES (NBCP) AND ALL APPLICABLE DEPARTMENTAL ORDINANCES.
  9. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE NATIONAL BUILDING CODE OF THE PHILIPPINES (NBCP) AND ALL APPLICABLE DEPARTMENTAL ORDINANCES.
  10. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE NATIONAL BUILDING CODE OF THE PHILIPPINES (NBCP) AND ALL APPLICABLE DEPARTMENTAL ORDINANCES.

- APPENDICES:**
1. SEE ARCHITECTURAL DRAWINGS FOR MATERIAL SPECIFICATIONS AND FINISHES.
  2. SEE ARCHITECTURAL DRAWINGS FOR MATERIAL SPECIFICATIONS AND FINISHES.
  3. SEE ARCHITECTURAL DRAWINGS FOR MATERIAL SPECIFICATIONS AND FINISHES.
  4. SEE ARCHITECTURAL DRAWINGS FOR MATERIAL SPECIFICATIONS AND FINISHES.

WALL FINISHES	
NO.	DESCRIPTION
WF-1	PLAIN
WF-2	PLAIN
WF-3	PLAIN
WF-4	PLAIN
WF-5	PLAIN
WF-6	PLAIN
WF-7	PLAIN
WF-8	PLAIN
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WF-95	PLAIN
WF-96	PLAIN
WF-97	PLAIN
WF-98	PLAIN
WF-99	PLAIN
WF-100	PLAIN

WALL FINISHES	
NO.	DESCRIPTION
WF-1	PLAIN
WF-2	PLAIN
WF-3	PLAIN
WF-4	PLAIN
WF-5	PLAIN
WF-6	PLAIN
WF-7	PLAIN
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WF-97	PLAIN
WF-98	PLAIN
WF-99	PLAIN
WF-100	PLAIN



REPUBLIC OF THE PHILIPPINES  
UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES  
CAGAYAN DE ORO CAMPUS  
INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT UNIT  
2500 N. BICTRA AVENUE, LAFAYETTE, CAGAYAN DE ORO CITY 9000  
TELEPHONE: (8092) 71-00-00 / (8092) 890-1774 / (8092) 7700 / TELE FAX: (8092) 890-4450  
WEBSITE: www.ustip.edu.ph

**FERNANDO A. BUNGE**  
REGISTERED ARCHITECT  
PE NO. 17528  
DATE: 03-10-2024  
TITLE: ARCHITECT

PROJECT: PROPOSED CONSTRUCTION OF SMART ACADEMIC BUILDING PHASE 1, JASAAN CAMPUS  
LOCATION: USTP JASAAN CAMPUS, PUSAPAS ORIENTAL  
OWNER: UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL:  
**ENGR. GRACE C. BABA**  
DIRECTOR, INFRASTRUCTURE PLANNING & FACILITY DEVELOPMENT OFFICE

RECOMMENDING APPROVAL:  
**ATTY. ERWIN B. BUCIR**  
VP FOR INFRASTRUCTURE DEVELOPMENT

APPROVED BY:  
**DR. AMBROSIO B. CULTURA II**  
PRESIDENT, USTP

SHEET CONTENTS:  
THIRD AND FOURTH FLOOR WALL FINISHES

DRAWN BY:  
DATE DRAWN:  
10.01.2024  
DATE:

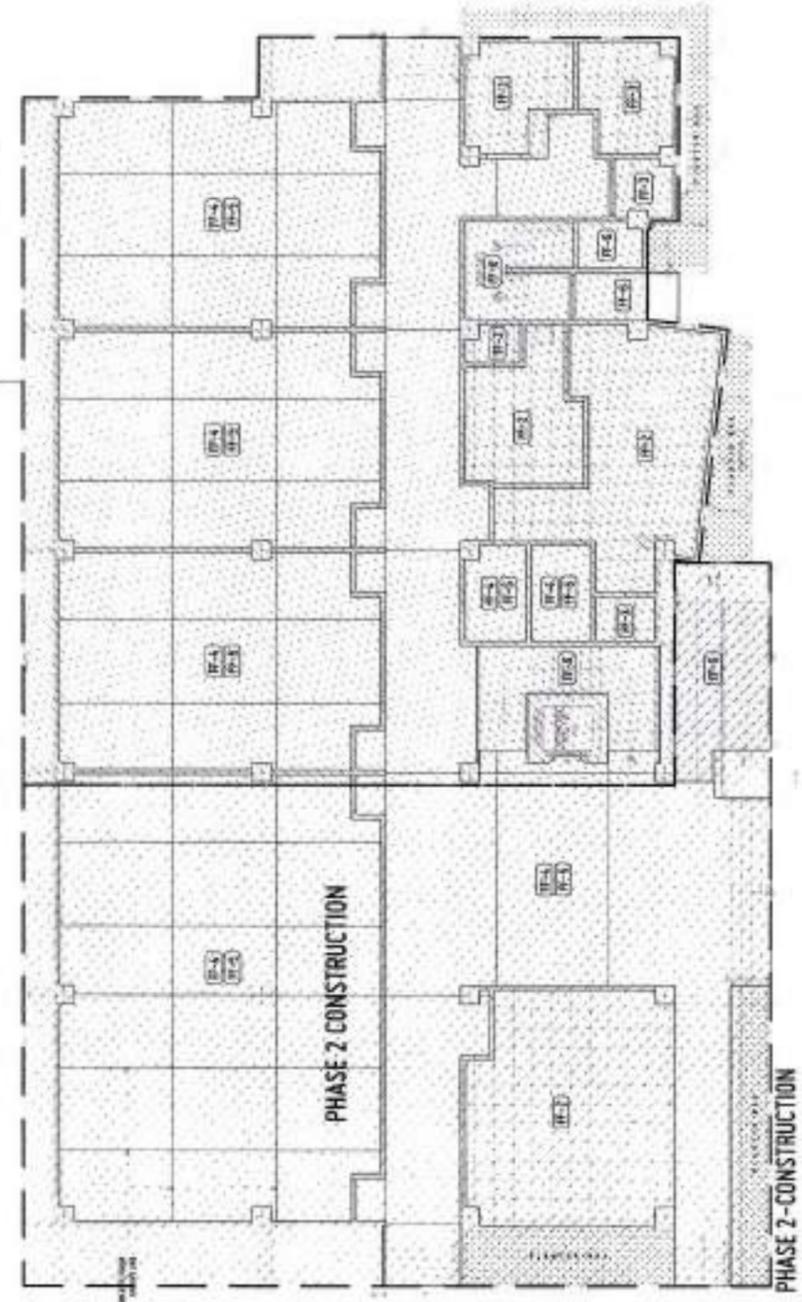


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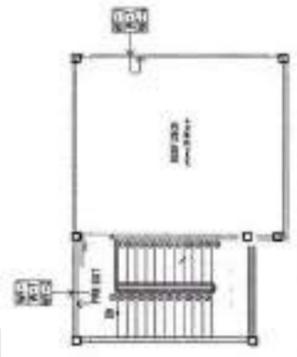
- GENERAL NOTES:**
1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL BUILDING CODE AND ALL APPLICABLE REGULATIONS AND ORDINANCES.
  2. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND ALL APPLICABLE REGULATIONS AND ORDINANCES.
  3. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL MECHANICAL CODE AND ALL APPLICABLE REGULATIONS AND ORDINANCES.
  4. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL FIRE CODE AND ALL APPLICABLE REGULATIONS AND ORDINANCES.
  5. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL SAFETY CODE AND ALL APPLICABLE REGULATIONS AND ORDINANCES.
  6. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL ENVIRONMENTAL CODE AND ALL APPLICABLE REGULATIONS AND ORDINANCES.
  7. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL HEALTH CODE AND ALL APPLICABLE REGULATIONS AND ORDINANCES.
  8. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL LABOR CODE AND ALL APPLICABLE REGULATIONS AND ORDINANCES.
  9. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL TAX CODE AND ALL APPLICABLE REGULATIONS AND ORDINANCES.
  10. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL CUSTOMS CODE AND ALL APPLICABLE REGULATIONS AND ORDINANCES.
  11. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL SOCIAL WELFARE CODE AND ALL APPLICABLE REGULATIONS AND ORDINANCES.
  12. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL EDUCATION CODE AND ALL APPLICABLE REGULATIONS AND ORDINANCES.
  13. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL CULTURE CODE AND ALL APPLICABLE REGULATIONS AND ORDINANCES.
  14. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL SPORTS CODE AND ALL APPLICABLE REGULATIONS AND ORDINANCES.
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  16. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL ARTS AND CULTURE CODE AND ALL APPLICABLE REGULATIONS AND ORDINANCES.
  17. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL MEDIA CODE AND ALL APPLICABLE REGULATIONS AND ORDINANCES.
  18. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL INFORMATION AND COMMUNICATIONS CODE AND ALL APPLICABLE REGULATIONS AND ORDINANCES.
  19. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL SCIENCE AND TECHNOLOGY CODE AND ALL APPLICABLE REGULATIONS AND ORDINANCES.
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- GENERAL NOTES:**
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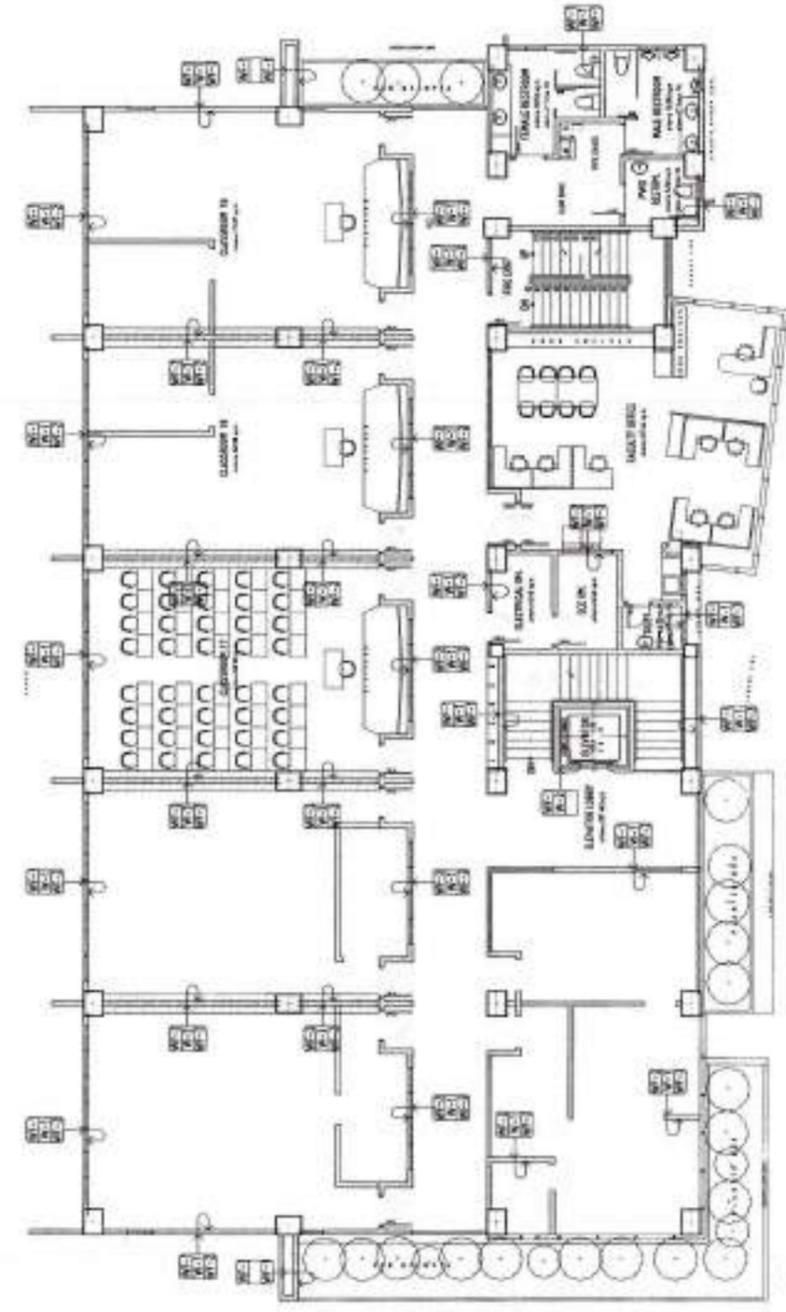
**GROUND FLOOR PLAN - FLOOR FINISHES**  
 SCALE: 1:100 MTS



**ROOF DECK PLAN**  
 SCALE: 1:100 MTS

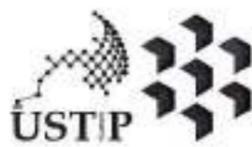


**FIFTH FLOOR PLAN - WALL FINISHES**  
 SCALE: 1:100 MTS



WALL FINISHES	
NO.	DESCRIPTION
(W-1)	PAINTED PLASTER
(W-2)	PAINTED PLASTER WITH POLYURETHANE
(W-3)	PAINTED PLASTER WITH POLYURETHANE AND POLYURETHANE
(W-4)	PAINTED PLASTER WITH POLYURETHANE AND POLYURETHANE
(W-5)	PAINTED PLASTER WITH POLYURETHANE AND POLYURETHANE
(W-6)	PAINTED PLASTER WITH POLYURETHANE AND POLYURETHANE
(W-7)	PAINTED PLASTER WITH POLYURETHANE AND POLYURETHANE
(W-8)	PAINTED PLASTER WITH POLYURETHANE AND POLYURETHANE
(W-9)	PAINTED PLASTER WITH POLYURETHANE AND POLYURETHANE
(W-10)	PAINTED PLASTER WITH POLYURETHANE AND POLYURETHANE

FLOOR FINISHES	
NO.	DESCRIPTION
(F-1)	PAINTED PLASTER
(F-2)	PAINTED PLASTER WITH POLYURETHANE
(F-3)	PAINTED PLASTER WITH POLYURETHANE AND POLYURETHANE
(F-4)	PAINTED PLASTER WITH POLYURETHANE AND POLYURETHANE
(F-5)	PAINTED PLASTER WITH POLYURETHANE AND POLYURETHANE
(F-6)	PAINTED PLASTER WITH POLYURETHANE AND POLYURETHANE
(F-7)	PAINTED PLASTER WITH POLYURETHANE AND POLYURETHANE
(F-8)	PAINTED PLASTER WITH POLYURETHANE AND POLYURETHANE
(F-9)	PAINTED PLASTER WITH POLYURETHANE AND POLYURETHANE
(F-10)	PAINTED PLASTER WITH POLYURETHANE AND POLYURETHANE



OFFICE OF THE BUILDING OFFICIAL  
 OFFICE OF THE BUILDING OFFICIAL  
 OFFICE OF THE BUILDING OFFICIAL

**PERDINANDA M. BUSTOS**  
 REGISTERED ARCHITECT  
 PROJECT: CONSTRUCTION OF 21ST CENTURY CLASSROOM BUILDINGS PHASE III, VILLANUEVA CAMPUS  
 LOCATION: BISTP VILLANUEVA CAMPUS, MARIKINA CITY, METRO MANILA  
 DATE: 02-18-2025  
 SCALE: 1:100 MTS

**CONSTRUCTION OF 21ST CENTURY CLASSROOM BUILDINGS PHASE III, VILLANUEVA CAMPUS**  
 BISTP VILLANUEVA CAMPUS, MARIKINA CITY, METRO MANILA  
 UNIVERSITY OF SCIENCE AND TECHNOLOGY OF THE PHILIPPINES

RECORDING APPROVAL:  
**ENGR. GRACE C. BABA**  
 REGISTERED PROFESSIONAL ENGINEER

RECORDING APPROVAL:  
**ATTY. EDWIN D. BUSTOS**  
 REGISTERED ATTORNEY AT LAW

APPROVED BY:  
**DR. AMBROSIO B. CULTURA II**  
 REGISTERED ARCHITECT

SHEET CONTENTS:  
 FIFTH AND ROOF DECK WALL FINISHES  
 GROUND FLOOR FINISHES

DATE: 02-18-2025  
 SCALE: 1:100 MTS

**A11**

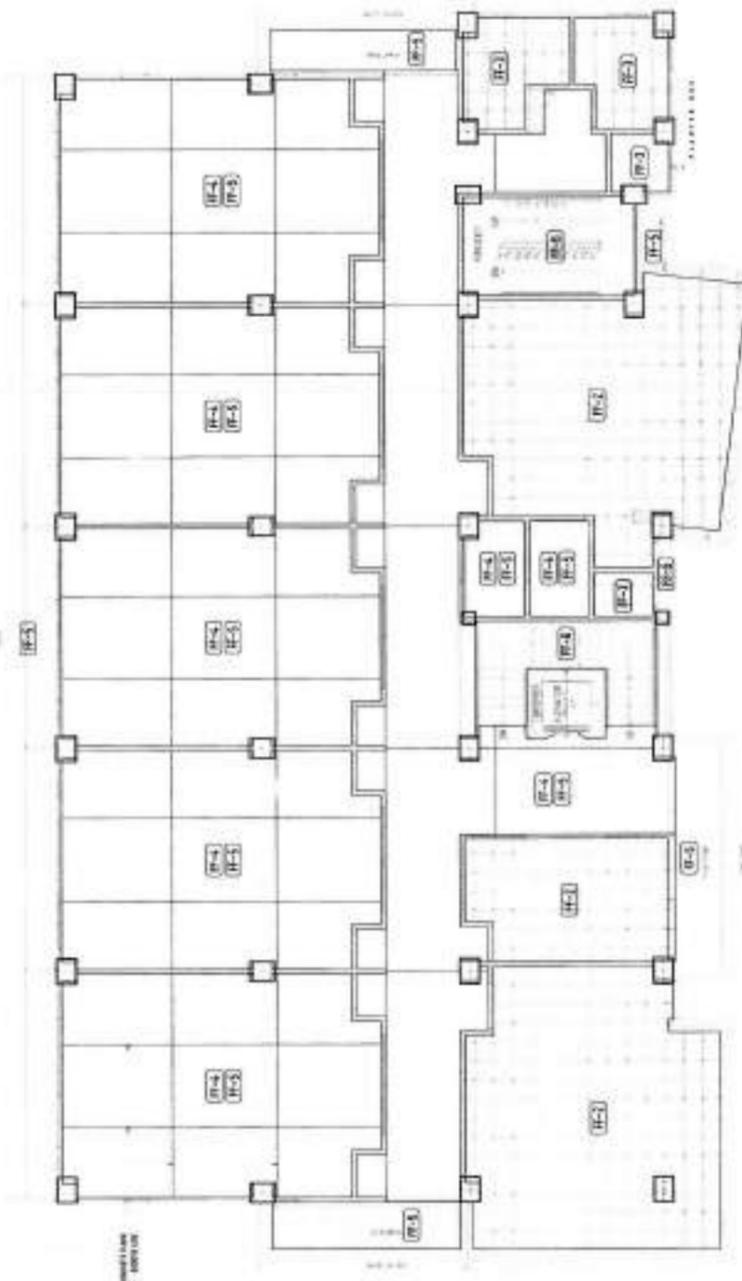


OFFICE OF THE PLANNING OFFICER OF THE BUILDING OFFICE VILLANUEVA, MARIKINA, METRO

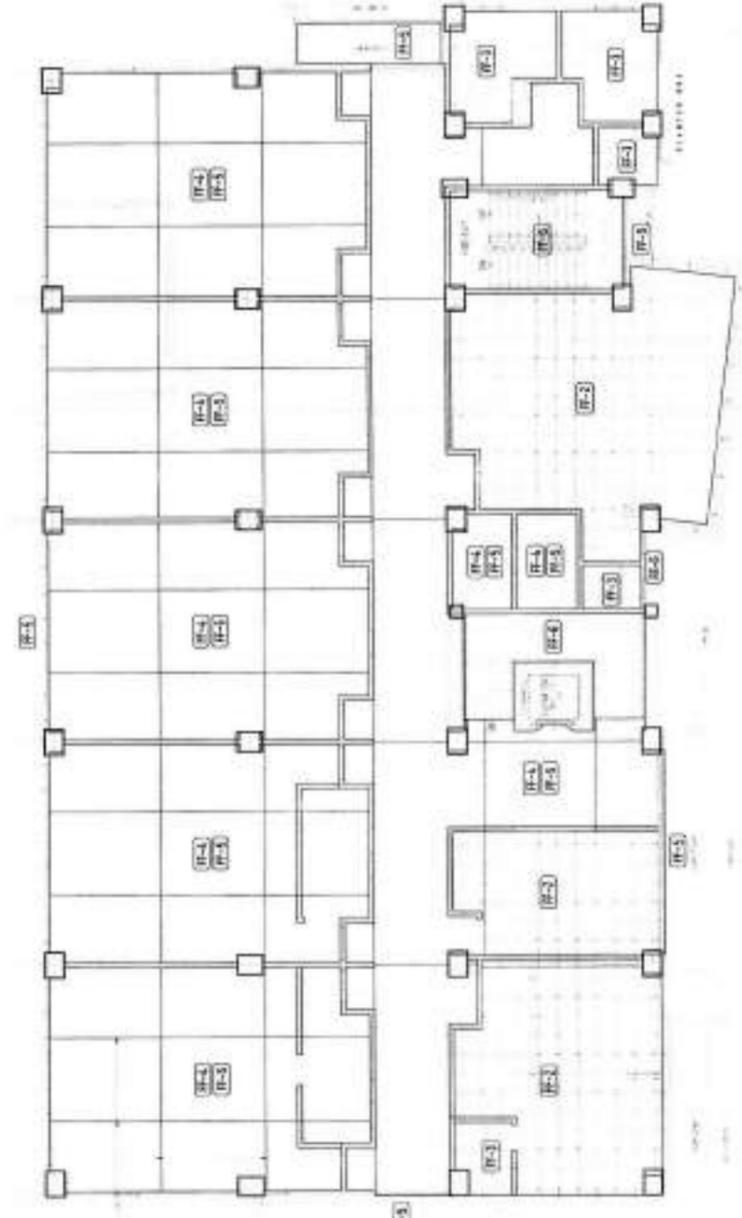
APPROVED BY:

- GENERAL NOTES**
1. ALL FINISHES SHALL BE KEPT TYPED THROUGHOUT.
  2. ALL FINISHES SHALL BE KEPT TYPED THROUGHOUT AND NOT TO BE CHANGED UNLESS APPROVED BY THE ARCHITECT.
  3. ALL FINISHES SHALL BE KEPT TYPED THROUGHOUT AND NOT TO BE CHANGED UNLESS APPROVED BY THE ARCHITECT.
  4. ALL FINISHES SHALL BE KEPT TYPED THROUGHOUT AND NOT TO BE CHANGED UNLESS APPROVED BY THE ARCHITECT.
  5. ALL FINISHES SHALL BE KEPT TYPED THROUGHOUT AND NOT TO BE CHANGED UNLESS APPROVED BY THE ARCHITECT.
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  7. ALL FINISHES SHALL BE KEPT TYPED THROUGHOUT AND NOT TO BE CHANGED UNLESS APPROVED BY THE ARCHITECT.
  8. ALL FINISHES SHALL BE KEPT TYPED THROUGHOUT AND NOT TO BE CHANGED UNLESS APPROVED BY THE ARCHITECT.
  9. ALL FINISHES SHALL BE KEPT TYPED THROUGHOUT AND NOT TO BE CHANGED UNLESS APPROVED BY THE ARCHITECT.
  10. ALL FINISHES SHALL BE KEPT TYPED THROUGHOUT AND NOT TO BE CHANGED UNLESS APPROVED BY THE ARCHITECT.

- GENERAL NOTES**
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  10. ALL FINISHES SHALL BE KEPT TYPED THROUGHOUT AND NOT TO BE CHANGED UNLESS APPROVED BY THE ARCHITECT.



**FOURTH FLOOR PLAN - FLOOR FINISHES**  
SCALE: 1:100 MTS



**FIFTH FLOOR PLAN - FLOOR FINISHES**  
SCALE: 1:100 MTS



PROVIDE FINISHES TO MATCH WITH FLOOR FINISHES



**ROOF DECK PLAN**  
SCALE: 1:100 MTS



**FLOOR FINISHES**

NO.	DESCRIPTION
F-1	100% POLISHED QUARTZITE
F-2	100% POLISHED QUARTZITE
F-3	100% POLISHED QUARTZITE
F-4	100% POLISHED QUARTZITE
F-5	100% POLISHED QUARTZITE
F-6	100% POLISHED QUARTZITE
F-7	100% POLISHED QUARTZITE
F-8	100% POLISHED QUARTZITE
F-9	100% POLISHED QUARTZITE
F-10	100% POLISHED QUARTZITE

**FLOOR FINISHES**

NO.	DESCRIPTION
F-1	100% POLISHED QUARTZITE
F-2	100% POLISHED QUARTZITE
F-3	100% POLISHED QUARTZITE
F-4	100% POLISHED QUARTZITE
F-5	100% POLISHED QUARTZITE
F-6	100% POLISHED QUARTZITE
F-7	100% POLISHED QUARTZITE
F-8	100% POLISHED QUARTZITE
F-9	100% POLISHED QUARTZITE
F-10	100% POLISHED QUARTZITE



OFFICE OF THE PLANNING OFFICER OF THE BUILDING OFFICE VILLANUEVA, MARIKINA, METRO

**PROJ. NO.** 13-1  
**DATE** 10-10-2023  
**DESIGNER** GRACE C. BABA  
**CHECKER** ATTY. EDWIN S. RUCIO  
**APPROVED BY** DR. AMBROSIO B. CULTURA II

**PROJECT** CONSTRUCTION OF 21ST CENTURY CLASSROOM BUILDINGS PHASE II, VILLANUEVA CAMPUS  
**LOCATION** USTP VILLANUEVA CAMPUS, MARIKINA ORIENTAL  
**OWNER** UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

**RECOMMENDING APPROVAL**  
ENGR. GRACE C. BABA  
DESIGNER, ARCH

**RECOMMENDING APPROVAL**  
ATTY. EDWIN S. RUCIO  
BY FOR ARCHITECTURAL LEGAL AFFAIRS

**APPROVED BY:**  
DR. AMBROSIO B. CULTURA II  
PRESIDENT, USTP SYSTEM

**SHEET CONTENTS**  
FOURTH FLOOR AND ROOF DECK FLOOR FINISHES

**REVISIONS**  
NO. 001  
DATE 10-10-2023  
BY: [Signature]





UNIVERSITY OF THE PHILIPPINES  
 SYSTEM OF STATE COLLEGES FOR TECHNICAL EDUCATION  
 UNIVERSITY OF THE PHILIPPINES  
 OFFICE OF THE CHIEF ENGINEER  
 UNIVERSITY OF THE PHILIPPINES  
 100 BARANGAY, MALABON, SAMPALAN CITY 01101  
 TEL: (02) 886-1000, 886-1001, 886-1002, 886-1003, 886-1004, 886-1005, 886-1006, 886-1007, 886-1008, 886-1009, 886-1010  
 FAX: (02) 886-1011, 886-1012, 886-1013, 886-1014, 886-1015, 886-1016, 886-1017, 886-1018, 886-1019, 886-1020

PROJECT: CONSTRUCTION OF 21ST CENTURY CLASSROOM BUILDINGS PHASE III, VILLANUEVA CAMPUS  
 LOCATION: USTP VILLANUEVA CAMPUS, RIGAROS ORIENTAL  
 OWNER: UNIVERSITY OF SCIENCE AND TECHNOLOGY OF THE PHILIPPINES

RECOMMENDING APPROVAL:  
 ENGR. GRACE C. BABA  
 DIRECTOR, UPED

RECOMMENDING APPROVAL:  
 ATTY. ERWIN B. BUENO  
 UP FOR ARCHITECTURE & URBAN DESIGN

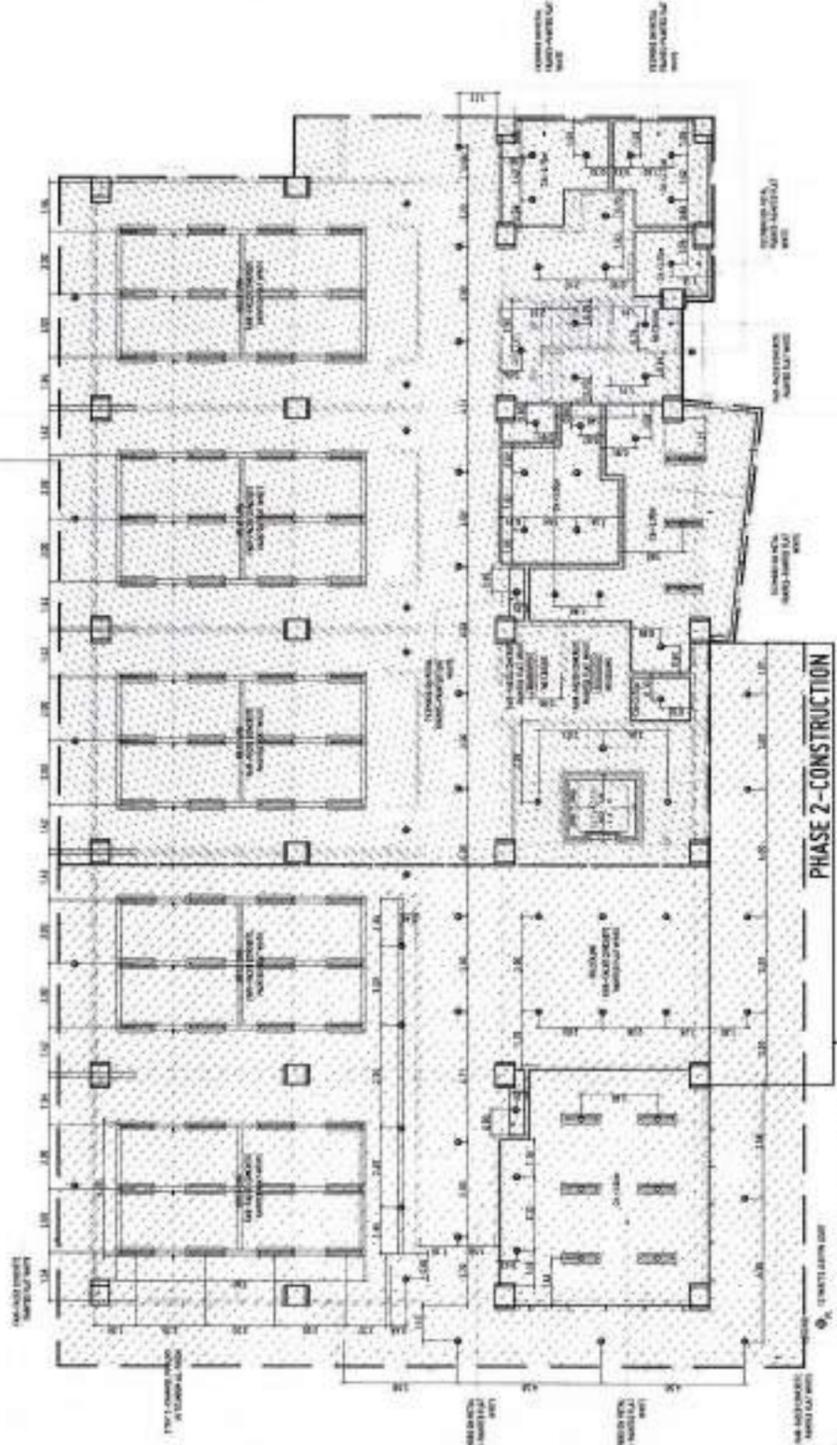
APPROVED BY:  
 DR. ANGHOSIO B. CULTURA II  
 PRESIDENT, USTP USTED

SHEET CONTENTS:  
 PHASE I AND SECOND FLOOR

DRAWN BY:  
 ENR. JOSH  
 DATE DRAWN:  
 SEPTEMBER 2025  
 PWT

A14

PHASE 1 - CONSTRUCTION

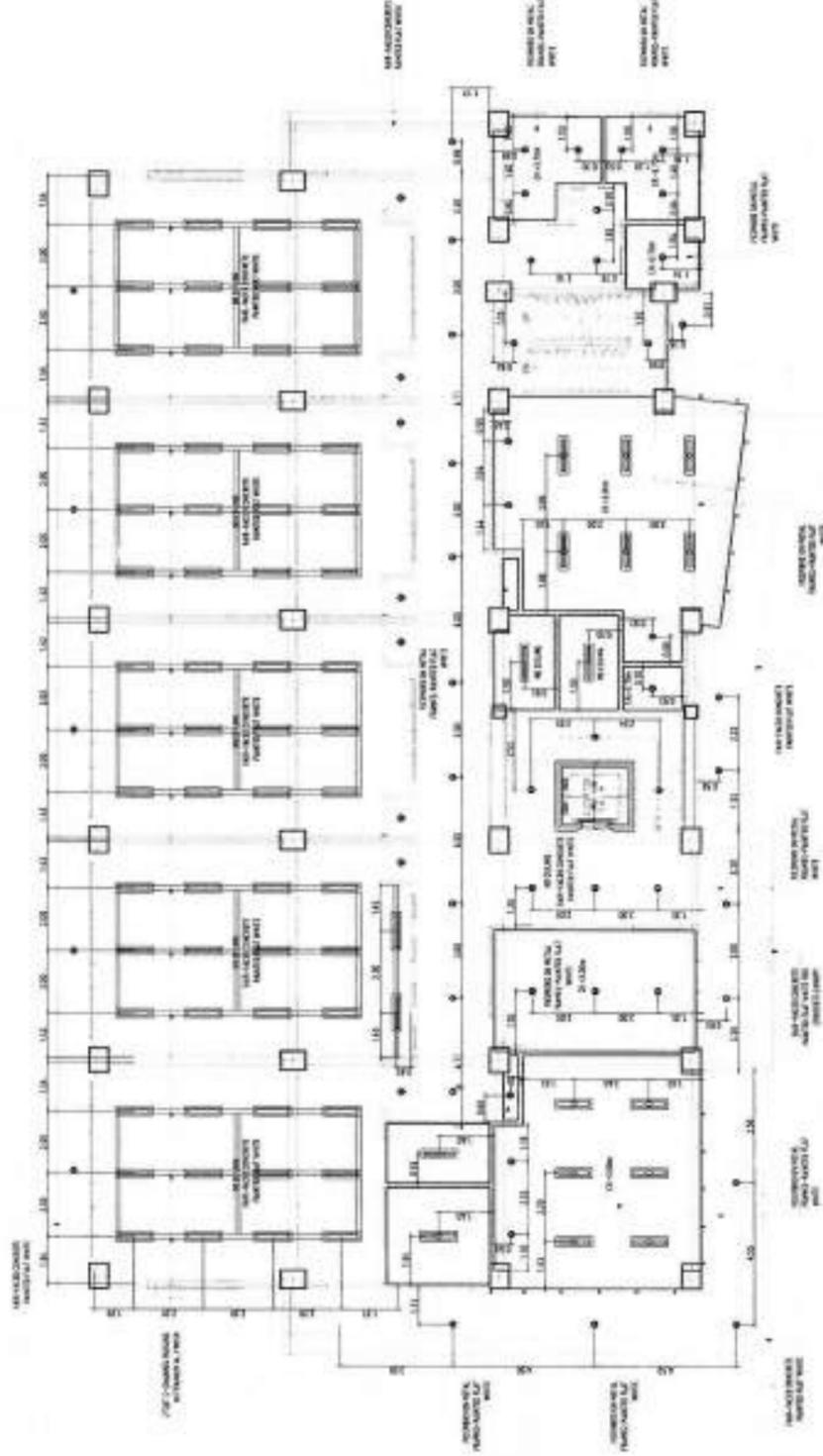


GROUND FLOOR PLAN-REFLECTED CEILING PLAN-Phase 1 & 2 Construction  
 SCALE: 1:100 MTS



- 1. 100% FINISHED FLOOR
- 2. 100% FINISHED CEILING
- 3. 100% FINISHED WALLS
- 4. 100% FINISHED DOORS
- 5. 100% FINISHED WINDOWS
- 6. 100% FINISHED ROOF
- 7. 100% FINISHED MECHANICAL
- 8. 100% FINISHED ELECTRICAL
- 9. 100% FINISHED PLUMBING
- 10. 100% FINISHED PAINT
- 11. 100% FINISHED FURNITURE
- 12. 100% FINISHED EQUIPMENT
- 13. 100% FINISHED SIGNAGE
- 14. 100% FINISHED ACCESSORIES

SECOND FLOOR PLAN-REFLECTED CEILING PLAN-for future development  
 SCALE: 1:100 MTS



- 1. 100% FINISHED FLOOR
- 2. 100% FINISHED CEILING
- 3. 100% FINISHED WALLS
- 4. 100% FINISHED DOORS
- 5. 100% FINISHED WINDOWS
- 6. 100% FINISHED ROOF
- 7. 100% FINISHED MECHANICAL
- 8. 100% FINISHED ELECTRICAL
- 9. 100% FINISHED PLUMBING
- 10. 100% FINISHED PAINT
- 11. 100% FINISHED FURNITURE
- 12. 100% FINISHED EQUIPMENT
- 13. 100% FINISHED SIGNAGE
- 14. 100% FINISHED ACCESSORIES

- GENERAL NOTES:
1. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE NATIONAL BUILDING CODE OF THE PHILIPPINES AND ALL APPLICABLE LOCAL ORDINANCES.
  2. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE NATIONAL ELECTRICAL CODE OF THE PHILIPPINES AND ALL APPLICABLE LOCAL ORDINANCES.
  3. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE NATIONAL MECHANICAL CODE OF THE PHILIPPINES AND ALL APPLICABLE LOCAL ORDINANCES.
  4. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE NATIONAL PLUMBING CODE OF THE PHILIPPINES AND ALL APPLICABLE LOCAL ORDINANCES.
  5. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE NATIONAL PAINT CODE OF THE PHILIPPINES AND ALL APPLICABLE LOCAL ORDINANCES.
  6. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE NATIONAL FURNITURE CODE OF THE PHILIPPINES AND ALL APPLICABLE LOCAL ORDINANCES.
  7. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE NATIONAL EQUIPMENT CODE OF THE PHILIPPINES AND ALL APPLICABLE LOCAL ORDINANCES.
  8. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE NATIONAL SIGNAGE CODE OF THE PHILIPPINES AND ALL APPLICABLE LOCAL ORDINANCES.
  9. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE NATIONAL ACCESSORIES CODE OF THE PHILIPPINES AND ALL APPLICABLE LOCAL ORDINANCES.

- APPENDIX NOTES:
1. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE NATIONAL BUILDING CODE OF THE PHILIPPINES AND ALL APPLICABLE LOCAL ORDINANCES.
  2. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE NATIONAL ELECTRICAL CODE OF THE PHILIPPINES AND ALL APPLICABLE LOCAL ORDINANCES.
  3. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE NATIONAL MECHANICAL CODE OF THE PHILIPPINES AND ALL APPLICABLE LOCAL ORDINANCES.
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  9. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE NATIONAL ACCESSORIES CODE OF THE PHILIPPINES AND ALL APPLICABLE LOCAL ORDINANCES.

REPUBLIC OF THE PHILIPPINES  
 OFFICE OF THE BUILDING OFFICER  
 VILLANUEVA CAMPUS

APPROVED BY:



REPUBLIC OF THE PHILIPPINES  
 DEPARTMENT OF EDUCATION  
 DIVISION OFFICE - CAGAYAN DE ORO  
 UNIVERSITY OF SCIENCE AND TECHNOLOGY OF THE PHILIPPINES  
 VILLANUEVA CAMPUS

**FERRER, ANDREW A.**  
 ARCHITECT BY DESIGN  
 PROJECT: CONSTRUCTION OF 21ST CENTURY CLASSROOM BUILDINGS PHASE III, VILLANUEVA CAMPUS  
 LOCATION: BSP VILLANUEVA CAMPUS, NSRDNS ORIENTAL  
 OWNER: UNIVERSITY OF SCIENCE AND TECHNOLOGY OF THE PHILIPPINES

RECOMMENDING APPROVER:  
**ENGR. GRACE C. BABA**  
 DIRECTOR, PHSO

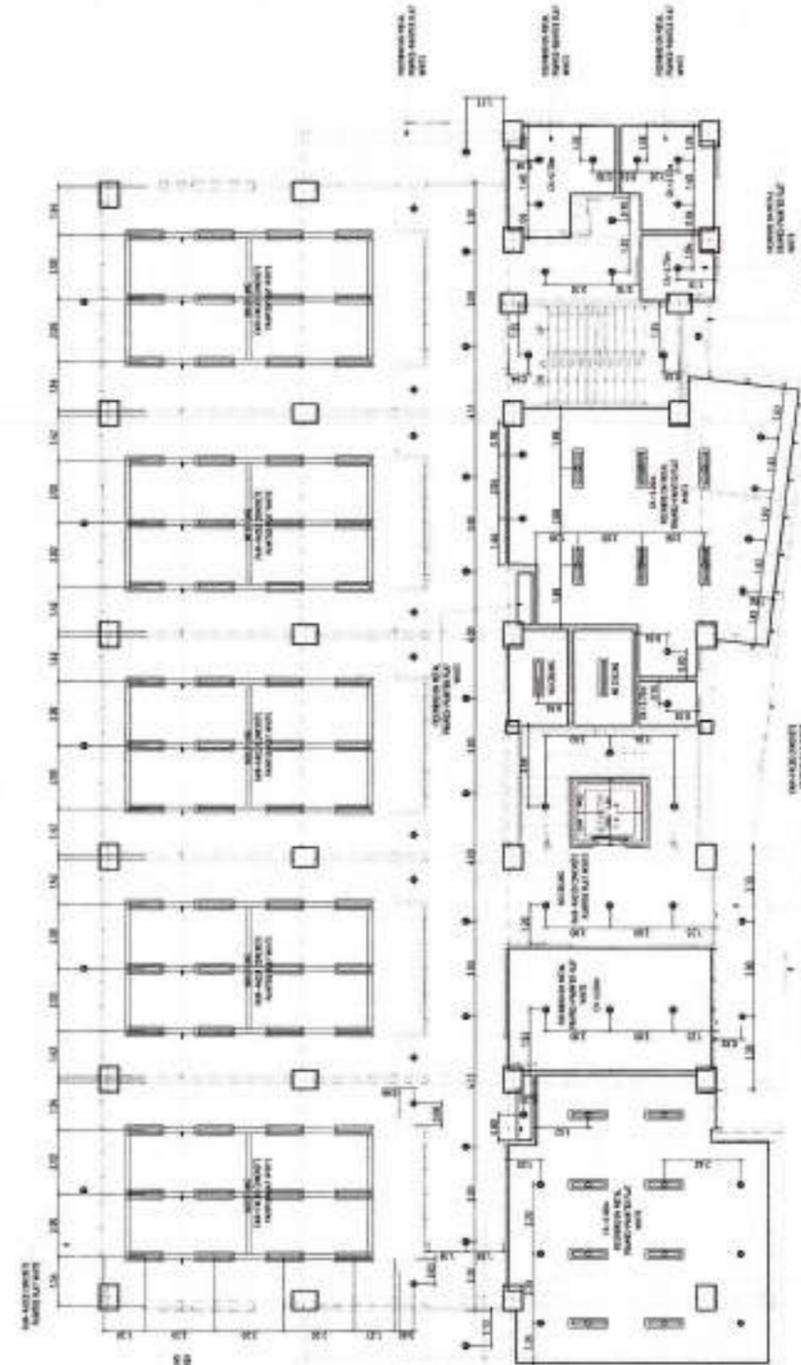
RECOMMENDING OFFICIAL:  
**ATTY. ERWIN T. BUCHO**  
 OFFICE FOR ADMINISTRATION & LEGAL SERVICES

APPROVED BY:  
**DR. AMBROSIO S. CULTURA II**  
 PRESIDENT, USTIP/OTSP

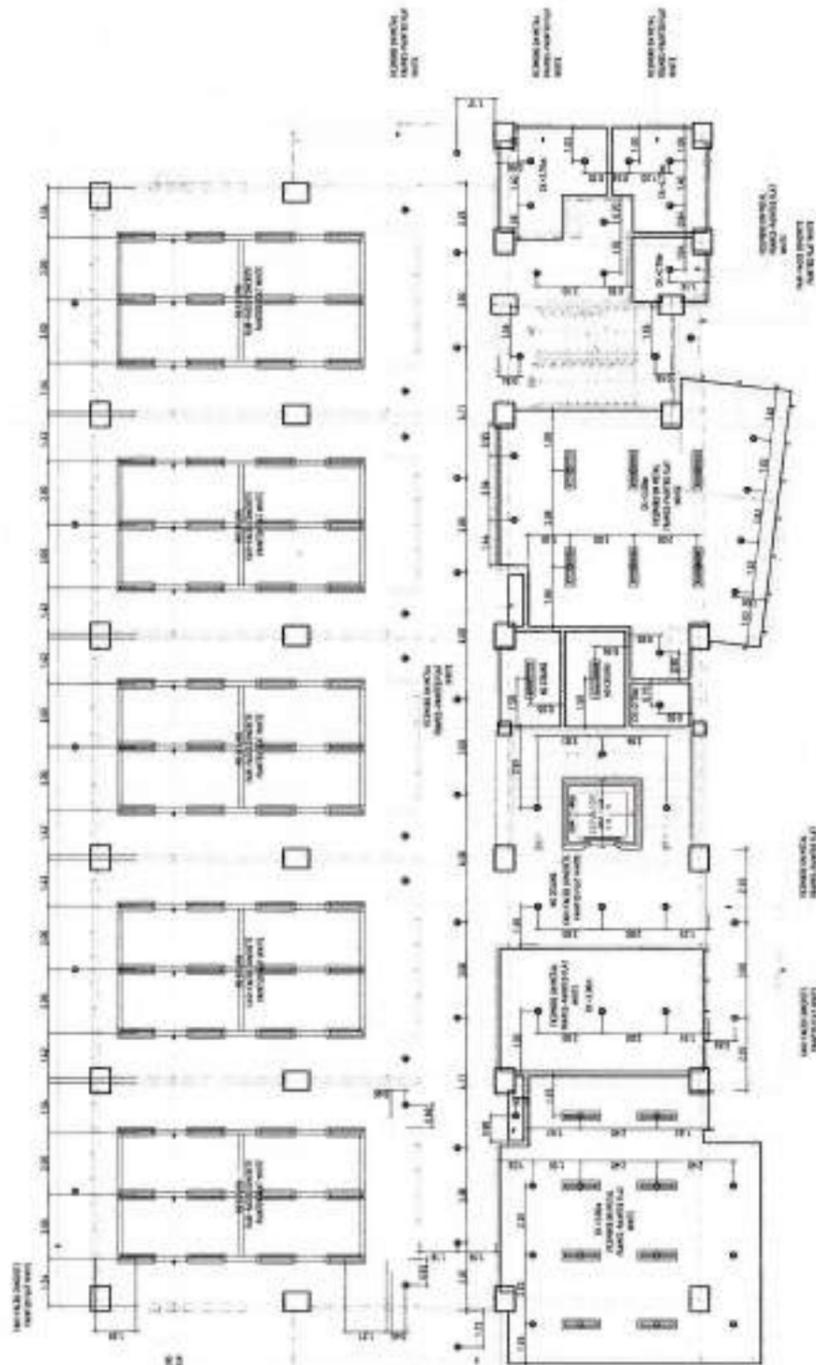
SHEET CONTENTS:  
 THIRD AND FOURTH FLP

DRAWN BY:  
 GINA DEBORA  
 DATE DRAWN:  
 SEPTEMBER 2023  
 DATE:

**A15**



**THIRD FLOOR PLAN-REFLECTED CEILING PLAN-for future development**  
 SCALE 1:100 MTS



**FOURTH FLOOR PLAN-REFLECTED CEILING PLAN-for future development**  
 SCALE 1:100 MTS

REPUBLIC OF THE PHILIPPINES  
 OFFICE OF THE REGIONAL EDUCATIONAL SUPERVISOR  
 VILLANUEVA, NSRDNS ORIENTAL

APPROVED BY:

GENERAL NOTES:

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE NATIONAL BUILDING CODE (NBC) AND THE LATEST REVISIONS OF THE NATIONAL ELECTRICAL CODE (NEC).
2. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE NATIONAL MECHANICAL CODE (MNC) AND THE LATEST REVISIONS OF THE NATIONAL PLUMBING AND HEATING CODE (NPHC).
3. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE NATIONAL FIRE PREVENTION CODE (NFPC).
4. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE NATIONAL SAFETY CODE (NSC).
5. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE NATIONAL ENVIRONMENTAL CODE (NEC).
6. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE NATIONAL HEALTH AND SAFETY CODE (NHSC).
7. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE NATIONAL OCCUPATIONAL SAFETY AND HEALTH CODE (NOSH).
8. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE NATIONAL LABOR CODE (NLC).
9. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE NATIONAL WAGES AND SALARIES CODE (NWSC).
10. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE NATIONAL SOCIAL SECURITY CODE (NSSC).
11. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE NATIONAL TAX CODE (NTC).
12. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE NATIONAL CUSTOMS AND EXCISE CODE (NCEC).
13. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE NATIONAL TRADEMARK AND PATENT CODE (NTPC).
14. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE NATIONAL INTELLECTUAL PROPERTY CODE (NIPC).
15. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE NATIONAL CYBERSECURITY CODE (NCSC).
16. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE NATIONAL INFORMATION TECHNOLOGY CODE (NITC).
17. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE NATIONAL SPACE CODE (NSC).
18. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE NATIONAL AEROSPACE CODE (NASC).
19. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE NATIONAL MARITIME CODE (NMC).
20. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE NATIONAL AVIATION CODE (NAC).
21. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE NATIONAL SPACE AND AEROSPACE CODE (NSAC).
22. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE NATIONAL MARITIME AND AVIATION CODE (NMAC).
23. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE NATIONAL SPACE, AEROSPACE, MARITIME AND AVIATION CODE (NSAMAC).
24. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE NATIONAL SPACE, AEROSPACE, MARITIME, AVIATION AND CYBERSECURITY CODE (NSAMAC).
25. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE NATIONAL SPACE, AEROSPACE, MARITIME, AVIATION, CYBERSECURITY AND INFORMATION TECHNOLOGY CODE (NSAMAC).



REVIEWED BY THE PROJECT ARCHITECT AND CHECKED BY ARCHITECTURAL ENGINEER  
 APPROVED BY THE CLIENT  
 APPROVED BY THE ARCHITECTURAL ENGINEER  
 APPROVED BY THE ELECTRICAL ENGINEER  
 APPROVED BY THE MECHANICAL ENGINEER  
 APPROVED BY THE CIVIL ENGINEER  
 APPROVED BY THE STRUCTURAL ENGINEER  
 APPROVED BY THE ENVIRONMENTAL ENGINEER  
 APPROVED BY THE SAFETY ENGINEER  
 APPROVED BY THE QUALITY ENGINEER  
 APPROVED BY THE PROJECT MANAGER  
 APPROVED BY THE PROJECT COORDINATOR  
 APPROVED BY THE PROJECT ASSISTANT  
 APPROVED BY THE PROJECT CLERK  
 APPROVED BY THE PROJECT OFFICE  
 APPROVED BY THE PROJECT TEAM  
 APPROVED BY THE PROJECT STAKEHOLDERS  
 APPROVED BY THE PROJECT COMMUNITY  
 APPROVED BY THE PROJECT PARTNERS  
 APPROVED BY THE PROJECT ALLIANCE  
 APPROVED BY THE PROJECT ECOSYSTEM  
 APPROVED BY THE PROJECT NETWORK  
 APPROVED BY THE PROJECT ECOSYSTEM  
 APPROVED BY THE PROJECT NETWORK  
 APPROVED BY THE PROJECT ECOSYSTEM  
 APPROVED BY THE PROJECT NETWORK

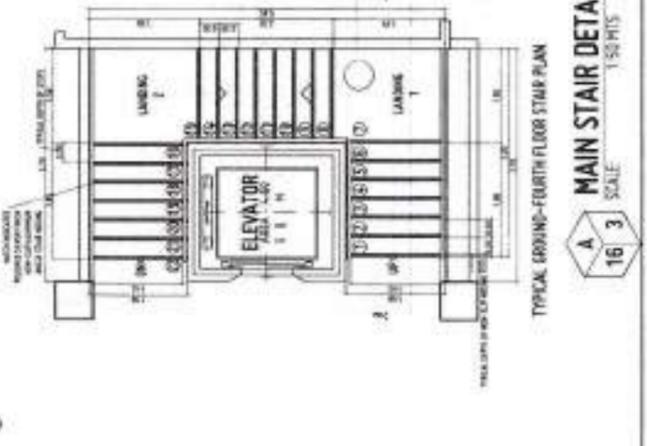
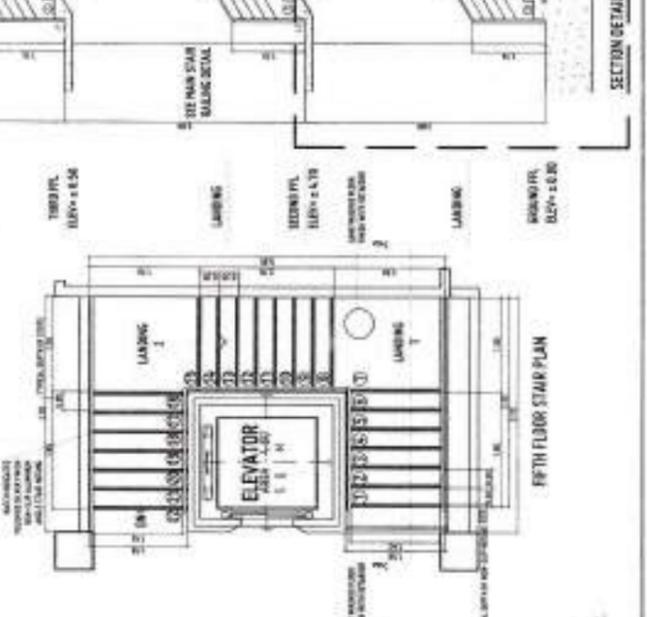
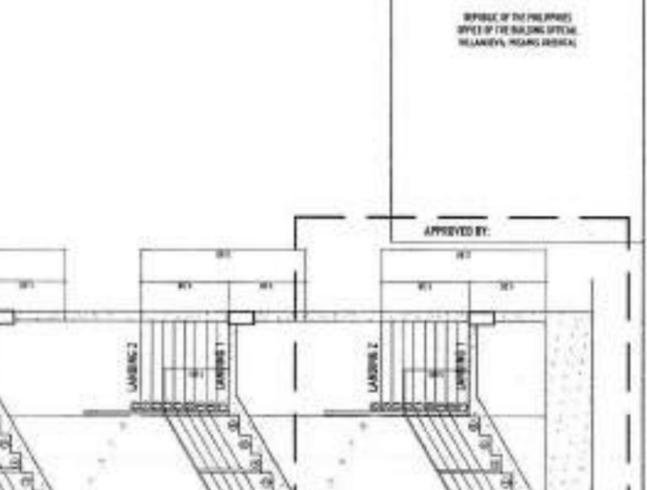
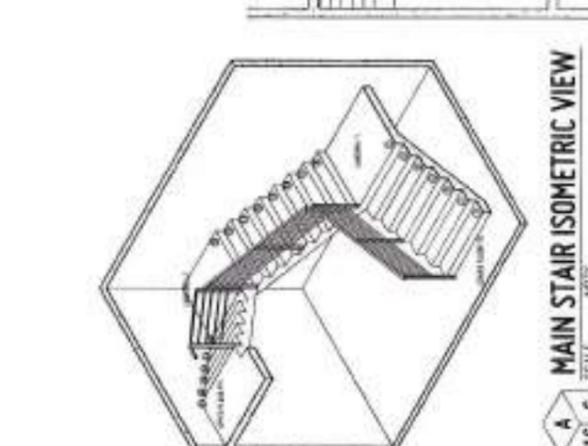
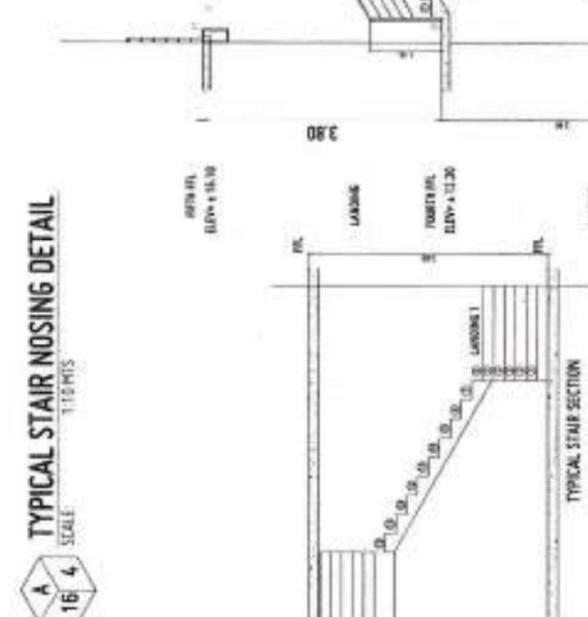
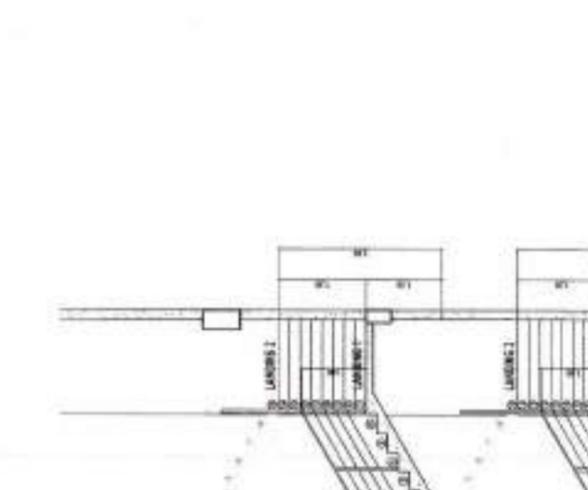
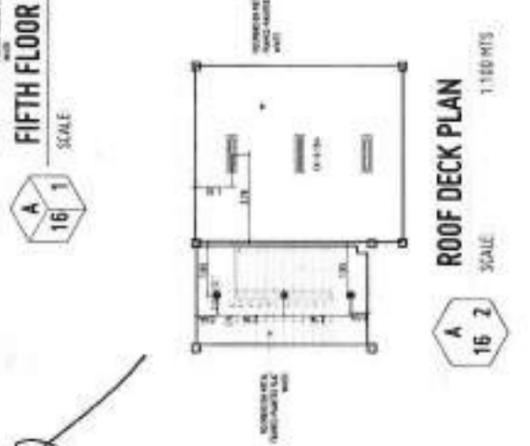
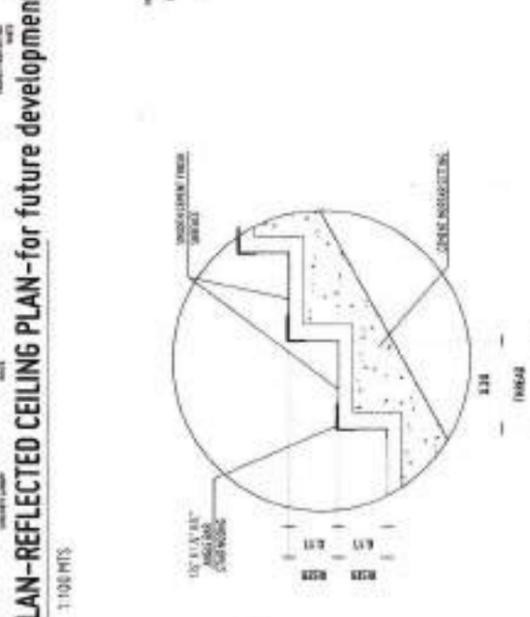
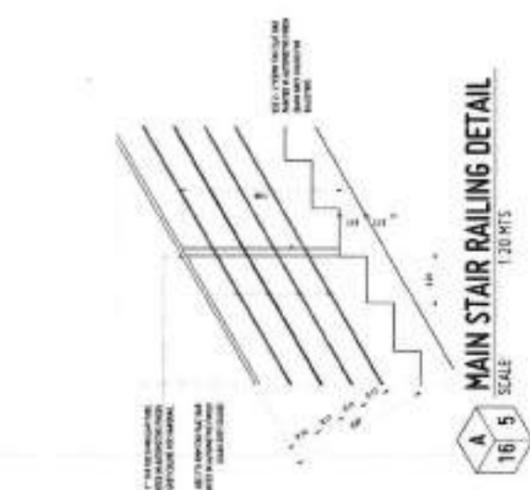
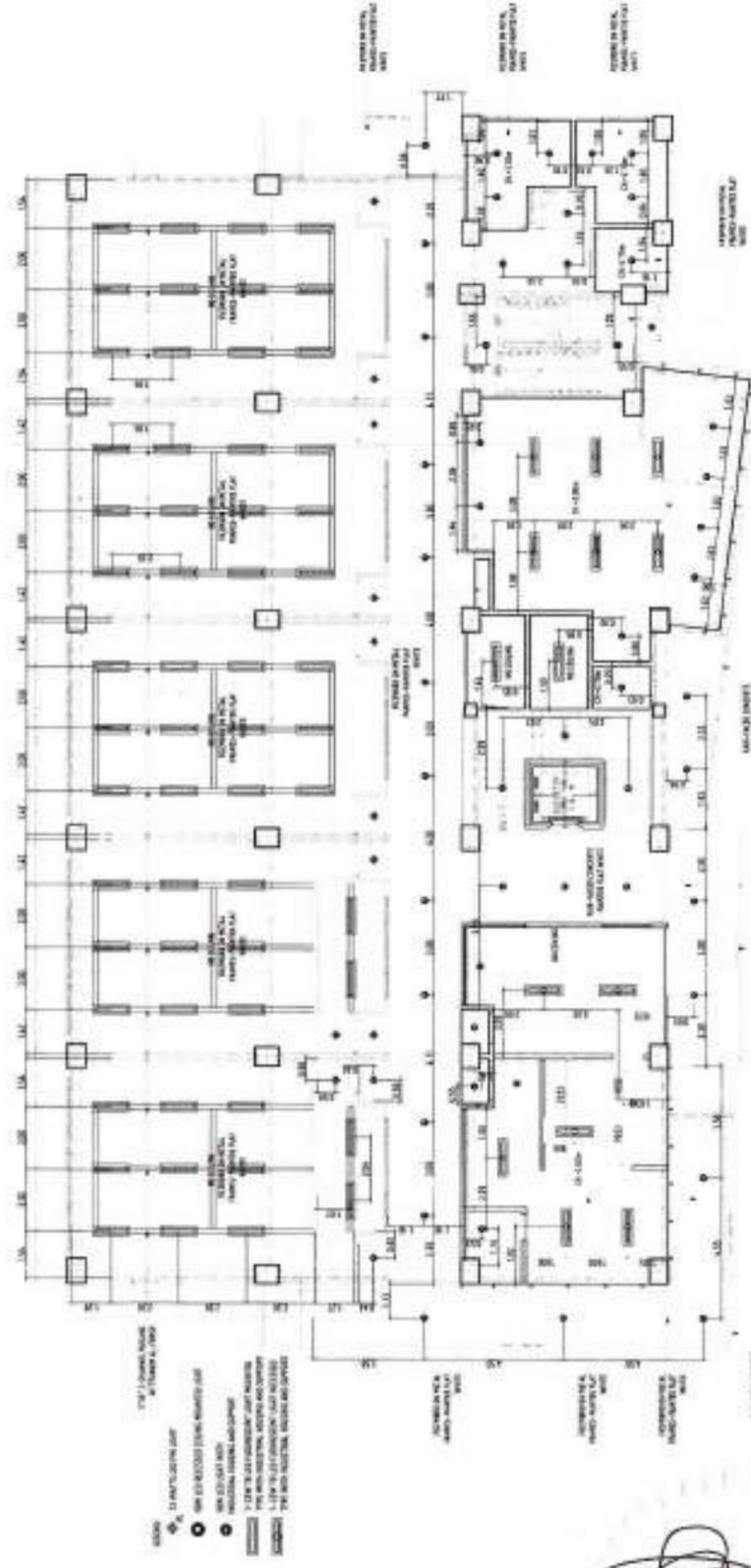
**FERDINAND DUMPA**  
 ARCHITECT  
 PROJECT: CONSTRUCTION OF 21ST CENTURY CLASSROOM BUILDINGS PHASE III, VILLANUEVA CAMPUS  
 LOCATION: USTP VILLANUEVA CAMPUS, MISAS ORIENTAL  
 OWNER: UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES  
 DATE: 03-10-2024  
 SCALE: 1:100 MTS

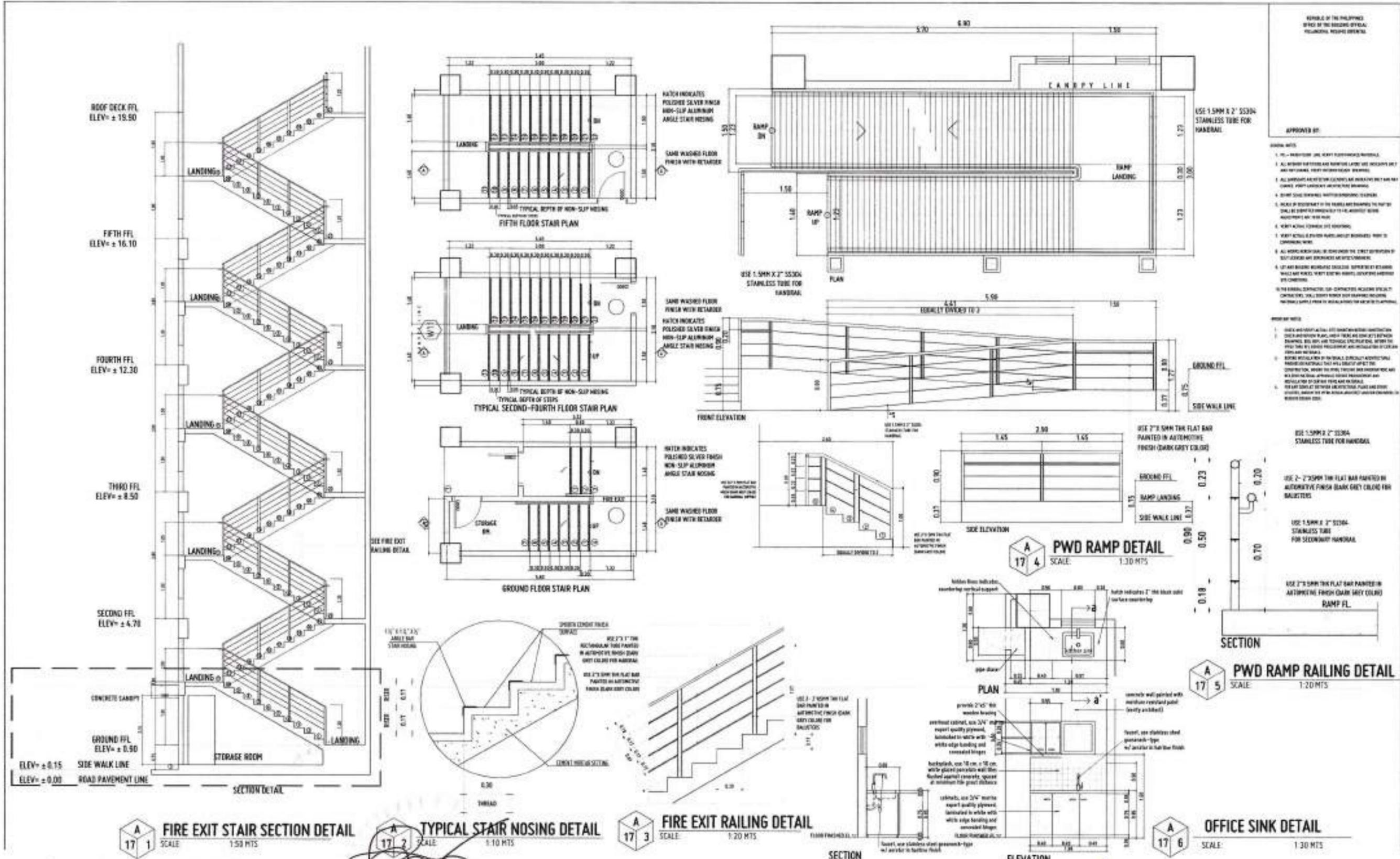
RECOMMENDING APPROVAL:  
**ENGR. GRACE C. BABA**  
 REGISTERED PROFESSIONAL ENGINEER  
 RECOMMENDING APPROVAL:  
**ATTY. ERWIN B. BULO**  
 REGISTERED PROFESSIONAL ARCHITECT  
 APPROVED BY:  
**DR. AMBROSIO B. CULTURA II**  
 REGISTERED PROFESSIONAL ARCHITECT

SHEET CONTENTS:  
 FIFTH AND ROOF DECK RCP  
 MAIN STAIR DETAIL  
 TYPICAL STAIR NOSING DETAIL  
 MAIN STAIR RAILING DETAIL

DRAWN BY:  
 ENR. JOP  
 DATE DRAWN:  
 10 SEPTEMBER 2024  
 CHECKED BY:  
 ENR.

**A16**





REQUIREMENTS OF THE BUILDING OFFICIAL  
REGARDING REINFORCEMENT

APPROVED BY:

- GENERAL NOTES:**
1. ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE NATIONAL BUILDING CODE OF THE PHILIPPINES AND ALL APPLICABLE LOCAL ORDINANCES.
  2. ALL DIMENSIONS ARE UNLESS OTHERWISE SPECIFIED IN METERS.
  3. ALL DIMENSIONS ARE UNLESS OTHERWISE SPECIFIED IN METERS.
  4. ALL DIMENSIONS ARE UNLESS OTHERWISE SPECIFIED IN METERS.
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  10. ALL DIMENSIONS ARE UNLESS OTHERWISE SPECIFIED IN METERS.

**A 17 1**  
FIRE EXIT STAIR SECTION DETAIL  
SCALE: 1:50 MTS

**A 17 2**  
TYPICAL STAIR NOSING DETAIL  
SCALE: 1:10 MTS

**A 17 3**  
FIRE EXIT RAILING DETAIL  
SCALE: 1:20 MTS

**A 17 4**  
PWD RAMP DETAIL  
SCALE: 1:30 MTS

**A 17 5**  
PWD RAMP RAILING DETAIL  
SCALE: 1:20 MTS

**A 17 6**  
OFFICE SINK DETAIL  
SCALE: 1:30 MTS



UNIVERSITY OF SAN CARLOS  
OFFICE OF THE CHIEF ENGINEER  
ARCHITECTURAL DIVISION

PROJECT: CONSTRUCTION OF 21ST CENTURY CLASSROOM BUILDINGS PHASE III, VILLANUEVA CAMPUS

OWNER: UNIVERSITY OF SAN CARLOS

DATE: 08-14-2025

RECOMMENDING APPROVAL: ENGR. GRACE C. BABA

RECOMMENDING APPROVAL: ATTY. ERWIN B. QUICO

APPROVED BY: DR. AMBROSIO B. CULTURA II

SHEET CONTENTS:

- FIRE EXIT STAIR SECTION DETAIL
- TYPICAL STAIR NOSING DETAIL
- FIRE EXIT RAILING DETAIL
- PWD RAMP DETAIL
- PWD RAMP RAILING DETAIL
- OFFICE SINK DETAIL

DATE: 08-14-2025

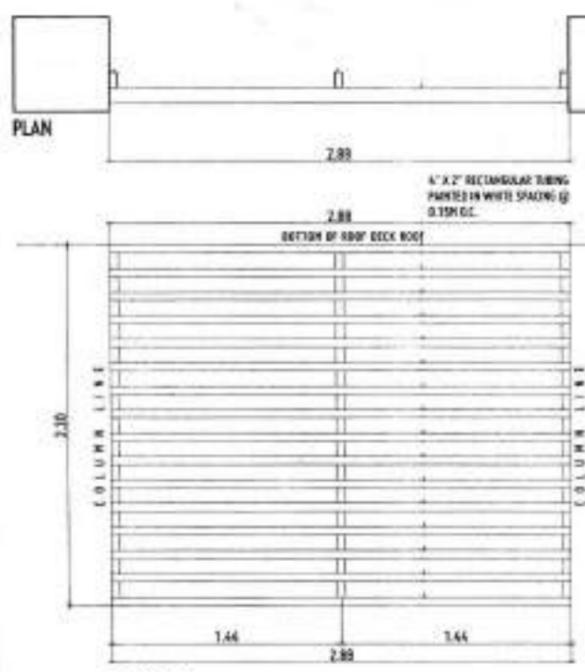
PROJECT: USTIP

**A17**

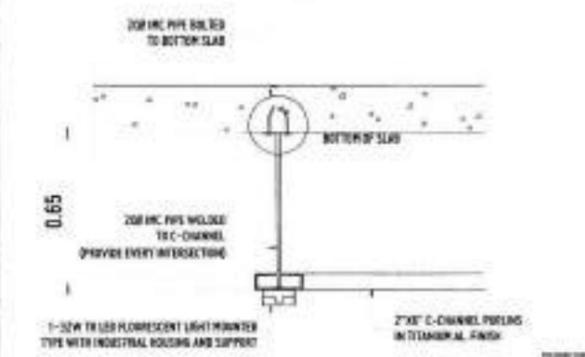


4" x 2" RECTANGULAR TUBING PAINTED IN WHITE FOR SUPPORT

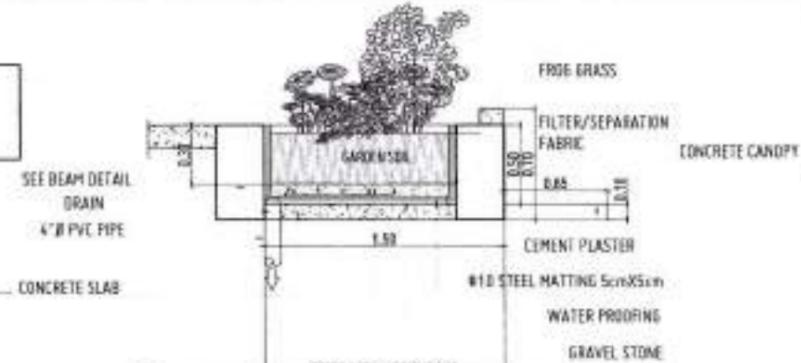
4" x 2" RECTANGULAR TUBING PAINTED IN WHITE SPACING @ 0.15M OC



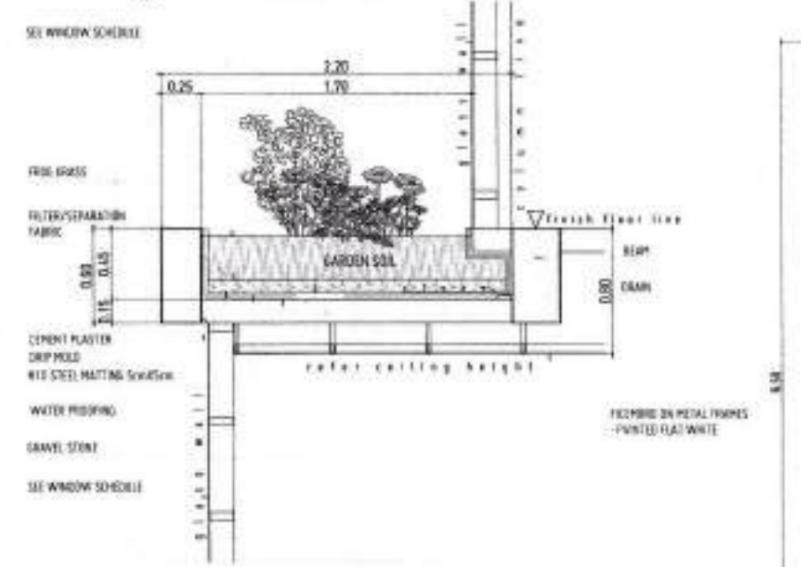
**VENT GRILLE DETAIL**  
SCALE: 1:20 MTS



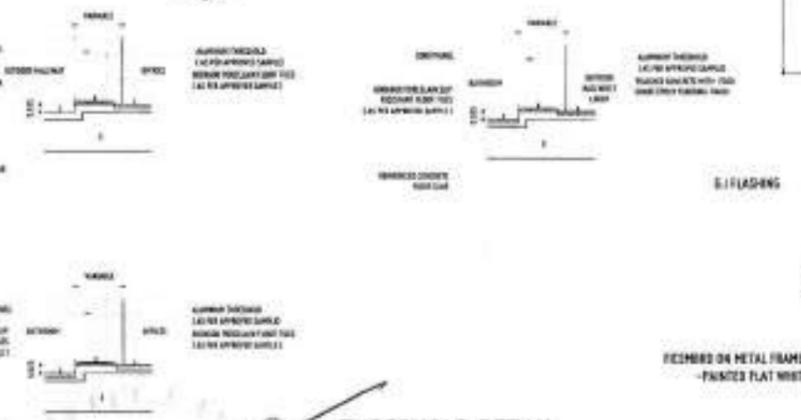
**DROP LIGHT DETAIL**  
SCALE: 1:10 MTS



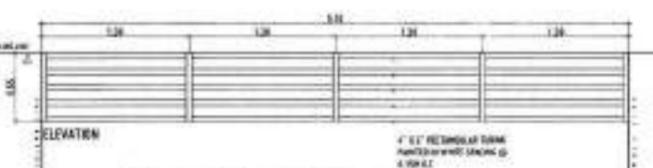
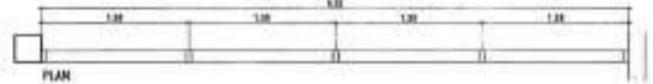
**TYPICAL PLANTER BOX DETAIL**  
SCALE: 1:20 MTS



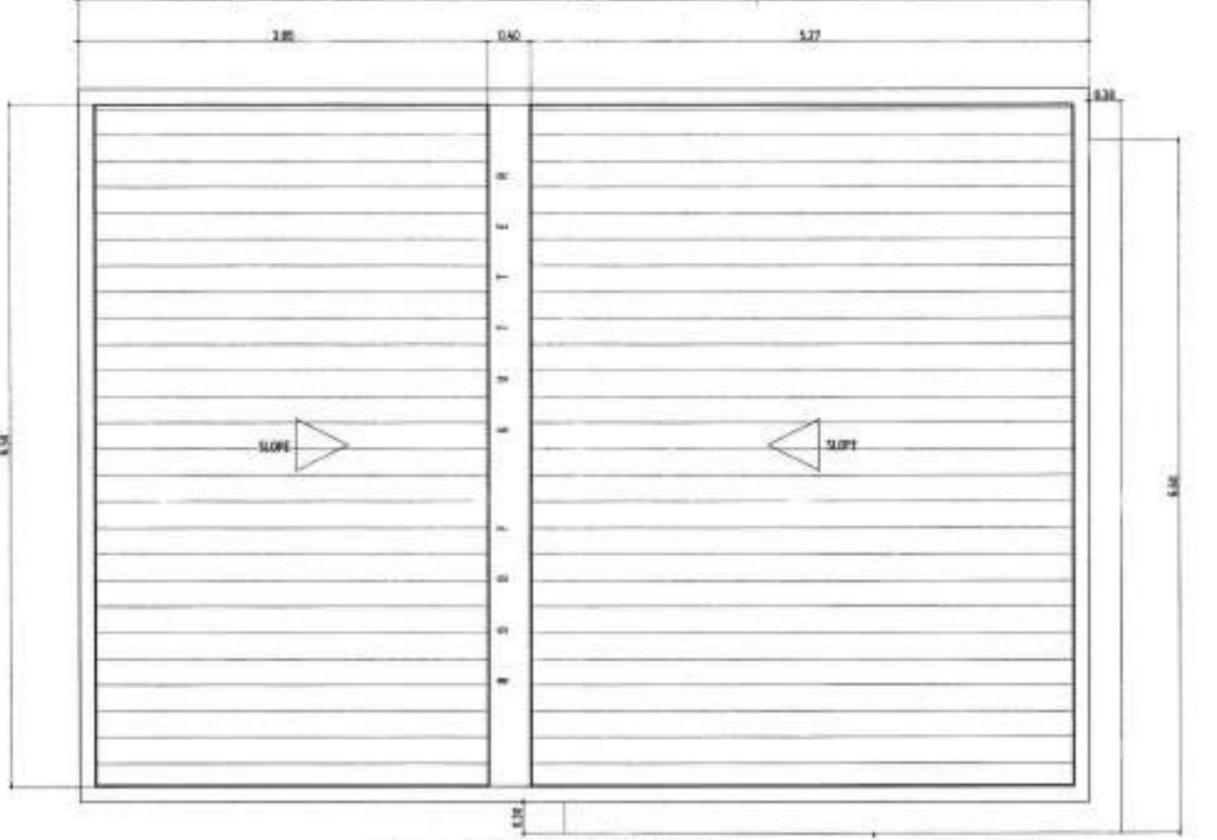
**PLANTER BOX DETAIL-2**  
SCALE: 1:20 MTS



**THRESHOLD DETAIL**  
SCALE: 1:10 MTS



**LATTICE DETAIL-4**  
SCALE: 1:30 MTS



**ROOF DECK ROOF PLAN**  
SCALE: 1:30 MTS



**ROOF DECK ROOF SECTION DETAIL**  
SCALE: 1:30 MTS

APPROVED BY:



UNIVERSITY OF THE PHILIPPINES  
INSTITUTIONAL PLANNING AND DESIGN DIVISION  
ARCHITECTURAL PLANNING AND DESIGN DIVISION

**FERDINAND B. CULTURA II**  
ARCHITECT OF RECORD

**CONSTRUCTION OF 21ST CENTURY CLASSROOM BUILDINGS PHASE III, VILLANUEVA CAMPUS**  
UNIVERSITY OF THE PHILIPPINES - VILLANUEVA CAMPUS

RECOMMENDING APPROVAL:  
**ENGR. GRACE C. BABA**

RECOMMENDING APPROVAL:  
**ATTY. ERWIN B. BUICO**

APPROVED BY:  
**DR. AMBROSIO B. CULTURA II**

SHEET CONTENTS:  
VENT GRILLE DETAIL  
DROP LIGHT DETAIL  
TYPICAL PLAN DECK ROOF DETAIL  
PLANTER BOX DETAIL-1  
PLANTER BOX DETAIL-2  
THRESHOLD DETAIL  
ROOF DECK ROOF PLAN  
ROOF DECK ROOF SECTION DETAIL

DATE: OCT 2021

**A19**

PARAPET LINE  
ELEV = ± 20.90

APPROVED BY:

FIFTH FFL  
ELEV = ± 16.10

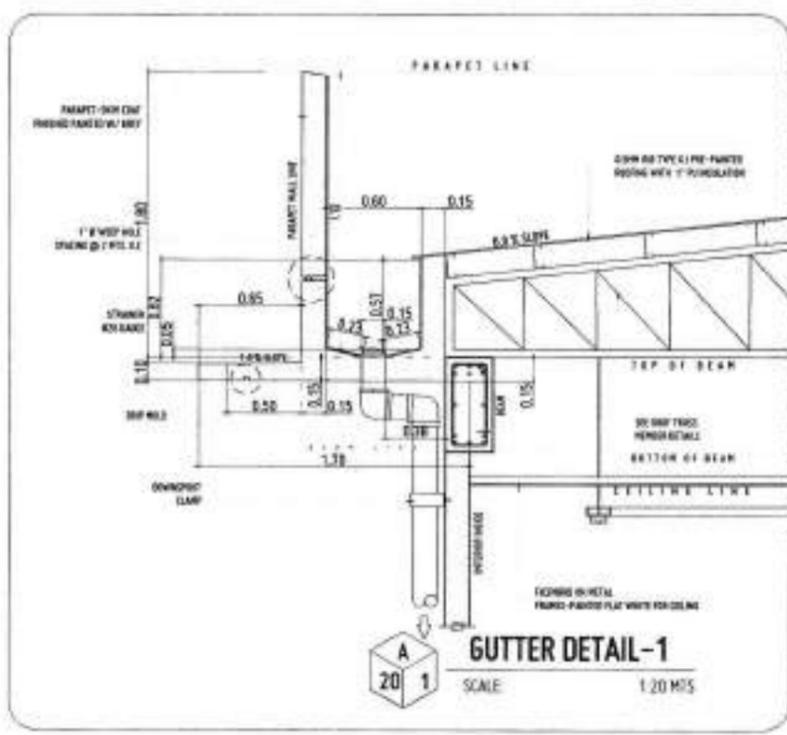
FOURTH FFL  
ELEV = ± 12.30

THIRD FFL  
ELEV = ± 8.50

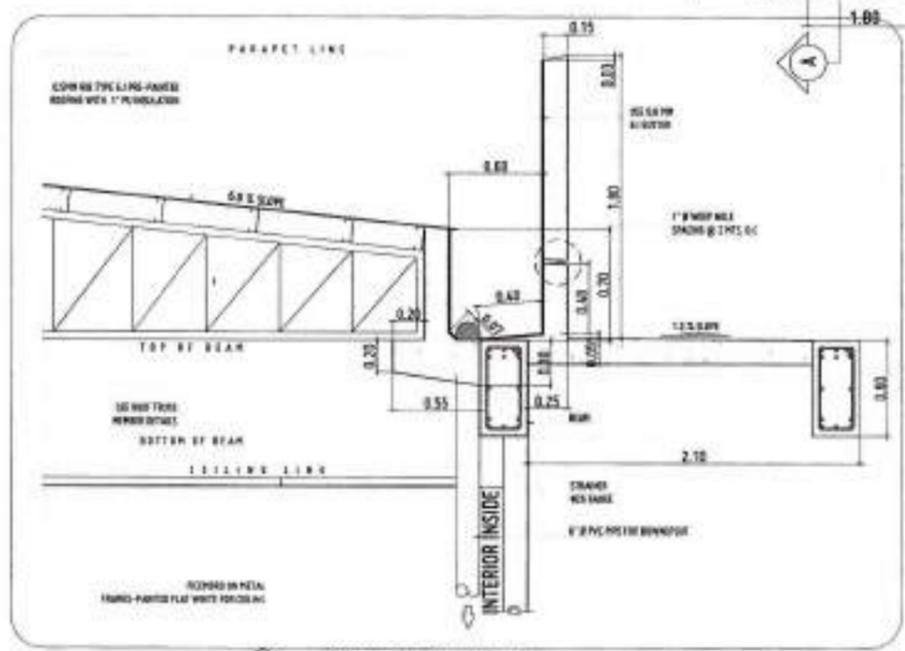
SECOND FFL  
ELEV = ± 4.70

GROUND FFL  
ELEV = ± 0.90

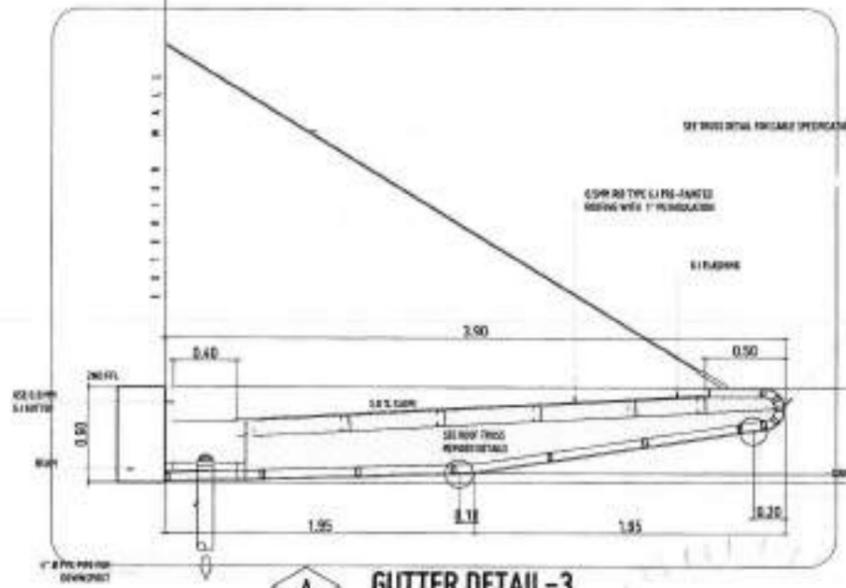
SIDE WALK LINE  
ELEV = ± 0.15  
ROAD PAVEMENT LINE  
ELEV = ± 0.00



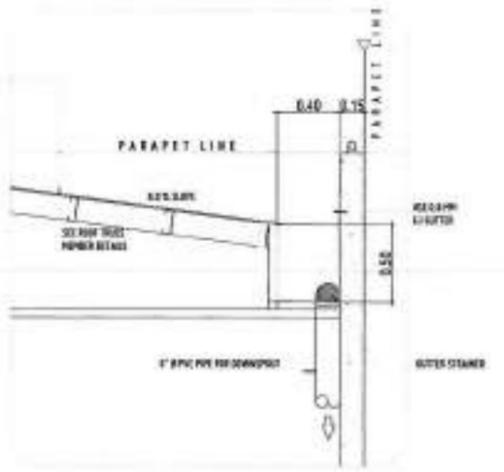
**GUTTER DETAIL-1**  
SCALE: 1:20 MTS



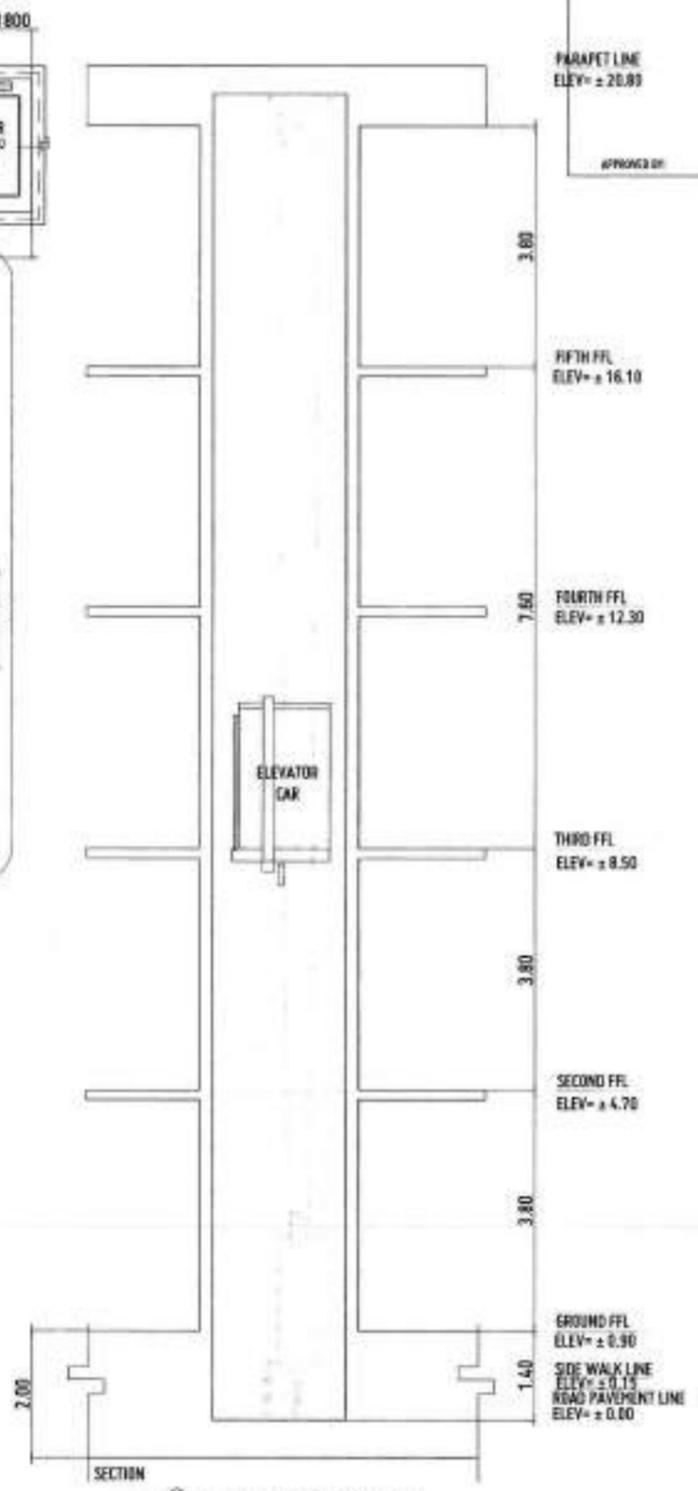
**GUTTER DETAIL-2**  
SCALE: 1:20 MTS



**GUTTER DETAIL-3**  
SCALE: 1:20 MTS



**GUTTER DETAIL-4**  
SCALE: 1:20 MTS



**ELEVATOR DETAIL**  
SCALE: 1:50 MTS



REVISIONS NO. 1 DATE: 03-19-2024 BY: [Signature] CHECKED: [Signature]	
PROJECT CONSTRUCTION OF 21ST CENTURY CLASSROOM BUILDINGS PHASE III, VILLANUEVA CAMPUS	LOCATION USTP VILLANUEVA CAMPUS, NEGROS ORIENTAL
OWNER UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES	ARCHITECT ENGR. GRACE C. BABA

CONSTRUCTION OF 21ST CENTURY CLASSROOM BUILDINGS PHASE III, VILLANUEVA CAMPUS  
 USTP VILLANUEVA CAMPUS, NEGROS ORIENTAL  
 UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECORDING APPROVAL:  
 ENGR. GRACE C. BABA  
 ARCHITECT

INTERVENING APPROVAL:  
 ATTY. EDWIN B. BUSTO  
 UP FOR CONSTRUCTION & LEGAL AFFAIRS

APPROVED BY:  
 DR. AMBROSIO S. CULTURA II  
 PROJECT ARCHITECT

SHEET CONTENTS: GUTTER AND ELEVATOR DETAILS	DRAWN BY: DATE DRAWN: CHECKED BY: DATE:
--	--

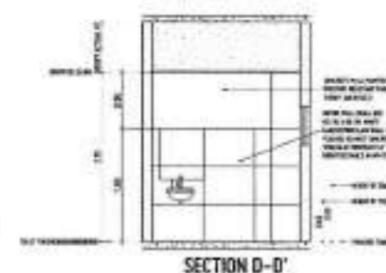
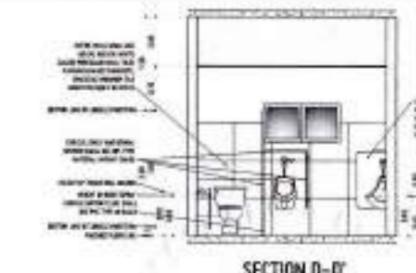
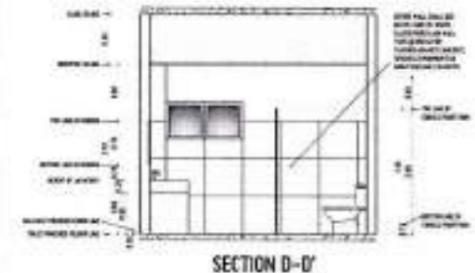
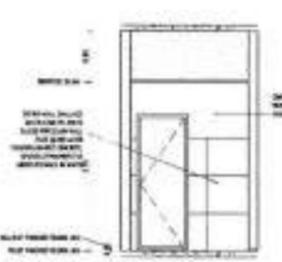
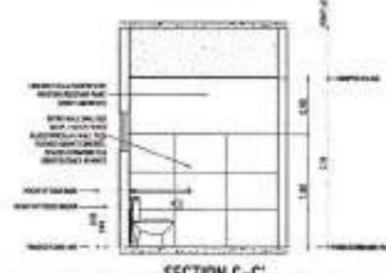
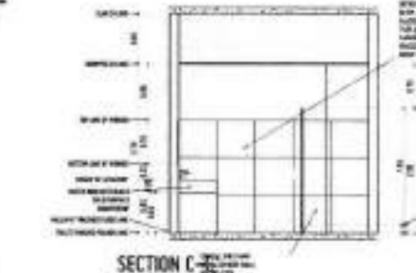
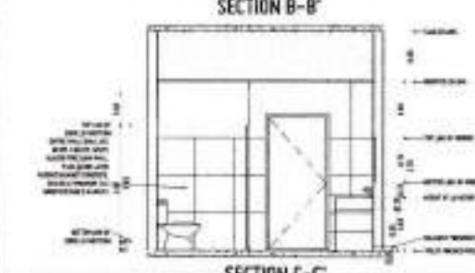
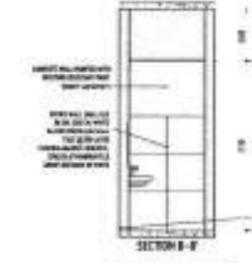
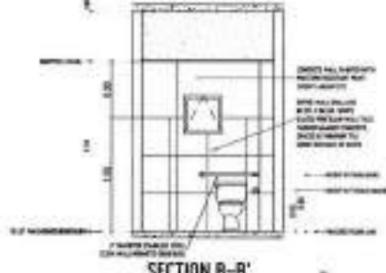
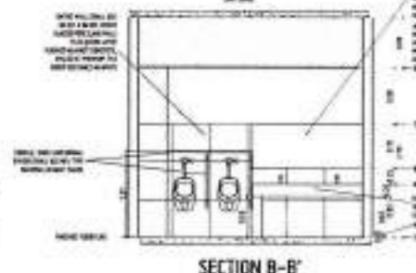
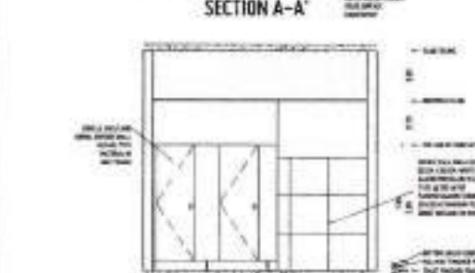
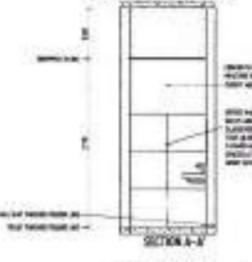
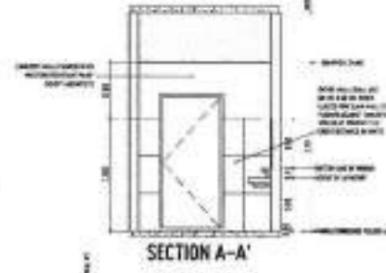
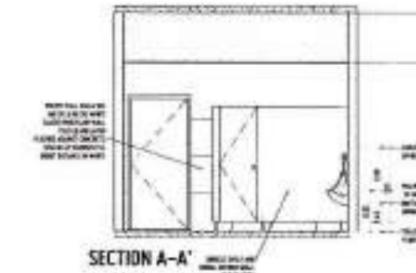
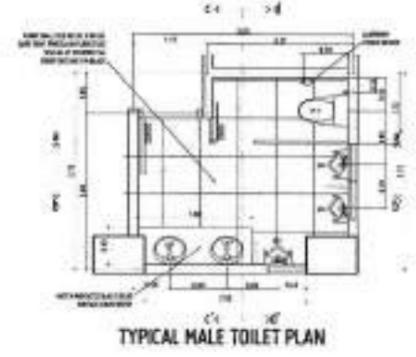
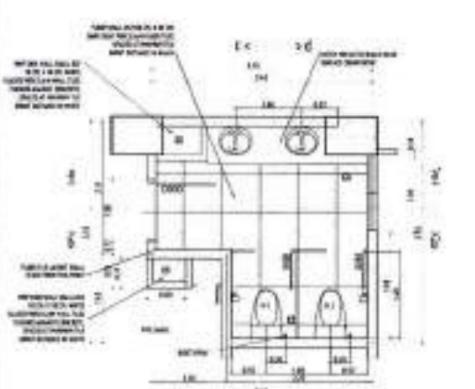
**A20**

OFFICE OF THE REGISTERED PROFESSIONAL ENGINEER  
VILLANUEVA CAMPUS

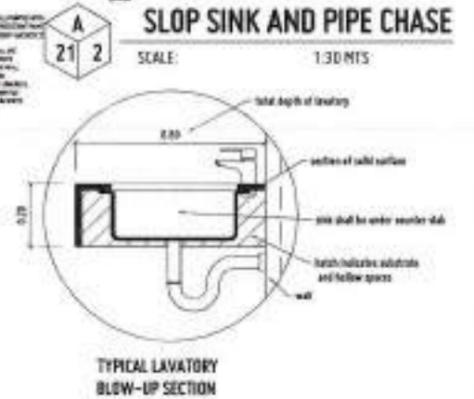
APPROVED BY:

- GENERAL NOTES:
1. ALL TOILET FLOOR ARE FINISHED WITH POLISHED PORCELAIN TILE.
  2. ALL TOILET PARTITION WALLS SHALL BE FINISHED WITH POLISHED PORCELAIN TILE UP TO CEILING HEIGHT.
  3. ALL LAMINATE AND OTHER CLADDING SHALL BE FINISHED WITH POLISHED PORCELAIN TILE UP TO CEILING HEIGHT.
  4. ALL TOILET PARTITION WALLS SHALL BE FINISHED WITH POLISHED PORCELAIN TILE UP TO CEILING HEIGHT.
  5. ALL TOILET PARTITION WALLS SHALL BE FINISHED WITH POLISHED PORCELAIN TILE UP TO CEILING HEIGHT.
  6. ALL TOILET PARTITION WALLS SHALL BE FINISHED WITH POLISHED PORCELAIN TILE UP TO CEILING HEIGHT.
  7. ALL TOILET PARTITION WALLS SHALL BE FINISHED WITH POLISHED PORCELAIN TILE UP TO CEILING HEIGHT.
  8. ALL TOILET PARTITION WALLS SHALL BE FINISHED WITH POLISHED PORCELAIN TILE UP TO CEILING HEIGHT.
  9. ALL TOILET PARTITION WALLS SHALL BE FINISHED WITH POLISHED PORCELAIN TILE UP TO CEILING HEIGHT.
  10. ALL TOILET PARTITION WALLS SHALL BE FINISHED WITH POLISHED PORCELAIN TILE UP TO CEILING HEIGHT.

- REVISIONS:
1. REVISION 1: TOILET PARTITION WALLS SHALL BE FINISHED WITH POLISHED PORCELAIN TILE UP TO CEILING HEIGHT.
  2. REVISION 2: TOILET PARTITION WALLS SHALL BE FINISHED WITH POLISHED PORCELAIN TILE UP TO CEILING HEIGHT.
  3. REVISION 3: TOILET PARTITION WALLS SHALL BE FINISHED WITH POLISHED PORCELAIN TILE UP TO CEILING HEIGHT.



TYPICAL FACULTY TOILET



TOILET DETAILS  
SCALE: 1:50 MTS



OFFICE OF THE REGISTERED PROFESSIONAL ENGINEER  
VILLANUEVA CAMPUS  
REGISTERED PROFESSIONAL ENGINEER  
AMBROSIO B. CULTURA II  
REGISTERED PROFESSIONAL ENGINEER  
VILLANUEVA CAMPUS

PROJECT: CONSTRUCTION OF 21ST CENTURY CLASSROOM BUILDINGS PHASE III, VILLANUEVA CAMPUS  
LOCATION: RSTP VILLANUEVA CAMPUS, RIZAL ORIENTAL  
DATE: 07-15-2025  
DRAWN BY: [Signature]  
CHECKED BY: [Signature]  
APPROVED BY: [Signature]

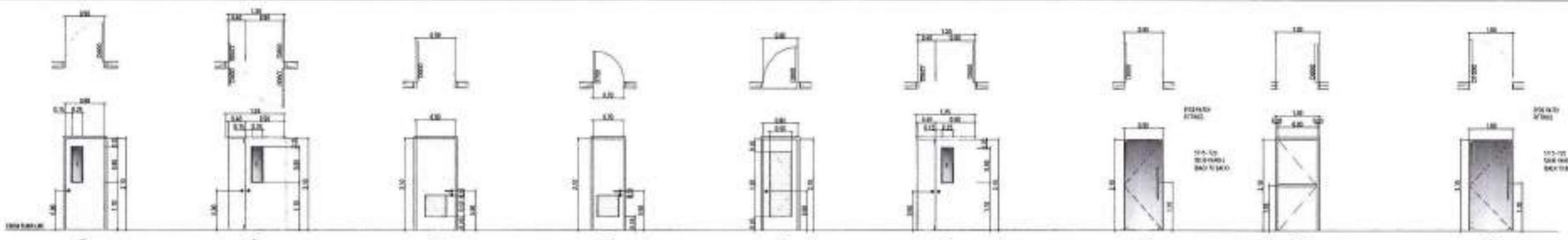
RECORDING APPROVAL: ENGR. GRACE C. BABA  
RECORDING APPROVAL: ATTY. ERWIN B. BULCO  
APPROVED BY: DR. AMBROSIO B. CULTURA II

SHEET CONTENTS: TOILET DETAILS

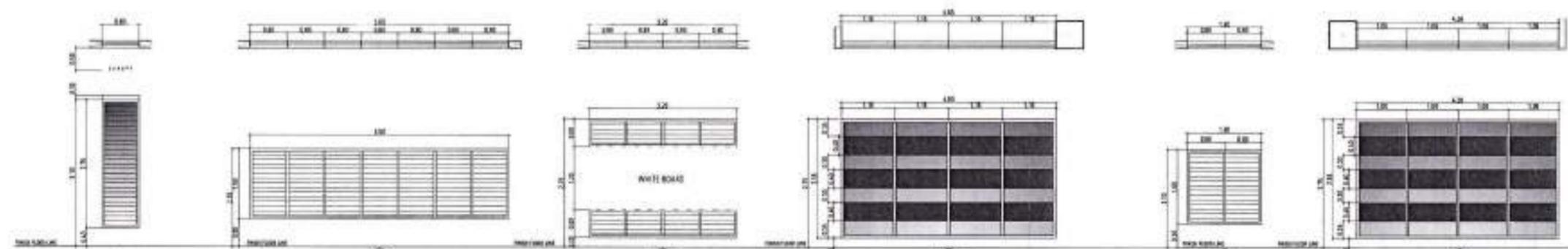
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DATE: [Signature]  
SCALE: [Signature]

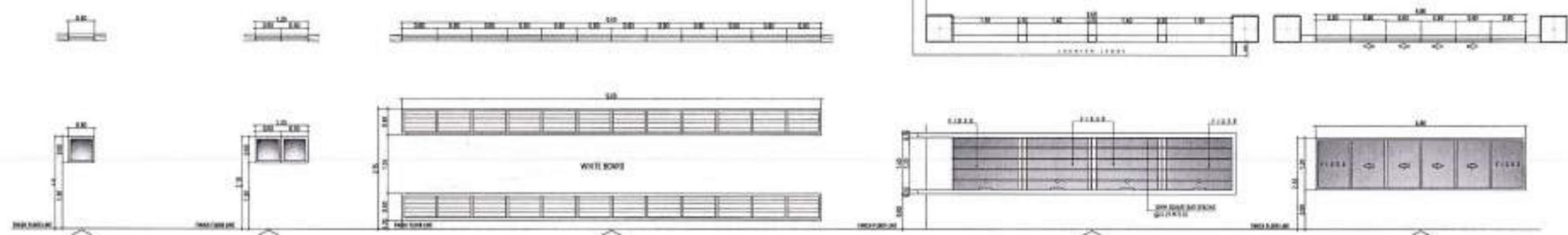
A21



D1: 1000mm x 2000mm door with double window  
 D2: 1000mm x 2000mm door with double window  
 D3: 1000mm x 2000mm door  
 D4: 1000mm x 2000mm door  
 D5: 1000mm x 2000mm door  
 D6: 1000mm x 2000mm door with double window  
 D7: 1000mm x 2000mm door  
 D8: 1000mm x 2000mm door  
 D9: 1000mm x 2000mm door



W1: 1000mm x 1500mm window  
 W2: 1000mm x 1500mm window  
 W3: 1000mm x 1500mm window  
 W4: 1000mm x 1500mm window  
 W5: 1000mm x 1500mm window  
 W6: 1000mm x 1500mm window



W7: 1000mm x 1500mm window  
 W8: 1000mm x 1500mm window  
 W9: 1000mm x 1500mm window  
 W10: 1000mm x 1500mm window

**APPROVED BY THE PHILIPPINE OFFICE OF THE REGIONAL OFFICIAL VILLANUEVA, NEGROS OCCIDENTAL**  
**APPROVED BY:**  
**DR. AMBROSIO B. CULTURA II**  
 REGIONAL OFFICIAL  
 OFFICE OF THE REGIONAL OFFICIAL  
 VILLANUEVA, NEGROS OCCIDENTAL

**GENERAL NOTES:**  
 1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.  
 2. ALL MATERIALS SHALL BE OF THE BEST QUALITY AND SHALL BE SUBJECT TO INSPECTION AND TESTING BY THE ARCHITECT.  
 3. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE PHILIPPINE NATIONAL STANDARDS (PNS) AND THE LATEST REVISIONS OF THE PHILIPPINE NATIONAL CODES (PNC).  
 4. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE PHILIPPINE NATIONAL STANDARDS (PNS) AND THE LATEST REVISIONS OF THE PHILIPPINE NATIONAL CODES (PNC).  
 5. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE PHILIPPINE NATIONAL STANDARDS (PNS) AND THE LATEST REVISIONS OF THE PHILIPPINE NATIONAL CODES (PNC).  
 6. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE PHILIPPINE NATIONAL STANDARDS (PNS) AND THE LATEST REVISIONS OF THE PHILIPPINE NATIONAL CODES (PNC).  
 7. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE PHILIPPINE NATIONAL STANDARDS (PNS) AND THE LATEST REVISIONS OF THE PHILIPPINE NATIONAL CODES (PNC).  
 8. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE PHILIPPINE NATIONAL STANDARDS (PNS) AND THE LATEST REVISIONS OF THE PHILIPPINE NATIONAL CODES (PNC).  
 9. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE PHILIPPINE NATIONAL STANDARDS (PNS) AND THE LATEST REVISIONS OF THE PHILIPPINE NATIONAL CODES (PNC).  
 10. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE PHILIPPINE NATIONAL STANDARDS (PNS) AND THE LATEST REVISIONS OF THE PHILIPPINE NATIONAL CODES (PNC).

**REVISION NOTES:**  
 1. CHECK AND VERIFY ALL DIMENSIONS AND MATERIALS.  
 2. CHECK AND VERIFY ALL DIMENSIONS AND MATERIALS.  
 3. CHECK AND VERIFY ALL DIMENSIONS AND MATERIALS.  
 4. CHECK AND VERIFY ALL DIMENSIONS AND MATERIALS.  
 5. CHECK AND VERIFY ALL DIMENSIONS AND MATERIALS.  
 6. CHECK AND VERIFY ALL DIMENSIONS AND MATERIALS.  
 7. CHECK AND VERIFY ALL DIMENSIONS AND MATERIALS.  
 8. CHECK AND VERIFY ALL DIMENSIONS AND MATERIALS.  
 9. CHECK AND VERIFY ALL DIMENSIONS AND MATERIALS.  
 10. CHECK AND VERIFY ALL DIMENSIONS AND MATERIALS.

**SCHEDULE OF DOORS AND WINDOWS**  
SCALE: 1:50 MTS



OFFICE OF THE REGIONAL OFFICIAL  
 VILLANUEVA, NEGROS OCCIDENTAL  
 OFFICE OF THE REGIONAL OFFICIAL  
 VILLANUEVA, NEGROS OCCIDENTAL

**ERICH ANDERSON**  
 ARCHITECT OF RECORD  
 PROJECT: CONSTRUCTION OF 21ST CENTURY CLASSROOM BUILDINGS PHASE III, VILLANUEVA CAMPUS  
 CLIENT: UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL:  
**ENGR. GRACE C. BABA**  
 DIRECTOR, UPDO

RECOMMENDING APPROVAL:  
**ATTY. ERWIN B. BULTO**  
 UPDO

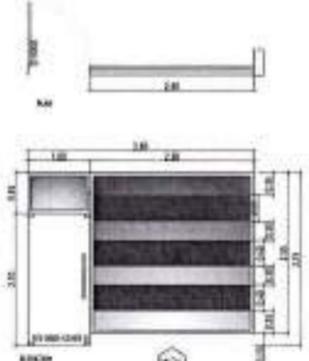
APPROVED BY:  
**DR. AMBROSIO B. CULTURA II**  
 REGIONAL OFFICIAL

SHEET CONTENTS:  
 SCHEDULE OF DOORS AND WINDOWS  
 SHEET NO. A22

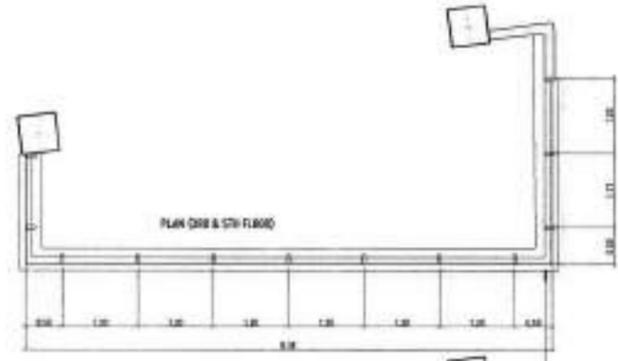
**A22**

REPLY IF THE SHIPPING OFFICE OF THE BUILDING OFFICE, VILLANUEVA CAMPUS ORIENTAL

APPROVED BY:



THE WINDOW  
BT 1.01  
DESCRIPTION: WINDOW WITH TYPICAL GLASS PANELS WITH TYPICAL FINISHES AND FINISHES AS SHOWN IN THE ARCHITECTURAL DRAWINGS.  
MATERIAL: ALUMINUM WINDOW FRAME WITH GLASS PANELS.  
FINISH: ALUMINUM WINDOW FRAME WITH GLASS PANELS.



PARAPET LINE  
ELEV = ± 21.70  
ROOF DECK RAILING  
ELEV = ± 20.80  
ROOF DECK FFL  
ELEV = ± 19.50  
FOURTH FLR CL  
ELEV = ± 19.10

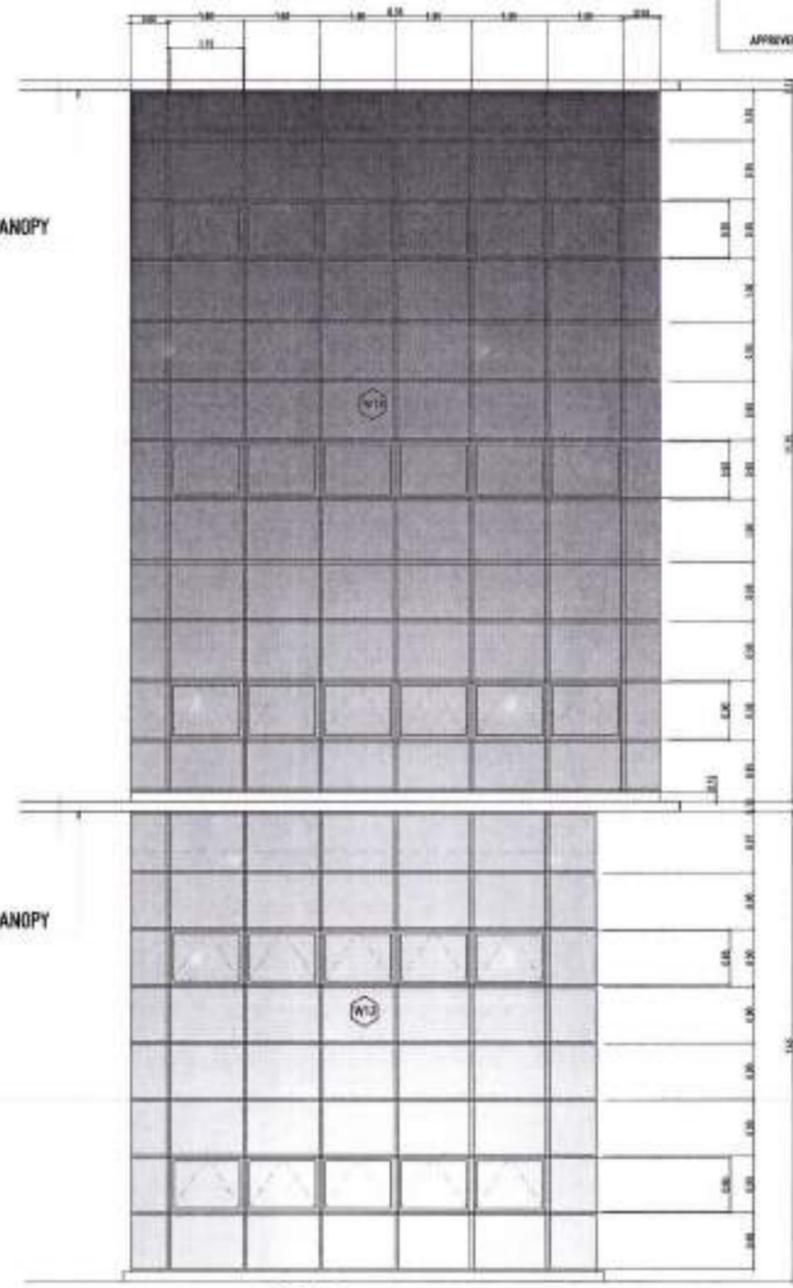
PROTRUDED FRAMING  
FIFTH FFL  
ELEV = ± 16.10  
FOURTH FLR CL  
ELEV = ± 15.30

FOURTH FFL  
ELEV = ± 12.30  
THIRD FLR CL  
ELEV = ± 11.50

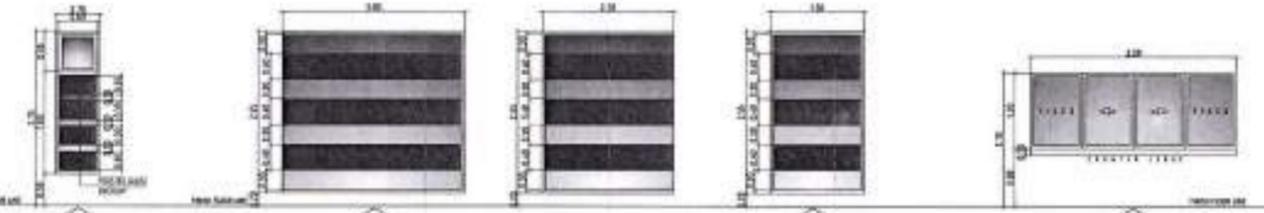
THIRD FFL  
ELEV = ± 8.50  
SECOND FLR CL  
ELEV = ± 7.70

SECOND FFL  
ELEV = ± 4.70  
GROUND FLR CL  
ELEV = ± 3.90

GROUND FFL  
ELEV = ± 0.90  
SIDE WALK LINE  
ELEV = ± 0.00  
ROAD PAVEMENT LINE



THE WINDOW  
BT 1.01  
DESCRIPTION: WINDOW WITH TYPICAL GLASS PANELS WITH TYPICAL FINISHES AND FINISHES AS SHOWN IN THE ARCHITECTURAL DRAWINGS.  
MATERIAL: ALUMINUM WINDOW FRAME WITH GLASS PANELS.  
FINISH: ALUMINUM WINDOW FRAME WITH GLASS PANELS.



THE WINDOW  
BT 1.01  
DESCRIPTION: WINDOW WITH TYPICAL GLASS PANELS WITH TYPICAL FINISHES AND FINISHES AS SHOWN IN THE ARCHITECTURAL DRAWINGS.  
MATERIAL: ALUMINUM WINDOW FRAME WITH GLASS PANELS.  
FINISH: ALUMINUM WINDOW FRAME WITH GLASS PANELS.



THE WINDOW  
BT 1.01  
DESCRIPTION: WINDOW WITH TYPICAL GLASS PANELS WITH TYPICAL FINISHES AND FINISHES AS SHOWN IN THE ARCHITECTURAL DRAWINGS.  
MATERIAL: ALUMINUM WINDOW FRAME WITH GLASS PANELS.  
FINISH: ALUMINUM WINDOW FRAME WITH GLASS PANELS.

A 23 1

SCALE: 1:50 MTS



UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES  
VILLANUEVA CAMPUS ORIENTAL

PROJECT: CONSTRUCTION OF 21ST CENTURY CLASSROOM BUILDINGS PHASE III, VILLANUEVA CAMPUS

LOCATION: 1277 VILLANUEVA CAMPUS, MISAMIS ORIENTAL  
OWNER: UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL: ENGR. GRACE C. BABA

RECOMMENDING APPROVAL: ATTY. ERWIN B. SANCIO

APPROVED BY: DR. AMBROSIO B. CULTURA II

DATE: SEPTEMBER 2025

A23

REMARKS OF THE DRAWING:  
 VILLANUEVA, PHILIPPINES

APPROVED BY:

- GENERAL NOTES:
1. TO: 1. FLOOR PLAN AND ROOF PLAN DRAWINGS.
  2. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC) AND THE NATIONAL MECHANICAL CODE (NMC).
  3. ALL MATERIALS AND METHODS SHALL BE APPROVED BY THE ARCHITECT.
  4. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC) AND THE NATIONAL MECHANICAL CODE (NMC).
  5. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC) AND THE NATIONAL MECHANICAL CODE (NMC).
  6. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC) AND THE NATIONAL MECHANICAL CODE (NMC).
  7. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC) AND THE NATIONAL MECHANICAL CODE (NMC).
  8. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC) AND THE NATIONAL MECHANICAL CODE (NMC).
  9. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC) AND THE NATIONAL MECHANICAL CODE (NMC).
  10. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC) AND THE NATIONAL MECHANICAL CODE (NMC).

- GENERAL NOTES:
1. TO: 1. FLOOR PLAN AND ROOF PLAN DRAWINGS.
  2. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC) AND THE NATIONAL MECHANICAL CODE (NMC).
  3. ALL MATERIALS AND METHODS SHALL BE APPROVED BY THE ARCHITECT.
  4. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC) AND THE NATIONAL MECHANICAL CODE (NMC).
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  8. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC) AND THE NATIONAL MECHANICAL CODE (NMC).
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  10. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC) AND THE NATIONAL MECHANICAL CODE (NMC).

FIFTH FFL  
 ELEV ± 16.10

FOURTH FFL  
 ELEV ± 12.30

THIRD FFL  
 ELEV ± 8.50

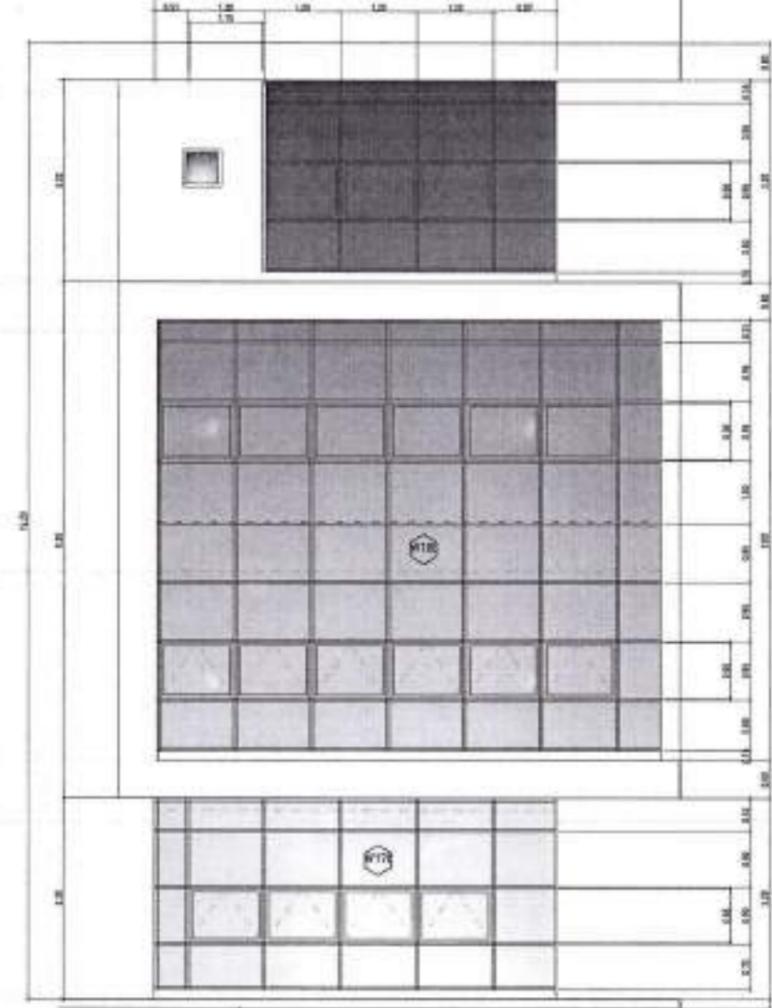
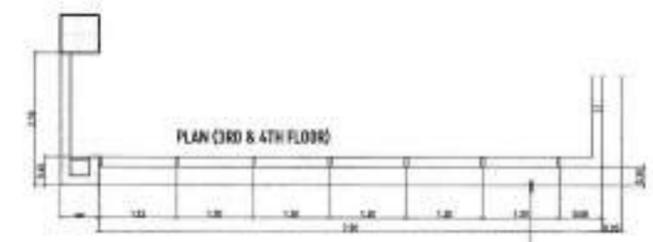
MT13 MT18

THE DRAWING IS FOR INFORMATION ONLY. IT IS NOT TO BE USED FOR CONSTRUCTION WITHOUT THE ARCHITECT'S APPROVAL. ANY CHANGES TO THE DRAWING SHALL BE MADE IN ACCORDANCE WITH THE ARCHITECT'S APPROVAL.

DATE: 09/20/2023

SCALE: 1:50

LOCATION: OFFICE



CONCRETE CANOPY A  
 SCHEDULE OF WINDOWS  
 SCALE: 1:50 MTS

ELEV ± 23.10 APEX OF THE ROOF

ELEV ± 21.70 PARAPET LINE

ELEV ± 20.80 ROOF DECK RAILING

ELEV ± 19.50 ROOF DECK FFL  
 ELEV ± 19.10 FOURTH FLR CL.

ELEV ± 16.10 FIFTH FFL

ELEV ± 15.30 FOURTH FLR CL.

ELEV ± 12.30 FOURTH FFL

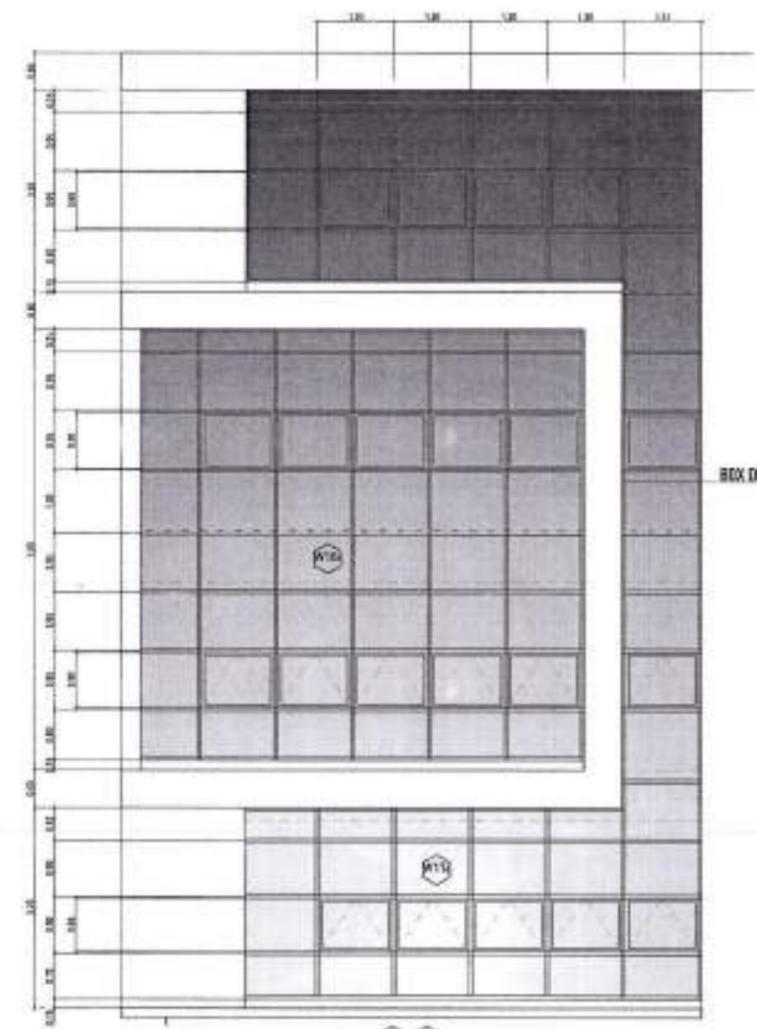
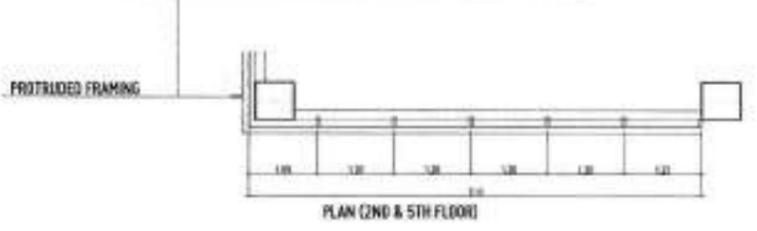
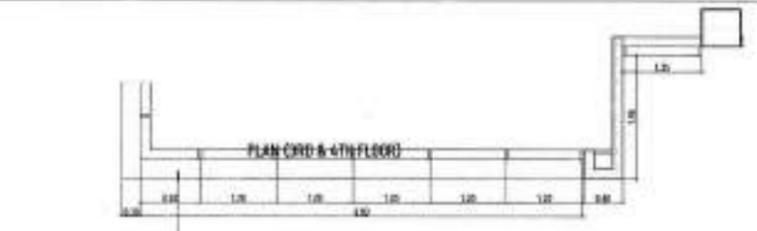
ELEV ± 11.50 THIRD FLR CL.

ELEV ± 8.50 THIRD FFL

ELEV ± 7.70 SECOND FLR CL.

ELEV ± 4.70 SECOND FFL

ELEV ± 3.90 GROUND FLR CL.



FRONT ELEVATION

ELEV ± 23.10 APEX OF THE ROOF

ELEV ± 21.70 PARAPET LINE

ELEV ± 20.80 ROOF DECK RAILING

ELEV ± 19.50 ROOF DECK FFL  
 ELEV ± 19.10 FOURTH FLR CL.

ELEV ± 16.10 FIFTH FFL

ELEV ± 15.30 FOURTH FLR CL.

ELEV ± 12.30 FOURTH FFL

ELEV ± 11.50 THIRD FLR CL.

ELEV ± 8.50 THIRD FFL

ELEV ± 7.70 SECOND FLR CL.

ELEV ± 4.70 SECOND FFL

ELEV ± 3.90 GROUND FLR CL.

CONCRETE CANOPY

BOX DESIGN CANOPY



UNIVERSITY OF SCIENCE AND TECHNOLOGY OF THE PHILIPPINES  
 VILLANUEVA CAMPUS  
 OFFICE OF THE ARCHITECT  
 1000 UNIVERSITY BLVD., VILLANUEVA CAMPUS, PASIG CITY, METRO MANILA, PHILIPPINES  
 TEL: (02) 779-1000  
 FAX: (02) 779-1001  
 WWW: www.ustip.edu.ph

PROJECT: CONSTRUCTION OF 21ST CENTURY CLASSROOM BUILDINGS PHASE III, VILLANUEVA CAMPUS  
 ARCHITECT: FERNANDO A. BABA  
 DATE: 09-20-2023  
 SCALE: 1:50

RECOMMENDING APPROVAL:  
 ENGR. GRACE C. BABA  
 ARCHITECT, PRAC.

REVISIONS APPROVAL:  
 ATTY. ERWIN D. BUSTO  
 VP FOR ADMINISTRATION & LEGAL AFFAIRS

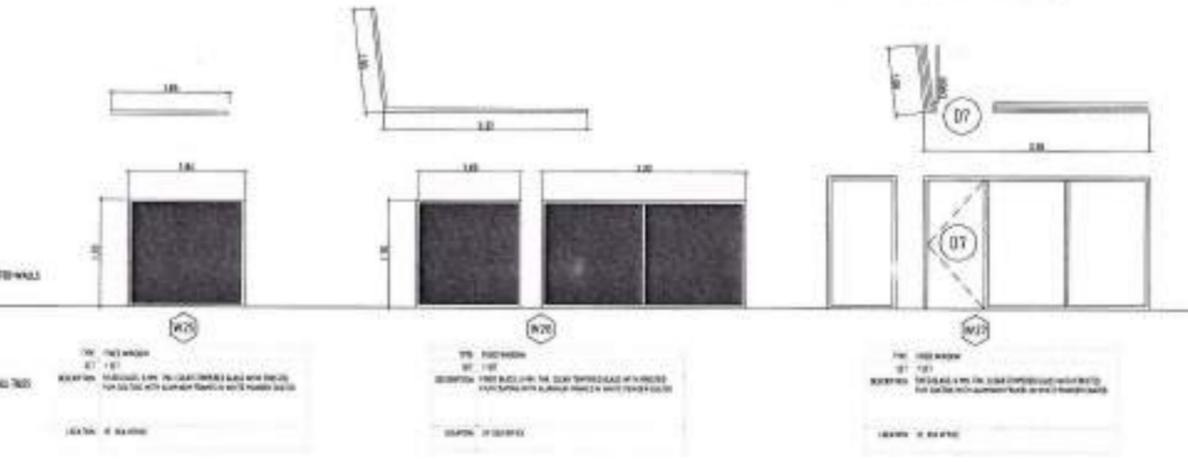
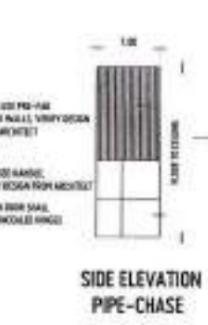
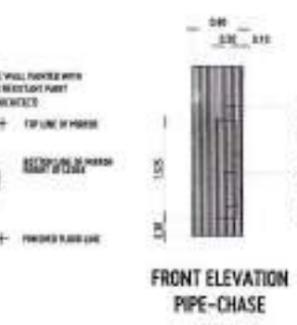
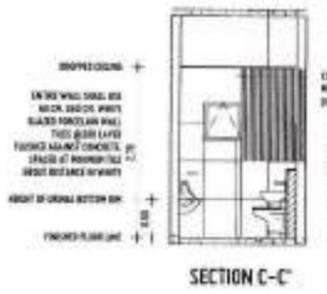
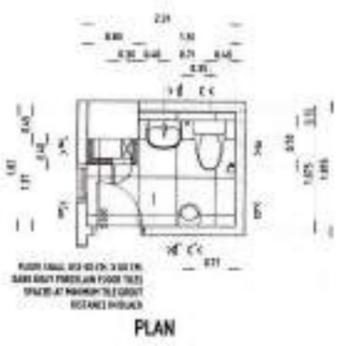
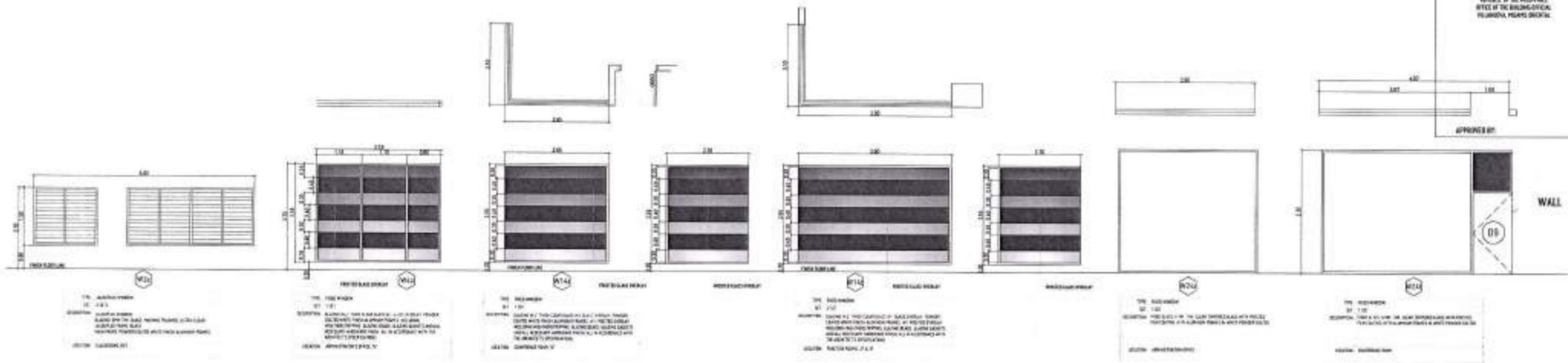
APPROVED BY:  
 DR. AMBROSIO B. CULTURA II  
 DEAN, USTIP SYSTEM

SHEET (CONTENTS):  
 SCHEDULE OF WINDOWS

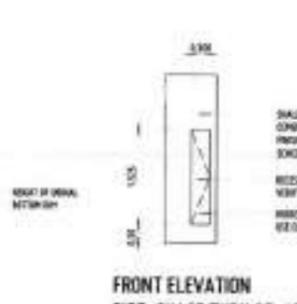
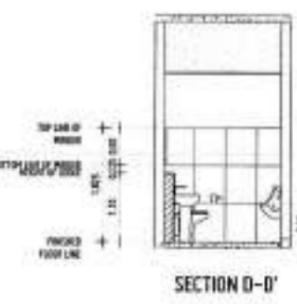
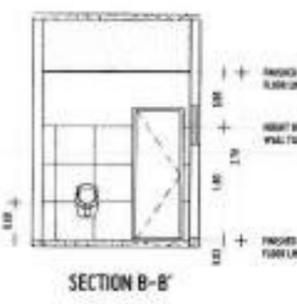
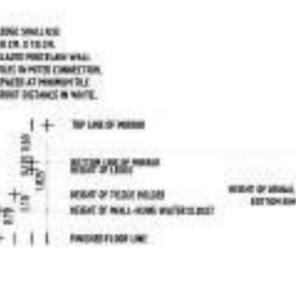
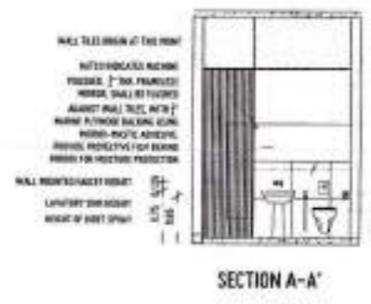
DRAWN BY:  
 HRL, JAP  
 DATE:  
 SEPTEMBER 2023

A24

REVIEW IF THE PROPOSED  
WALLS OF THE BUILDING IS IN  
VIOLATION OF THE  
NATIONAL BUILDING CODE.



A 25 1		SCHEDULE OF WINDOWS	
SCALE:	1:50 MTS		



A 25 2		TOILET DETAIL @ ADMINISTRATOR'S OFFICE	
SCALE:	1:50 MTS		



<p>UNIVERSITY OF SOUTHERN PHILIPPINES OFFICE OF THE REGISTRAR UNIVERSITY OF SOUTHERN PHILIPPINES DUPONT DRIVE, DALUPAGAN, DAVAO DEL SUR 8400</p>	<p>PROJECT CONSTRUCTION OF 21ST CENTURY CLASSROOM BUILDINGS PHASE III, VILLANUEVA CAMPUS</p>
--	--

<p>DESIGNER ENGR. GRACE C. BARRA REGISTERED PROFESSIONAL ARCHITECT PRACTICE ADDRESS UNIVERSITY OF SOUTHERN PHILIPPINES DUPONT DRIVE, DALUPAGAN, DAVAO DEL SUR 8400</p>	<p>RECOMMENDING APPROVAL ATTY. ERWIN B. BUENO REGISTERED ATTORNEY PRACTICE ADDRESS UNIVERSITY OF SOUTHERN PHILIPPINES DUPONT DRIVE, DALUPAGAN, DAVAO DEL SUR 8400</p>
--	---

<p>APPROVED BY: DR. AMBROSIO CULTURA II REGISTERED ARCHITECT PRACTICE ADDRESS UNIVERSITY OF SOUTHERN PHILIPPINES DUPONT DRIVE, DALUPAGAN, DAVAO DEL SUR 8400</p>
--

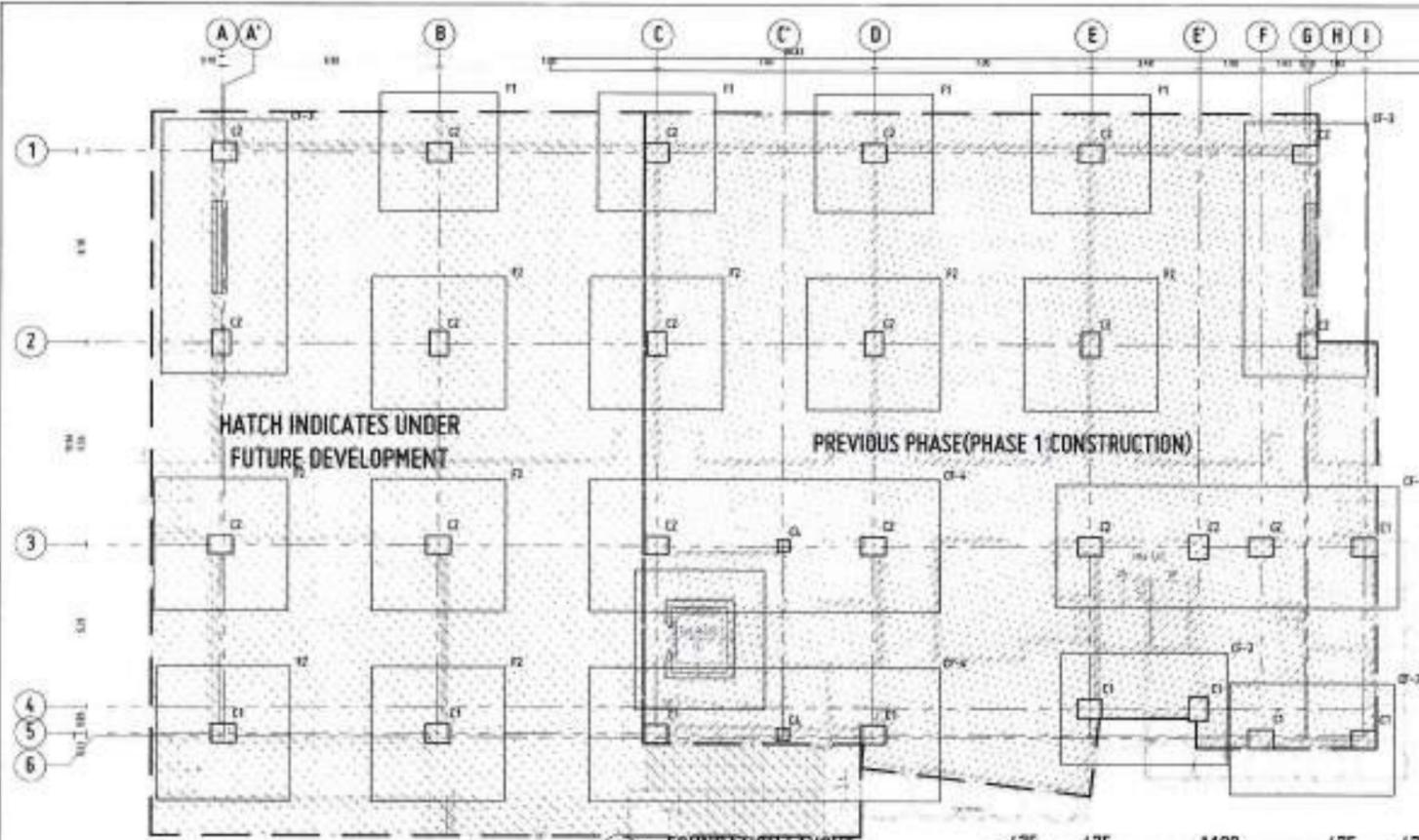
<p>SHEET CONTENTS SCHEDULE OF WINDOWS TOILET - ADMINISTRATOR'S TOILET</p>
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<p>DATE: SEP 2015 DATE: SEP 2015 DATE: SEP 2015</p>
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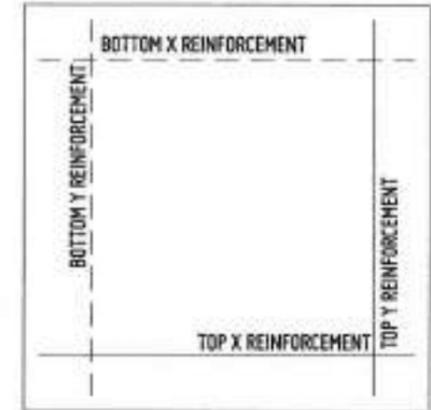
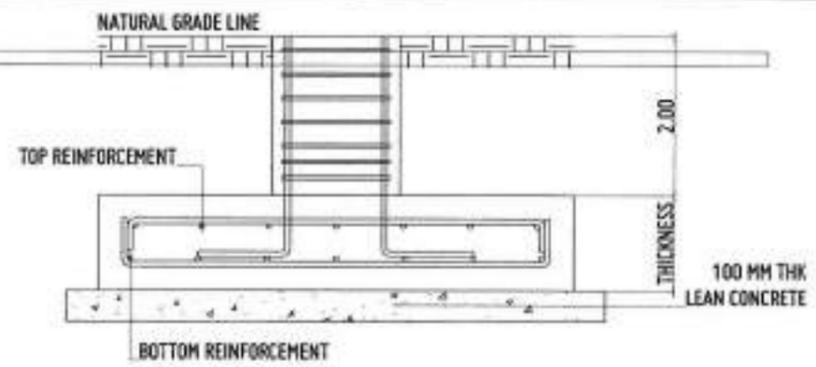




APPROVED BY:



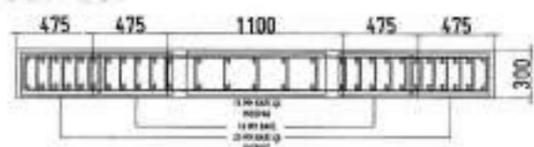
FOUNDATION LAYOUT  
SCALE: 1:100 MTS



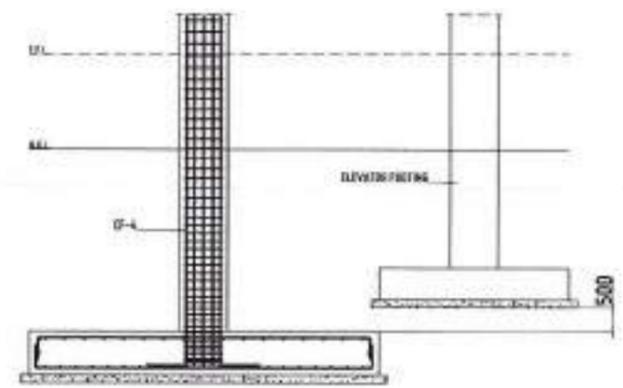
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	LENGTH	WIDTH			BOT X	BOT Y	TOP X	TOP Y
F1	3800	3800	500	20 MM	22	22	20	20
F2	4300	4300	650	20 MM	25	25	22	22
CF-1	11000	4000	600	20 MM	57	42	75	29
CF-2	5300	3600	600	20 MM	55	38	37	26
CF-3	8200	4000	600	20 MM	44	24	84	35
CF-4	11300	4300	600	20 MM	40	25	37	22

SCHEDULE OF FOUNDATION AND FOUNDATION (TYPICAL) DETAILS  
SCALE: 1:100 MTS

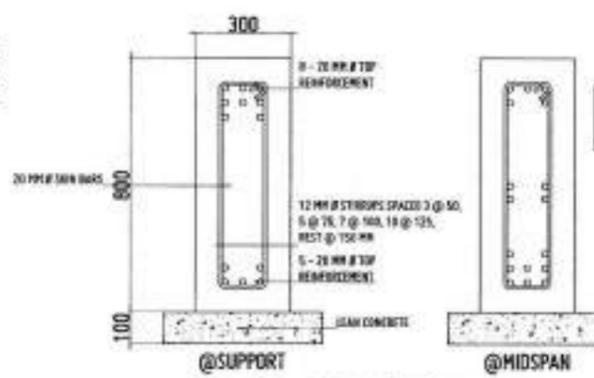
SCHEDULE OF COLUMN	
<p>C1 (FOOTING - 3RD FLOOR LEVEL)</p>	<p>C2 (FOOTING - 3RD FLOOR LEVEL)</p>
<p>C3 (3RD FLOOR LEVEL - ROOF DECK LEVEL)</p>	<p>C5 (ROOF DECK - ROOF BEAM)</p>



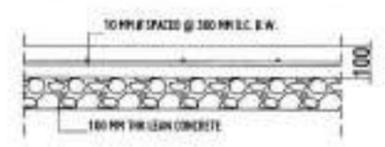
SHEAR WALL DETAILS  
SCALE: 1:100 MTS



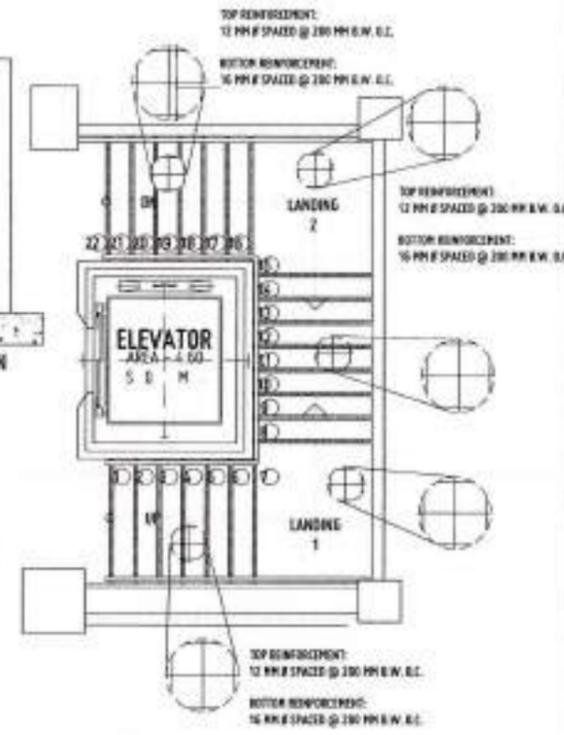
FOOTING ELEV. DETAILS  
SCALE: 1:100 MTS



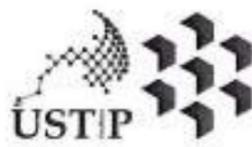
TIE BEAM (TB) DETAILS  
SCALE: 1:100 MTS



SLAB ON GRADE DETAILS  
SCALE: 1:100 MTS



MAIN STAIRS DETAILS  
SCALE: 1:100 MTS



REPUBLIC OF THE PHILIPPINES  
UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES  
CAGAYAN DE ORO CAMPUS  
INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT UNIT  
CLARIN, 1670 AGENC, LAROGAN, CAGAYAN DE ORO CITY 9000  
TELEPHONE: 8082 13-40-80 / 2086 850-7730 / 750-1750 / 750-1750 FAX: 8082 804-888  
WWW: www.ustip.edu.ph

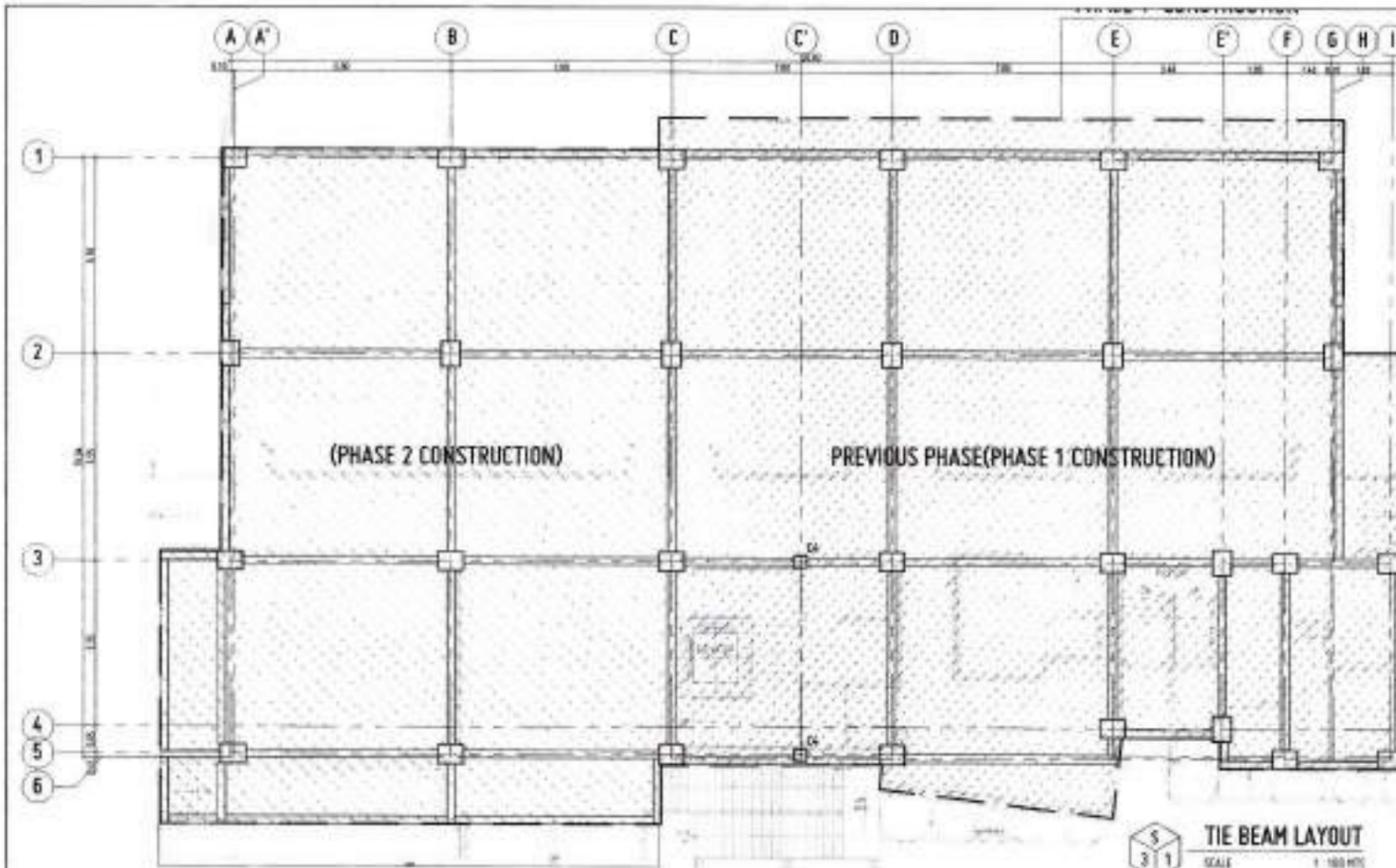
**ERNESTO CH. QUIJOTE**  
CIVIL/STRUCTURAL ENGINEER  
PROJECT: CONSTRUCTION OF 21ST CENTURY CLASSROOM BUILDINGS PHASE III, VILLANUEVA CAMPUS.  
LOCATION: USTP VILLANUEVA CAMPUS, NEGROS ORIENTAL.  
OWNER: UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL: **ENGR. GRACE C. BABA**, DIRECTOR, UPDR  
RECOMMENDING APPROVAL: **ATTY. ERWIN B. BULCH**, VP FOR ADMINISTRATION & LEGAL AFFAIRS  
APPROVED BY: **DR. AMBROSIO M. CULTURA II**, PRESIDENT, USTP SYSTEM

SHEET CONTENTS:  
FOUNDATION LAYOUT  
SCHEDULE OF FOUNDATION AND FOUNDATION (TYPICAL) DETAILS  
TIE BEAM (TB) DETAILS  
SLAB ON GRADE DETAILS  
MAIN STAIRS DETAILS

DRAWN BY: [Blank]  
DATE: [Blank]  
SCALE: [Blank]  
REV: [Blank]

**S2**



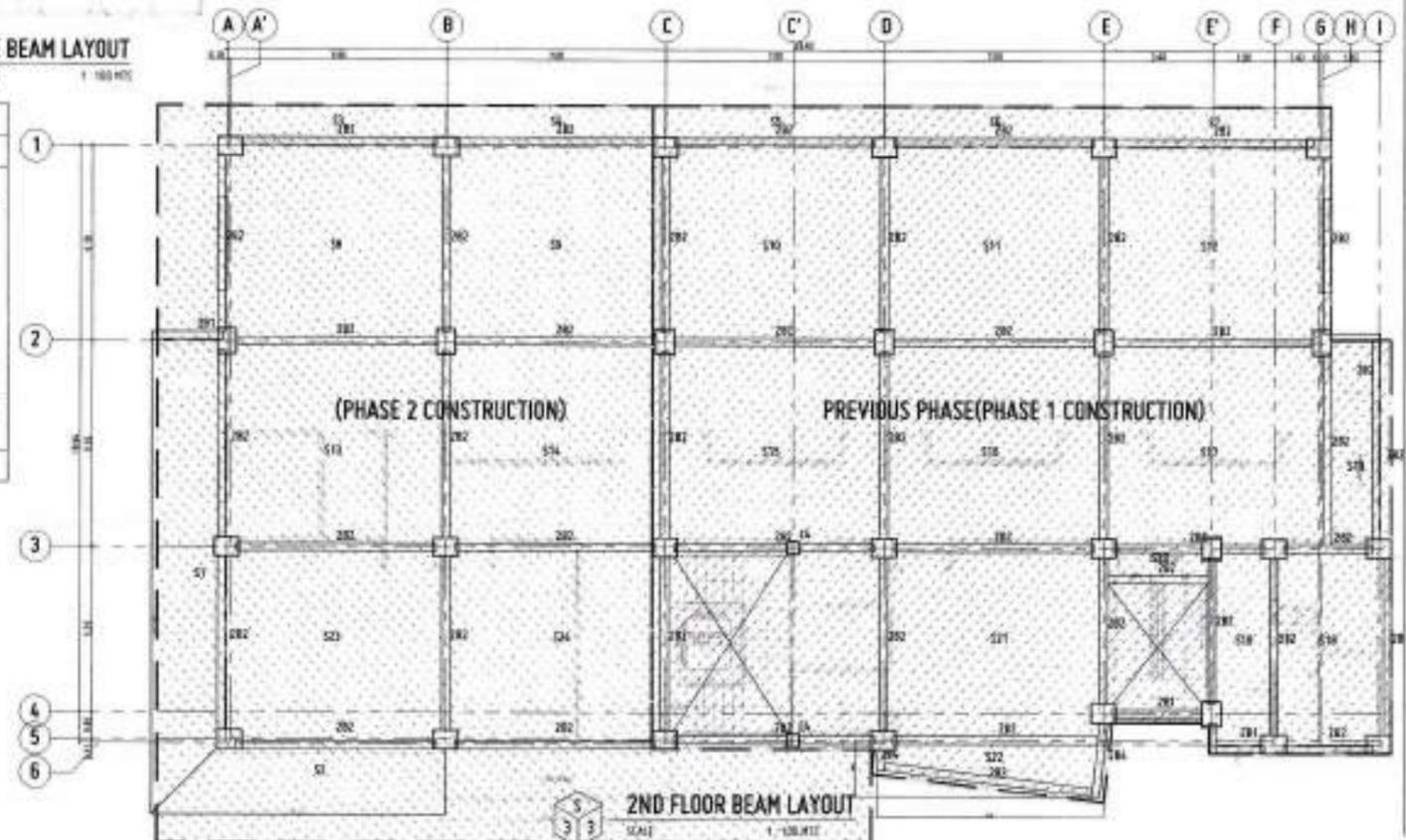
SCHEDULE OF BEAMS									
LEVEL	DETAIL								
	<table border="1"> <tr> <td> <b>250</b>            4 - 20 MM Ø TOP REINFORCEMENT            2 - 20 MM Ø TORSION BARS            12 MM Ø STIRRUPS SPACED 3 @ 50, 5 @ 75, 7 @ 100, 10 @ 125, REST @ 150 MM            4 - 20 MM Ø TOP REINFORCEMENT            @SUPPORT            @MIDSPAN         </td> <td> <b>300</b>            8 - 20 MM Ø TOP REINFORCEMENT            2 - 20 MM Ø TORSION BARS            12 MM Ø STIRRUPS SPACED 3 @ 50, 5 @ 75, 7 @ 100, 10 @ 125, REST @ 150 MM            5 - 20 MM Ø TOP REINFORCEMENT            @SUPPORT            @MIDSPAN         </td> </tr> <tr> <td>2B1</td> <td>2B2</td> </tr> <tr> <td> <b>300</b>            5 - 20 MM Ø TOP REINFORCEMENT            4 - 20 MM Ø TORSION BARS            12 MM Ø STIRRUPS SPACED 3 @ 50, 5 @ 75, 7 @ 100, 10 @ 125, REST @ 150 MM            4 - 20 MM Ø TOP REINFORCEMENT            @SUPPORT            @MIDSPAN         </td> <td> <b>300</b>            8 - 20 MM Ø TOP REINFORCEMENT            4 - 20 MM Ø TORSION BARS            12 MM Ø STIRRUPS SPACED 3 @ 50, 5 @ 75, 7 @ 100, 10 @ 125, REST @ 150 MM            4 - 20 MM Ø TOP REINFORCEMENT            @SUPPORT            @MIDSPAN         </td> </tr> <tr> <td>2B3</td> <td>2B4</td> </tr> </table>	<b>250</b> 4 - 20 MM Ø TOP REINFORCEMENT 2 - 20 MM Ø TORSION BARS 12 MM Ø STIRRUPS SPACED 3 @ 50, 5 @ 75, 7 @ 100, 10 @ 125, REST @ 150 MM 4 - 20 MM Ø TOP REINFORCEMENT @SUPPORT @MIDSPAN	<b>300</b> 8 - 20 MM Ø TOP REINFORCEMENT 2 - 20 MM Ø TORSION BARS 12 MM Ø STIRRUPS SPACED 3 @ 50, 5 @ 75, 7 @ 100, 10 @ 125, REST @ 150 MM 5 - 20 MM Ø TOP REINFORCEMENT @SUPPORT @MIDSPAN	2B1	2B2	<b>300</b> 5 - 20 MM Ø TOP REINFORCEMENT 4 - 20 MM Ø TORSION BARS 12 MM Ø STIRRUPS SPACED 3 @ 50, 5 @ 75, 7 @ 100, 10 @ 125, REST @ 150 MM 4 - 20 MM Ø TOP REINFORCEMENT @SUPPORT @MIDSPAN	<b>300</b> 8 - 20 MM Ø TOP REINFORCEMENT 4 - 20 MM Ø TORSION BARS 12 MM Ø STIRRUPS SPACED 3 @ 50, 5 @ 75, 7 @ 100, 10 @ 125, REST @ 150 MM 4 - 20 MM Ø TOP REINFORCEMENT @SUPPORT @MIDSPAN	2B3	2B4
<b>250</b> 4 - 20 MM Ø TOP REINFORCEMENT 2 - 20 MM Ø TORSION BARS 12 MM Ø STIRRUPS SPACED 3 @ 50, 5 @ 75, 7 @ 100, 10 @ 125, REST @ 150 MM 4 - 20 MM Ø TOP REINFORCEMENT @SUPPORT @MIDSPAN	<b>300</b> 8 - 20 MM Ø TOP REINFORCEMENT 2 - 20 MM Ø TORSION BARS 12 MM Ø STIRRUPS SPACED 3 @ 50, 5 @ 75, 7 @ 100, 10 @ 125, REST @ 150 MM 5 - 20 MM Ø TOP REINFORCEMENT @SUPPORT @MIDSPAN								
2B1	2B2								
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2B3	2B4								

REPUBLIC OF THE PHILIPPINES  
OFFICE OF THE BUILDING OFFICIAL  
VILLANUEVA, PASIG ORIENTAL

APPROVED BY:

SCHEDULE OF BEAMS													
LEVEL	DETAIL												
	<table border="1"> <tr> <td> <b>200</b>            5 - 20 MM Ø TOP REINFORCEMENT            12 MM Ø STIRRUPS SPACED 3 @ 50, 5 @ 75, 7 @ 100, 10 @ 125, REST @ 150 MM            1 - 20 MM Ø TOP REINFORCEMENT            @SUPPORT            @MIDSPAN         </td> <td> <b>250</b>            4 - 20 MM Ø TOP REINFORCEMENT            2 - 20 MM Ø TORSION BARS            12 MM Ø STIRRUPS SPACED 3 @ 50, 5 @ 75, 7 @ 100, 10 @ 125, REST @ 150 MM            5 - 20 MM Ø TOP REINFORCEMENT            @SUPPORT            @MIDSPAN         </td> <td> <b>300</b>            11 - 20 MM Ø TOP REINFORCEMENT            2 - 20 MM Ø TORSION BARS            12 MM Ø STIRRUPS SPACED 3 @ 50, 5 @ 75, 7 @ 100, 10 @ 125, REST @ 150 MM            6 - 20 MM Ø TOP REINFORCEMENT            @SUPPORT            @MIDSPAN         </td> </tr> <tr> <td>3B1</td> <td>3B2</td> <td>3B3</td> </tr> <tr> <td> <b>300</b>            8 - 20 MM Ø TOP REINFORCEMENT            4 - 20 MM Ø TORSION BARS            12 MM Ø STIRRUPS SPACED 3 @ 50, 5 @ 75, 7 @ 100, 10 @ 125, REST @ 150 MM            8 - 20 MM Ø TOP REINFORCEMENT            @SUPPORT            @MIDSPAN         </td> <td> <b>300</b>            11 - 20 MM Ø TOP REINFORCEMENT            4 - 20 MM Ø TORSION BARS            12 MM Ø STIRRUPS SPACED 3 @ 50, 5 @ 75, 7 @ 100, 10 @ 125, REST @ 150 MM            8 - 20 MM Ø TOP REINFORCEMENT            @SUPPORT            @MIDSPAN         </td> <td></td> </tr> <tr> <td>3B4</td> <td>3B5</td> <td></td> </tr> </table>	<b>200</b> 5 - 20 MM Ø TOP REINFORCEMENT 12 MM Ø STIRRUPS SPACED 3 @ 50, 5 @ 75, 7 @ 100, 10 @ 125, REST @ 150 MM 1 - 20 MM Ø TOP REINFORCEMENT @SUPPORT @MIDSPAN	<b>250</b> 4 - 20 MM Ø TOP REINFORCEMENT 2 - 20 MM Ø TORSION BARS 12 MM Ø STIRRUPS SPACED 3 @ 50, 5 @ 75, 7 @ 100, 10 @ 125, REST @ 150 MM 5 - 20 MM Ø TOP REINFORCEMENT @SUPPORT @MIDSPAN	<b>300</b> 11 - 20 MM Ø TOP REINFORCEMENT 2 - 20 MM Ø TORSION BARS 12 MM Ø STIRRUPS SPACED 3 @ 50, 5 @ 75, 7 @ 100, 10 @ 125, REST @ 150 MM 6 - 20 MM Ø TOP REINFORCEMENT @SUPPORT @MIDSPAN	3B1	3B2	3B3	<b>300</b> 8 - 20 MM Ø TOP REINFORCEMENT 4 - 20 MM Ø TORSION BARS 12 MM Ø STIRRUPS SPACED 3 @ 50, 5 @ 75, 7 @ 100, 10 @ 125, REST @ 150 MM 8 - 20 MM Ø TOP REINFORCEMENT @SUPPORT @MIDSPAN	<b>300</b> 11 - 20 MM Ø TOP REINFORCEMENT 4 - 20 MM Ø TORSION BARS 12 MM Ø STIRRUPS SPACED 3 @ 50, 5 @ 75, 7 @ 100, 10 @ 125, REST @ 150 MM 8 - 20 MM Ø TOP REINFORCEMENT @SUPPORT @MIDSPAN		3B4	3B5	
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3B4	3B5												

**SUSPENDED SLAB DETAILS**  
SCALE 1:100 HORIZ



REPUBLIC OF THE PHILIPPINES  
UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES  
CITY OF DAVAO  
INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT UNIT  
CAMPUS 6, BAYAN LARAN, LARAN, CANTON 880 CITY BLDG.  
TEL: (81) 822-1000 / (81) 822-1001 / (81) 822-1002 FAX: (81) 822-1003  
WWW.USTIP.USTP.DAVAO

**ERNESTO C. OJHOTE**  
CIVIL STRUCTURAL ENGINEER  
PE NO. 0000000000  
PR. NO. 0000000000  
EX. NO. 0000000000

**CONSTRUCTION OF 21ST CENTURY CLASSROOM BUILDINGS PHASE III, VILLANUEVA CAMPUS**  
LOCATION: USTP VILLANUEVA CAMPUS, PASIG ORIENTAL  
OWNER: UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL:  
**ENGR. GRACE C. BABA**  
DIRECTOR, UPDCE

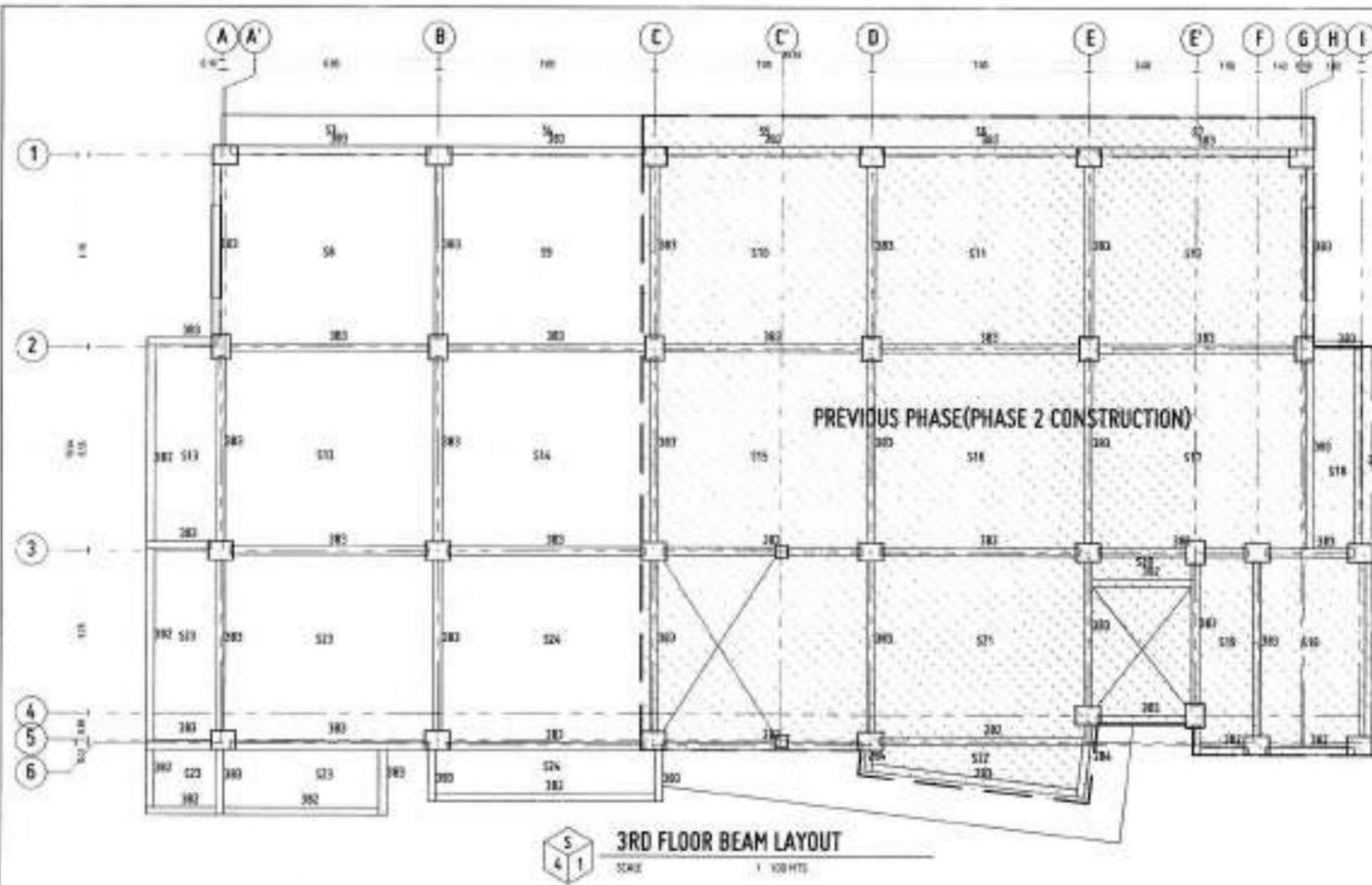
RECOMMENDING APPROVAL:  
**ATTY. EDWIN B. SOLIB**  
UPDCE ATTORNEY IN CHARGE

APPROVAL BY:  
**DR. AMBROSIO S. CULTURA II**  
PROJECT SUPERVISOR

SHEET CONTENTS:  
TIE BEAM LAYOUT  
SUSPENDED SLAB DETAILS  
2ND FLOOR BEAM LAYOUT

REVISIONS:  
DATE: \_\_\_\_\_  
BY: \_\_\_\_\_  
REASON: \_\_\_\_\_

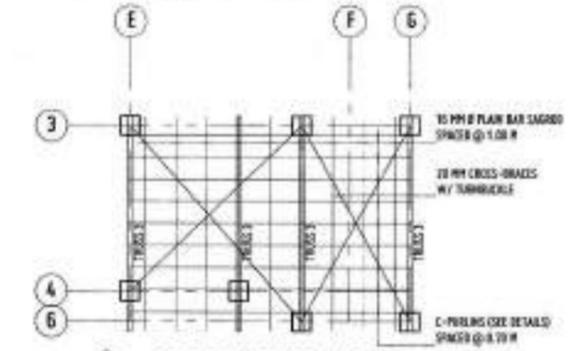
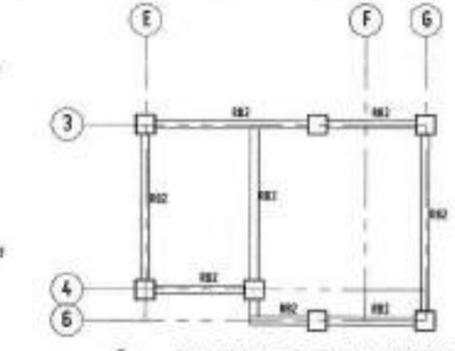
**S3**



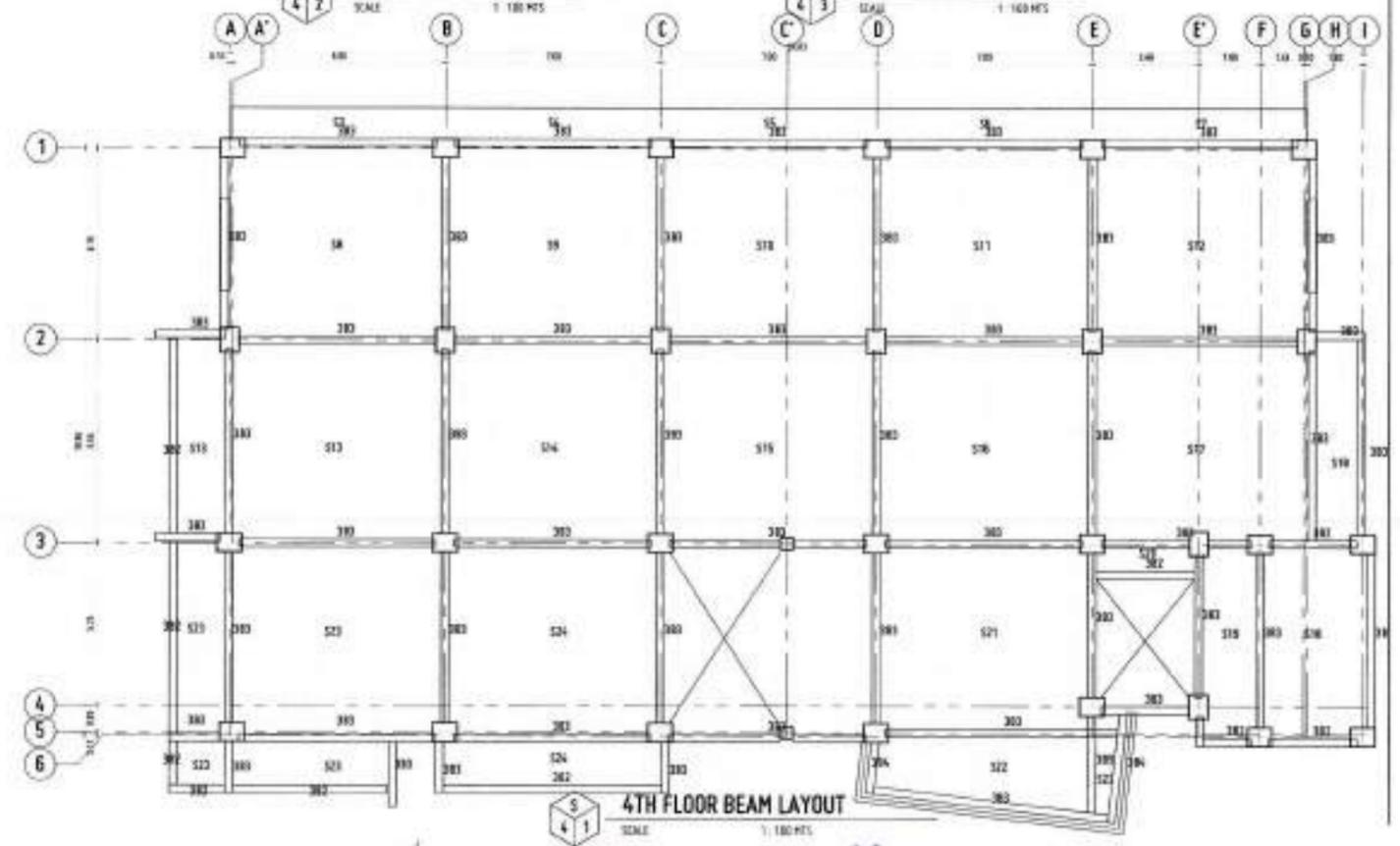
SCHEDULE OF BEAMS	
LEVEL	DETAIL
3	<p>250 600 @SUPPORT RB1</p>
	<p>250 600 @MIDSPAN RB1</p>
	<p>300 600 @SUPPORT RB2</p>
	<p>300 600 @MIDSPAN RB2</p>

REPUBLIC OF THE PHILIPPINES  
OFFICE OF THE BUILDING OFFICIAL  
VILLANUEVA, NEGROS ORIENTAL

APPROVED BY:



SCHEDULE OF SLABS							
LEVEL	MARK	THICKNESS	REBARS SPACING ALONG SHORT DIRECTION		REBARS SPACING ALONG LONG DIRECTION		REMARKS
			TOP REINF.	BOT REINF.	TOP REINF.	BOT REINF.	
	S1	150	12 MM # @ 350	10 MM # @ 100	12 MM # @ 350	10 MM # @ 75	CANTL.
	S2	150	12 MM # @ 150	10 MM # @ 250	12 MM # @ 75	10 MM # @ 250	CANTL.
	S3	150	12 MM # @ 150	10 MM # @ 250	12 MM # @ 300	10 MM # @ 250	CANTL.
	S4	150	12 MM # @ 150	10 MM # @ 250	12 MM # @ 300	10 MM # @ 250	CANTL.
	S5	150	12 MM # @ 150	10 MM # @ 250	12 MM # @ 300	10 MM # @ 250	CANTL.
	S6	150	12 MM # @ 150	10 MM # @ 250	12 MM # @ 300	10 MM # @ 250	CANTL.
	S7	150	12 MM # @ 150	10 MM # @ 250	12 MM # @ 300	10 MM # @ 250	CANTL.
	S8	150	10 MM # @ 250	12 MM # @ 200	10 MM # @ 250	12 MM # @ 300	TWO-WAY
	S9	150	10 MM # @ 250	12 MM # @ 200	10 MM # @ 250	12 MM # @ 300	TWO-WAY
	S10	150	10 MM # @ 250	12 MM # @ 200	10 MM # @ 250	12 MM # @ 300	TWO-WAY
	S11	150	10 MM # @ 250	12 MM # @ 200	10 MM # @ 250	12 MM # @ 300	TWO-WAY
	S12	150	10 MM # @ 250	12 MM # @ 200	10 MM # @ 250	12 MM # @ 300	TWO-WAY
	S13	150	10 MM # @ 200	12 MM # @ 200	10 MM # @ 200	12 MM # @ 200	TWO-WAY
	S14	150	10 MM # @ 200	12 MM # @ 250	10 MM # @ 200	12 MM # @ 200	TWO-WAY
	S15	150	10 MM # @ 250	12 MM # @ 200	10 MM # @ 200	12 MM # @ 200	TWO-WAY
	S16	150	10 MM # @ 300	12 MM # @ 200	10 MM # @ 250	12 MM # @ 150	TWO-WAY
	S17	150	10 MM # @ 300	12 MM # @ 200	10 MM # @ 250	12 MM # @ 150	TWO-WAY
	S18	150	10 MM # @ 300	12 MM # @ 300	10 MM # @ 250	12 MM # @ 250	TWO-WAY
	S19	150	10 MM # @ 300	12 MM # @ 300	10 MM # @ 250	12 MM # @ 250	TWO-WAY
	S20	150	10 MM # @ 200	12 MM # @ 250	10 MM # @ 250	12 MM # @ 50	TWO-WAY
	S21	150	10 MM # @ 250	12 MM # @ 150	10 MM # @ 150	12 MM # @ 50	TWO-WAY
	S22	150	10 MM # @ 150	12 MM # @ 150	10 MM # @ 250	12 MM # @ 250	TWO-WAY
	S23	150	10 MM # @ 300	12 MM # @ 200	10 MM # @ 250	12 MM # @ 200	TWO-WAY
	S24	150	10 MM # @ 300	12 MM # @ 125	10 MM # @ 250	12 MM # @ 200	TWO-WAY



REPUBLIC OF THE PHILIPPINES  
UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES  
CAGAYAN DE ORO CAMPUS  
INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT UNIT  
LANSI PI BETH APRILE, LUPKIN, CAGAYAN DE ORO CITY 9000  
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ERNESTO C. GONZALEZ  
CIVIL STRUCTURAL ENGINEER  
REG. NO. 00446 PTC 000000  
DATE 1-23-2023  
BY  
FOR

PROJECT CONSTRUCTION OF 21ST CENTURY CLASSROOM BUILDINGS PHASE III, VILLANUEVA CAMPUS  
LOCATION USTP VILLANUEVA CAMPUS, NEGROS ORIENTAL  
OWNER UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL  
ENGR. GRACE C. BABA  
DIRECTOR, WFOS

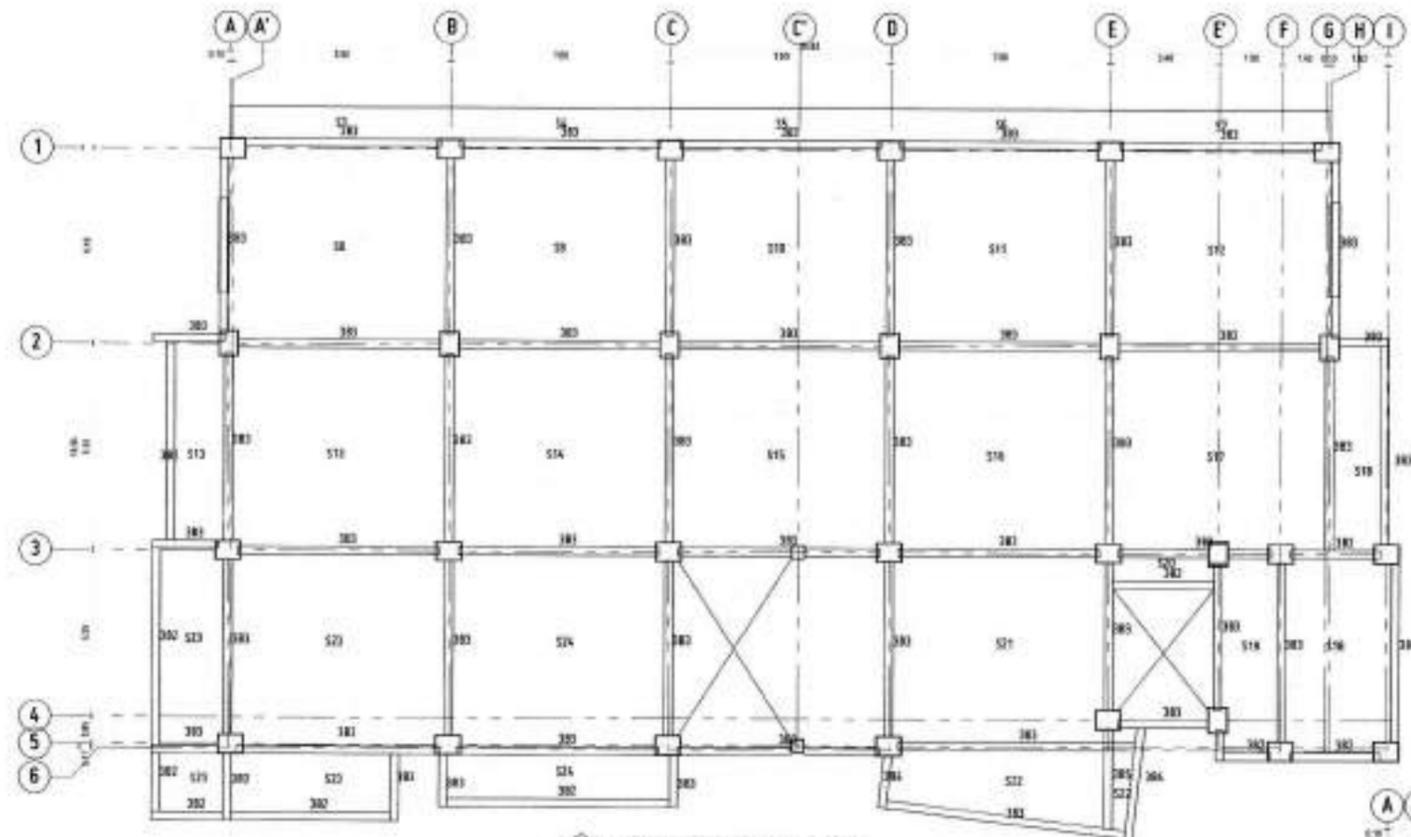
DESIGNING APPROVAL  
ATTY. ERWIN B. BACIG  
LEGAL ADMINISTRATIVE AFFAIRS

APPROVED BY  
DR. AMBROSIO P. CULTURA II  
PRESIDENT, USTP SYSTEM

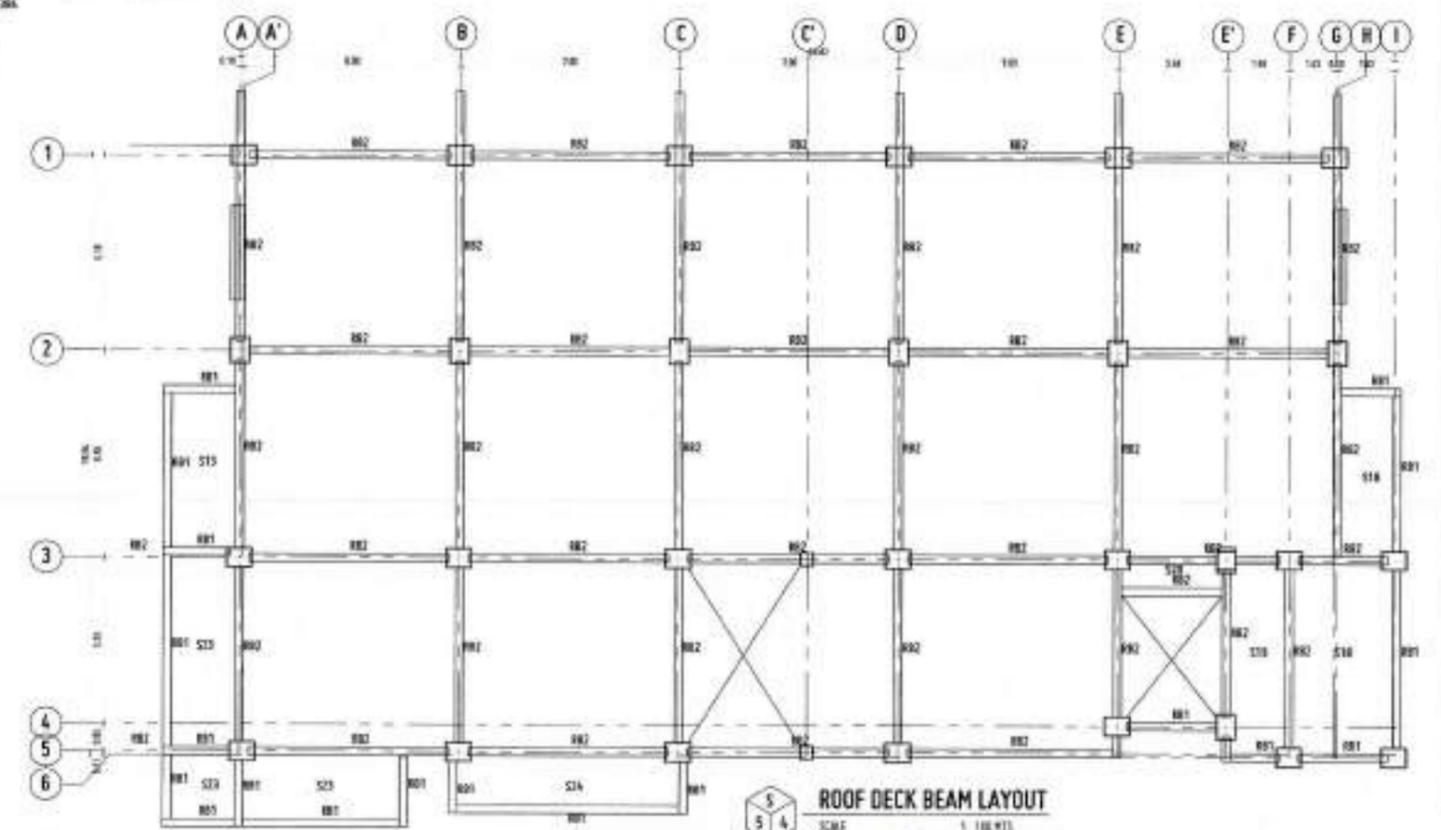
SHEET CONTENTS  
3RD AND 4TH FLOOR BEAM LAYOUT  
ROOF DECK TRUSS LAYOUT

NUMBER  
S4

APPROVED BY:



**5TH FLOOR BEAM LAYOUT**  
 SCALE 1/100 WTS



**ROOF DECK BEAM LAYOUT**  
 SCALE 1/100 WTS



REPUBLIC OF THE PHILIPPINES  
 UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES  
 CAGAYAN DE ORO CAMPUS  
 INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT UNIT  
 CLAYTON RECTORY BUILDING, CAGAYAN DE ORO CITY 6000  
 TELEPHONE: (088) 221-40-40 / (088) 221-40-41 / (088) 221-40-42 / (088) 221-40-43 / (088) 221-40-44 / (088) 221-40-45 / (088) 221-40-46 / (088) 221-40-47 / (088) 221-40-48 / (088) 221-40-49 / (088) 221-40-50  
 WEBSITE: www.ustip.edu.ph

**ERNESTO CH. DOLICHO**  
 CIVIL STRUCTURAL ENGINEER  
 REG. NO. 155,130-143  
 PLACE: CAGAYAN DE ORO CITY

**PROJECT** CONSTRUCTION OF 21ST CENTURY CLASSROOM BUILDINGS PHASE II, VILLANUEVA CAMPUS  
**LOCATION** USTP VILLANUEVA CAMPUS, NEGROS ORIENTAL  
**OWNER** UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL:  
**ENGR. GRACE C. BABA**  
 DIRECTOR, UPBO

RECOMMENDING APPROVAL:  
**ATTY. ERWIN B. BACIR**  
 VP FOR INFRASTRUCTURE & LEGAL AFFAIRS

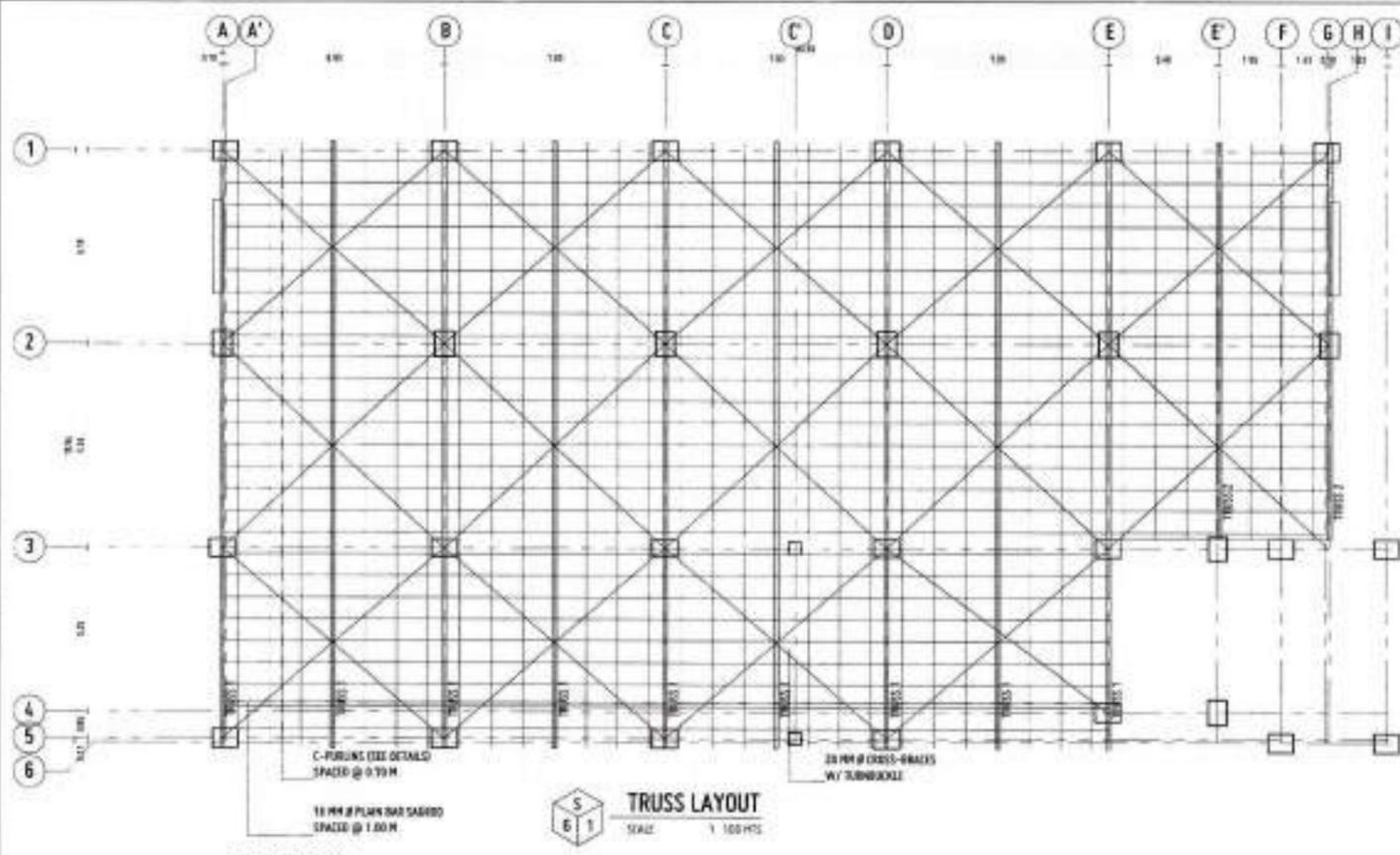
APPROVED BY:  
**DR. AMBROSIO B. CULTURA II**  
 PRESIDENT, UPB SYSTEM

SHEET CONTENT:  
 5TH FLOOR BEAM LAYOUT  
 ROOF DECK BEAM LAYOUT

DATE DRAWN:  
 BY:

**S5**

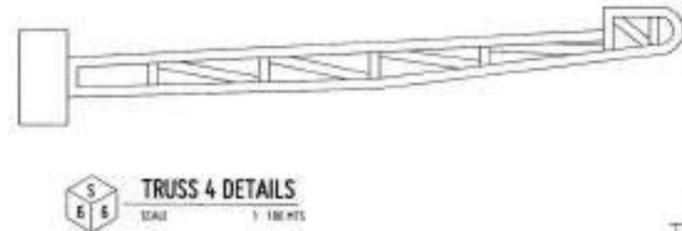
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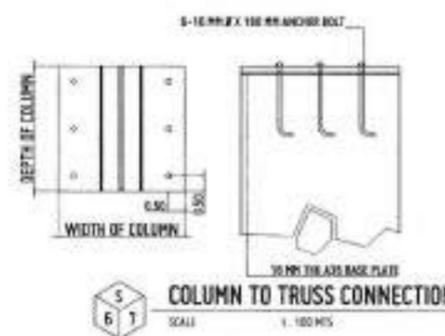
**TRUSS LAYOUT**  
SCALE: 1:100 HTS



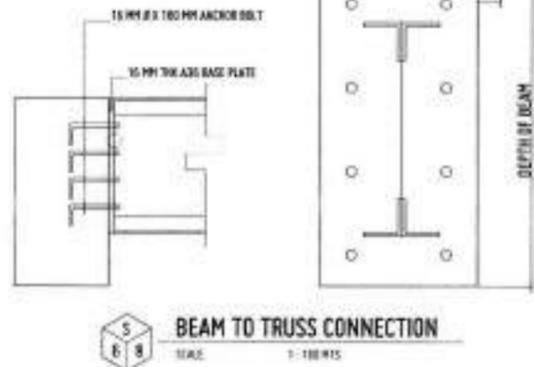
**C-PURLIN DETAILS**  
SCALE: 1:100 HTS



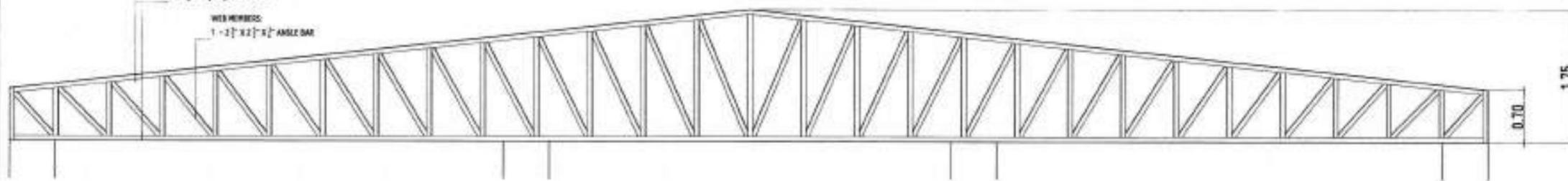
**TRUSS 4 DETAILS**  
SCALE: 1:100 HTS



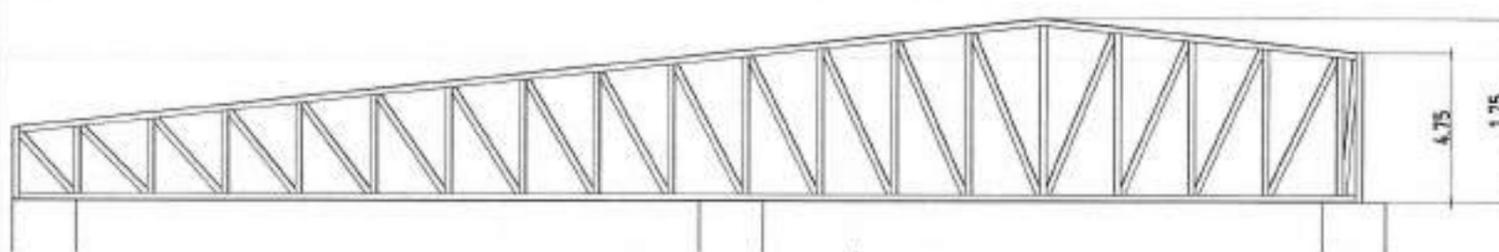
**COLUMN TO TRUSS CONNECTION**  
SCALE: 1:100 HTS



**BEAM TO TRUSS CONNECTION**  
SCALE: 1:100 HTS



**TRUSS 1 DETAILS**  
SCALE: 1:100 HTS



**TRUSS 2 DETAILS**  
SCALE: 1:100 HTS



**TRUSS 3 DETAILS**  
SCALE: 1:100 HTS



REPUBLIC OF THE PHILIPPINES  
UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES  
CAGAYAN DE ORO CAMPUS  
INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT UNIT  
LORD N. REYES AVENUE, LAKARAN, CAGAYAN DE ORO CITY 9000  
TELEPHONE: (8092) 71-80-80 / (8092) 853-1120 / (8092) 7700-1100 / FAX: (8092) 888-1888  
WEBSITE: www.ustip.edu.ph

**ERNESTO C. OJILOTE**  
CIVIL STRUCTURAL ENGINEER  
PROJECT: CONSTRUCTION OF 21ST CENTURY CLASSROOM BUILDINGS PHASE III, VILLANUEVA CAMPUS.  
LOCATION: USTP VILLANUEVA CAMPUS, NEGROS ORIENTAL  
OWNER: UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL:  
**ENGR. GRACE C. BABA**  
DIRECTOR, UPDO

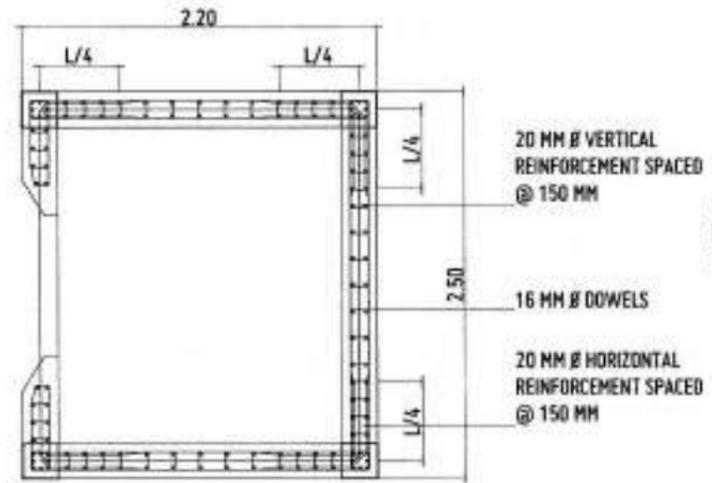
RECOMMENDING APPROVAL:  
**ATTY. ERWAN B. BILICU**  
VP FOR ADMINISTRATION & LEGAL AFFAIRS

APPROVED BY:  
**DR. AMBROSIO B. CULTURA II**  
PRESIDENT, USTP SYSTEM

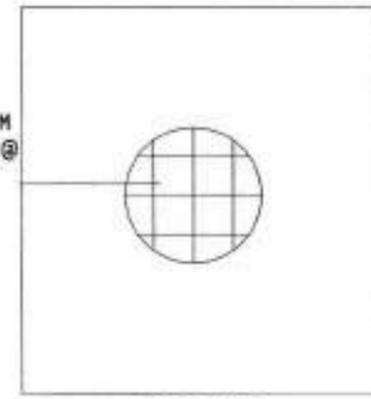
SHEET CONTENTS	DRAWN
TRUSS LAYOUT	
TRUSS 1 DETAILS	
TRUSS 2 DETAILS	
TRUSS 3 DETAILS	
C-PURLIN DETAILS	
TRUSS 4 DETAILS	
COLUMN TO TRUSS CONNECTION	
BEAM TO TRUSS CONNECTION	

**S6**

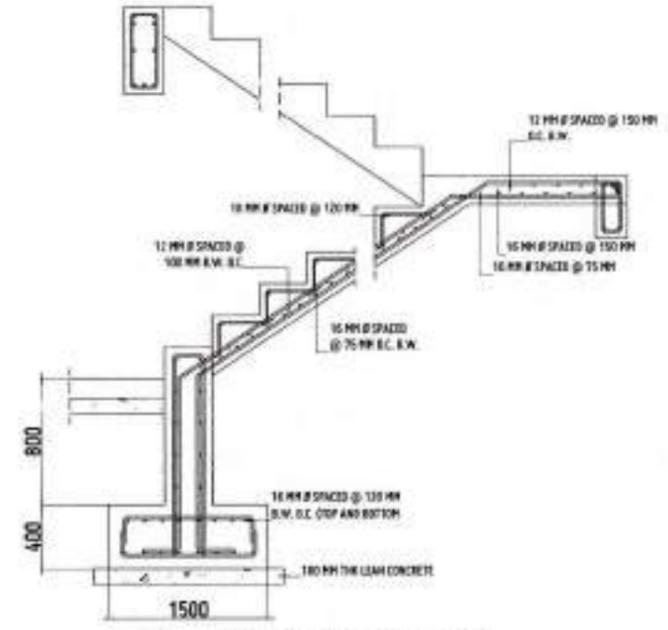
APPROVED BY:



20 MM Ø TOP AND BOTTOM REINFORCEMENT SPACED @ 150 MM B.W. O.C.

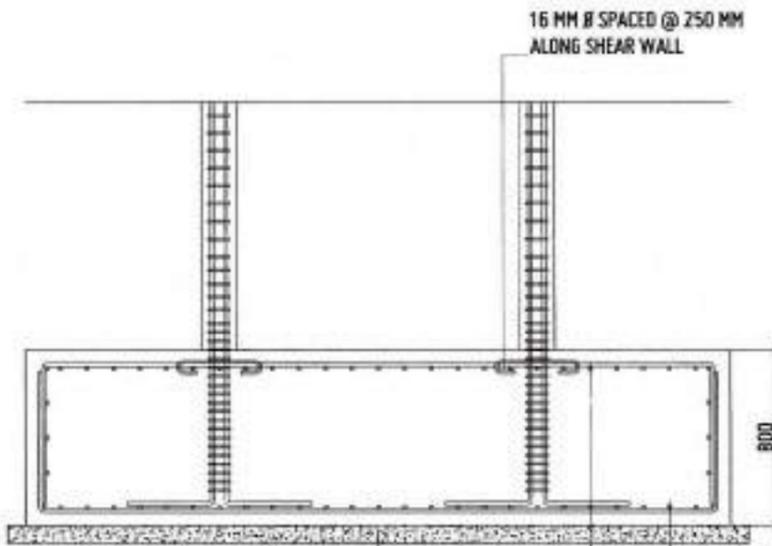
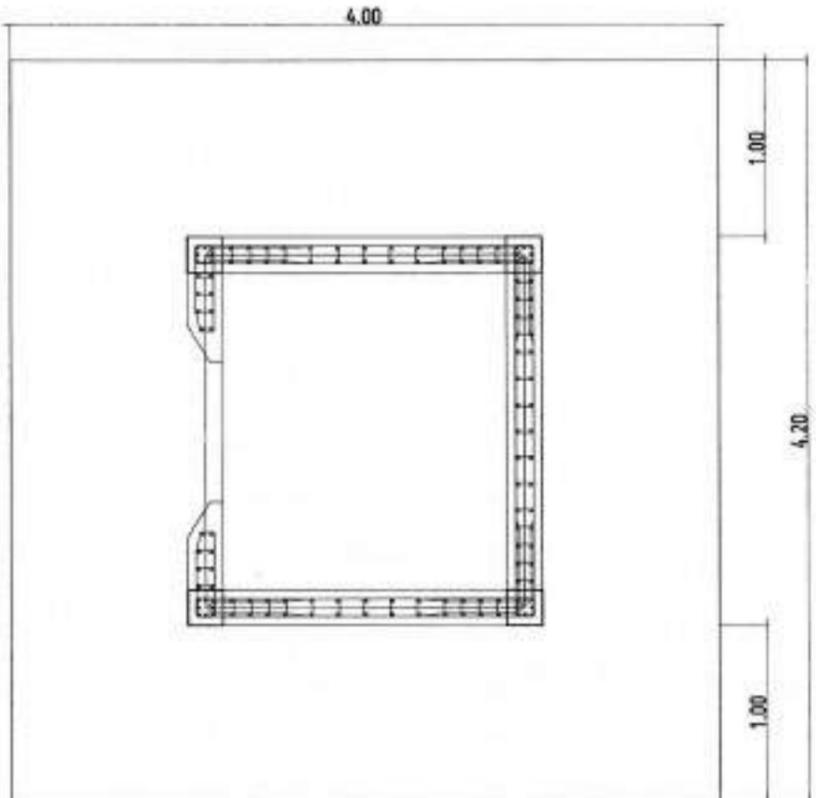


**TOP SLAB REINFORCEMENT**



**FIRE EXIT STAIRCASE DETAILS**

SCALE 1:100 NTS



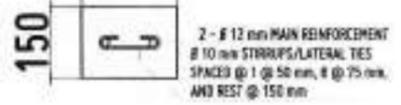
16 MM Ø SPACED @ 250 MM ALONG SHEAR WALL

100 MM THK LEAN CONCRETE

20 MM Ø BOTTOM REINF. SPACED @ 120 MM

**ELEVATOR DETAILS**

SCALE 1:100 NTS



**LINTEL AND STIFFENER BEAM DETAILS**

SCALE 1:100 NTS



REPUBLIC OF THE PHILIPPINES  
UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES  
CAGAYAN DE ORO CAMPUS  
INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT UNIT  
CLASSROOM BUILDING, LAMASAL CAGAYAN DE ORO CITY  
TELEPHONE: (083) 71-00-01 / 0040-004-1734 / 004-1770 / 004-1770 (TOLL FREE) FAX: 004-1770  
WWW: www.ustp.edu.ph

**ERNESTO CH. QUIVOTE**  
CIVIL/STRUCTURAL ENGINEER  
PROJECT: CONSTRUCTION OF 21ST CENTURY CLASSROOM BUILDINGS PHASE III, VILLANUEVA CAMPUS  
DATE: 1-23-2021  
DRAWN BY: [Signature]  
CHECKED BY: [Signature]

CONSTRUCTION OF 21ST CENTURY CLASSROOM BUILDINGS PHASE III, VILLANUEVA CAMPUS  
USTP VILLANUEVA CAMPUS, NEGROS ORIENTAL  
UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL:  
**ENGR. GRACE C. BABA**  
DIRECTOR, PMSO

RECOMMENDING APPROVAL:  
**ATTY. ERWIN D. ROSAJO**  
OFFICE ADMINISTRATION & LEGAL AFFAIRS

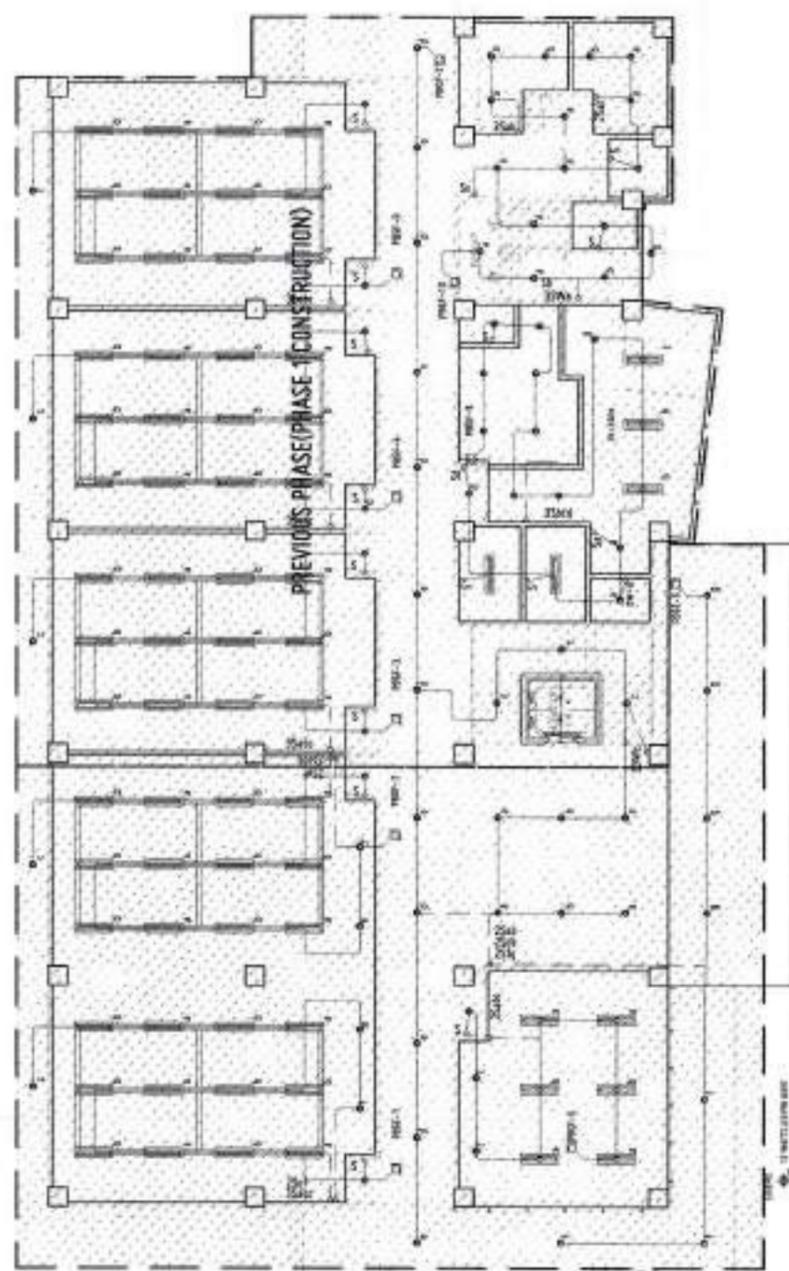
APPROVED BY:  
**DR. AMBROSIO M. CULTURA II**  
PRESIDENT, USTP SYSTEM

SHEET CONTENTS:  
ELEVATOR DETAILS  
FIRE EXIT STAIRCASE DETAILS

REVISIONS:  
DATE: [ ]  
BY: [ ]  
REASON: [ ]

**S7**

APPROVED BY:

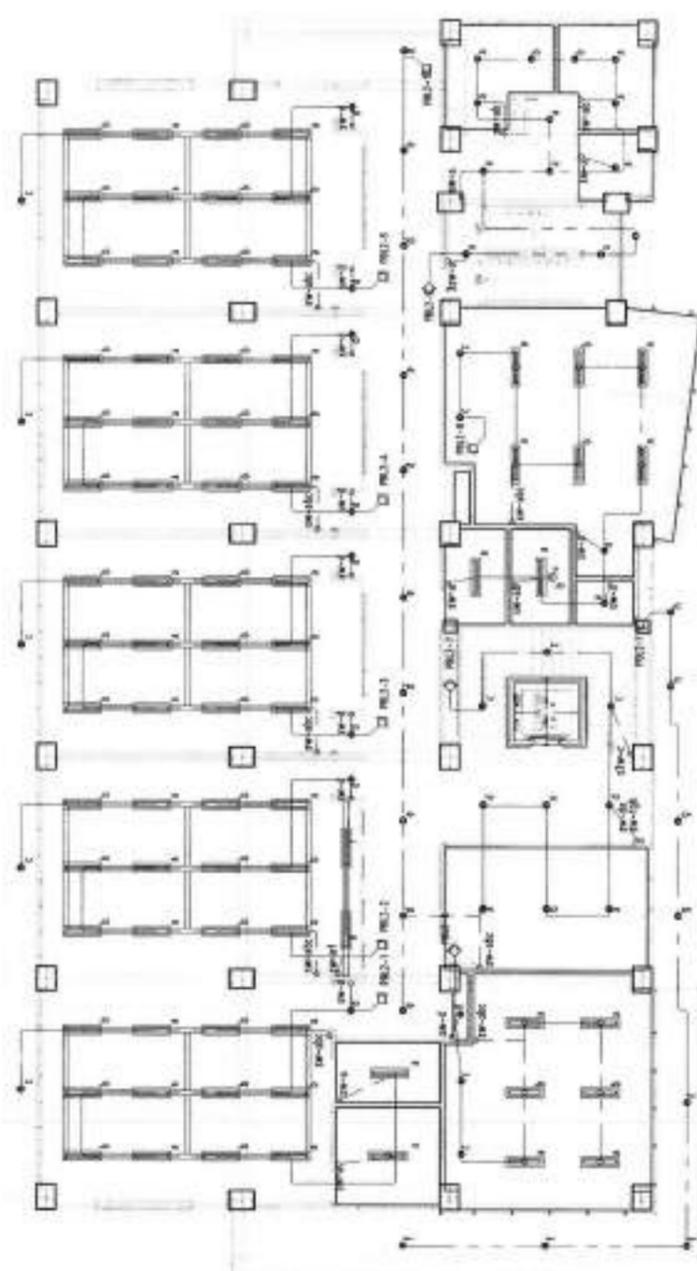


GROUND FLOOR PLAN (LIGHTING AND SWITCHING LAYOUT) -  
PHASE 1 & 2 CONSTRUCTION

SCALE: 1:100 MTS



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SECOND FLOOR PLAN (LIGHTING AND SWITCHING LAYOUT)

SCALE: 1:100 MTS



- 1. 11 METERS LIGHTING UNIT
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- 97. 11 METERS LIGHTING UNIT
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- 99. 11 METERS LIGHTING UNIT
- 100. 11 METERS LIGHTING UNIT



REPUBLIC OF THE PHILIPPINES  
UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES  
CABATAN DE ORO CAMPUS  
INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT UNIT  
SEARCH & RESEARCH DIVISION, CABATAN DE ORO CITY 6000  
TELEPHONE & FAXES: TEL. 081-451-3940 FAX. 1730-1731 / 1732 / 1733 FAX 1000-804-400  
WEBSITE: www.ustip.edu.ph

PROFESSIONAL ELECTRICAL ENGINEER  
REG. NO. \_\_\_\_\_ PER. NO. \_\_\_\_\_  
DATE \_\_\_\_\_ PLACE \_\_\_\_\_  
SIGNATURE \_\_\_\_\_

PROJECT: CONSTRUCTION OF 21ST CENTURY CLASSROOM BUILDINGS PHASE III, VILLANUEVA CAMPUS.  
LOCATION: USTP VILLANUEVA CAMPUS, NEGROS ORIENTAL  
OWNER: UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL:  
ENGR. GRACE C. BABA  
DIRECTOR, USTP

RECOMMENDING APPROVAL:  
AFY ERWIN B. BUICO  
OFFICE OF ADMINISTRATION & LEGAL AFFAIRS

APPROVED BY:  
DR. AMBROSIO B. CULTURA II  
PRESIDENT, USTP SYSTEM

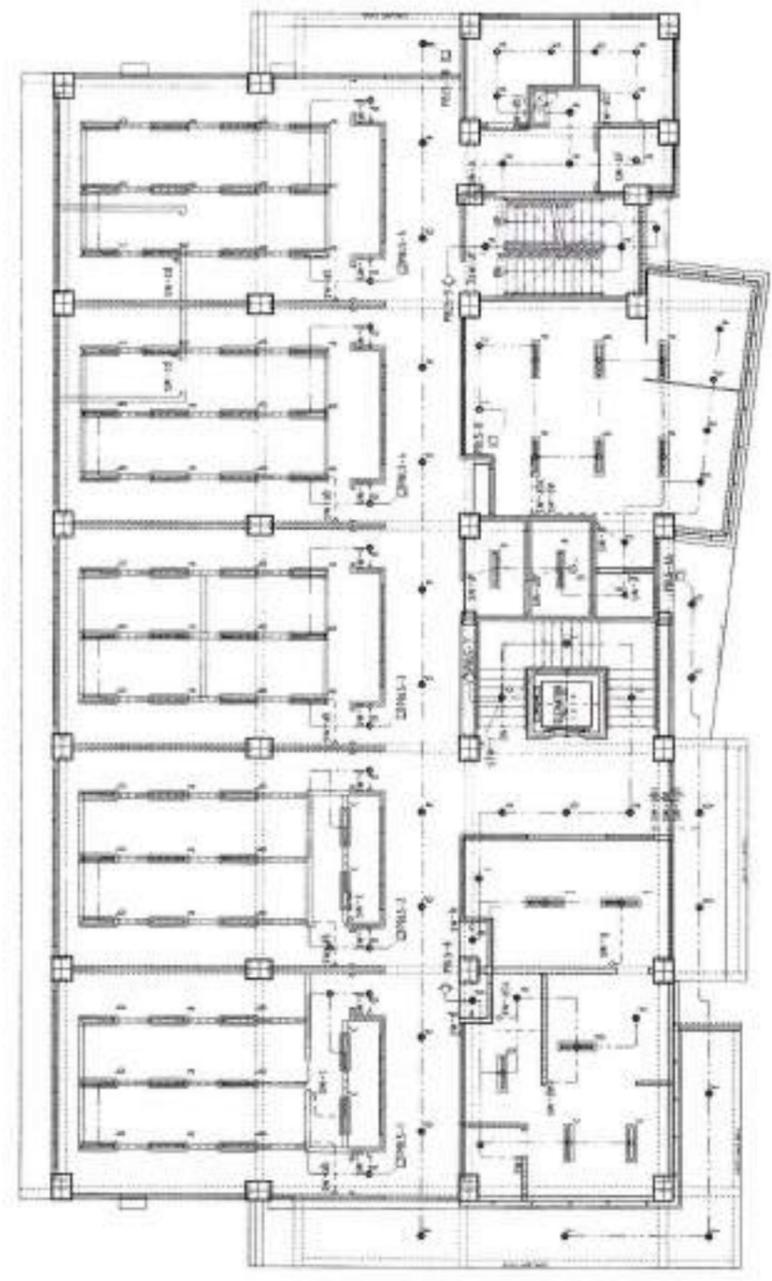
PROJECT CONTENTS:  
GROUND FLOOR PLAN, LIGHTING AND SWITCHING LAYOUT  
SECOND FLOOR PLAN, LIGHTING AND SWITCHING LAYOUT

DRAWN BY: \_\_\_\_\_  
DATE DRAWN: \_\_\_\_\_  
REV: \_\_\_\_\_

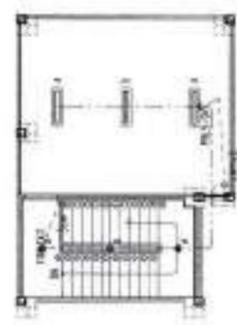
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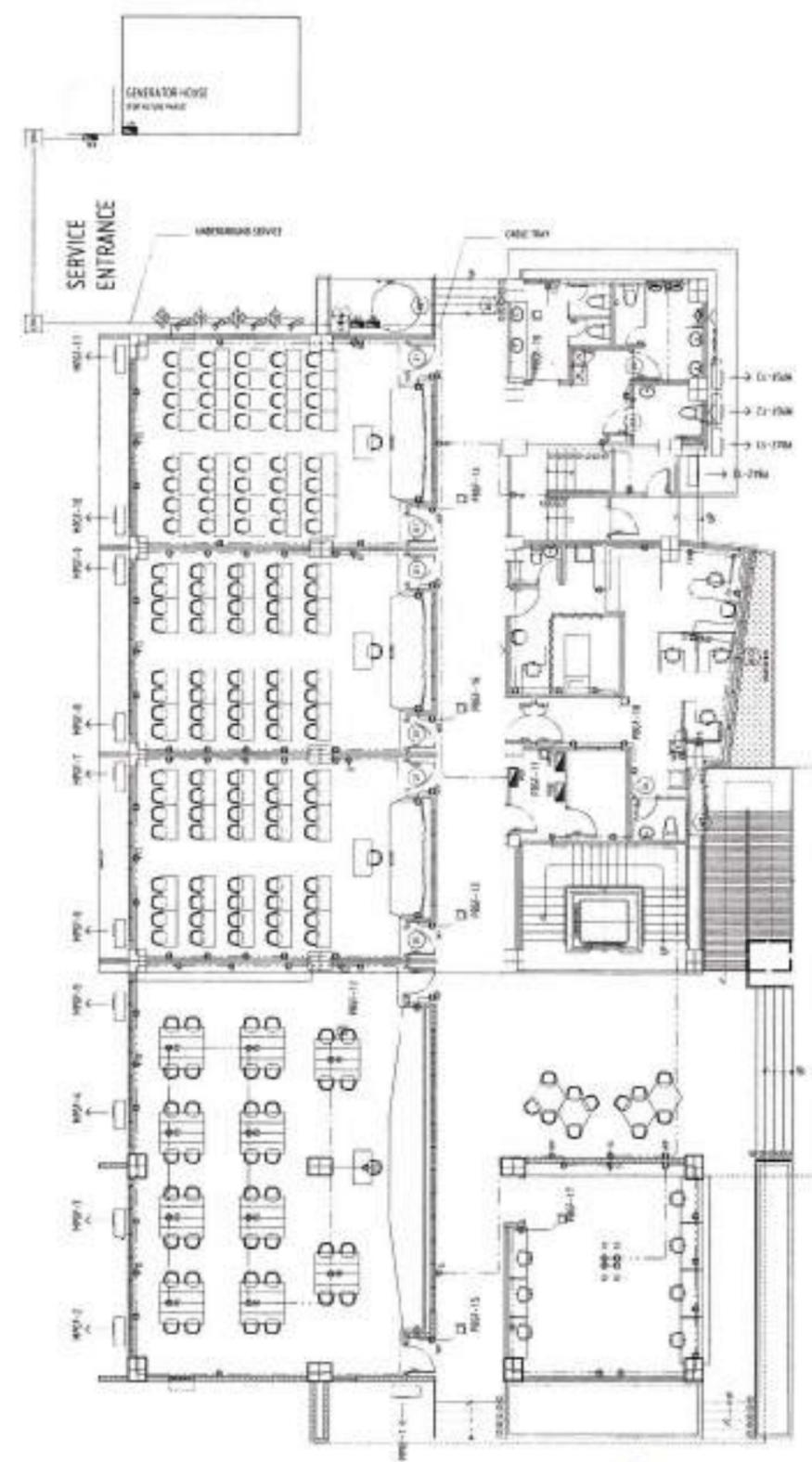
APPROVED BY:



**FIFTH FLOOR PLAN (LIGHTING AND SWITCHING LAYOUT)**  
SCALE: 1:100 MTS



**ROOF DECK PLAN**  
SCALE: 1:100 MTS



**GROUND FLOOR PLAN (POWER LAYOUT)**  
-PHASE 3 CONSTRUCTION  
SCALE: 1:100 MTS



REPUBLIC OF THE PHILIPPINES  
UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES  
CAGAYAN DE ORO CAMPUS  
INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT UNIT  
CLARK, BETH ARDOR, LUNGA, CAGAYAN DE ORO CITY 9000  
TELEPHONE: (8092) 20-40-40 / (8092) 854-1134 / 854-1138 / (8092) 854-1000  
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PROFESSIONAL ELECTRICAL ENGINEER  
PROJECT: CONSTRUCTION OF 21ST CENTURY CLASSROOM BUILDINGS PHASE III, VILLANUEVA CAMPUS  
LOCATION: USTP VILLANUEVA CAMPUS, NEGROS ORIENTAL  
OWNER: UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL:  
ENGR. GRACE C. BABA  
DIRECTOR, RPOO

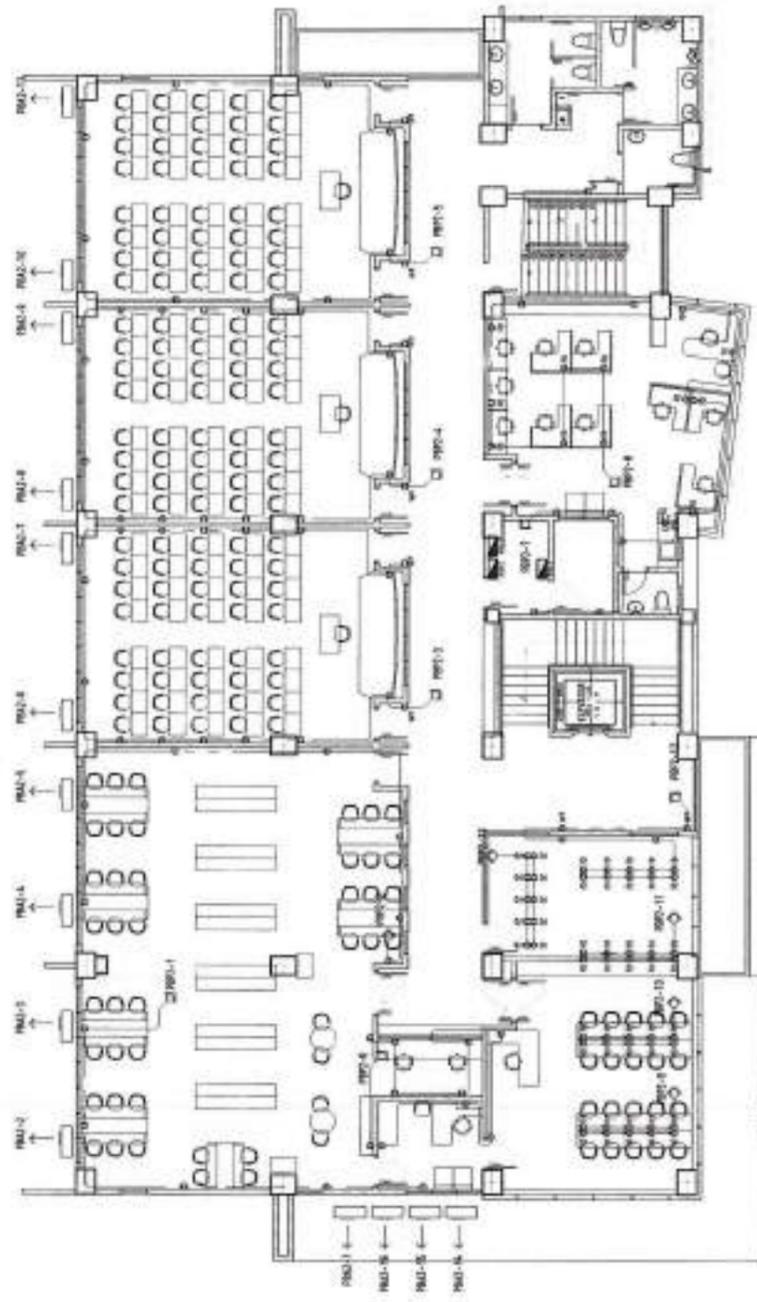
RECOMMENDING APPROVAL:  
ATTY. ERWIN B. BUCHO  
OFFICE OF THE BUILDING OFFICIAL

APPROVED BY:  
DR. AMBROSIO B. CULTURA II  
PRESIDENT, USTP SYSTEM

SHEET CONTENTS:  
FIFTH FLOOR PLAN (LIGHTING AND SWITCHING LAYOUT)  
ROOF DECK PLAN  
GROUND FLOOR PLAN (POWER LAYOUT)  
PHASE 3 CONSTRUCTION

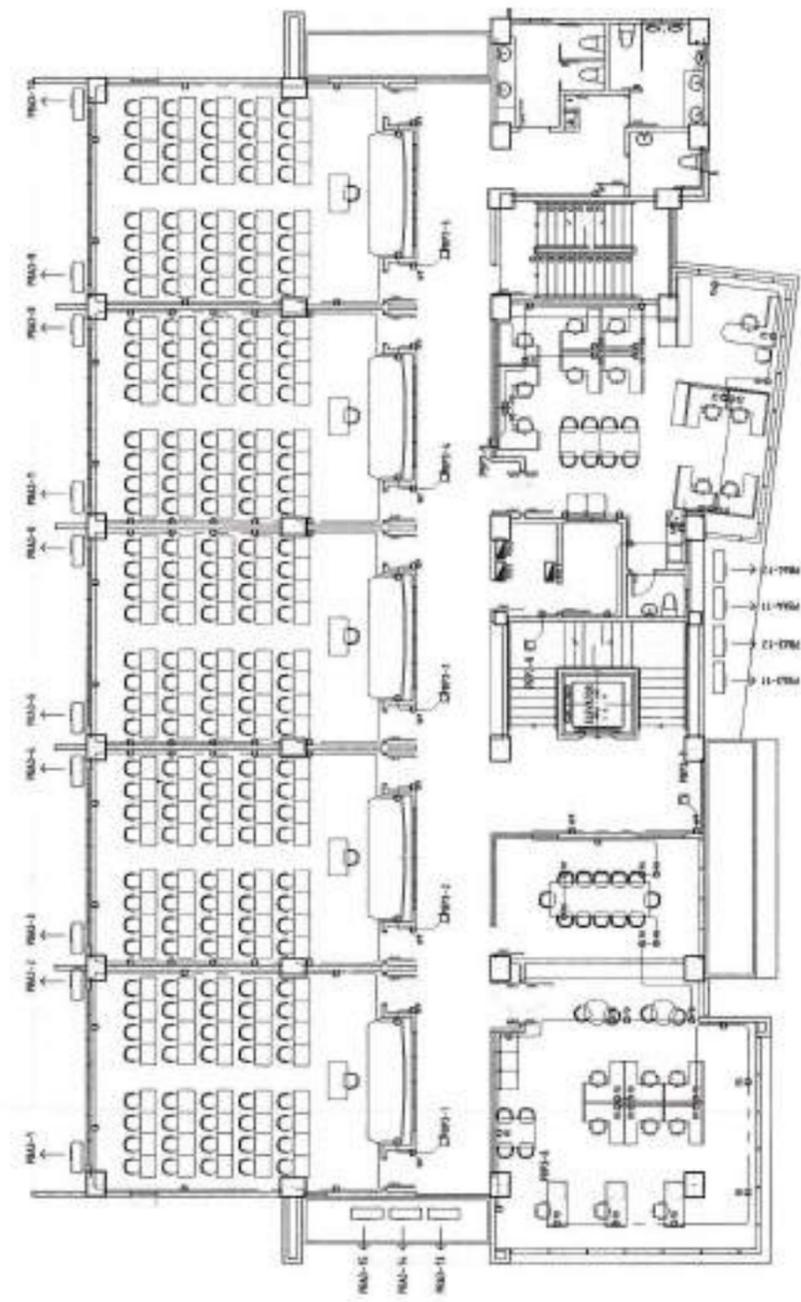
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NO: \_\_\_\_\_  
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APPROVED BY:



SECOND FLOOR PLAN  
SCALE 1:100 MTS

- LEGEND
- AIR CONDITIONING UNIT
  - ELECTRICAL PANEL
  - ELEVATOR
  - FLOOR FINISH
  - FLOOR LIGHTING
  - FLOOR FINISH
  - ARCHITECTURAL WALL
  - AIR
  - MECHANICAL UNIT
  - WALL SWICH



THIRD FLOOR PLAN  
SCALE 1:100 MTS

- LEGEND
- AIR CONDITIONING UNIT
  - ELECTRICAL PANEL
  - ELEVATOR
  - FLOOR FINISH
  - FLOOR LIGHTING
  - FLOOR FINISH
  - ARCHITECTURAL WALL
  - AIR
  - MECHANICAL UNIT
  - WALL SWICH



REPUBLIC OF THE PHILIPPINES  
UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES  
CAGAYAN DE ORO CAMPUS  
INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT DIVISION  
SUITE 601, WESTLAAN, LAPASA, CAGAYAN DE ORO CITY 9000  
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WEBSITE: www.ustip.edu.ph

PROFESSIONAL ELECTRICAL ENGINEER	
REG. NO.	PEE NO.
DATE	
PLAC.	

PROJECT	CONSTRUCTION OF 21ST CENTURY CLASSROOM BUILDINGS PHASE III, VILLANUEVA CAMPUS
LOCATION	USTP VILLANUEVA CAMPUS, NEGROS ORIENTAL
OWNER	UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL:  
*Grace C. Baba*  
ENGR. GRACE C. BABA  
DIRECTOR, UPBO

RECOMMENDING APPROVAL:  
*Atty. Erwin B. Baretto*  
ATTY. ERWIN B. BARETTO  
OFFICE ADMINISTRATION & LEGAL SERVICES

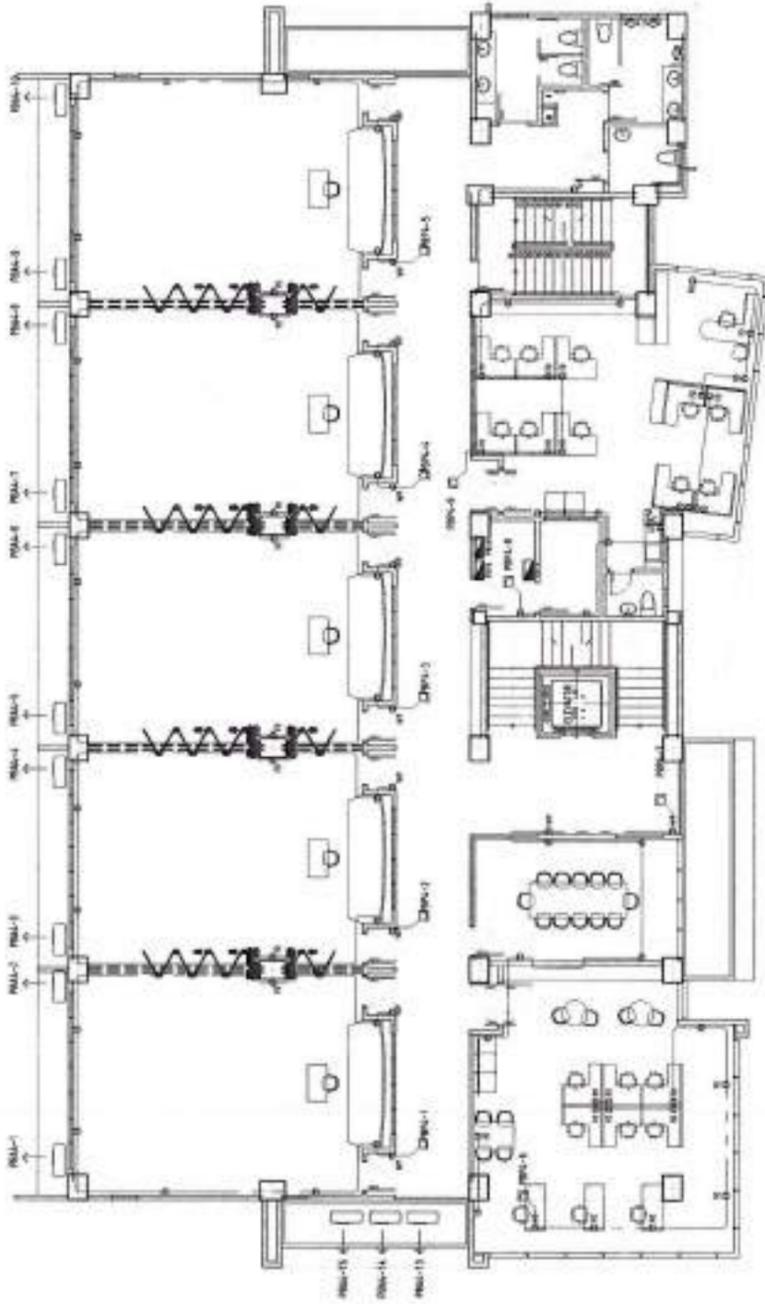
APPROVED BY:  
*Dr. Ambrosio A. Cultura II*  
DR. AMBROSIO A. CULTURA II  
PRESIDENT, USTP SYSTEM

SHEET CONTENTS:  
SECOND FLOOR PLAN (FORM LAYOUT)  
THIRD FLOOR PLAN (FORM LAYOUT)

DESIGNED BY	
DRAWN BY	
CHECKED BY	

E4

APPROVED BY:



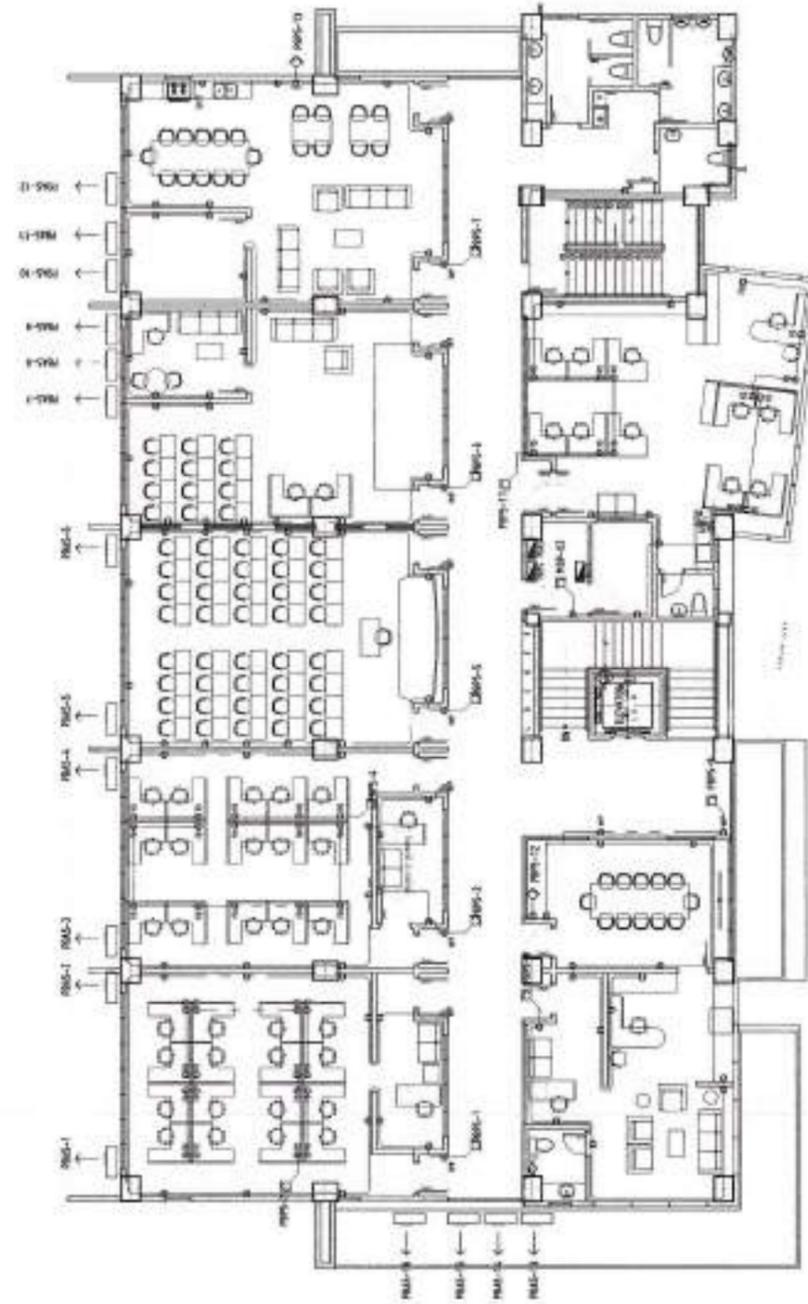
FOURTH FLOOR PLAN (POWER LAYOUT)

1:100 MTS

SCALE



- LEGEND:
- SWITCH (SINGLE POLE)
  - SWITCH (DOUBLE POLE)
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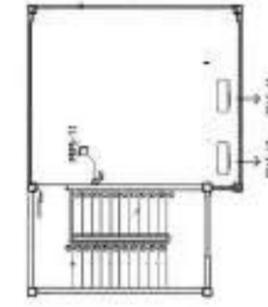
FIFTH FLOOR PLAN (POWER LAYOUT)

1:100 MTS

SCALE



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  - SWITCH (DOUBLE POLE)
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ROOF DECK PLAN

1:100 MTS

SCALE



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UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES  
CAGAYAN DE ORO CAMPUS  
INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT UNIT  
CAGAYAN DE ORO AVENUE, CAGAYAN DE ORO CITY 9000  
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WWW.USTIP.USDU.PH

PROFESSIONAL ELECTRICAL ENGINEER	
REG. NO.	PR. NO.
DATE	PLACE

PROJECT	CONSTRUCTION OF 21ST CENTURY CLASSROOM BUILDINGS PHASE III, VILLANUEVA CAMPUS
LOCATION	USTIP VILLANUEVA CAMPUS, NSRANG CREDITAL
OWNER	UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL  
ENGR. GRACE C. BABA  
REGISTERED ELECTRICAL ENGINEER

RECOMMENDING APPROVAL  
ATTY. ERWIN B. RUCIO  
VILLANUEVA ADMINISTRATION & LEGAL AFFAIRS

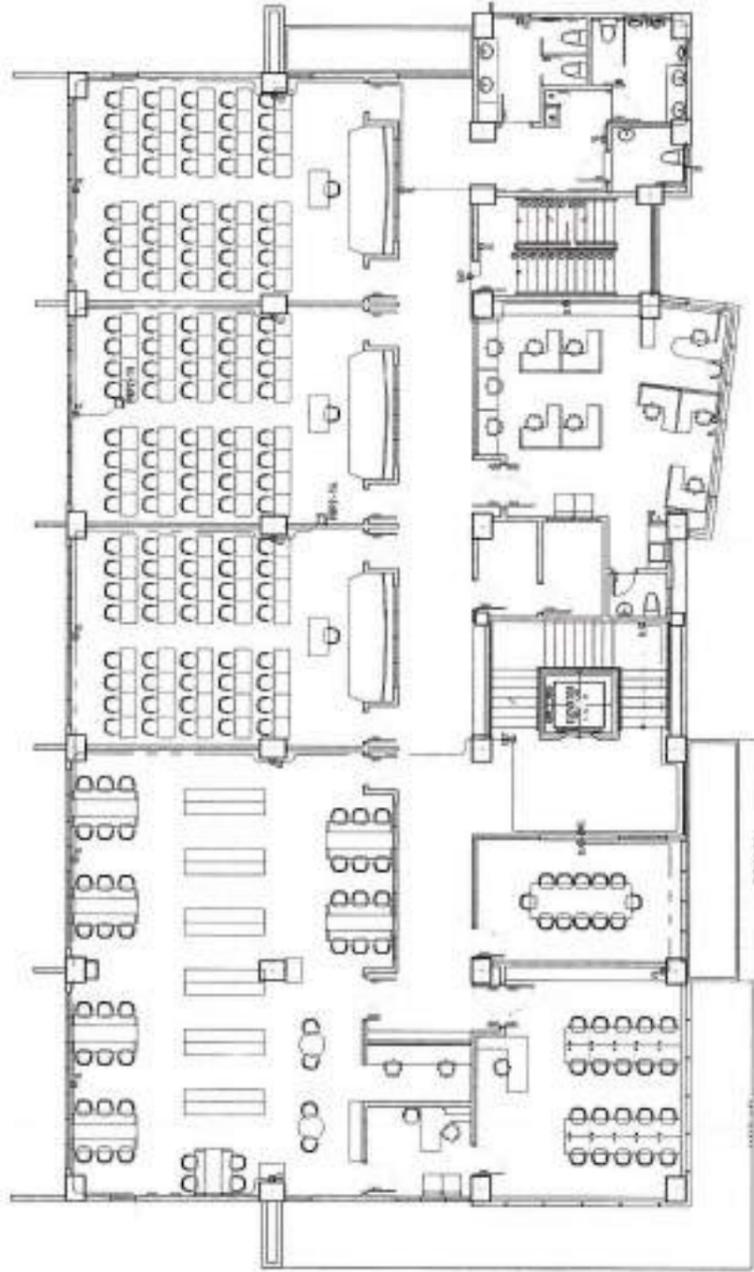
APPROVED BY:  
DR. AMBRASIO S. CULTURA II  
PRESIDENT, USTIP SYSTEM

SHEET CONTENTS:  
FOURTH FLOOR PLAN (POWER LAYOUT)  
FIFTH FLOOR PLAN (POWER LAYOUT)  
ROOF DECK PLAN (POWER LAYOUT)

DATE	NO.
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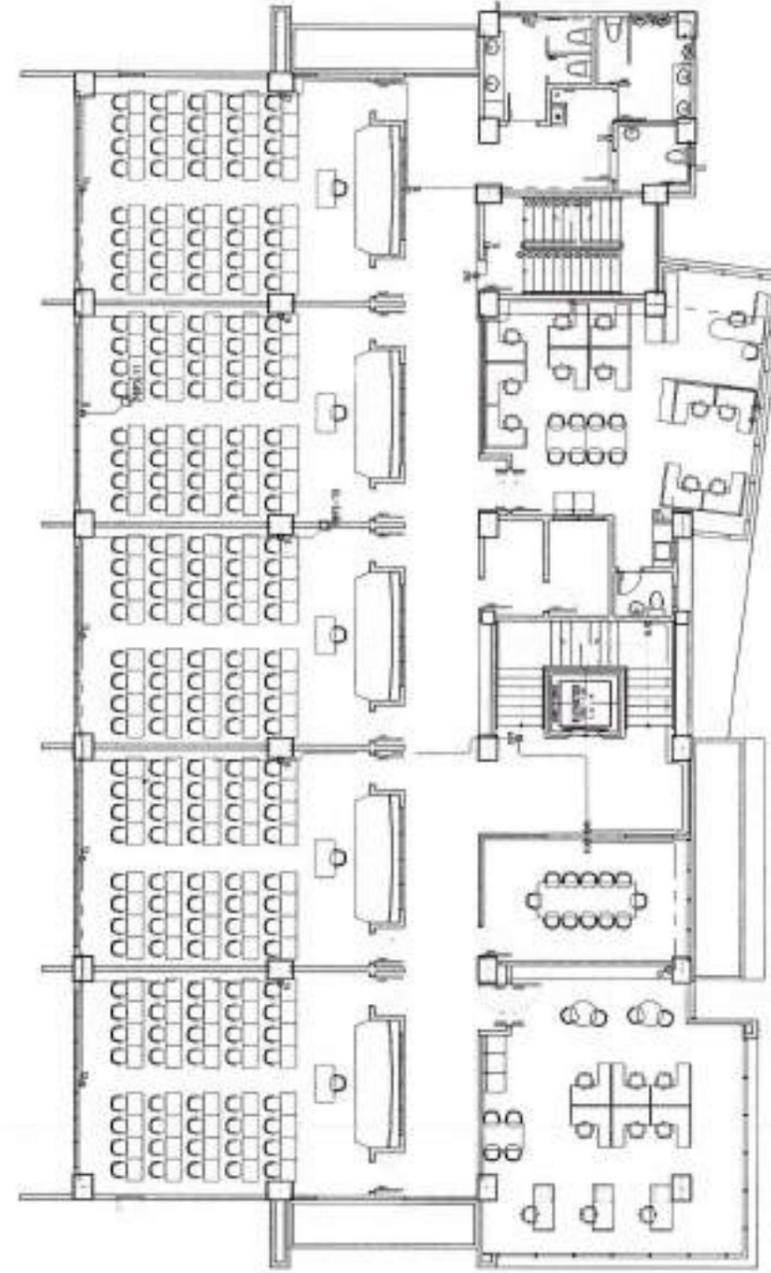
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APPROVED BY:



SECOND FLOOR PLAN - EMERGENCY LIGHT LAYOUT

SCALE 1:100 MTS



THIRD FLOOR PLAN - EMERGENCY LIGHT LAYOUT

SCALE 1:100 MTS



REPUBLIC OF THE PHILIPPINES  
UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES  
CAGAYAN DE ORO CAMPUS  
INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT UNIT  
LAPAY ST. 1279 AVENUE, CAGAYAN DE ORO CITY 9000  
TELEPHONE # (8032) 12-40-40 / (803) 854-1104 / 854-1101 | FAX # (803) 854-4000  
WEBSITE: www.ustip.edu.ph

PROFESSIONAL ELECTRICAL ENGINEER	
REG. NO.	PRO. NO.
DATE	
TM. NO.	PLACE

PROJECT	CONSTRUCTION OF 21ST CENTURY CLASSROOM BUILDINGS PHASE III, VILLANUEVA CAMPUS
LOCATION	USTP VILLANUEVA CAMPUS, NEGROS ORIENTAL
OWNER	UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL  
*[Signature]*  
ENGR. GRACE C. BABA  
DIRECTOR, UPBO

RECOMMENDING APPROVAL  
*[Signature]*  
ATTY. EDWIN B. BOCH  
VP FOR ADMINISTRATION & LEGAL AFFAIRS

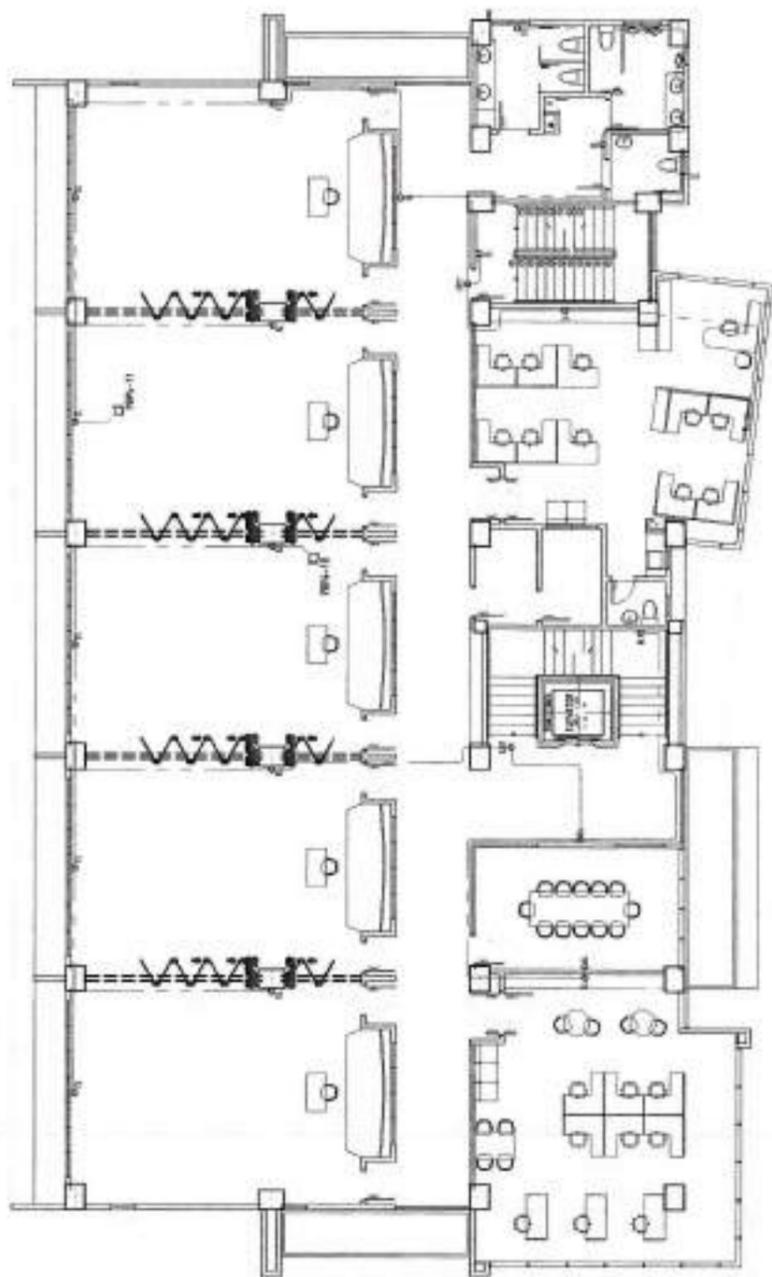
APPROVED BY:  
*[Signature]*  
DR. AMBRONIO R. CULTURA II  
PRESIDENT, USTP SYSTEM

SHEET CONTENTS:  
SECOND & THIRD FLOOR EMERGENCY LIGHTING LAYOUT

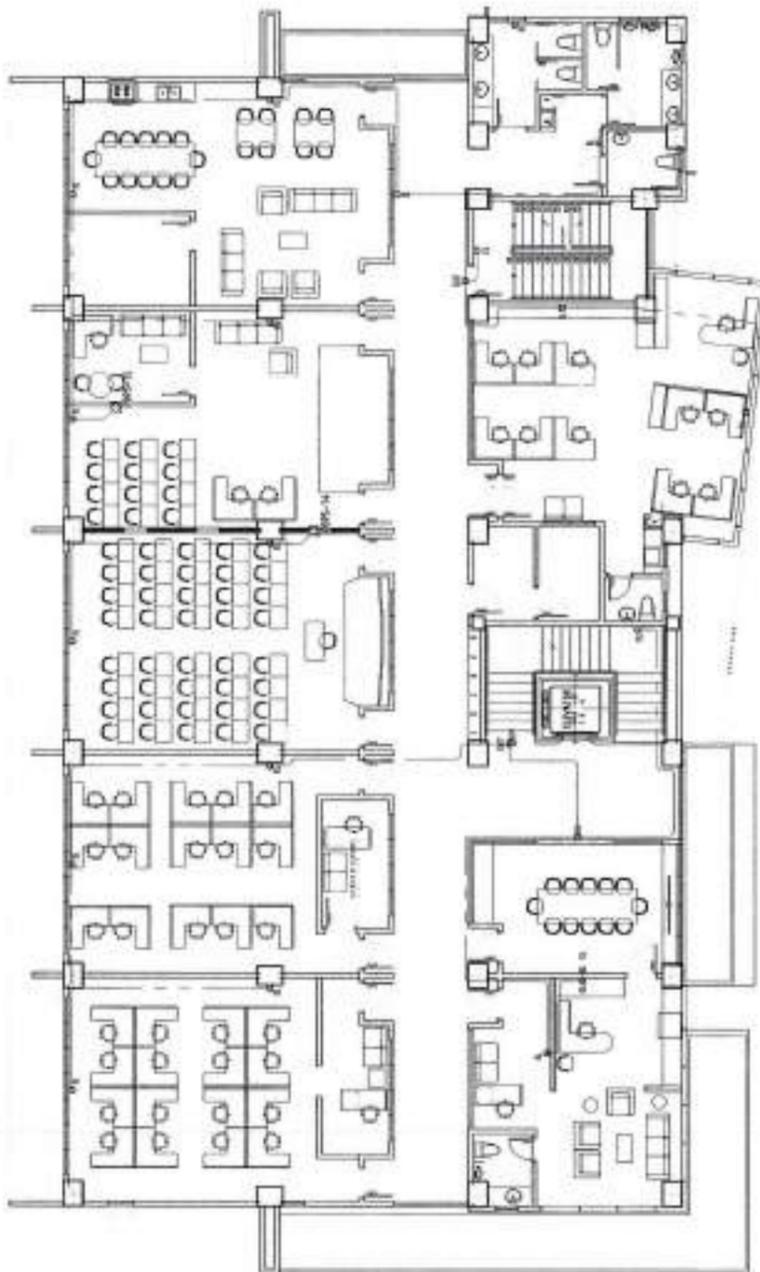
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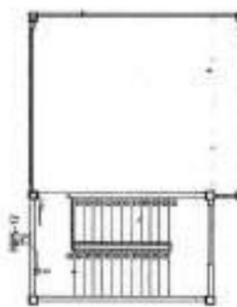
APPROVED BY:



FOURTH FLOOR PLAN - EMERGENCY LIGHT LAYOUT  
SCALE: 1:100 MTS



FIFTH FLOOR PLAN - EMERGENCY LIGHT LAYOUT  
SCALE: 1:100 MTS



ROOF DECK PLAN  
SCALE: 1:100 MTS



REPUBLIC OF THE PHILIPPINES  
UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES  
CASARAN DE ORO CAMPUS  
INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT UNIT  
LEARN, RECH, SERVE, LEAD, LIVE, GROW, THRIVE  
TELEPHONE: 800-25-1211 / 800-888-1111 / 800-1718 | FAX: 704-888-4444  
WWW: www.ustip.edu.ph

PROFESSIONAL ELECTRICAL ENGINEER	
PR. NO.	PR. NO.
SIGN.	DATE
TR. NO.	PLACE

PROJECT	CONSTRUCTION OF 21ST CENTURY CLASSROOM BUILDINGS PHASE III, VILLANUEVA CAMPUS
LOCATION	USTP VILLANUEVA CAMPUS, PASIG CITY, METRO MANILA
OWNER	UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

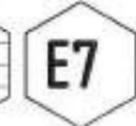
RECOMMENDING APPROVAL:  
*[Signature]*  
ENGR. GRACE C. BABA  
DIRECTOR, IPFO

RECOMMENDING APPROVAL:  
*[Signature]*  
ATTY. ERWIN S. BUICU  
AVIATION ADMINISTRATION & LEGAL AFFAIRS

APPROVED BY:  
*[Signature]*  
DR. AMBROSIO B. CULTURA II  
PRESIDENT, USTP SYSTEM

SHEET CONTENTS:  
FLOOR & FLOOR PLAN  
EMERGENCY LIGHT LAYOUT

DATE:	
BY:	
NO.:	



APPROVED BY:

**GENERAL NOTES:**

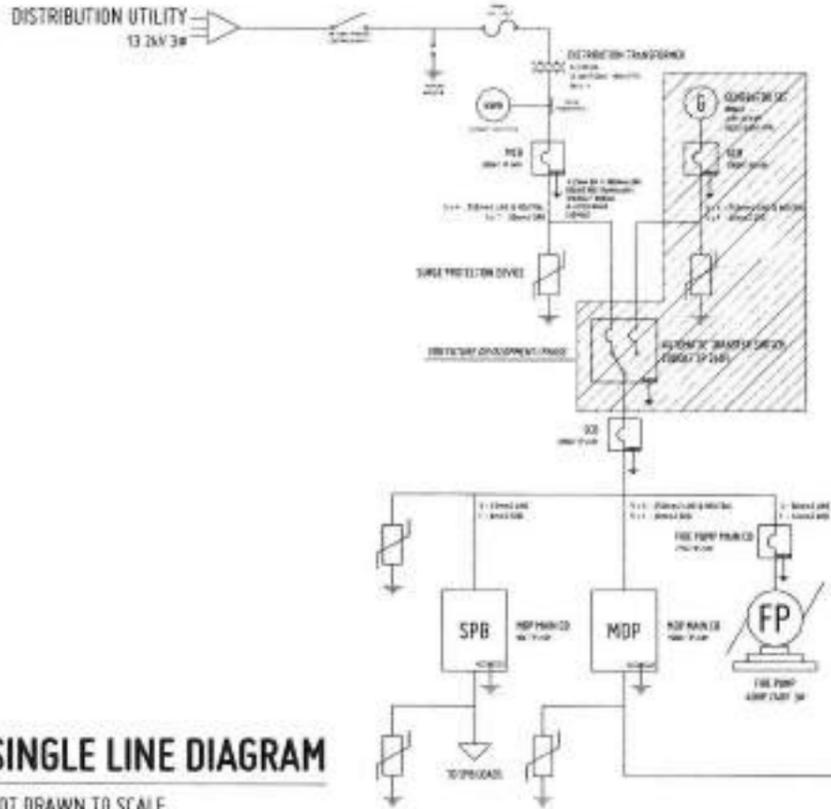
- ALL WORKS SHALL COMPLY WITH THE PROVISIONS OF THE LATEST EDITION OF THE PHILIPPINE ELECTRICAL CODE, THE RULES & REGULATIONS OF THE NATIONAL AND LOCAL AUTHORITY CONCERNED IN THE ENFORCEMENT OF ELECTRICAL LAWS AND ORDINANCES AND THE REGULATIONS OF THE UTILITY COMPANY CONCERNED.
- POWER SERVICE TO THE BUILDING SHALL BE 230 VOLTS 3 PHASE 3 WIRE & GROUND.
- SMALLEST CONDUCTOR FOR POWER AND LIGHTING SHALL BE 3.5mm<sup>2</sup> THIN AND SMALLEST RACEWAY SHALL BE 15mm DIA. TRADE SIZE CONDUCTOR SHALL BE TYPE THIN EXCEPT AS OTHERWISE REQUIRED BY THE DRAWING AND INSULATED FOR 600 VOLTS.
- GROUNDING WIRE SHALL BE PROVIDED TO ALL EQUIPMENTS, OUTLETS AND LIGHTING CIRCUITS AND ALL NON-CURRENT CARRYING METAL PARTS.
- MATERIALS AND EQUIPMENT TO BE USED SHALL BE NEW AND OF APPROVED TYPE FOR BOTH LOCATION AND PURPOSE INTENDED. SUBMIT SAMPLES OF MATERIALS TO THE ARCHITECT/ DESIGN ENGINEER FOR APPROVAL PRIOR TO INSTALLATION.
- NO BRANCH CKT. SHALL HAVE A LOAD OF MORE THAN 80% OF ITS RATING.
- EMERGENCY LIGHTING SHALL BE PROVIDED WITH A DEDICATED CIRCUIT.
- CIRCUIT BREAKERS SHALL BE BUILT ON TYPE. USE ONLY ONE BRAND ALL THROUGHOUT.
- MOUNTING HEIGHT SHALL BE AS FOLLOWS:  
 a. LIGHT CONTROL SWITCH - 1.52 ABOVE FINISHED FLOOR  
 b. CONVENIENCE BUTLET - 0.30 ABOVE FINISHED FLOOR  
 c. SPECIAL PURPOSE OUTLET - 0.30 ABOVE FINISHED FLOOR OR AS REQUIRED BY THE ARCHITECT  
 d. PANEL BOARDS, FIRE ALARM - PANEL 1.80 FROM TOP OF PANEL TO FINISHED FLOOR
- ALL WORKS SHALL BE COORDINATED WITH THE ARCHITECT AND OTHER TRADE DISCIPLINE PRIOR TO INSTALLATION.
- CONTRACTOR SHALL SUBMIT AS-BUILT DRAWINGS SIGNED AND SEALED BY PROFESSIONAL ELECTRICAL ENGINEER.
- CONTRACTOR TO PERFORM ALL TEST NECESSARY BUT NOT LIMITED TO THE FOLLOWING:  
 a. CABLE INSULATION RESISTIVITY TEST  
 b. PHASE SEQUENCE TEST  
 c. LOAD TEST  
 d. COMPLETE TEST FOR TRANSFORMER
- ALL WIRES SHALL BE COLOR CODED AS FOLLOWS:  
 PHASE - A - BLACK      GROUND - GREEN  
 PHASE - B - RED        PHASE - C - BLUE
- NO CHANGE OR MODIFICATION SHALL BE MADE ON THESE PLANS WITHOUT THE ENGINEER'S/OWNER'S WRITTEN COMMENT.
- ALL MOTORS AND AIR-CONDITIONING UNITS MUST HAVE INDIVIDUAL ENCLOSED THERMAL MAGNETIC CIRCUIT BREAKER.
- ENCLOSURE TYPE FOR PANEL BOARDS SHALL BE NEMA 3R FOR INDOORS AND NEMA 4X FOR OUTDOORS.
- ALL CONVENIENCE OUTLETS SHALL BE TAMPER-RESISTANT (TRRO). GFCI CONVENIENCE OUTLETS SHALL BE USED IN WET LOCATIONS.
- EMERGENCY LIGHTING AND FIRE EXT. SIGNAL OUTLETS LOCATED ON CEILING SHALL BE CEILING-MOUNTED.

**IMPORTANT NOTES:**

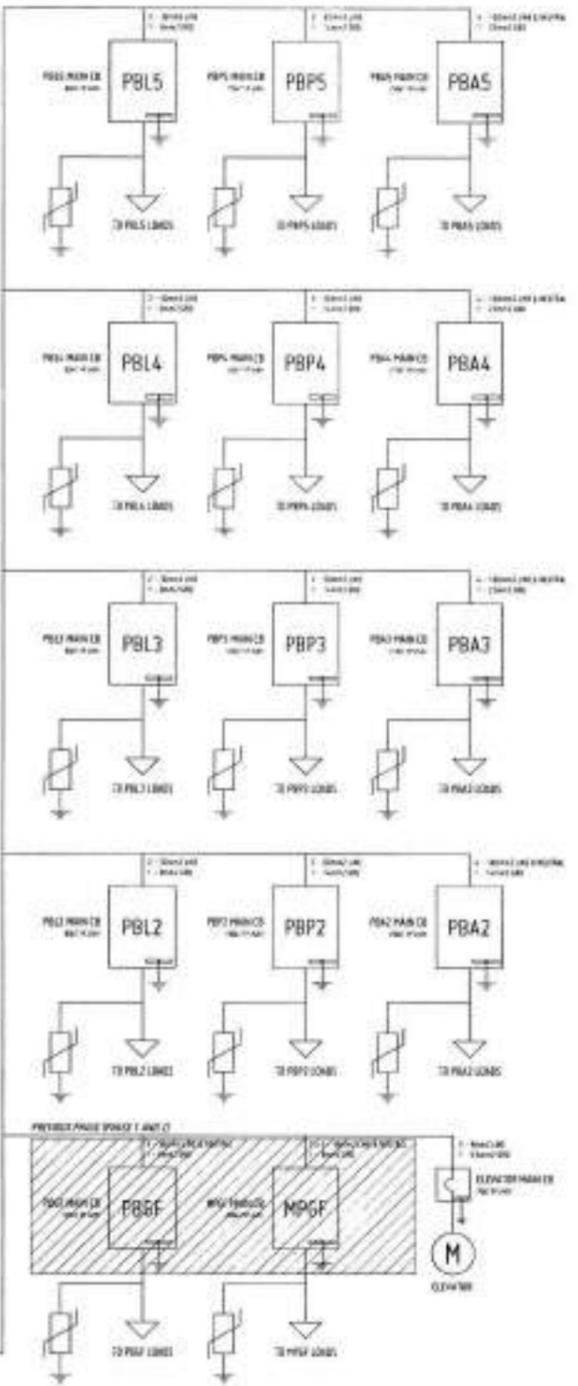
- STRUCTURAL DESIGN/DETAILS OF PEDESTAL, DUCTRANK AND GENERATOR PADS SHALL BE COORDINATED WITH STRUCTURAL ENGINEER PRIOR TO IMPLEMENTATION.
- ELECTRICAL CONTRACTOR SHALL COORDINATE WITH POWER UTILITY COMPANY FOR TOTAL LOAD REQUIREMENTS OF THE PROJECT TO ASSURE AVAILABILITY OF 3-PHASE OR 1-PHASE TO BE SUPPLIED BY THE UTILITY COMPANY. THIS SHALL BE DONE PRIOR TO FABRICATION OR PURCHASE OF PANELBOARD & INSTALLATION OF SERVICE & FEEDERS.
- ELECTRICAL CONTRACTOR SHALL COORDINATE LOCATION OF SERVICE PEDESTAL WITH EXISTING UTILITY POLE AT SITE & WITH ELECTRIC UTILITY COMPANY PRIOR TO IMPLEMENTATION. IN GENERAL, LOCATE PEDESTAL ON THE SIDE NEAR THE EXISTING POLE.  
 4-3.0M FOR PEDESTAL AREAS  
 4-3.7M FOR DRIVEWAYS SUBJECT TO CAR TRAFFIC  
 4-5.5M FOR DRIVEWAYS/STREET SUBJECT TO TRUCK TRAFFIC

	12 WATT LED RECESSED LIGHT		DUPLEX TAMPER RESISTANT RECEPTACLE (TRRO) UNIVERSAL CONVENIENCE FLOOR OUTLET
	10W LED RECESSED CEILING MOUNTED LIGHT		EMERGENCY LIGHT
	10W LED LIGHT WITH INDUSTRIAL HOUSING AND SUPPORT		FIRE EXIT BUTLET
	1-32W T8 LED FLUORESCENT LIGHT RECESSED TYPE WITH INDUSTRIAL HOUSING AND SUPPORT		AIR-COOLED CONDENSING UNIT OUTLET
	1-32W T8 LED FLUORESCENT LIGHT RECESSED TYPE WITH INDUSTRIAL HOUSING AND SUPPORT		EXHAUST FAN
	DUPLEX UNIVERSAL CONVENIENCE BUTLET		CIRCUIT BREAKER
	DUPLEX TAMPER RESISTANT RECEPTACLE (TRRO) UNIVERSAL CONVENIENCE OUTLET		PANEL BOARD
	DUPLEX TAMPER RESISTANT RECEPTACLE (TRRO) UNIVERSAL CONVENIENCE OUTLET WITH WEATHERPROOF COVER		SERVICE PEDESTAL
	DUPLEX GROUND FAULT CIRCUIT INTERRUPTER (GFCI) UNIVERSAL CONVENIENCE BUTLET		ENCLOSED CIRCUIT BREAKER

**E 8 1**  
**ELECTRICAL LEGEND AND SYMBOLS**  
NOT DRAWN TO SCALE



**E 8 2**  
**SINGLE LINE DIAGRAM**  
NOT DRAWN TO SCALE



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CAGAYAN DE ORO CAMPUS  
INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT UNIT  
CAMPUS: 1525A PAVILION, LUPKANG, CAGAYAN DE ORO CITY 9000  
TELEPHONE: (8092) 70-40-40 / (8092) 884-1133 / (8092) 1134 / (8092) 888-8888  
WWW: www.ustip.edu.ph

PROFESSIONAL ELECTRICAL ENGINEER		PROJECT	CONSTRUCTION OF 21ST CENTURY CLASSROOM BUILDINGS PHASE III, VILLANUEVA CAMPUS
NAME	VENUE	LOCATION	USTP VILLANUEVA CAMPUS, NEGROS ORIENTAL
DATE	PLACE	OWNER	UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL  
ENGR. GRACE C. BABA  
ELECTRIC, RPSO

RECORDING APPROVAL  
ATY ERWIN B. SUICO  
PROPERTY MANAGEMENT AFFAIRS

APPROVED BY:  
DR. AMBRISIO B. CULTURA II  
PRESIDENT, USTP SYSTEM

SHEET CONTENTS	DATE
ELECTRICAL LEGEND AND SYMBOLS	DATE DRAWN
SINGLE LINE DIAGRAM	DATE

**E8**



APPROVED BY:

DESIGN ANALYSIS						
LOAD TYPE	VA PER LOAD	VOLTAGE	FLC PER PHASE (w/ DF)			
			AB	BC	CA	3Ø
LIGHTING OUTLET	72180.00	230	124.24	5.57	121.25	0.00
CONVENIENCE OUTLET	127560.00	230	214.49	224.30	21.29	0.00
AIRCON	313656.00	230	489.50	399.00	475.00	0.00
MOTOR (NON-CONTINUOUS)	11673.11	230	0.00	0.00	0.00	29.30
MOTOR (CONTINUOUS)	13703.58	230	0.00	0.00	0.00	34.40
LARGEST MOTOR	41429.44	230	0.00	0.00	0.00	104.00
SPARE	55500.00	230	62.61	52.17	46.96	13.56
<b>TOTAL CONNECTED VA</b>	<b>635702.14</b>	<b>230</b>	<b>890.84</b>	<b>681.03</b>	<b>664.50</b>	<b>181.26</b>

DEMAND FACTOR CALCULATION		LINE CURRENT CALCULATION	
DEMAND FACTOR = TOTAL DEMAND VA/TOTAL CONNECTED VA		IL = LARGEST TOTAL PHASE CURRENT + TOTAL 3Ø CURRENT	
TOTAL DEMAND VA	588422.14	IL = 890.839130434783(1.732) + 181.258499849382	
OVERALL DEMAND FACTOR	92.56%	1724.19187376243 A	

MCB/SCB	DEMAND FACTORS PER PB	TOTAL VA	DEMAND VA
SPB	1.00	18376.70	18376.70
MOP	0.92	572896.00	526216.00
PB6F	0.72	43440.00	31152.00
PBL2	0.80	16980.00	13584.00
PBL3	0.80	17380.00	13904.00
PBL4	0.80	17380.00	13904.00
PBL5	0.80	17380.00	13904.00
PBP2	0.82	33240.00	27420.00
PBP3	0.83	27120.00	22488.00
PBP4	0.84	22260.00	18600.00
PBP5	0.84	36060.00	30204.00
MP6F	1.00	51185.00	51185.00
PBA2	1.00	64755	64755.00
PBA3	1.00	72575	72575.00
PBA4	1.00	72575	72575.00
PBA5	1.00	67566	67566.00

PB ID	% MOTOR LOAD	% STATIC LOAD
PB6F	0.00%	100.00%
PBL2	0.00%	100.00%
PBL3	0.00%	100.00%
PBL4	0.00%	100.00%
PBL5	0.00%	100.00%
PBP2	0.00%	100.00%
PBP3	0.00%	100.00%
PBP4	0.00%	100.00%
PBP5	0.32%	91.68%
MP6F	94.14%	5.86%
PBA2	95.37%	4.63%
PBA3	95.87%	4.13%
PBA4	95.87%	4.13%
PBA5	95.56%	4.44%
SPB	83.67%	16.33%



DESIGN ANALYSIS, TRANSFORMER AND GENERATOR SIZING

SCALE

NOTES

TRANSFORMER SIZING		GENERATOR SIZING	
TOTAL LINE CURRENT	CALCULATION	kw LOAD	CALCULATION
1724.191874	TRANSFORMER SIZE $S = (1.732 \times V \times I) \times 125\%$ $S = (1.732 \times 230 \times 1724.19) \times 125\%$ $S = 858.56134354 \text{ kVA}$	RESERVE CAPACITY	$P = (1.732 \times V \times I \times PF) / 1000$ $P = (1.732 \times 230 \times 1724.19 \times 0.80) / 1000$ $P = 549.4792598656 \text{ kW}$
THEREFORE USE 3 x 333 kVA 1P 13.2kV/240V POLE MOUNTED DISTRIBUTION TRANSFORMER		GENERATOR SIZE	$P = 549.48 \times 0.25$ $P = 137.37 \text{ kW}$ $P = 549.48 + 137.37$ $P = 686.85 \text{ kW}$
		THEREFORE USE 800kVA 3P 240V 60HZ 0.8PF SILENT-TYPE DIESEL GENERATOR SET	



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WWW.USTIP.USTP.EDU.PH

PROFESSIONAL ELECTRICAL ENGINEER  
REG. NO. \_\_\_\_\_  
DATE \_\_\_\_\_  
PLACE \_\_\_\_\_

PROJECT: CONSTRUCTION OF 21ST CENTURY CLASSROOM BUILDINGS PHASE III, VILLANUEVA CAMPUS  
LOCATION: USTP VILLANUEVA CAMPUS, NEGROS ORIENTAL  
OWNER: UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL  
ENGR. GRACE C. SABA  
DIRECTOR, UPDR

RECOMMENDING APPROVAL  
ATTY. ERWIN B. BUCAD  
OF THE ADMINISTRATION & LEGAL AFFAIRS

APPROVED BY:  
DR. AMBRISIO B. CULTURA II  
PRESIDENT, USTP SYSTEM

SHEET CONTENTS:  
DRAWN BY: \_\_\_\_\_  
TRANSFORMER AND GENERATOR SIZING  
DATE DRAWN: \_\_\_\_\_  
DATE: \_\_\_\_\_

E10

MAIN CIRCUIT BREAKER/SECONDARY CIRCUIT BREAKER - SCHEDULE OF LOADS																								
PANEL NO.	CIR. NO.	LOAD DESCRIPTION	L.B.	C.B.	OTHER LOADS	HP RATING	SWITCHES					VOLTAGE RATING	RATING (VA)	VA PER CIRCUIT	CIRCUIT LOAD CURRENT (IN/SP)				SIZE OF BREAKERS			SIZE OF HOMERUN CBT		
							S <sub>1</sub>	S <sub>2</sub>	S <sub>3</sub>	S <sub>4</sub>	S <sub>5</sub>				40	60	80	100	T	F	P	T	WIRE (sq. mm)	CONDUIT
MDF/SCB	E1	MDF - Main Distribution Panel										230	57285	57285	890.84	681.03	684.50	22.83	60	1	100	25.4 - 250mm <sup>2</sup> XLPE Copper Wire	25.4mm <sup>2</sup> Conduit - PVC	40.30 - 8mm <sup>2</sup> THHN Copper Wire
	E2	SPB - Secondary Power Board										230	18277	18277	0.00	0.00	0.00	14.13	60	1	80	3 - 22mm <sup>2</sup> XLPE Copper Wire	22mm <sup>2</sup> Conduit - PVC	1 - 8mm <sup>2</sup> THHN Copper Wire
	E3	Free Pump				48						230	47420	47420				104.00	60	1	75	3 - 38mm <sup>2</sup> THHN Copper Wire	38mm <sup>2</sup> Conduit - PVC	1 - 14mm <sup>2</sup> THHN Copper Wire
	E4	SPARE										230	3000	3000				6.61						
<b>TOTAL</b>			<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>230</b>	<b>835702</b>	<b>835702</b>	<b>890.84</b>	<b>681.03</b>	<b>684.50</b>	<b>188.78</b>						

Calculation:	For Service Conductor $I_L = (890.84 \times 1.732) + 25\% (184) = 159.74$ 159.74 A	For Service Protection $I_L = (890.84 \times 1.732) + 100\% (184) = 168.78$ 168.78 A	THEREFORE USE 2000 AMPERE CIRCUIT BREAKER, 3 PHASE, 230V USE 5 SETS OF 4 - 250mm <sup>2</sup> XLPE COPPER, 1 - 30mm <sup>2</sup> GROUND @ 80mm <sup>2</sup> Conduit - PVC
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Load Type	VA	FLC			
		40	60	80	100
LB	11180.00	134.24	5.57	121.25	0.80
LD	127940.00	214.48	224.30	21.25	0.80
ACU	312616.00	490.50	398.00	475.00	0.80
MOTOR (MC)	11673.11	0.00	0.80	0.00	25.10
MOTOR (SC)	11783.28	0.00	0.80	0.00	14.10
LAMP (ST)	41429.44	0.00	0.80	0.00	19.80
MOTOR	95580.00	0.00	0.00	0.00	10.50
SPARE	3000.00	0.00	0.00	0.00	0.00
<b>TOTAL</b>	<b>635782.84</b>	<b>690.84</b>	<b>681.03</b>	<b>684.50</b>	<b>188.78</b>

MAIN DISTRIBUTION PANEL - SCHEDULE OF LOADS																								
PANEL NO.	CIR. NO.	LOAD DESCRIPTION	L.B.	C.B.	OTHER LOADS	HP RATING	SWITCHES					VOLTAGE RATING	RATING (VA)	VA PER CIRCUIT	CIRCUIT LOAD CURRENT (IN/SP)				SIZE OF BREAKERS			SIZE OF HOMERUN CBT		
							S <sub>1</sub>	S <sub>2</sub>	S <sub>3</sub>	S <sub>4</sub>	S <sub>5</sub>				40	60	80	100	T	F	P	T	WIRE (sq. mm)	CONDUIT
MDF	E1	FBK1										230	43440	43440	53.68	44.17	51.94	-	60	1	125	4 - 28mm <sup>2</sup> THHN Copper Wire	28mm <sup>2</sup> Conduit - PVC	1 - 8mm <sup>2</sup> THHN Copper Wire
	E2	FBK2										230	18980	18980	58.05	-	-	-	60	2	80	2 - 38mm <sup>2</sup> THHN Copper Wire	38mm <sup>2</sup> Conduit - PVC	1 - 8mm <sup>2</sup> THHN Copper Wire
	E3	FBK3										230	17980	17980	58.43	-	-	-	60	2	80	2 - 38mm <sup>2</sup> THHN Copper Wire	38mm <sup>2</sup> Conduit - PVC	1 - 8mm <sup>2</sup> THHN Copper Wire
	E4	FBK4										230	17980	17980	-	-	80.45	-	60	2	80	2 - 38mm <sup>2</sup> THHN Copper Wire	38mm <sup>2</sup> Conduit - PVC	1 - 8mm <sup>2</sup> THHN Copper Wire
	E5	FBK5										230	17980	17980	-	-	80.45	-	60	2	80	2 - 38mm <sup>2</sup> THHN Copper Wire	38mm <sup>2</sup> Conduit - PVC	1 - 8mm <sup>2</sup> THHN Copper Wire
	E6	FBK6										230	33240	33240	-	175.22	-	-	60	2	150	2 - 60mm <sup>2</sup> THHN Copper Wire	60mm <sup>2</sup> Conduit - PVC	1 - 14mm <sup>2</sup> THHN Copper Wire
	E7	FBK7										230	27020	27020	-	91.72	-	-	60	2	125	2 - 50mm <sup>2</sup> THHN Copper Wire	50mm <sup>2</sup> Conduit - PVC	1 - 14mm <sup>2</sup> THHN Copper Wire
	E8	FBK8										230	22280	22280	80.87	-	-	-	60	2	125	2 - 50mm <sup>2</sup> THHN Copper Wire	50mm <sup>2</sup> Conduit - PVC	1 - 14mm <sup>2</sup> THHN Copper Wire
	E9	FBK9										230	30780	30780	130.31	-	-	-	60	2	175	2 - 60mm <sup>2</sup> THHN Copper Wire	60mm <sup>2</sup> Conduit - PVC	1 - 14mm <sup>2</sup> THHN Copper Wire
	E10	FBK10										230	51160	51160	87.21	85.58	11.22	-	60	2	200	2 - 60mm <sup>2</sup> THHN Copper Wire	60mm <sup>2</sup> Conduit - PVC	2 - 14mm <sup>2</sup> THHN Copper Wire
	E11	FBK11										230	64755	64755	56.80	81.83	181.68	-	60	2	250	4 - 100mm <sup>2</sup> THHN Copper Wire	75mm <sup>2</sup> Conduit - PVC	1 - 22mm <sup>2</sup> THHN Copper Wire
	E12	FBK12										230	72575	72575	118.00	84.22	188.72	-	60	2	275	4 - 100mm <sup>2</sup> THHN Copper Wire	75mm <sup>2</sup> Conduit - PVC	1 - 22mm <sup>2</sup> THHN Copper Wire
	E13	FBK13										230	72575	72575	118.00	84.22	188.72	-	60	2	275	4 - 100mm <sup>2</sup> THHN Copper Wire	75mm <sup>2</sup> Conduit - PVC	1 - 22mm <sup>2</sup> THHN Copper Wire
	E14	FBK14										230	87584	87584	91.51	106.00	95.98	-	60	2	250	4 - 100mm <sup>2</sup> THHN Copper Wire	75mm <sup>2</sup> Conduit - PVC	1 - 22mm <sup>2</sup> THHN Copper Wire
	E15	Elevators										230	18000	18000	-	-	-	25.10	60	2	75	2 - 8mm <sup>2</sup> THHN Copper Wire	22mm <sup>2</sup> Conduit - PVC	1 - 5mm <sup>2</sup> THHN Copper Wire
	E16	SPARE										230	3000	3000	-	-	-	3.71						
	E17	SPARE										230	3000	3000	-	-	-	3.71						
<b>TOTAL</b>			<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>230</b>	<b>572906</b>	<b>572906</b>	<b>890.84</b>	<b>681.03</b>	<b>684.50</b>	<b>188.78</b>						

Calculation:	For Service Conductor $I_L = (890.84 + 25\% (280) \times 1.732) + 32.87$ 158.74 A	For Service Protection $I_L = (890.84 + 100\% (280) \times 1.732) + 32.87$ 164.30 A	THEREFORE USE 1800 AMPERE CIRCUIT BREAKER, 3 PHASE, 230V USE 5 SETS OF 4 - 250mm <sup>2</sup> XLPE COPPER, 1 - 30mm <sup>2</sup> GROUND @ 80mm <sup>2</sup> Conduit - PVC
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Load Type	VA	FLC			
		40	60	80	100
LB	72180.00	134.24	5.57	121.25	0.80
LD	127940.00	214.48	224.30	21.25	0.80
ACU	112058.00	490.50	398.00	475.00	0.80
MOTOR (MC)	10000.00	0.00	0.80	0.00	25.10
MOTOR (SC)	0.00	0.00	0.80	0.00	0.00
LAMP (ST)	0.00	0.00	0.80	0.00	0.00
MOTOR	0.00	0.00	0.00	0.00	0.00
SPARE	3000.00	0.00	0.00	0.00	0.00
<b>TOTAL</b>	<b>572906.00</b>	<b>890.84</b>	<b>681.03</b>	<b>684.50</b>	<b>188.78</b>

**SCHEDULE OF LOADS**  
SCALE: NOTS



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CLAYTON RD. TO PANGRA LAGUNA, LACATAN DE BIC, DAVAO DEL SUR  
CAMPUS # 230242 91-88-88 / 2300 894-1738 / 894-1731 / 894-1732 FAX 2300 894-1438  
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PROFESSIONAL ELECTRICAL ENGINEER  
REG. NO. \_\_\_\_\_  
P.E. NO. \_\_\_\_\_  
S.A.T. \_\_\_\_\_  
NAME: \_\_\_\_\_

PROJECT: CONSTRUCTION OF 21ST CENTURY CLASSROOM BUILDINGS PHASE III, VILLANUEVA CAMPUS  
LOCATION: USTP VILLANUEVA CAMPUS, RIZAL ORIENTAL  
OWNER: UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL:  
ENGR. GRACE C. BABA  
DIRECTOR, PYSB

RECOMMENDING APPROVAL:  
ATTY. ERWIN B. BUENO  
VP FOR ADMINISTRATION AND LEGAL AFFAIRS

APPROVED BY:  
DR. AMBROSIO B. CULTURA II  
PRESIDENT, USTP SYSTEM

SHEET CONTENTS:  
SCHEDULE OF LOADS  
DRAWN BY:  
DATE DRAWN:  
NO.:



SECONDARY PANEL BOARD - SCHEDULE OF LOADS

PANEL NO.	CIR. NO.	LOAD DESCRIPTION	L.O.	C.O.	OTHER LOADS	HP RATING	SWITCHES					VOLTAGE RATING	OUTLET (VA) RATING	VA PER CIRCUIT	CIRCUIT LEAD CURRENT (A/CP)				SIZE OF BREAKERS			SIZE OF WIRE/CONDUIT		
							S <sub>1</sub>	S <sub>2</sub>	S <sub>3</sub>	S <sub>4</sub>	S <sub>5</sub>				AB	BC	CA	3P	F	P	T	WIRE (sq. mm)	CONDUIT	GROUNDING
SPB	C1	Plumbing Transfer Pump - Main				4						230	4800	4800				12.40	38	3	30	3-3.5mm <sup>2</sup> THWN Copper Wire	28mm <sup>2</sup> Conduit - RSC	1-5.5mm <sup>2</sup> THWN Copper Wire
	C2	Plumbing Transfer Pump - Backup				1						230	1870	1870				4.28	38	3	30	3-3.5mm <sup>2</sup> THWN Copper Wire	28mm <sup>2</sup> Conduit - RSC	1-5.5mm <sup>2</sup> THWN Copper Wire
	C3	Axley Pump				1.5						230	3164	3164				21.81	38	3	60	3-8.8mm <sup>2</sup> THWN Copper Wire	25mm <sup>2</sup> Conduit - RSC	1-5.5mm <sup>2</sup> THWN Copper Wire
	C4	SPARE										230	1500	1500				3.77	38	2				
	C5	SPARE										230	1500	1500				3.77	38	2				
TOTAL			0	0	0	12.5	0	0	0	0	0		18277				0.90	0.93	0.88	48.13				

APPROVED BY:

Calculation:

For Service Conductor  
 $I_L = (I_1 + 1.73I_2) \times 25\% (22) = 48.13$   
 51.834

For Service Protection  
 $I_L = (I_1 + 1.73I_2) \times 150\% (22) = 146.13$   
 79.318

THEREFORE USE 80 AMPERE CIRCUIT BREAKER, 3 PHASE, 230V  
 USE 3 - 22 mm<sup>2</sup> THWN COPPER, 1 - 8mm<sup>2</sup> GROUND @ 32 mm<sup>2</sup> Conduit - RSC

Load Type	VA	FLC			
		AB	BC	CA	3P
LB	0.00	0.00	0.00	0.00	0.00
CB	0.00	0.00	0.00	0.00	0.00
ACU	0.00	0.00	0.00	0.00	0.00
MOTOR (MC)	1673.11	0.00	0.00	0.00	4.28
MOTOR (CD)	13700.59	0.00	0.00	0.00	24.40
LARGEST MOTOR	0.00	0.00	0.00	0.00	0.00
SPARE	3000.00	0.00	0.00	0.00	7.50
TOTAL	18276.70	0.00	0.00	0.00	48.13

PANEL BOARD GF - SCHEDULE OF LOADS

PANEL NO.	CIR. NO.	LOAD DESCRIPTION	L.O.	C.O.	OTHER LOADS	HP RATING	SWITCHES					VOLTAGE RATING	OUTLET (VA) RATING	VA PER CIRCUIT	CIRCUIT LEAD CURRENT (A/CP)				SIZE OF BREAKERS			SIZE OF WIRE/CONDUIT			
							S <sub>1</sub>	S <sub>2</sub>	S <sub>3</sub>	S <sub>4</sub>	S <sub>5</sub>				AB	BC	CA	3P	F	P	T	WIRE (sq. mm)	CONDUIT	GROUNDING	
SPB	C1	Lighting Outlet	16				1	2	1			230	100	1000	5.57				38	2	30	2-1.5mm <sup>2</sup> THWN Copper Wire	20mm <sup>2</sup> Conduit - PVC	1-1.5mm <sup>2</sup> THWN Copper Wire	
	C2	Lighting Outlet	16				1	2	1			230	100	1000	5.57				38	2	30	2-1.5mm <sup>2</sup> THWN Copper Wire	20mm <sup>2</sup> Conduit - PVC	1-1.5mm <sup>2</sup> THWN Copper Wire	
	C3	Lighting Outlet	75				2		1			230	100	1500			5.22		38	2	30	2-1.5mm <sup>2</sup> THWN Copper Wire	20mm <sup>2</sup> Conduit - PVC	1-1.5mm <sup>2</sup> THWN Copper Wire	
	C4	Lighting Outlet	75				2		1			230	100	1500			5.22		38	2	30	2-1.5mm <sup>2</sup> THWN Copper Wire	20mm <sup>2</sup> Conduit - PVC	1-1.5mm <sup>2</sup> THWN Copper Wire	
	C5	Lighting Outlet	9				1		1			230	100	900		2.13			38	2	30	2-1.5mm <sup>2</sup> THWN Copper Wire	20mm <sup>2</sup> Conduit - PVC	1-1.5mm <sup>2</sup> THWN Copper Wire	
	C6	Lighting Outlet	7					2				230	100	700		2.43			38	2	30	2-1.5mm <sup>2</sup> THWN Copper Wire	20mm <sup>2</sup> Conduit - PVC	1-1.5mm <sup>2</sup> THWN Copper Wire	
	C7	Lighting Outlet	21						2	1		230	100	2100	7.30				38	2	30	2-1.5mm <sup>2</sup> THWN Copper Wire	20mm <sup>2</sup> Conduit - PVC	1-1.5mm <sup>2</sup> THWN Copper Wire	
	C8	Lighting Outlet and Exhaust Fan	11	2			5	1	1			230	100	2000	7.11				38	2	30	2-1.5mm <sup>2</sup> THWN Copper Wire	20mm <sup>2</sup> Conduit - PVC	1-1.5mm <sup>2</sup> THWN Copper Wire	
	C9	Lighting Outlet	75				2		1			230	100	1500			5.22		38	2	30	2-1.5mm <sup>2</sup> THWN Copper Wire	20mm <sup>2</sup> Conduit - PVC	1-1.5mm <sup>2</sup> THWN Copper Wire	
	C10	Lighting Outlet	16				4	2		1		230	100	1600			5.51		38	2	30	2-1.5mm <sup>2</sup> THWN Copper Wire	20mm <sup>2</sup> Conduit - PVC	1-1.5mm <sup>2</sup> THWN Copper Wire	
	C11	Convenience Outlet and Emergency Light	11									230	100	1900		6.88			38	2	30	2-1.5mm <sup>2</sup> THWN Copper Wire	20mm <sup>2</sup> Conduit - PVC	1-1.5mm <sup>2</sup> THWN Copper Wire	
	C12	Convenience Outlet	11									230	100	1900		6.88			38	2	30	2-1.5mm <sup>2</sup> THWN Copper Wire	20mm <sup>2</sup> Conduit - PVC	1-1.5mm <sup>2</sup> THWN Copper Wire	
	C13	Convenience Outlet and Emergency Light	18									230	100	3248	11.27				38	2	30	2-1.5mm <sup>2</sup> THWN Copper Wire	20mm <sup>2</sup> Conduit - PVC	1-1.5mm <sup>2</sup> THWN Copper Wire	
	C14	Convenience Outlet and Emergency Light	12									230	100	2700	7.51				38	2	30	2-1.5mm <sup>2</sup> THWN Copper Wire	20mm <sup>2</sup> Conduit - PVC	1-1.5mm <sup>2</sup> THWN Copper Wire	
	C15	Convenience Outlet and Emergency Light	16									230	100	2800			10.81		38	2	30	2-1.5mm <sup>2</sup> THWN Copper Wire	20mm <sup>2</sup> Conduit - PVC	1-1.5mm <sup>2</sup> THWN Copper Wire	
	C16	Convenience Outlet and Emergency Light	18									230	100	3248			11.27		38	2	30	2-1.5mm <sup>2</sup> THWN Copper Wire	20mm <sup>2</sup> Conduit - PVC	1-1.5mm <sup>2</sup> THWN Copper Wire	
	C17	Convenience Outlet	12									230	100	2700		7.51			38	2	30	2-1.5mm <sup>2</sup> THWN Copper Wire	20mm <sup>2</sup> Conduit - PVC	1-1.5mm <sup>2</sup> THWN Copper Wire	
	C18	Convenience Outlet	11									230	100	1900		6.88			38	2	30	2-1.5mm <sup>2</sup> THWN Copper Wire	20mm <sup>2</sup> Conduit - PVC	1-1.5mm <sup>2</sup> THWN Copper Wire	
	C19	Convenience Outlet and Emergency Light	7									230	100	1200	4.36				38	2	30	2-1.5mm <sup>2</sup> THWN Copper Wire	20mm <sup>2</sup> Conduit - PVC	1-1.5mm <sup>2</sup> THWN Copper Wire	
	C20	SPARE										230	1500	1500	5.22				38	2	30				
	C21	SPARE										230	1500	1500			5.22			38	2	30			
	C22	SPARE										230	1500	1500			5.22			38	2	30			
	C23	SPARE										230	1500	1500			5.22			38	2	30			
	C24	SPARE										230	1500	1500			5.22			38	2	30			
TOTAL			253	2	0	0	19	11	7	2	0		43440				53.98	44.17	52.84						

Calculation:

For Service Conductor  
 $I_L = 53.98 \times 1.73 \times 125\%$   
 116.87

For Service Protection  
 $I_L = 53.98 \times 1.73 \times 150\%$   
 136.87

THEREFORE USE 125 AMPERE CIRCUIT BREAKER, 3 PHASE, 230V  
 USE 4 - 38 mm<sup>2</sup> THWN COPPER, 1 - 8mm<sup>2</sup> GROUND @ 50mm<sup>2</sup> Conduit - PVC

Load Type	VA	FLC			
		AB	BC	CA	3P
LB	15900.00	25.08	5.57	21.22	0.00
CB	20800.00	23.17	38.17	21.25	0.00
ACU	0.00	0.00	0.00	0.00	0.00
MOTOR (MC)	0.00	0.00	0.00	0.00	0.00
MOTOR (CD)	0.00	0.00	0.00	0.00	0.00
LARGEST MOTOR	0.00	0.00	0.00	0.00	0.00
SPARE	7500.00	5.22	15.43	10.43	0.00
TOTAL	43440.00	53.98	44.17	52.84	0.00



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 UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES  
 CALAPAN SECOND CAMPUS  
 INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT UNIT  
 QUINCY R. BELTRAN, LUPKIN, LAGANAN BAYAN, DAVAO CITY 8000  
 TEL: (81) 222-1111 / (81) 222-1112 / (81) 222-1113 / (81) 222-1114 / (81) 222-1115 / (81) 222-1116 / (81) 222-1117 / (81) 222-1118 / (81) 222-1119 / (81) 222-1120 / (81) 222-1121 / (81) 222-1122 / (81) 222-1123 / (81) 222-1124 / (81) 222-1125 / (81) 222-1126 / (81) 222-1127 / (81) 222-1128 / (81) 222-1129 / (81) 222-1130 / (81) 222-1131 / (81) 222-1132 / (81) 222-1133 / (81) 222-1134 / (81) 222-1135 / (81) 222-1136 / (81) 222-1137 / (81) 222-1138 / (81) 222-1139 / (81) 222-1140 / (81) 222-1141 / (81) 222-1142 / (81) 222-1143 / (81) 222-1144 / (81) 222-1145 / (81) 222-1146 / (81) 222-1147 / (81) 222-1148 / (81) 222-1149 / (81) 222-1150 / (81) 222-1151 / (81) 222-1152 / (81) 222-1153 / (81) 222-1154 / (81) 222-1155 / (81) 222-1156 / (81) 222-1157 / (81) 222-1158 / (81) 222-1159 / (81) 222-1160 / (81) 222-1161 / (81) 222-1162 / (81) 222-1163 / (81) 222-1164 / (81) 222-1165 / (81) 222-1166 / (81) 222-1167 / (81) 222-1168 / (81) 222-1169 / (81) 222-1170 / (81) 222-1171 / (81) 222-1172 / (81) 222-1173 / (81) 222-1174 / (81) 222-1175 / (81) 222-1176 / (81) 222-1177 / (81) 222-1178 / (81) 222-1179 / (81) 222-1180 / (81) 222-1181 / (81) 222-1182 / (81) 222-1183 / (81) 222-1184 / (81) 222-1185 / (81) 222-1186 / (81) 222-1187 / (81) 222-1188 / (81) 222-1189 / (81) 222-1190 / (81) 222-1191 / (81) 222-1192 / (81) 222-1193 / (81) 222-1194 / (81) 222-1195 / (81) 222-1196 / (81) 222-1197 / (81) 222-1198 / (81) 222-1199 / (81) 222-1200 / (81) 222-1201 / (81) 222-1202 / (81) 222-1203 / (81) 222-1204 / (81) 222-1205 / (81) 222-1206 / (81) 222-1207 / (81) 222-1208 / (81) 222-1209 / (81) 222-1210 / (81) 222-1211 / (81) 222-1212 / (81) 222-1213 / (81) 222-1214 / (81) 222-1215 / (81) 222-1216 / (81) 222-1217 / (81) 222-1218 / (81) 222-1219 / (81) 222-1220 / (81) 222-1221 / (81) 222-1222 / (81) 222-1223 / (81) 222-1224 / (81) 222-1225 / (81) 222-1226 / (81) 222-1227 / (81) 222-1228 / (81) 222-1229 / (81) 222-1230 / (81) 222-1231 / (81) 222-1232 / (81) 222-1233 / (81) 222-1234 / (81) 222-1235 / (81) 222-1236 / (81) 222-1237 / (81) 222-1238 / (81) 222-1239 / (81) 222-1240 / (81) 222-1241 / (81) 222-1242 / (81) 222-1243 / (81) 222-1244 / (81) 222-1245 / (81) 222-1246 / (81) 222-1247 / (81) 222-1248 / (81) 222-1249 / (81) 222-1250 / (81) 222-1251 / (81) 222-1252 / (81) 222-1253 / (81) 222-1254 / (81) 222-1255 / (81) 222-1256 / (81) 222-1257 / (81) 222-1258 / (81) 222-1259 / (81) 222-1260 / (81) 222-1261 / (81) 222-1262 / (81) 222-1263 / (81) 222-1264 / (81) 222-1265 / (81) 222-1266 / (81) 222-1267 / (81) 222-1268 / (81) 222-1269 / (81) 222-1270 / (81) 222-1271 / (81) 222-1272 / (81) 222-1273 / (81) 222-1274 / (81) 222-1275 / (81) 222-1276 / (81) 222-1277 / (81) 222-1278 / (81) 222-1279 / (81) 222-1280 / (81) 222-1281 / (81) 222-1282 / (81) 222-1283 / (81) 222-1284 / (81) 222-1285 / (81) 222-1286 / (81) 222-1287 / (81) 222-1288 / (81) 222-1289 / (81) 222-1290 / (81) 222-1291 / (81) 222-1292 / (81) 222-1293 / (81) 222-1294 / (81) 222-1295 / (81) 222-1296 / (81) 222-1297 / (81) 222-1298 / (81) 222-1299 / (81) 222-1300 / (81) 222-1301 / (81) 222-1302 / (81) 222-1303 / (81) 222-1304 / (81) 222-1305 / (81) 222-1306 / (81) 222-1307 / (81) 222-1308 / (81) 222-1309 / (81) 222-1310 / (81) 222-1311 / (81) 222-1312 / (81) 222-1313 / (81) 222-1314 / (81) 222-1315 / (81) 222-1316 / (81) 222-1317 / (81) 222-1318 / (81) 222-1319 / (81

APPROVED BY:

PANEL BOARD LIGHTING 3F - SCHEDULE OF LOADS																					
PANEL NO.	CIR. NO.	LOAD DESCRIPTION	L.O.	C.B.	OTHER LOADS	WIRING	SWITCHES					VOLTAGE RATING	OUTLET END RATING	VA PER CIRCUIT	CIRCUIT LOAD CURRENT (A/NO)	SIZE OF BREAKERS			SIZE OF WIRING CTD		
							S <sub>1</sub>	S <sub>2</sub>	S <sub>3</sub>	S <sub>4</sub>	S <sub>5</sub>					F	F	T	WIRE (sq. mm)	CONDUIT	GROUNDING
PBL3	C1	Lighting Outlet	15				1		1			230	100	1000	5.21	08	2	15	1 - 2.5 mm <sup>2</sup> THHN Copper Wire	30 mm x Conduit - PVC	1 - 25 mm <sup>2</sup> THHN Copper Wire
	C2	Lighting Outlet	15				1		1			230	100	1000	5.21	08	2	15	1 - 2.5 mm <sup>2</sup> THHN Copper Wire	30 mm x Conduit - PVC	1 - 25 mm <sup>2</sup> THHN Copper Wire
	C3	Lighting Outlet	15				1		1			230	100	1000	5.21	08	2	15	1 - 2.5 mm <sup>2</sup> THHN Copper Wire	30 mm x Conduit - PVC	1 - 25 mm <sup>2</sup> THHN Copper Wire
	C4	Lighting Outlet	15				1		1			230	100	1000	5.21	08	2	15	1 - 2.5 mm <sup>2</sup> THHN Copper Wire	30 mm x Conduit - PVC	1 - 25 mm <sup>2</sup> THHN Copper Wire
	C5	Lighting Outlet	15				1		1			230	100	1000	5.21	08	2	15	1 - 2.5 mm <sup>2</sup> THHN Copper Wire	30 mm x Conduit - PVC	1 - 25 mm <sup>2</sup> THHN Copper Wire
	C6	Lighting Outlet	15				1		1			230	100	1000	5.21	08	2	15	1 - 2.5 mm <sup>2</sup> THHN Copper Wire	30 mm x Conduit - PVC	1 - 25 mm <sup>2</sup> THHN Copper Wire
	C7	Lighting Outlet	11				1	2		1		230	100	1100	5.81	08	2	15	1 - 2.5 mm <sup>2</sup> THHN Copper Wire	30 mm x Conduit - PVC	1 - 25 mm <sup>2</sup> THHN Copper Wire
	C8	Lighting Outlet and Exhaust Fan	15	1			1	2	1			230	100	1100	6.18	08	2	15	1 - 2.5 mm <sup>2</sup> THHN Copper Wire	30 mm x Conduit - PVC	1 - 25 mm <sup>2</sup> THHN Copper Wire
	C9	Lighting Outlet	12				1	2		1		230	100	1300	6.81	08	2	15	1 - 2.5 mm <sup>2</sup> THHN Copper Wire	30 mm x Conduit - PVC	1 - 25 mm <sup>2</sup> THHN Copper Wire
	C10	Lighting Outlet	12				1	2		1		230	100	1300	6.81	08	2	15	1 - 2.5 mm <sup>2</sup> THHN Copper Wire	30 mm x Conduit - PVC	1 - 25 mm <sup>2</sup> THHN Copper Wire
	C11	SPARE										230	1000	1000	5.21	08	2	15	1 - 2.5 mm <sup>2</sup> THHN Copper Wire	30 mm x Conduit - PVC	1 - 25 mm <sup>2</sup> THHN Copper Wire
	C12	SPARE										230	1000	1000	5.21	08	2	15	1 - 2.5 mm <sup>2</sup> THHN Copper Wire	30 mm x Conduit - PVC	1 - 25 mm <sup>2</sup> THHN Copper Wire
TOTAL			142	1	0	0	18	7	7	2	0		17380	80.45							

Calculation:	For Service Conductor IL = 80.45 x 125% 95.57	For Service Protection IL = 80.45 x 125% 95.57	THEREFORE USE 80 AMPERE CIRCUIT BREAKER, 1 PHASE, 230V USE 2 - 30 mm <sup>2</sup> THHN COPPER, 1 - 8 mm <sup>2</sup> GROUND @ 40 mm x Conduit - PVC
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Load Type	VA	RC
ID	14200.00	10.01
OD	0.00	0.00
ADR	0.00	0.00
METER (NO)	0.00	0.00
METER (C)	0.00	0.00
LARGEST METER	0.00	0.00
SPARE	3000.00	15.63
TOTAL	17380.00	80.45

PANEL BOARD LIGHTING 4F - SCHEDULE OF LOADS																					
PANEL NO.	CIR. NO.	LOAD DESCRIPTION	L.O.	C.B.	OTHER LOADS	WIRING	SWITCHES					VOLTAGE RATING	OUTLET END RATING	VA PER CIRCUIT	CIRCUIT LOAD CURRENT (A/NO)	SIZE OF BREAKERS			SIZE OF WIRING CTD		
							S <sub>1</sub>	S <sub>2</sub>	S <sub>3</sub>	S <sub>4</sub>	S <sub>5</sub>					F	F	T	WIRE (sq. mm)	CONDUIT	GROUNDING
PBL4	C1	Lighting Outlet	15				1		1			230	100	1000	5.21	08	2	15	1 - 2.5 mm <sup>2</sup> THHN Copper Wire	30 mm x Conduit - PVC	1 - 25 mm <sup>2</sup> THHN Copper Wire
	C2	Lighting Outlet	15				1		1			230	100	1000	5.21	08	2	15	1 - 2.5 mm <sup>2</sup> THHN Copper Wire	30 mm x Conduit - PVC	1 - 25 mm <sup>2</sup> THHN Copper Wire
	C3	Lighting Outlet	15				1		1			230	100	1000	5.21	08	2	15	1 - 2.5 mm <sup>2</sup> THHN Copper Wire	30 mm x Conduit - PVC	1 - 25 mm <sup>2</sup> THHN Copper Wire
	C4	Lighting Outlet	15				1		1			230	100	1000	5.21	08	2	15	1 - 2.5 mm <sup>2</sup> THHN Copper Wire	30 mm x Conduit - PVC	1 - 25 mm <sup>2</sup> THHN Copper Wire
	C5	Lighting Outlet	15				1		1			230	100	1000	5.21	08	2	15	1 - 2.5 mm <sup>2</sup> THHN Copper Wire	30 mm x Conduit - PVC	1 - 25 mm <sup>2</sup> THHN Copper Wire
	C6	Lighting Outlet	15				1		1			230	100	1000	5.21	08	2	15	1 - 2.5 mm <sup>2</sup> THHN Copper Wire	30 mm x Conduit - PVC	1 - 25 mm <sup>2</sup> THHN Copper Wire
	C7	Lighting Outlet	11				1	2		1		230	100	1100	5.81	08	2	15	1 - 2.5 mm <sup>2</sup> THHN Copper Wire	30 mm x Conduit - PVC	1 - 25 mm <sup>2</sup> THHN Copper Wire
	C8	Lighting Outlet and Exhaust Fan	15	1			1	2	1			230	100	1100	6.18	08	2	15	1 - 2.5 mm <sup>2</sup> THHN Copper Wire	30 mm x Conduit - PVC	1 - 25 mm <sup>2</sup> THHN Copper Wire
	C9	Lighting Outlet	12				1	2		1		230	100	1300	6.81	08	2	15	1 - 2.5 mm <sup>2</sup> THHN Copper Wire	30 mm x Conduit - PVC	1 - 25 mm <sup>2</sup> THHN Copper Wire
	C10	Lighting Outlet	12				1	2		1		230	100	1300	6.81	08	2	15	1 - 2.5 mm <sup>2</sup> THHN Copper Wire	30 mm x Conduit - PVC	1 - 25 mm <sup>2</sup> THHN Copper Wire
	C11	SPARE										230	1000	1000	5.21	08	2	15	1 - 2.5 mm <sup>2</sup> THHN Copper Wire	30 mm x Conduit - PVC	1 - 25 mm <sup>2</sup> THHN Copper Wire
	C12	SPARE										230	1000	1000	5.21	08	2	15	1 - 2.5 mm <sup>2</sup> THHN Copper Wire	30 mm x Conduit - PVC	1 - 25 mm <sup>2</sup> THHN Copper Wire
TOTAL			142	1	0	0	18	7	7	2	0		17380	80.45							

Calculation:	For Service Conductor IL = 80.45 x 125% 95.57	For Service Protection IL = 80.45 x 125% 95.57	THEREFORE USE 80 AMPERE CIRCUIT BREAKER, 1 PHASE, 230V USE 2 - 30 mm <sup>2</sup> THHN COPPER, 1 - 8 mm <sup>2</sup> GROUND @ 40 mm x Conduit - PVC
--------------	---	--	--

Load Type	VA	RC
ID	14200.00	10.01
OD	0.00	0.00
ADR	0.00	0.00
METER (NO)	0.00	0.00
METER (C)	0.00	0.00
LARGEST METER	0.00	0.00
SPARE	3000.00	15.63
TOTAL	17380.00	80.45



REPUBLIC OF THE PHILIPPINES  
UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES  
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PROFESSIONAL ELECTRICAL ENGINEER  
PRC No.:  
DATE:  
EXPIRES:

PROJECT  
LOCATION  
OWNER  
CONSTRUCTION OF 21ST CENTURY CLASSROOM BUILDINGS PHASE III,  
VILLANUEVA CAMPUS  
USTP VILLANUEVA CAMPUS, MARIKINA DISTRICT  
UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

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APPROVED BY:  
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PRESIDENT, USTP SYSTEM

SHEET CONTENTS  
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E13

APPROVED BY:

PANEL BOARD LIGHTING SF - SCHEDULE OF LOADS

PANEL NO.	CIR. NO.	LOAD DESCRIPTION	L.E.	C.A.	OTHER LOADS	WIRING	SWITCHES					VOLTAGE RATING	OUTPUT (VA) RATING	VA PER CIRCUIT	CIRCUIT LOAD CURRENT (Amps)	SIZE OF BREAKERS			SIZE OF WIRING (WT)		
							S <sub>1</sub>	S <sub>2</sub>	S <sub>3</sub>	S <sub>4</sub>	S <sub>5</sub>					F	P	T	WT (sq. mm)	CONDUIT	GROUNDING
PMS	C1	Lighting Outlet	14									230	100	1400	4.37	20	1	15	2 - 2.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 25 mm <sup>2</sup> THHN Copper Wire
	C2	Lighting Outlet	14									230	100	1400	4.37	20	1	15	2 - 2.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 25 mm <sup>2</sup> THHN Copper Wire
	C3	Lighting Outlet	14									230	100	1400	4.37	20	1	15	2 - 2.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 25 mm <sup>2</sup> THHN Copper Wire
	C4	Lighting Outlet	14									230	100	1400	4.37	20	1	15	2 - 2.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 25 mm <sup>2</sup> THHN Copper Wire
	C5	Lighting Outlet	14									230	100	1400	4.37	20	1	15	2 - 2.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 25 mm <sup>2</sup> THHN Copper Wire
	C6	Lighting Outlet	8									230	100	800	2.78	20	1	15	2 - 2.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 25 mm <sup>2</sup> THHN Copper Wire
	C7	Lighting Outlet	30									230	100	1800	3.48	20	1	15	2 - 2.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 25 mm <sup>2</sup> THHN Copper Wire
	C8	Lighting Outlet	30	1								230	100	1700	6.19	20	1	15	2 - 2.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 25 mm <sup>2</sup> THHN Copper Wire
	C9	Lighting Outlet	16									230	100	1600	6.97	20	1	15	2 - 2.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 25 mm <sup>2</sup> THHN Copper Wire
	C10	Lighting Outlet	12									230	100	1200	4.17	20	1	15	2 - 2.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 25 mm <sup>2</sup> THHN Copper Wire
	C11	Lighting Outlet	7									230	100	700	3.43	20	1	15	2 - 2.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 25 mm <sup>2</sup> THHN Copper Wire
	C12	SPARE										230	1000	1500	5.22	20	1	15			
C13	SPARE										230	1000	1500	5.22	20	1	15				
TOTAL			142	1	0	0	0	0	0	0	230	1000	17000	68.45							

Calculation:	For Service Conductor I = 68.45 x 125% 85.57	For Service Protection I = 68.45 x 125% 85.57	THEREFORE USE 80 AMPERE CIRCUIT BREAKER, 1 PHASE, 230V USE 2 - 30 mm <sup>2</sup> THHN COPPER, 1 - 8 mm <sup>2</sup> GROUND @ 40 mm x Conduit - PVC
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Load Type	VA	FLC
LB	14,000.00	90.00
CD	0.00	0.00
ACU	0.00	0.00
MOTOR (MC)	0.00	0.00
MOTOR (C)	0.00	0.00
LAMPS (L)	0.00	0.00
SPARE	3000.00	30.43
TOTAL	17000.00	68.45

PANEL BOARD POWER SF - SCHEDULE OF LOADS

PANEL NO.	CIR. NO.	LOAD DESCRIPTION	L.E.	C.A.	OTHER LOADS	WIRING	SWITCHES					VOLTAGE RATING	OUTPUT (VA) RATING	VA PER CIRCUIT	CIRCUIT LOAD CURRENT (Amps)	SIZE OF BREAKERS			SIZE OF WIRING (WT)		
							S <sub>1</sub>	S <sub>2</sub>	S <sub>3</sub>	S <sub>4</sub>	S <sub>5</sub>					F	P	T	WT (sq. mm)	CONDUIT	GROUNDING
PMT	C1	Communications Outlet	5									230	100	900	3.70	20	1	20	2 - 2.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 25 mm <sup>2</sup> THHN Copper Wire
	C2	Communications Outlet	7									230	100	1200	4.38	20	1	20	2 - 2.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 25 mm <sup>2</sup> THHN Copper Wire
	C3	Communications Outlet	30									230	100	2400	10.43	20	1	25	2 - 2.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 25 mm <sup>2</sup> THHN Copper Wire
	C4	Communications Outlet	30									230	100	2400	10.43	20	1	25	2 - 2.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 25 mm <sup>2</sup> THHN Copper Wire
	C5	Communications Outlet	30									230	100	2400	10.43	20	1	25	2 - 2.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 25 mm <sup>2</sup> THHN Copper Wire
	C6	Communications Outlet	18									230	100	1800	7.82	20	1	20	2 - 2.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 25 mm <sup>2</sup> THHN Copper Wire
	C7	Communications Outlet	18									230	100	1800	7.82	20	1	20	2 - 2.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 25 mm <sup>2</sup> THHN Copper Wire
	C8	Communications Outlet	18									230	100	1800	7.82	20	1	20	2 - 2.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 25 mm <sup>2</sup> THHN Copper Wire
	C9	Communications Outlet	18									230	100	1800	7.82	20	1	20	2 - 2.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 25 mm <sup>2</sup> THHN Copper Wire
	C10	Communications Outlet	18									230	100	1800	7.82	20	1	20	2 - 2.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 25 mm <sup>2</sup> THHN Copper Wire
	C11	Communications Outlet	18									230	100	1800	7.82	20	1	20	2 - 2.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 25 mm <sup>2</sup> THHN Copper Wire
	C12	Communications Outlet	14									230	100	2100	9.13	20	1	25	2 - 2.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 25 mm <sup>2</sup> THHN Copper Wire
	C13	Communications Outlet	18									230	100	1800	7.82	20	1	20	2 - 2.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 25 mm <sup>2</sup> THHN Copper Wire
	C14	Communications Outlet - Emergency	17									230	100	1800	8.81	20	1	20	2 - 2.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 25 mm <sup>2</sup> THHN Copper Wire
	C15	Communications Outlet - Emergency	12									230	100	2100	9.08	20	1	20	2 - 2.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 25 mm <sup>2</sup> THHN Copper Wire
C16	SPARE										230	1000	1500	6.22	20	1	20				
C17	SPARE										230	1000	1500	6.22	20	1	20				
TOTAL			0	150	0	0	0	0	0	0	230	1000	32400	118.22							

Calculation:	For Service Conductor I = 118.22 x 125% 147.78	For Service Protection I = 118.22 x 125% 147.78	THEREFORE USE 150 AMPERE CIRCUIT BREAKER, 1 PHASE, 230V USE 2 - 60 mm <sup>2</sup> THHN COPPER, 1 - 14 mm <sup>2</sup> GROUND @ 50 mm x Conduit - PVC
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Load Type	VA	FLC
LB	0.00	0.00
CD	32400.00	147.78
ACU	0.00	0.00
MOTOR (MC)	0.00	0.00
MOTOR (C)	0.00	0.00
LAMPS (L)	0.00	0.00
SPARE	3000.00	30.43
TOTAL	32400.00	147.78



REPUBLIC OF THE PHILIPPINES  
UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES  
DIKIGTA DE OSA CAMPUS  
INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT UNIT  
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PROFESSIONAL ELECTRICAL ENGINEER  
NAME: \_\_\_\_\_  
REG. NO.: \_\_\_\_\_  
DATE: \_\_\_\_\_  
SIGNATURE: \_\_\_\_\_

PROJECT: CONSTRUCTION OF 21ST CENTURY CLASSROOM BUILDINGS PHASE III, VILLANUEVA CAMPUS  
LOCATION: USTP VILLANUEVA CAMPUS, NEARNS ORIENTAL  
OWNER: UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL:  
ENGR. GRACE C. BABA  
DATE: FEB. 19, 2024

RECHECKING APPROVAL:  
ATTY. ERWIN B. BOCIO  
VP FOR LEGAL AFFAIRS

APPROVED BY:  
DR. AMBROSIO B. CULTURA II  
PRESIDENT, USTP SYSTEM

SHEET CONTENTS:  
SCHEDULE OF LOADS  
DATE DRAWN:  
BY:

E14

APPROVED BY:

PANEL BOARD POWER 2F - SCHEDULE OF LOADS																				
PANEL NO.	CIR. NO.	LOAD DESCRIPTION	L.D.	C.D.	OTHER LOADS	HP RATING	WIRING					VOLTAGE RATING	CIRCUIT BREAKER (Amps)	SIZE OF BREAKERS			SIZE OF WIRING (mm)			
							S <sub>1</sub>	S <sub>2</sub>	S <sub>3</sub>	S <sub>4</sub>	S <sub>5</sub>			F	P	T	WIRE (sq. mm)	CONDUIT	GROUNDING	
PANEL	C1	Convenience Outlet	10								230	180	1880	6.28	80	2	20	1 - 1.5 mm <sup>2</sup> THHN Copper Wire	28 mm ø Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire
	C2	Convenience Outlet	16								230	180	2880	18.00	75	2	20	1 - 1.5 mm <sup>2</sup> THHN Copper Wire	28 mm ø Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire
	C3	Convenience Outlet	16								230	180	1880	18.00	80	2	20	1 - 1.5 mm <sup>2</sup> THHN Copper Wire	28 mm ø Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire
	C4	Convenience Outlet	16								230	180	2880	18.00	80	2	20	1 - 1.5 mm <sup>2</sup> THHN Copper Wire	28 mm ø Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire
	C5	Convenience Outlet	10								230	180	1880	6.28	80	2	20	1 - 1.5 mm <sup>2</sup> THHN Copper Wire	28 mm ø Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire
	C6	Convenience Outlet	10								230	180	2160	7.57	80	2	20	1 - 1.5 mm <sup>2</sup> THHN Copper Wire	28 mm ø Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire
	C7	Convenience Outlet	6								230	180	1630	6.63	80	2	20	1 - 1.5 mm <sup>2</sup> THHN Copper Wire	28 mm ø Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire
	C8	Convenience Outlet	10								230	180	2340	8.34	80	2	20	1 - 1.5 mm <sup>2</sup> THHN Copper Wire	28 mm ø Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire
	C9	Convenience Outlet	10								230	180	1880	6.28	80	2	20	1 - 1.5 mm <sup>2</sup> THHN Copper Wire	28 mm ø Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire
	C10	Convenience Outlet - Emergency	10								230	180	1880	7.80	80	2	20	1 - 1.5 mm <sup>2</sup> THHN Copper Wire	28 mm ø Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire
	C11	Convenience Outlet - Emergency	10								230	180	2160	9.39	80	2	20	1 - 1.5 mm <sup>2</sup> THHN Copper Wire	28 mm ø Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire
	C12	SPARE									230	1500	1100	5.22	80	2	20			
	C13	SPARE									230	1500	1100	5.22	80	2	20			
TOTAL			0	154	0	0	0	0	0	0	230	1500	21120	90.77						

Calculation:	For Service Conductor I <sub>s</sub> = 90.77 x 125% 113.46	For Service Protection I <sub>s</sub> = 90.77 x 125% 113.46	THEREFORE USE 125 AMPERE CIRCUIT BREAKER, 1 PHASE, 230V USE 2 - 50 mm <sup>2</sup> THHN COPPER, 1 - 14 mm <sup>2</sup> GROUND @ 50 mm ø Conduit - PVC
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Load Type	VA	W
LB	0.00	0.00
CB	24120.00	91.34
ACB	0.00	0.00
HEATING	0.00	0.00
WATER	0.00	0.00
LARGEST MOTOR	0.00	0.00
SPARE	3200.00	10.42
TOTAL	27120.00	90.77

PANEL BOARD POWER 4F - SCHEDULE OF LOADS																				
PANEL NO.	CIR. NO.	LOAD DESCRIPTION	L.D.	C.D.	OTHER LOADS	HP RATING	WIRING					VOLTAGE RATING	CIRCUIT BREAKER (Amps)	SIZE OF BREAKERS			SIZE OF WIRING (mm)			
							S <sub>1</sub>	S <sub>2</sub>	S <sub>3</sub>	S <sub>4</sub>	S <sub>5</sub>			F	P	T	WIRE (sq. mm)	CONDUIT	GROUNDING	
PANEL	C1	Convenience Outlet	8								230	180	1620	5.83	80	2	20	1 - 1.5 mm <sup>2</sup> THHN Copper Wire	20 mm ø Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire
	C2	Convenience Outlet	8								230	180	1440	5.81	80	2	20	1 - 1.5 mm <sup>2</sup> THHN Copper Wire	20 mm ø Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire
	C3	Convenience Outlet	8								230	180	1440	5.81	80	2	20	1 - 1.5 mm <sup>2</sup> THHN Copper Wire	20 mm ø Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire
	C4	Convenience Outlet	8								230	180	1440	5.81	80	2	20	1 - 1.5 mm <sup>2</sup> THHN Copper Wire	20 mm ø Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire
	C5	Convenience Outlet	8								230	180	1620	5.83	80	2	20	1 - 1.5 mm <sup>2</sup> THHN Copper Wire	20 mm ø Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire
	C6	Convenience Outlet	10								230	180	2150	7.51	80	2	20	1 - 1.5 mm <sup>2</sup> THHN Copper Wire	20 mm ø Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire
	C7	Convenience Outlet	8								230	180	1620	5.83	80	2	20	1 - 1.5 mm <sup>2</sup> THHN Copper Wire	20 mm ø Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire
	C8	Convenience Outlet	10								230	180	2340	8.34	80	2	20	1 - 1.5 mm <sup>2</sup> THHN Copper Wire	20 mm ø Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire
	C9	Convenience Outlet	8								230	180	1620	5.83	80	2	20	1 - 1.5 mm <sup>2</sup> THHN Copper Wire	20 mm ø Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire
	C10	Convenience Outlet - Emergency	10								230	180	1800	7.80	80	2	20	1 - 1.5 mm <sup>2</sup> THHN Copper Wire	20 mm ø Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire
	C11	Convenience Outlet - Emergency	10								230	180	2150	9.39	80	2	20	1 - 1.5 mm <sup>2</sup> THHN Copper Wire	20 mm ø Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire
	C12	SPARE									230	1500	1100	5.22	80	2	20			
	C13	SPARE									230	1500	1100	5.22	80	2	20			
TOTAL			0	187	0	0	0	0	0	0	230	1500	22180	80.87						

Calculation:	For Service Conductor I <sub>s</sub> = 80.87 x 125% 101.09	For Service Protection I <sub>s</sub> = 80.87 x 125% 101.09	THEREFORE USE 125 AMPERE CIRCUIT BREAKER, 1 PHASE, 230V USE 2 - 50 mm <sup>2</sup> THHN COPPER, 1 - 14 mm <sup>2</sup> GROUND @ 50 mm ø Conduit - PVC
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Load Type	VA	W
LB	0.00	0.00
CB	10260.00	70.42
ACB	0.00	0.00
HEATING	0.00	0.00
WATER	0.00	0.00
LARGEST MOTOR	0.00	0.00
SPARE	3000.00	10.42
TOTAL	13260.00	80.87



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PROFESSIONAL ELECTRICAL ENGINEER  
REG. NO. \_\_\_\_\_  
P.E. NO. \_\_\_\_\_  
DATE \_\_\_\_\_  
PLACE \_\_\_\_\_

PROJECT  
LOCATION  
OWNER  
CONSTRUCTION OF 21ST CENTURY CLASSROOM BUILDINGS PHASE III,  
VILLANUEVA CAMPUS  
USTP VILLANUEVA CAMPUS, NEGROS ORIENTAL  
UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL  
ENGR. ERWIN B. BUCAD  
DIRECTOR, PDSB

ENGINEERING SUPERVISOR  
ATPY, ERWIN B. BUCAD  
VP-AREA ENGINEERING/GENERAL AFFAIRS

APPROVED BY:  
DR. AMBROSIO M. CULTURA II  
PRESIDENT, USTP SYSTEM

SHEET CONTENTS:  
SCHEDULE OF LOADS

REVISION  
NO. \_\_\_\_\_  
DATE \_\_\_\_\_  
BY \_\_\_\_\_



APPROVED BY:

PANEL BOARD POWER SF - SCHEDULE OF LOADS																							
PANEL NO.	CIRCUIT NO.	LOAD DESCRIPTION	LRA	LRA	OTHER LOADS	W/F RATIO	SWITCHES					VOLTAGE (V)	WATTAGE (W)	VA PER CIRCUIT	CIRCUIT BREAKER (CURRENT/VA)			SIZE OF BRACERS			SIZE OF WIRE/CONDUIT		
							S <sub>1</sub>	S <sub>2</sub>	S <sub>3</sub>	S <sub>4</sub>	S <sub>5</sub>				F	P	T	F	P	T	WIRE (sq. mm)	CONDUIT	GROUNDING
PWB	21	Communication Outlet		11							220	110	2540	0.75	90	2	26	2 - 3.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire			
	22	Communication Outlet		18							220	180	4000	10.50	90	2	26	2 - 3.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire			
	23	Communication Outlet		16							220	160	3520	8.75	90	2	26	2 - 3.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire			
	24	Communication Outlet		22							220	220	4840	13.75	90	2	26	2 - 3.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire			
	25	Communication Outlet		18							220	180	3960	10.50	90	2	26	2 - 3.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire			
	26	Communication Outlet		18							220	180	3960	10.50	90	2	26	2 - 3.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire			
	27	Communication Outlet		15							220	150	3300	8.75	90	2	26	2 - 3.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire			
	28	Communication Outlet		9							220	90	1980	5.50	90	2	26	2 - 3.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire			
	29	Communication Outlet		11							220	110	2420	6.50	90	2	26	2 - 3.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire			
	30	Communication Outlet		10							220	100	2200	6.14	90	2	26	2 - 3.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire			
	31	Communication Outlet		8							220	80	1760	5.00	90	2	26	2 - 3.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire			
	32	Refrigerator 1			1						220	1000	2200	6.50	90	2	26	2 - 3.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire			
	33	Refrigerator 2			1						220	1000	2200	6.50	90	2	26	2 - 3.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire			
	34	Communication Outlet - Emergency		9							220	90	1980	5.50	90	2	26	2 - 3.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire			
	35	Communication Outlet - Emergency		10							220	100	2200	6.14	90	2	26	2 - 3.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire			
	36	SPARE									220	1000	2200	6.50	90	2	26	2 - 3.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire			
	37	SPARE									220	1000	2200	6.50	90	2	26	2 - 3.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire			
	TOTAL			0	187	2	0	0	0	0	0	220	7000	1540	5.17	90	2	26					

Calculation: For Service Conductors  $S = 121.31 \times 1.25 = 151.64$  For Service Protection  $S = 121.31 \times 1.25 = 151.64$  THEREFORE USE 175 AMPERE CIRCUIT BREAKER, 1 PHASE, 230V USE 2 - 80 mm<sup>2</sup> THHN COPPER, 1 - 14 mm<sup>2</sup> GROUND @ 50 mm x Conduit - PVC

Load Type	VA	W
LT	0.00	0.00
CT	3429.00	128.00
ACB	0.00	0.00
POWER FACT	0.00	0.00
POWER LOSS	0.00	0.00
UNBALANCE	0.00	0.00
SPARE	2000.00	78.40
TOTAL	5429.00	206.40

MOTOR PANEL GP - SCHEDULE OF LOADS																							
PANEL NO.	CIRCUIT NO.	LOAD DESCRIPTION	LRA	LRA	OTHER LOADS	W/F RATIO	SWITCHES					VOLTAGE (V)	WATTAGE (W)	VA PER CIRCUIT	CIRCUIT BREAKER (CURRENT/VA)			SIZE OF BRACERS			SIZE OF WIRE/CONDUIT		
							S <sub>1</sub>	S <sub>2</sub>	S <sub>3</sub>	S <sub>4</sub>	S <sub>5</sub>				F	P	T	F	P	T	WIRE (sq. mm)	CONDUIT	GROUNDING
PWB	11	AC19-1-01		3							220	6448	6660	29.30				90	2	26	2 - 3.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire
	12	AC19-1-02		3							220	6448	6660	29.30	11.00			90	2	26	2 - 3.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire
	13	AC19-1-03		3							220	6448	6660	29.30		17.00		90	2	26	2 - 3.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire
	14	AC19-1-04		3							220	6448	6660	29.30			17.00	90	2	26	2 - 3.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire
	15	AC19-1-05		3							220	6448	6660	29.30			17.00	90	2	26	2 - 3.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire
	16	AC19-1-06		3							220	6448	6660	29.30	17.00			90	2	26	2 - 3.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire
	17	AC19-1-07		3							220	6448	6660	29.30			17.00	90	2	26	2 - 3.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire
	18	AC19-1-08		3							220	6448	6660	29.30			17.00	90	2	26	2 - 3.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire
	19	AC19-1-09		3							220	6448	6660	29.30	17.00			90	2	26	2 - 3.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire
	20	AC19-1-10		3							220	6448	6660	29.30			17.00	90	2	26	2 - 3.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire
	21	AC19-1-11		3							220	6448	6660	29.30			17.00	90	2	26	2 - 3.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire
	22	AC19-1-12		3							220	6448	6660	29.30	17.00			90	2	26	2 - 3.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire
	23	AC19-1-13		3							220	6448	6660	29.30			17.00	90	2	26	2 - 3.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire
	24	AC19-1-14		3							220	6448	6660	29.30			17.00	90	2	26	2 - 3.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire
	25	AC19-1-15		3							220	6448	6660	29.30	17.00			90	2	26	2 - 3.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire
	26	AC19-1-16		3							220	6448	6660	29.30			17.00	90	2	26	2 - 3.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire
	27	AC19-1-17		3							220	6448	6660	29.30			17.00	90	2	26	2 - 3.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire
	28	AC19-1-18		3							220	6448	6660	29.30	17.00			90	2	26	2 - 3.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire
29	AC19-1-19		3							220	6448	6660	29.30			17.00	90	2	26	2 - 3.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire	
30	AC19-1-20		3							220	6448	6660	29.30			17.00	90	2	26	2 - 3.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire	
31	AC19-1-21		3							220	6448	6660	29.30	17.00			90	2	26	2 - 3.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire	
32	AC19-1-22		3							220	6448	6660	29.30			17.00	90	2	26	2 - 3.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire	
33	AC19-1-23		3							220	6448	6660	29.30			17.00	90	2	26	2 - 3.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire	
34	AC19-1-24		3							220	6448	6660	29.30	17.00			90	2	26	2 - 3.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire	
35	AC19-1-25		3							220	6448	6660	29.30			17.00	90	2	26	2 - 3.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire	
36	AC19-1-26		3							220	6448	6660	29.30			17.00	90	2	26	2 - 3.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire	
37	AC19-1-27		3							220	6448	6660	29.30	17.00			90	2	26	2 - 3.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire	
38	AC19-1-28		3							220	6448	6660	29.30			17.00	90	2	26	2 - 3.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire	
39	AC19-1-29		3							220	6448	6660	29.30			17.00	90	2	26	2 - 3.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire	
40	AC19-1-30		3							220	6448	6660	29.30	17.00			90	2	26	2 - 3.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire	
41	AC19-1-31		3							220	6448	6660	29.30			17.00	90	2	26	2 - 3.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire	
42	AC19-1-32		3							220	6448	6660	29.30			17.00	90	2	26	2 - 3.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire	
43	AC19-1-33		3							220	6448	6660	29.30	17.00			90	2	26	2 - 3.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire	
44	AC19-1-34		3							220	6448	6660	29.30			17.00	90	2	26	2 - 3.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire	
45	AC19-1-35		3							220	6448	6660	29.30			17.00	90	2	26	2 - 3.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire	
46	AC19-1-36		3							220	6448	6660	29.30	17.00			90	2	26	2 - 3.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire	
47	AC19-1-37		3							220	6448	6660	29.30			17.00	90	2	26	2 - 3.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire	
48	AC19-1-38		3							220	6448	6660	29.30			17.00	90	2	26	2 - 3.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire	
49	AC19-1-39		3							220	6448	6660	29.30	17.00			90	2	26	2 - 3.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire	
50	AC19-1-40		3							220	6448	6660	29.30			17.00	90	2	26	2 - 3.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire	
51	AC19-1-41		3							220	6448	6660	29.30			17.00	90	2	26	2 - 3.5 mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 3.5 mm <sup>2</sup> THHN Copper Wire	
52	AC19-1-42		3							220	6448	6660</											

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MOTOR PANEL 07 - SCHEDULE OF LOADS

PANEL NO.	CIR. NO.	LOAD DESCRIPTION	L.O.	C.E.	OTHER LOADS	HP RATING	SWITCHES					VOLTAGE RATING	RATED (VA)	VA PER CIRCUIT	CIRCUIT LOAD CURRENT (A/3P)				SIZE OF BREAKERS			SIZE OF CONDUIT			
							S <sub>1</sub>	S <sub>2</sub>	S <sub>3</sub>	S <sub>4</sub>	S <sub>5</sub>				AB	BC	CA	3P	F	P	T	WIRE (sq. mm)	CONDUIT	GROUNDING	
MOTOR	C1	ACCU-1-01				3						230	3016	3016	17.80			40	2	32	2 - 5.5mm <sup>2</sup> THHN Copper Wire	32 mm x Conduit - PVC	1 - 5.5mm <sup>2</sup> THHN Copper Wire		
	C2	ACCU-1-02				3						230	3016	3016	17.80			60	2	32	2 - 5.5mm <sup>2</sup> THHN Copper Wire	32 mm x Conduit - PVC	1 - 5.5mm <sup>2</sup> THHN Copper Wire		
	C3	ACCU-1-03				3						230	3016	3016			17.80			60	2	32	2 - 5.5mm <sup>2</sup> THHN Copper Wire	32 mm x Conduit - PVC	1 - 5.5mm <sup>2</sup> THHN Copper Wire
	C4	ACCU-1-04				3						230	3016	3016			17.80			60	2	32	2 - 5.5mm <sup>2</sup> THHN Copper Wire	32 mm x Conduit - PVC	1 - 5.5mm <sup>2</sup> THHN Copper Wire
	C5	ACCU-1-05				3						230	3016	3016			17.80			60	2	32	2 - 5.5mm <sup>2</sup> THHN Copper Wire	32 mm x Conduit - PVC	1 - 5.5mm <sup>2</sup> THHN Copper Wire
	C6	ACCU-1-06				3						230	3016	3016			17.80			60	2	32	2 - 5.5mm <sup>2</sup> THHN Copper Wire	32 mm x Conduit - PVC	1 - 5.5mm <sup>2</sup> THHN Copper Wire
	C7	ACCU-1-07				3						230	3016	3016	17.80					60	2	32	2 - 5.5mm <sup>2</sup> THHN Copper Wire	32 mm x Conduit - PVC	1 - 5.5mm <sup>2</sup> THHN Copper Wire
	C8	ACCU-1-08				3						230	3016	3016	17.80					60	2	32	2 - 5.5mm <sup>2</sup> THHN Copper Wire	32 mm x Conduit - PVC	1 - 5.5mm <sup>2</sup> THHN Copper Wire
	C9	ACCU-1-09				3						230	3016	3016			17.80			60	2	32	2 - 5.5mm <sup>2</sup> THHN Copper Wire	32 mm x Conduit - PVC	1 - 5.5mm <sup>2</sup> THHN Copper Wire
	C10	ACCU-1-10				3						230	3016	3016			17.80			60	2	32	2 - 5.5mm <sup>2</sup> THHN Copper Wire	32 mm x Conduit - PVC	1 - 5.5mm <sup>2</sup> THHN Copper Wire
	C11	ACCU-1-11				3						230	3016	3016			17.80			60	2	32	2 - 5.5mm <sup>2</sup> THHN Copper Wire	32 mm x Conduit - PVC	1 - 5.5mm <sup>2</sup> THHN Copper Wire
	C12	ACCU-1-12				2.5						230	3335	3335			14.50			60	2	32	2 - 5.5mm <sup>2</sup> THHN Copper Wire	32 mm x Conduit - PVC	1 - 5.5mm <sup>2</sup> THHN Copper Wire
	C13	ACCU-1-13				1						230	1844	1844	8.00					60	2	32	2 - 5.5mm <sup>2</sup> THHN Copper Wire	32 mm x Conduit - PVC	1 - 5.5mm <sup>2</sup> THHN Copper Wire
	C14	SPARE										230	1500	1500	5.22					60	2	32			
	C15	SPARE										230	1500	1500						60	2	32			
TOTAL			0	0	0	36.5	0	0	0	0	0		51165.88	81.22	65.58	13.22	8.83								

Calculation:

For Service Conductor  
 $I_L = (0.82 + 25\% (72.5)) \times 1.732 \times 0$   
 143.03A

For Service Protection  
 $I_L = (0.12 + 150\% (72.5)) \times 1.732 \times 0$   
 194.84A

THEREFORE USE 200 AMPERE CIRCUIT BREAKER, 3 PHASE, 230V  
 USE 2 SETS OF 4 - 38 mm<sup>2</sup> THHN COPPER, 1 - 8mm<sup>2</sup> GROUND @ 50 mm x Conduit - PVC

Load Type	VA	FLC			
		AB	BC	CA	3P
LD	0.00	0.00	0.00	0.00	0.00
CR	0.00	0.00	0.00	0.00	0.00
ACU	48165.88	76.80	63.50	68.60	0.00
MOTOR (MC)	0.00	0.00	0.00	0.00	0.00
MOTOR (C)	0.00	0.00	0.00	0.00	0.00
LARGEST MOTOR	0.00	0.00	0.00	0.00	0.00
SPARE	3000.00	5.22	0.00	5.22	0.00
TOTAL	51165.88	81.22	65.58	73.22	0.00

PANEL BOARD ACU 2F - SCHEDULE OF LOADS

PANEL NO.	CIR. NO.	LOAD DESCRIPTION	L.O.	C.E.	OTHER LOADS	HP RATING	SWITCHES					VOLTAGE RATING	RATED (VA)	VA PER CIRCUIT	CIRCUIT LOAD CURRENT (A/3P)				SIZE OF BREAKERS			SIZE OF CONDUIT			
							S <sub>1</sub>	S <sub>2</sub>	S <sub>3</sub>	S <sub>4</sub>	S <sub>5</sub>				AB	BC	CA	3P	F	P	T	WIRE (sq. mm)	CONDUIT	GROUNDING	
PBA2	E1	ACCU-2-01				1						230	1844	1844	8.00			60	2	20	2 - 5.5mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 5.5mm <sup>2</sup> THHN Copper Wire		
	E2	ACCU-2-02				2.5						230	3335	3335	14.50			60	2	40	2 - 5.5mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 5.5mm <sup>2</sup> THHN Copper Wire		
	E3	ACCU-2-03				1						230	3335	3335			14.50			60	2	40	2 - 5.5mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 5.5mm <sup>2</sup> THHN Copper Wire
	E4	ACCU-2-04				2.5						230	3335	3335			14.50			60	2	40	2 - 5.5mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 5.5mm <sup>2</sup> THHN Copper Wire
	E5	ACCU-2-05				1						230	3335	3335			14.50			60	2	40	2 - 5.5mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 5.5mm <sup>2</sup> THHN Copper Wire
	E6	ACCU-2-06				1						230	5475	5475			22.50			60	2	40	2 - 8.0mm <sup>2</sup> THHN Copper Wire	25 mm x Conduit - PVC	1 - 5.5mm <sup>2</sup> THHN Copper Wire
	E7	ACCU-2-07				1						230	5475	5475	22.50					60	2	40	2 - 8.0mm <sup>2</sup> THHN Copper Wire	25 mm x Conduit - PVC	1 - 5.5mm <sup>2</sup> THHN Copper Wire
	E8	ACCU-2-08				1						230	5475	5475	22.50					60	2	40	2 - 8.0mm <sup>2</sup> THHN Copper Wire	25 mm x Conduit - PVC	1 - 5.5mm <sup>2</sup> THHN Copper Wire
	E9	ACCU-2-09				1						230	5475	5475			22.50			60	2	40	2 - 8.0mm <sup>2</sup> THHN Copper Wire	25 mm x Conduit - PVC	1 - 5.5mm <sup>2</sup> THHN Copper Wire
	E10	ACCU-2-10				1						230	5475	5475			22.50			60	2	40	2 - 8.0mm <sup>2</sup> THHN Copper Wire	25 mm x Conduit - PVC	1 - 5.5mm <sup>2</sup> THHN Copper Wire
	E11	ACCU-2-11				1						230	5475	5475			22.50			60	2	40	2 - 8.0mm <sup>2</sup> THHN Copper Wire	25 mm x Conduit - PVC	1 - 5.5mm <sup>2</sup> THHN Copper Wire
	E12	ACCU-2-12				1						230	2760	2760	12.80					60	2	30	2 - 5.5mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 5.5mm <sup>2</sup> THHN Copper Wire
	E13	ACCU-2-13				1						230	2760	2760	12.80					60	2	30	2 - 5.5mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 5.5mm <sup>2</sup> THHN Copper Wire
	E14	ACCU-2-14				1						230	3335	3335	14.50					60	2	30	2 - 5.5mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 5.5mm <sup>2</sup> THHN Copper Wire
	E15	ACCU-2-15				1						230	3335	3335			14.50			60	2	40	2 - 5.5mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 5.5mm <sup>2</sup> THHN Copper Wire
	E16	ACCU-2-16				1						230	3335	3335			14.50			60	2	40	2 - 5.5mm <sup>2</sup> THHN Copper Wire	20 mm x Conduit - PVC	1 - 5.5mm <sup>2</sup> THHN Copper Wire
	E17	SPARE										230	1500	1500			5.22			60	2	20			
	E18	SPARE										230	1500	1500			5.22			60	2	20			
TOTAL			0	0	16	48.5	0	0	0	0	0		64755	64.80	81.83	133.83	0.08								

Calculation:

For Service Conductor  
 $I_L = (0.82 + 25\% (72.5)) \times 1.732 \times 0$   
 108.14A

For Service Protection  
 $I_L = (0.12 + 150\% (72.5)) \times 1.732 \times 0$   
 126.84A

THEREFORE USE 250 AMPERE CIRCUIT BREAKER, 3 PHASE, 230V  
 USE 4 - 100 mm<sup>2</sup> THHN COPPER, 1 - 22 mm<sup>2</sup> GROUND @ 75 mm x Conduit - PVC

Load Type	VA	FLC			
		AB	BC	CA	3P
LD	0.00	0.00	0.00	0.00	0.00
CR	0.00	0.00	0.00	0.00	0.00
ACU	61755.00	34.00	11.50	18.00	0.00
MOTOR (MC)	0.00	0.00	0.00	0.00	0.00
MOTOR (C)	0.00	0.00	0.00	0.00	0.00
LARGEST MOTOR	0.00	0.00	0.00	0.00	0.00
SPARE	3000.00	0.00	16.43	0.00	0.00
TOTAL	64755.00	34.00	18.93	18.00	0.00



REPUBLIC OF THE PHILIPPINES  
 UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES  
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PROFESSIONAL ELECTRICAL ENGINEER  
 PROJECT: CONSTRUCTION OF 21ST CENTURY CLASSROOM BUILDINGS PHASE III, VILLANUEVA CAMPUS  
 LOCATION: USTP VILLANUEVA CAMPUS, NSANG ORIENTAL  
 OWNER: UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL:  
 ENGR. GRACE C. BABA  
 DIRECTOR, USTP

RECOMMENDING APPROVAL:  
 ATTY. ERWIN B. BUEHO  
 VP FOR ADMINISTRATION & GENERAL AFFAIRS

APPROVED BY:  
 DR. AMBROSIO B. CULTURA II  
 PRESIDENT, USTP SYSTEM

SHEET CONTENTS  
 SHEET NO. OF LOADS  
 DATE:

E17

APPROVED BY:

PANEL BOARD ACU 3F - SCHEDULE OF LOADS

PANEL NO.	CIR. NO.	LOAD DESCRIPTION	L.O.	C.O.	OTHER LOADS	WF RATING	SWITCHES					VOLTAGE RATING	INLET (VA) RATING	VA PER CIRCUIT	CIRCUIT LOAD CURRENT (A/NO)				SIZE OF BREAKERS			SIZE OF WIRE/BAW DWT			
							S <sub>1</sub>	S <sub>2</sub>	S <sub>3</sub>	S <sub>4</sub>	S <sub>5</sub>				AB	BC	CA	3P	F	F	T	WIRE (sq. mm)	CONDUIT	GROUNDING	
PBAO	C1	ACU-3-01				1	4					230	5175	5175	22.50				60	2	60	2-8.0mm <sup>2</sup> THHN Copper Wire	25 mm <sup>2</sup> Conduit - PVC	1-5.5 mm <sup>2</sup> THHN Copper Wire	
	C2	ACU-3-02				1	4					230	5175	5175	22.50				60	2	60	2-8.0mm <sup>2</sup> THHN Copper Wire	25 mm <sup>2</sup> Conduit - PVC	1-5.5 mm <sup>2</sup> THHN Copper Wire	
	C3	ACU-3-03				1	4					230	5175	5175			22.50		60	2	60	2-8.0mm <sup>2</sup> THHN Copper Wire	25 mm <sup>2</sup> Conduit - PVC	1-5.5 mm <sup>2</sup> THHN Copper Wire	
	C4	ACU-3-04				1	4					230	5175	5175			22.50		60	2	60	2-8.0mm <sup>2</sup> THHN Copper Wire	25 mm <sup>2</sup> Conduit - PVC	1-5.5 mm <sup>2</sup> THHN Copper Wire	
	C5	ACU-3-05				1	4					230	5175	5175			22.50		60	2	60	2-8.0mm <sup>2</sup> THHN Copper Wire	25 mm <sup>2</sup> Conduit - PVC	1-5.5 mm <sup>2</sup> THHN Copper Wire	
	C6	ACU-3-06				1	4					230	5175	5175			22.50		60	2	60	2-8.0mm <sup>2</sup> THHN Copper Wire	25 mm <sup>2</sup> Conduit - PVC	1-5.5 mm <sup>2</sup> THHN Copper Wire	
	C7	ACU-3-07				1	4					230	5175	5175			22.50		60	2	60	2-8.0mm <sup>2</sup> THHN Copper Wire	25 mm <sup>2</sup> Conduit - PVC	1-5.5 mm <sup>2</sup> THHN Copper Wire	
	C8	ACU-3-08				1	4					230	5175	5175			22.50		60	2	60	2-8.0mm <sup>2</sup> THHN Copper Wire	25 mm <sup>2</sup> Conduit - PVC	1-5.5 mm <sup>2</sup> THHN Copper Wire	
	C9	ACU-3-09				1	4					230	5175	5175			22.50		60	2	60	2-8.0mm <sup>2</sup> THHN Copper Wire	25 mm <sup>2</sup> Conduit - PVC	1-5.5 mm <sup>2</sup> THHN Copper Wire	
	C10	ACU-3-10				1	4					230	5175	5175			22.50		60	2	60	2-8.0mm <sup>2</sup> THHN Copper Wire	25 mm <sup>2</sup> Conduit - PVC	1-5.5 mm <sup>2</sup> THHN Copper Wire	
	C11	ACU-3-11				1	3					230	3810	3810			17.00		60	2	50	2-5.5mm <sup>2</sup> THHN Copper Wire	20 mm <sup>2</sup> Conduit - PVC	1-5.5 mm <sup>2</sup> THHN Copper Wire	
	C12	ACU-3-12				1	3					230	3810	3810			17.00		60	2	50	2-5.5mm <sup>2</sup> THHN Copper Wire	20 mm <sup>2</sup> Conduit - PVC	1-5.5 mm <sup>2</sup> THHN Copper Wire	
	C13	ACU-3-13				1	25					230	3375	3375	14.50				60	2	40	2-5.5mm <sup>2</sup> THHN Copper Wire	20 mm <sup>2</sup> Conduit - PVC	1-5.5 mm <sup>2</sup> THHN Copper Wire	
	C14	ACU-3-14				1	25					230	3375	3375	14.50				60	2	40	2-5.5mm <sup>2</sup> THHN Copper Wire	20 mm <sup>2</sup> Conduit - PVC	1-5.5 mm <sup>2</sup> THHN Copper Wire	
	C15	ACU-3-15				1	25					230	3375	3375			14.50		60	2	40	2-5.5mm <sup>2</sup> THHN Copper Wire	20 mm <sup>2</sup> Conduit - PVC	1-5.5 mm <sup>2</sup> THHN Copper Wire	
	C16	SPARE										230	1500	1500				5.21		60	2	30			
	C17	SPARE										230	1500	1500				5.21		60	2	30			
TOTAL			0	0	75	53.5	0	0	0	0	0	22575	119.80	64.22	106.72	0.00									

Calculation:

For Service Conductors  
 $I = (119 + 25\% (22.50 + 1.702 + 0.215)) \times 1.25 = 175.86 \text{ A}$

For Service Protection  
 $I_L = (119 + 25\% (22.50 + 1.702 + 0.215)) \times 1.25 = 175.86 \text{ A}$

THEREFORE USE 275 AMPERE CIRCUIT BREAKER, 3 PHASE, 230V  
USE 4 - 100 mm<sup>2</sup> THHN COPPER, 1 - 22 mm<sup>2</sup> GROUND @ 75 mm<sup>2</sup> Conduit - PVC

Load Type	VA	FLC			
		AB	BC	CA	3P
LB	0.00	0.00	0.00	0.00	0.00
CB	0.00	0.00	0.00	0.00	0.00
ACU	10575.00	119.20	79.00	104.50	0.00
MOTOR (NO)	0.00	0.00	0.00	0.00	0.00
MOTOR (C)	0.00	0.00	0.00	0.00	0.00
LARGEST MOTOR	0.00	0.00	0.00	0.00	0.00
SPARE	3000.00	0.00	5.21	5.21	0.00
TOTAL	12575.00	119.20	84.21	109.71	0.00

PANEL BOARD ACU 4F - SCHEDULE OF LOADS

PANEL NO.	CIR. NO.	LOAD DESCRIPTION	L.O.	C.O.	OTHER LOADS	WF RATING	SWITCHES					VOLTAGE RATING	INLET (VA) RATING	VA PER CIRCUIT	CIRCUIT LOAD CURRENT (A/NO)				SIZE OF BREAKERS			SIZE OF WIRE/BAW DWT			
							S <sub>1</sub>	S <sub>2</sub>	S <sub>3</sub>	S <sub>4</sub>	S <sub>5</sub>				AB	BC	CA	3P	F	F	T	WIRE (sq. mm)	CONDUIT	GROUNDING	
PBAO	C1	ACU-4-01				1	4					230	5175	5175	22.50				60	2	60	2-8.0mm <sup>2</sup> THHN Copper Wire	25 mm <sup>2</sup> Conduit - PVC	1-5.5 mm <sup>2</sup> THHN Copper Wire	
	C2	ACU-4-02				1	4					230	5175	5175	22.50				60	2	60	2-8.0mm <sup>2</sup> THHN Copper Wire	25 mm <sup>2</sup> Conduit - PVC	1-5.5 mm <sup>2</sup> THHN Copper Wire	
	C3	ACU-4-03				1	4					230	5175	5175			22.50		60	2	60	2-8.0mm <sup>2</sup> THHN Copper Wire	25 mm <sup>2</sup> Conduit - PVC	1-5.5 mm <sup>2</sup> THHN Copper Wire	
	C4	ACU-4-04				1	4					230	5175	5175			22.50		60	2	60	2-8.0mm <sup>2</sup> THHN Copper Wire	25 mm <sup>2</sup> Conduit - PVC	1-5.5 mm <sup>2</sup> THHN Copper Wire	
	C5	ACU-4-05				1	4					230	5175	5175			22.50		60	2	60	2-8.0mm <sup>2</sup> THHN Copper Wire	25 mm <sup>2</sup> Conduit - PVC	1-5.5 mm <sup>2</sup> THHN Copper Wire	
	C6	ACU-4-06				1	4					230	5175	5175			22.50		60	2	60	2-8.0mm <sup>2</sup> THHN Copper Wire	25 mm <sup>2</sup> Conduit - PVC	1-5.5 mm <sup>2</sup> THHN Copper Wire	
	C7	ACU-4-07				1	4					230	5175	5175			22.50		60	2	60	2-8.0mm <sup>2</sup> THHN Copper Wire	25 mm <sup>2</sup> Conduit - PVC	1-5.5 mm <sup>2</sup> THHN Copper Wire	
	C8	ACU-4-08				1	4					230	5175	5175			22.50		60	2	60	2-8.0mm <sup>2</sup> THHN Copper Wire	25 mm <sup>2</sup> Conduit - PVC	1-5.5 mm <sup>2</sup> THHN Copper Wire	
	C9	ACU-4-09				1	4					230	5175	5175			22.50		60	2	60	2-8.0mm <sup>2</sup> THHN Copper Wire	25 mm <sup>2</sup> Conduit - PVC	1-5.5 mm <sup>2</sup> THHN Copper Wire	
	C10	ACU-4-10				1	3					230	3810	3810			17.00		60	2	50	2-5.5mm <sup>2</sup> THHN Copper Wire	20 mm <sup>2</sup> Conduit - PVC	1-5.5 mm <sup>2</sup> THHN Copper Wire	
	C11	ACU-4-11				1	3					230	3810	3810			17.00		60	2	50	2-5.5mm <sup>2</sup> THHN Copper Wire	20 mm <sup>2</sup> Conduit - PVC	1-5.5 mm <sup>2</sup> THHN Copper Wire	
	C12	ACU-4-12				1	25					230	3375	3375	14.50				60	2	40	2-5.5mm <sup>2</sup> THHN Copper Wire	20 mm <sup>2</sup> Conduit - PVC	1-5.5 mm <sup>2</sup> THHN Copper Wire	
	C13	ACU-4-13				1	25					230	3375	3375	14.50				60	2	40	2-5.5mm <sup>2</sup> THHN Copper Wire	20 mm <sup>2</sup> Conduit - PVC	1-5.5 mm <sup>2</sup> THHN Copper Wire	
	C14	ACU-4-14				1	25					230	3375	3375			14.50		60	2	40	2-5.5mm <sup>2</sup> THHN Copper Wire	20 mm <sup>2</sup> Conduit - PVC	1-5.5 mm <sup>2</sup> THHN Copper Wire	
	C15	ACU-4-15				1	25					230	3375	3375			14.50		60	2	40	2-5.5mm <sup>2</sup> THHN Copper Wire	20 mm <sup>2</sup> Conduit - PVC	1-5.5 mm <sup>2</sup> THHN Copper Wire	
	C16	SPARE										230	1500	1500				5.21		60	2	30			
	C17	SPARE										230	1500	1500				5.21		60	2	30			
TOTAL			0	0	15	51.5	0	0	0	0	0	22575	119.80	64.22	106.72	0.00									

Calculation:

For Service Conductors  
 $I = (119 + 25\% (22.50 + 1.702 + 0.215)) \times 1.25 = 175.86 \text{ A}$

For Service Protection  
 $I_L = (119 + 25\% (22.50 + 1.702 + 0.215)) \times 1.25 = 175.86 \text{ A}$

THEREFORE USE 275 AMPERE CIRCUIT BREAKER, 3 PHASE, 230V  
USE 4 - 100 mm<sup>2</sup> THHN COPPER, 1 - 22 mm<sup>2</sup> GROUND @ 75 mm<sup>2</sup> Conduit - PVC

Load Type	VA	FLC			
		AB	BC	CA	3P
LB	0.00	0.00	0.00	0.00	0.00
CB	0.00	0.00	0.00	0.00	0.00
ACU	10575.00	119.20	79.00	104.50	0.00
MOTOR (NO)	0.00	0.00	0.00	0.00	0.00
MOTOR (C)	0.00	0.00	0.00	0.00	0.00
LARGEST MOTOR	0.00	0.00	0.00	0.00	0.00
SPARE	3000.00	0.00	5.21	5.21	0.00
TOTAL	12575.00	119.20	84.21	109.71	0.00



REPUBLIC OF THE PHILIPPINES  
UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES  
CAGAYAN DE ORO CAMPUS  
INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT UNIT  
EARTH MOVING ENGINEER, CAGAYAN DE ORO CITY 9000  
TELEPHONE: (8092) 70-40-40 / (8092) 854-1131 / (8092) 741-1000 / (8092) 854-1000  
WWW.USTIP.USTP.EDU.PH

PROFESSIONAL ELECTRICAL ENGINEER  
PRC NO. \_\_\_\_\_ PRC REG. \_\_\_\_\_  
PRC NO. \_\_\_\_\_ PRC REG. \_\_\_\_\_  
PRC NO. \_\_\_\_\_ PRC REG. \_\_\_\_\_

PROJECT: CONSTRUCTION OF 21ST CENTURY CLASSROOM BUILDINGS PHASE III, VILLANUEVA CAMPUS  
LOCATION: USTP VILLANUEVA CAMPUS, PEARL AND ORIENTAL  
OWNER: UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL  
ENGR. GRACE C. BABA  
DIRECTOR, IPED

RECOMMENDING APPROVAL  
ATTY. ERWIN B. BUCIO  
VP FOR ADMINISTRATION & LEGAL AFFAIRS

APPROVED BY:  
DR. AMBROSIO B. CULTURA II  
PRESIDENT, USTP-CYOR

SHEET CONTENTS:  
SCHEDULE OF LOADS

DATE DRAWN: \_\_\_\_\_  
SCALE: \_\_\_\_\_  
NO. \_\_\_\_\_

E18



### USING POINT TO POINT METHOD

Transformer Full Load Current ( $I_{FL}$ )  
 For 3Ø Transformer:  
 $I_{FL} = (kVA \times 1000) / (E_{LL} \times \sqrt{3})$   
 For 1Ø Transformer:  
 $I_{FL} = (kVA \times 1000) / E_{LL}$

1. For 3Ø System:  
 $I = (1.732 \times I_{FL}) / (C \times n \times E_{LL})$

2. For Line-to-Line:  
 $I = (2 \times I_{FL}) / (C \times n \times E_{LL})$

3. For Line-to-Neutral:  
 $I = (2 \times I_{FL}) / (C \times n \times E_{LL})$

Multiplier =  $100 / (\%Z_{equivalent})$   
 $M = 1 / (1 + 0)$   
 $I_{L-to-L} = I_{FL} \times M$   
 $I_{L-to-N} = I_{L-to-L} \times 0.866$

DISTRIBUTION UTILITY  
13.2kV 3Ø

FAULT LOCATION 1 3MER SECONDARY SIDE	
TRANSFORMER FLC	2400 20000 A
MULTIPLIER	23.14814815
3P FAULT CURRENT	55631.73585 A
	55631.73585 kA
TOTAL 3P FAULT CURRENT	62344.48875 A
	62.24448875 kA

FAULT LOCATION 2 MCB	
CONDUCTOR	250mm <sup>2</sup>
NO. OF SETS	5
LENGTH	5 m
C VALUE	22185
"F" FACTOR	0.058372435
MULTIPLIER	0.94350088
3P FAULT CURRENT	52513.88018 A
	52.51388018 kA
TOTAL 3P FAULT CURRENT	59126.58298 A
	59.12658298 kA

FAULT LOCATION 3 AFS	
CONDUCTOR	250mm <sup>2</sup>
NO. OF SETS	5
LENGTH	5 m
C VALUE	22185
"F" FACTOR	0.859372435
MULTIPLIER	0.94350088
3P FAULT CURRENT	49518.72549 A
	49.51872549 kA
TOTAL 3P FAULT CURRENT	56183.45829 A
	56.18345829 kA

FAULT LOCATION 4 SCB	
CONDUCTOR	250mm <sup>2</sup>
NO. OF SETS	5
LENGTH	22 m
C VALUE	22185
"F" FACTOR	0.261298715
MULTIPLIER	0.752871316
3P FAULT CURRENT	39383.28636 A
	39.38328636 kA
TOTAL 3P FAULT CURRENT	45915.93916 A
	45.91593916 kA

FAULT LOCATION 5 MDP	
CONDUCTOR	250mm <sup>2</sup>
NO. OF SETS	5
LENGTH	21 m
C VALUE	26706
"F" FACTOR	0.226878489
MULTIPLIER	0.815076858
3P FAULT CURRENT	32035.12801 A
	32.03512801 kA
TOTAL 3P FAULT CURRENT	38643.85881 A
	38.64385881 kA

FAULT LOCATION 6 SPB	
CONDUCTOR	22mm <sup>2</sup>
NO. OF SETS	1
LENGTH	5 m
C VALUE	3688
"F" FACTOR	1.732988055
MULTIPLIER	0.266247233
3P FAULT CURRENT	14296.88251 A
	14.29688251 kA
TOTAL 3P FAULT CURRENT	21887.42337 A
	21.88742337 kA

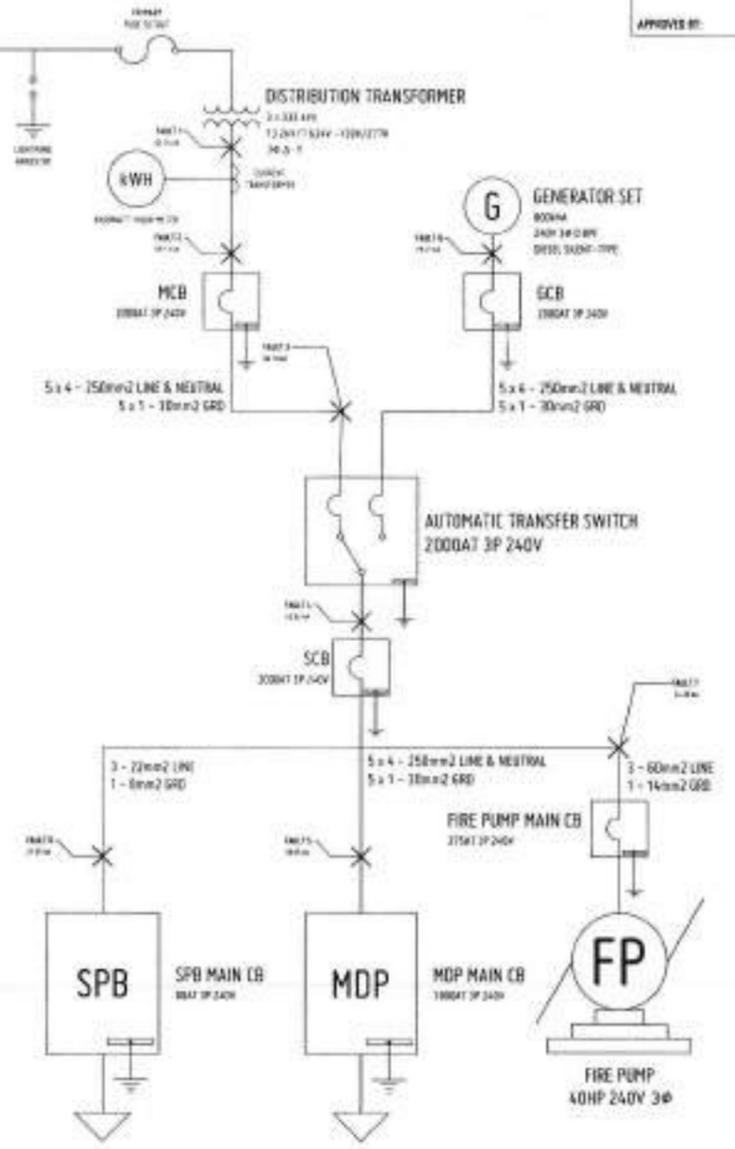
FAULT LOCATION 7 FIRE PUMP	
CONDUCTOR	68mm <sup>2</sup>
NO. OF SETS	1
LENGTH	10 m
C VALUE	10195
"F" FACTOR	1.224711741
MULTIPLIER	0.445886433
3P FAULT CURRENT	17686.8512 A
	17.6868512 kA
TOTAL 3P FAULT CURRENT	24279.384 A
	24.279384 kA

TRANSFORMER RATING	
Rating	885 kVA
%Z	4.8 (Typical Value)
Primary Line Voltage	13.2 kV
Secondary Line Voltage	240 V

GENERATOR					
RATING	PF	VOLTAGE	FLC	SUBTRANSIENT REACTANCE (X <sup>2</sup> )	SHORT CIRCUIT CONTRIBUTION (kA)
kVA					
800	0.8	240	1504.557352	25%	3.70

MOTOR LOADS		
TYPE	FLC	SHORT CIRCUIT CONTRIBUTION (kA)
AIRCON	1362.12	5.45
MOTOR (CONTINUOUS)	50.75	0.20
MOTOR (INTERMITTENT)	58.58	0.24
LARGEST MOTOR	180.13	0.72
TOTAL MOTOR CONTRIBUTION		6.61

SHORT CIRCUIT ANALYSIS			
FAULT NO.	FAULT LOCATION	TOTAL 3P FAULT CURRENT (kA)	MINIMUM CB RMC RATING
1	3MER SECONDARY SIDE	62.24	65
2	MCB	59.13	65
3	AFS	56.18	65
4	SCB	45.92	65
5	MDP	38.65	42
6	SPB	21.01	42
7	FIRE PUMP	24.28	38



**SHORT CIRCUIT ANALYSIS**  
NOT DRAWN TO SCALE



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UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES  
CASAYAN DE ORO CAMPUS  
INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT UNIT  
CLAYTON B. ROTAS AVENUE, LAPANAN, CASAYAN DE ORO CITY 9000  
TELEPHONE: (082) 221-71-81-82 / (082) 221-7131 / (082) 221-7132 / (082) 221-7133-7134  
WEBSITE: www.ustip.edu.ph

PROFESSIONAL ELECTRICAL ENGINEER  
REG. NO. [ ]  
DATE [ ]  
PLACE [ ]

PROJECT: CONSTRUCTION OF 21ST CENTURY CLASSROOM BUILDINGS PHASE III, VILLANUEVA CAMPUS  
LOCATION: USTIP VILLANUEVA CAMPUS, MISAMI ORIENTAL  
OWNER: UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL:  
ENGR. GRACE C. BABA  
DIRECTOR, UPOR

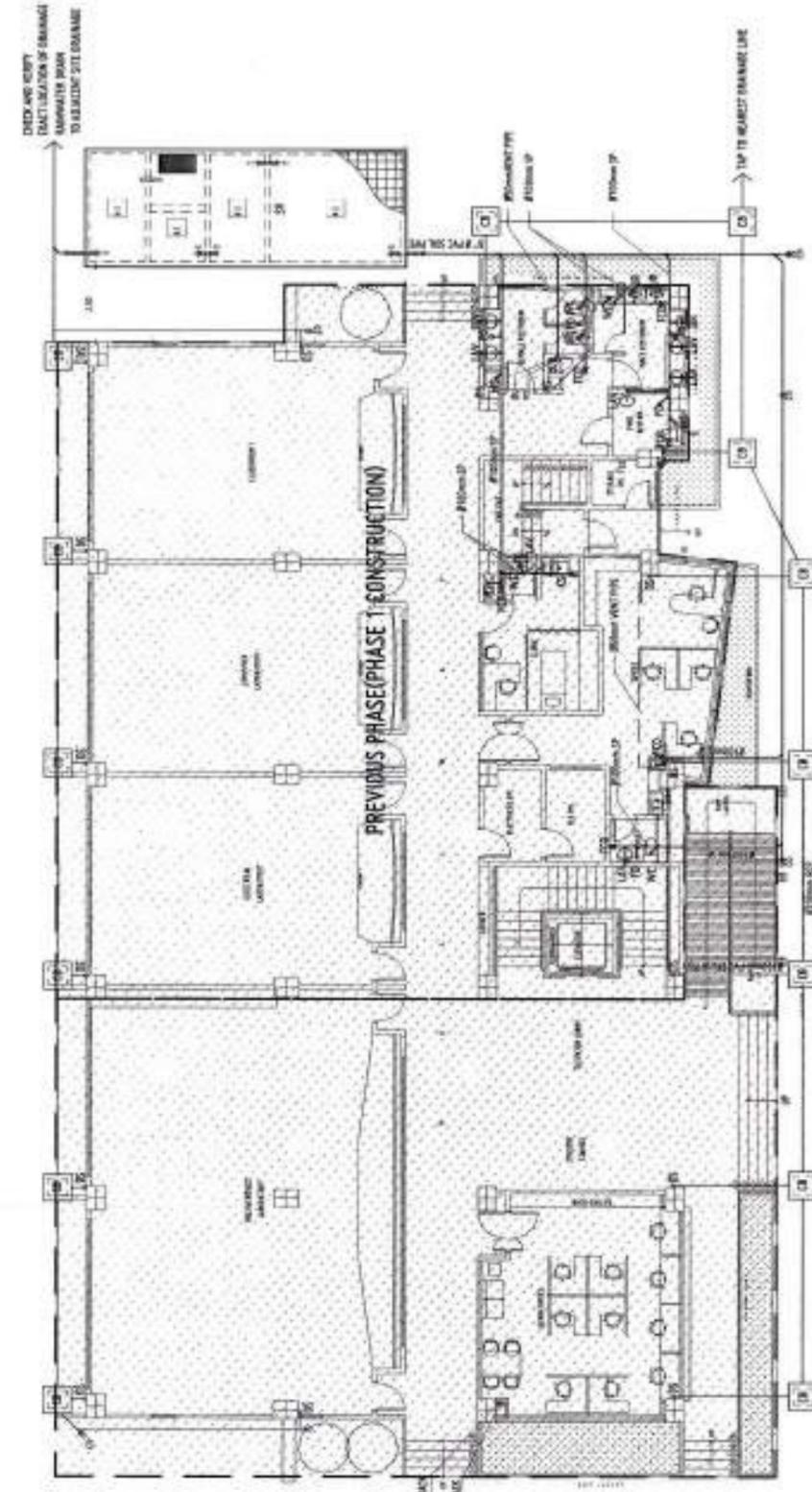
RECOMMENDING APPROVAL:  
ATTY. ERWIN B. BUESO  
UP FOR ADMINISTRATION & LEGAL AFFAIRS

APPROVED BY:  
DR. AMBROSIO B. CULTURA II  
PRESIDENT, USTIP SYSTEM

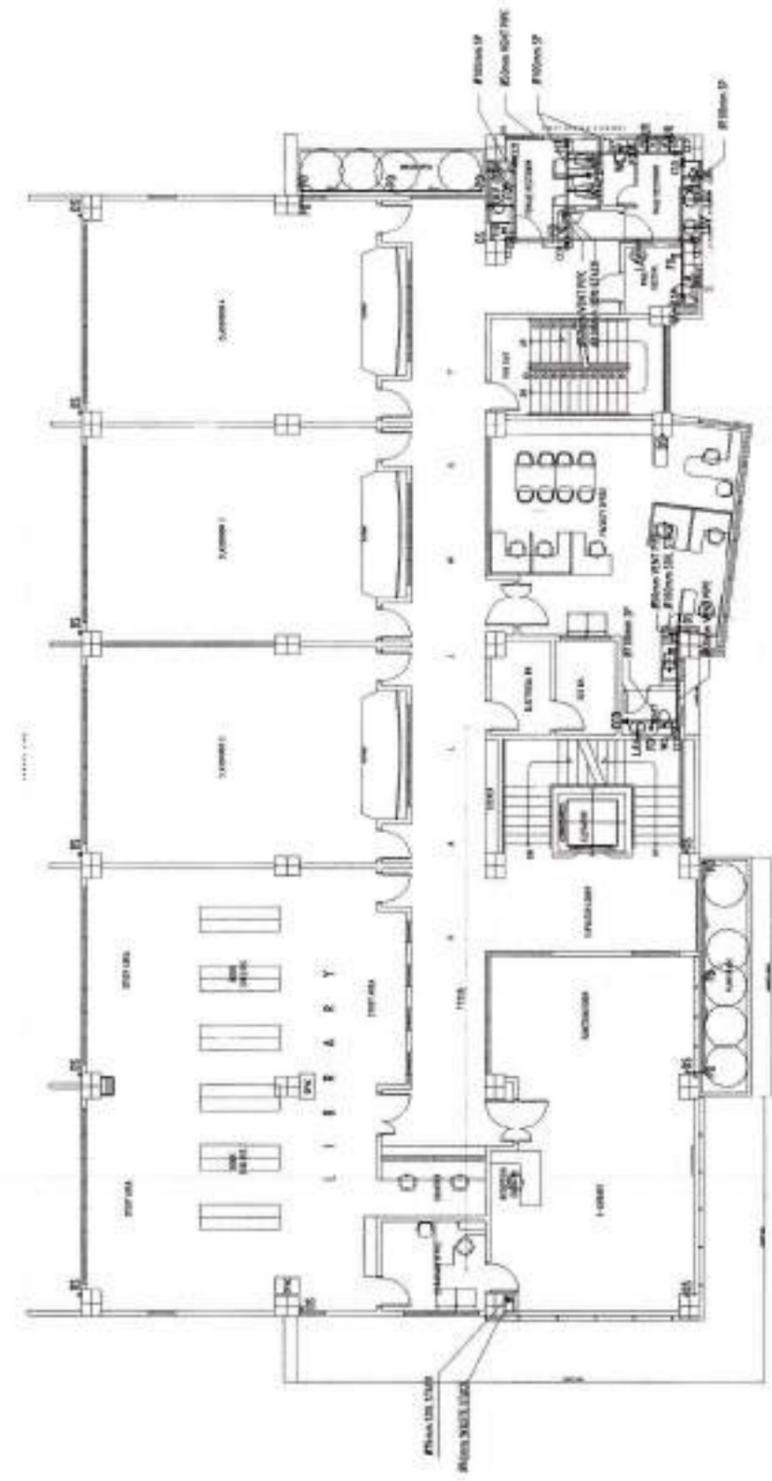
PROJECT CONTENTS:  
SHORT CIRCUIT ANALYSIS



APPROVED BY:



**GROUND FLOOR-PLUMBING LAYOUT-PHASE 2 CONSTRUCTION**  
SCALE: 1:100 MTS



**SECOND FLOOR-PLUMBING LAYOUT**  
SCALE: 1:100 MTS



REPUBLIC OF THE PHILIPPINES UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES CAGAYAN DE ORO CAMPUS INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT UNIT CLAYTON FELICIANO, SARANAN CAGAYAN DE ORO CITY 9000 TELEPHONE: (083) 221-40-40 / 2242-854-1134 / FAX: 1191-7331 FIVE DOME BLDG. 408B WEBSITE: www.ustip.edu.ph	
PROJECT:	CONSTRUCTION OF 21ST CENTURY CLASSROOM BUILDINGS PHASE III, VILLANUEVA CAMPUS
LOCATION:	USTP-VILLANUEVA CAMPUS, PASIG CITY, METRO MANILA
OWNER:	UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES
PROJECT NUMBER:	USTP-001
DATE:	2023
PLACE:	PHILIPPINES

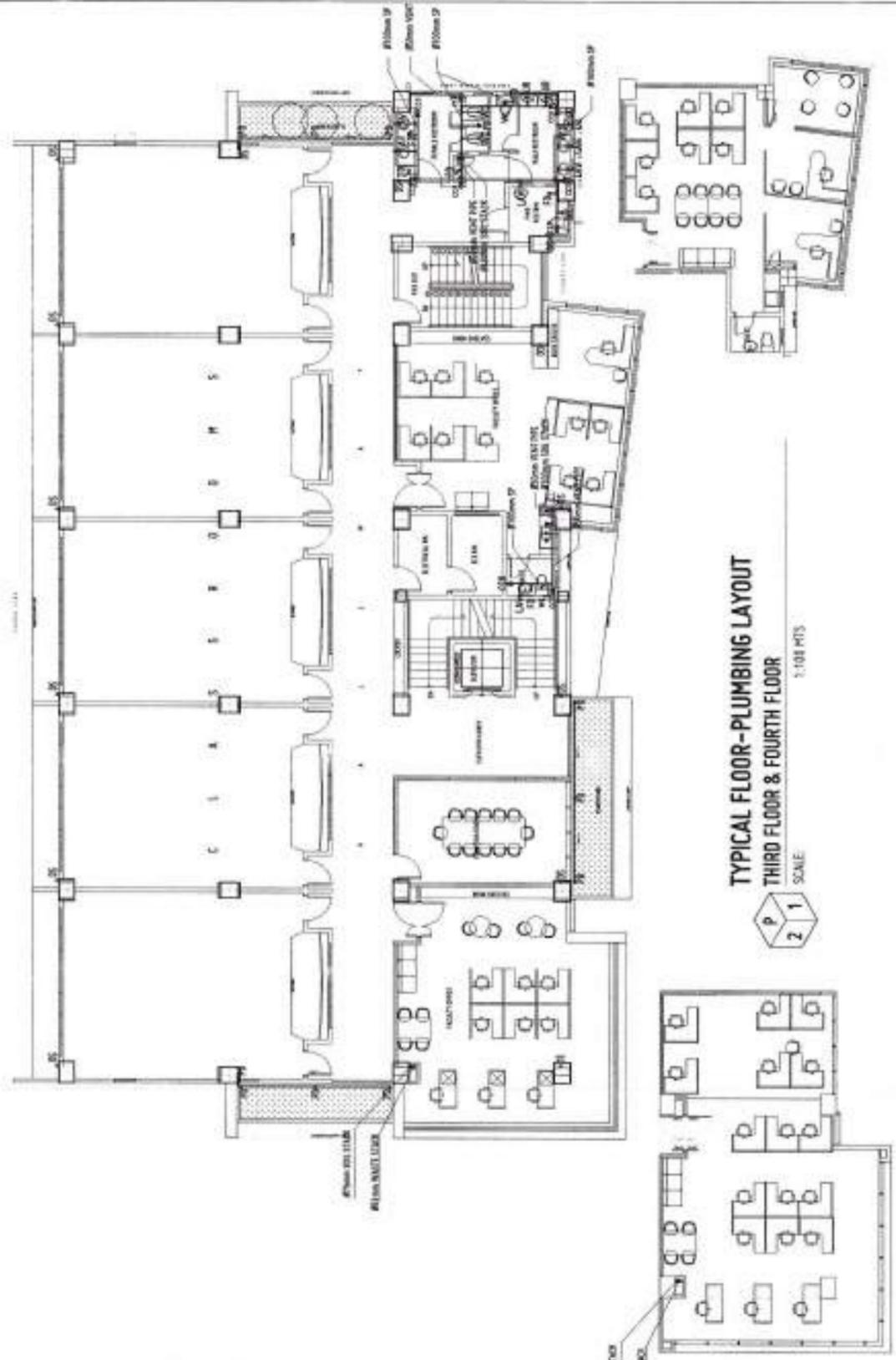
RECOMMENDING APPROVER:	ENGR. GRACE C. BABA DIRECTOR, UPDC
RECOMMENDING APPROVER:	ALTY-ERWIN B. BUSTO OFFICE ADMINISTRATION & LEGAL AFFAIRS
APPROVED BY:	DR. AMBROSIO S. CULTURA II PRESIDENT, UP SYSTEM

SHEET CONTENTS:	PLUMBING WASTE LINE LAYOUT- GROUND FLOOR
	PLUMBING WASTE LINE LAYOUT- SECOND FLOOR

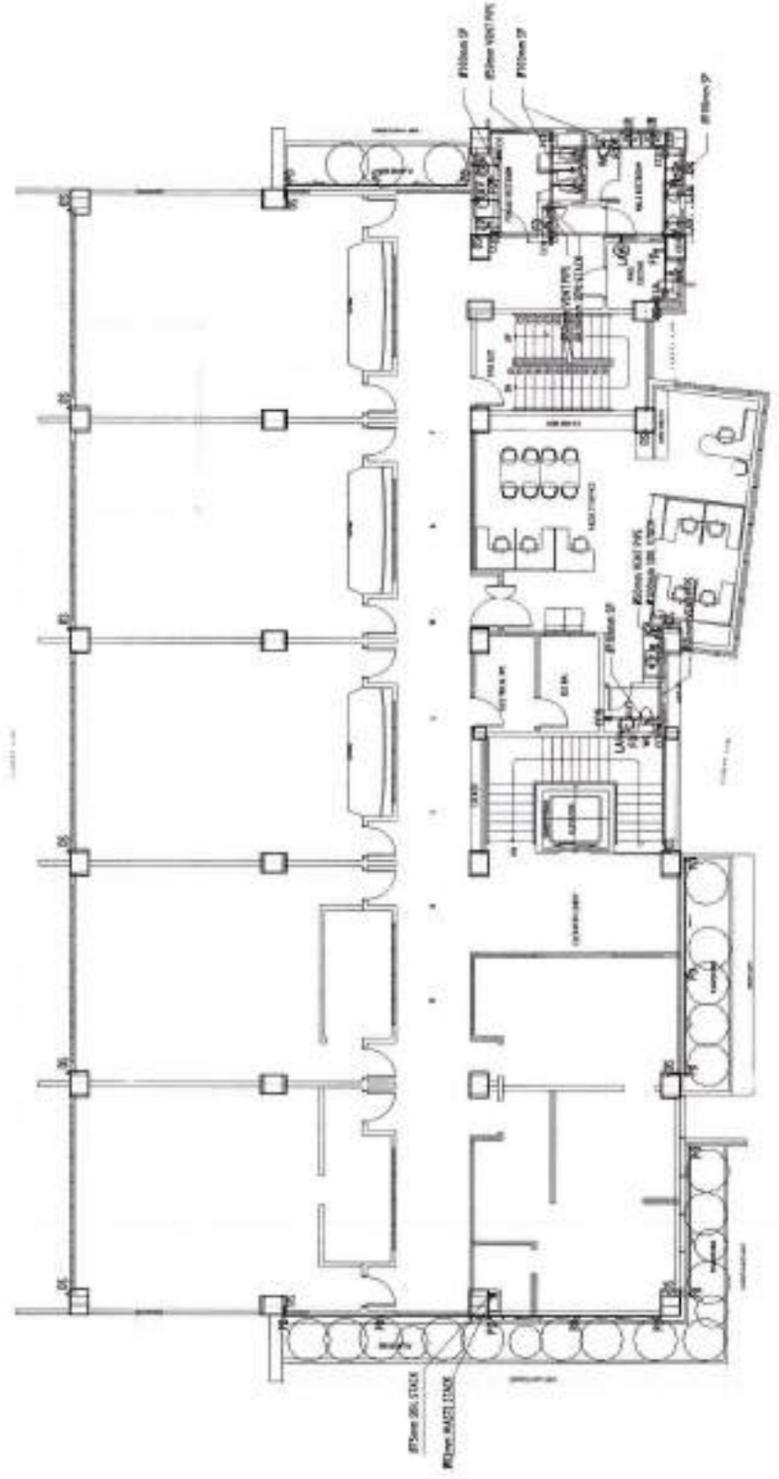
DATE:	
BY:	
NO.:	

**P1**

APPROVED BY:



TYPICAL FLOOR-PLUMBING LAYOUT  
THIRD FLOOR & FOURTH FLOOR  
1:100 PTS  
SCALE



FIFTH FLOOR-PLUMBING LAYOUT  
1:100 PTS  
SCALE



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UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES  
CAGAYAN DE ORO CAMPUS  
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1201 N. WEST AVENUE, LAPANAL, CAGAYAN DE ORO CITY 9000  
TELEPHONE: (8092) 70-40-00 / (8092) 854-1754 / (8092) 7750 / FAX: (8092) 854-4000  
WEBSITE: www.ustip.edu.ph

MASTER PLUMBER		PROJECT	
REG. NO.	DATE	PROJECT	LOCATION
NAME	PLACE	OWNER	

CONSTRUCTION OF 21ST CENTURY CLASSROOM BUILDINGS PHASE III,  
VILLANUEVA CAMPUS  
USTP VILLANUEVA CAMPUS, NEGROS ORIENTAL  
UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL  
ENGR. GRACE C. BABA  
DIRECTOR, UPDO

RECOMMENDING APPROVAL  
ATTY. EDWIN B. BULDO  
VP FOR ADMINISTRATION & LEGAL AFFAIRS

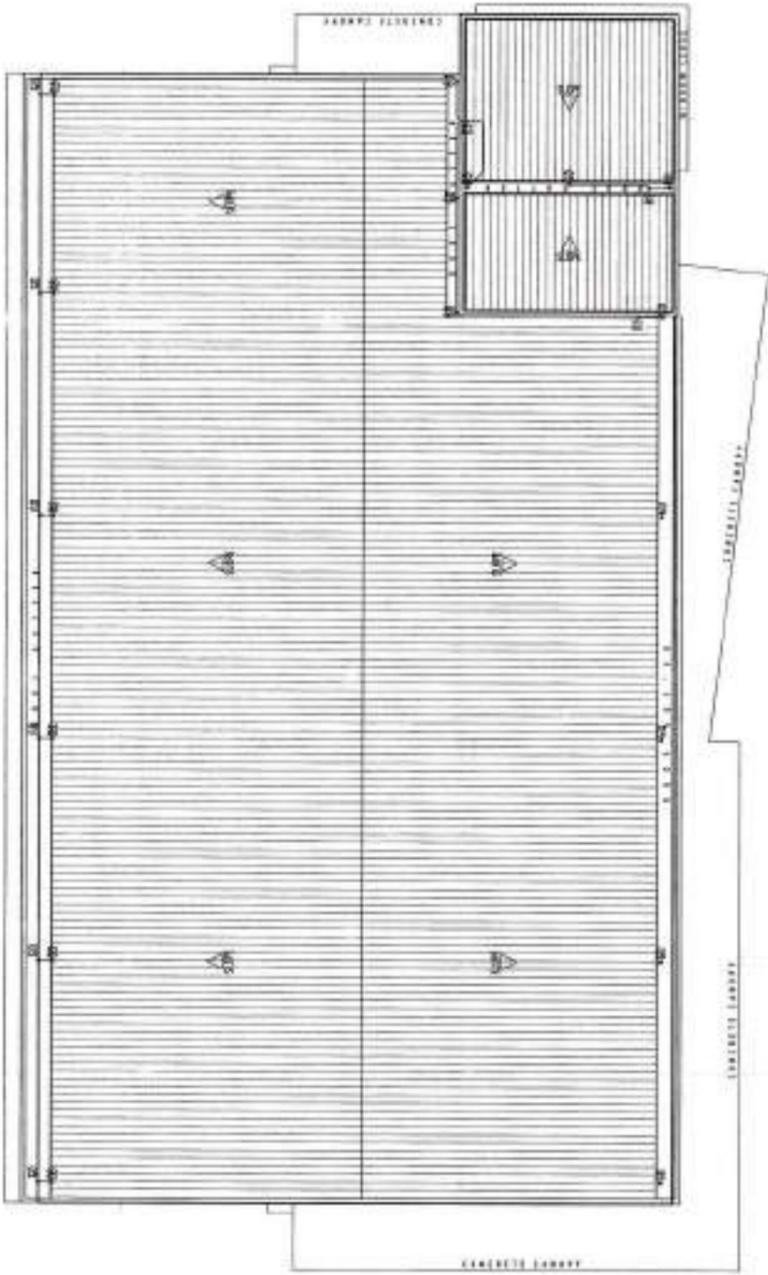
APPROVED BY:  
DR. AMBROSIO B. CULTURA II  
PRESIDENT, USTP SYSTEM

SHEET CONTENTS:  
PLUMBING WASTE LINE LAYOUT  
TYPICAL PLAN - THIRD FLOOR &  
FOURTH FLOOR  
PLUMBING WASTE LINE LAYOUT  
FIFTH FLOOR

DRAWN BY:	
DATE DRAWN	
REV.	

P2

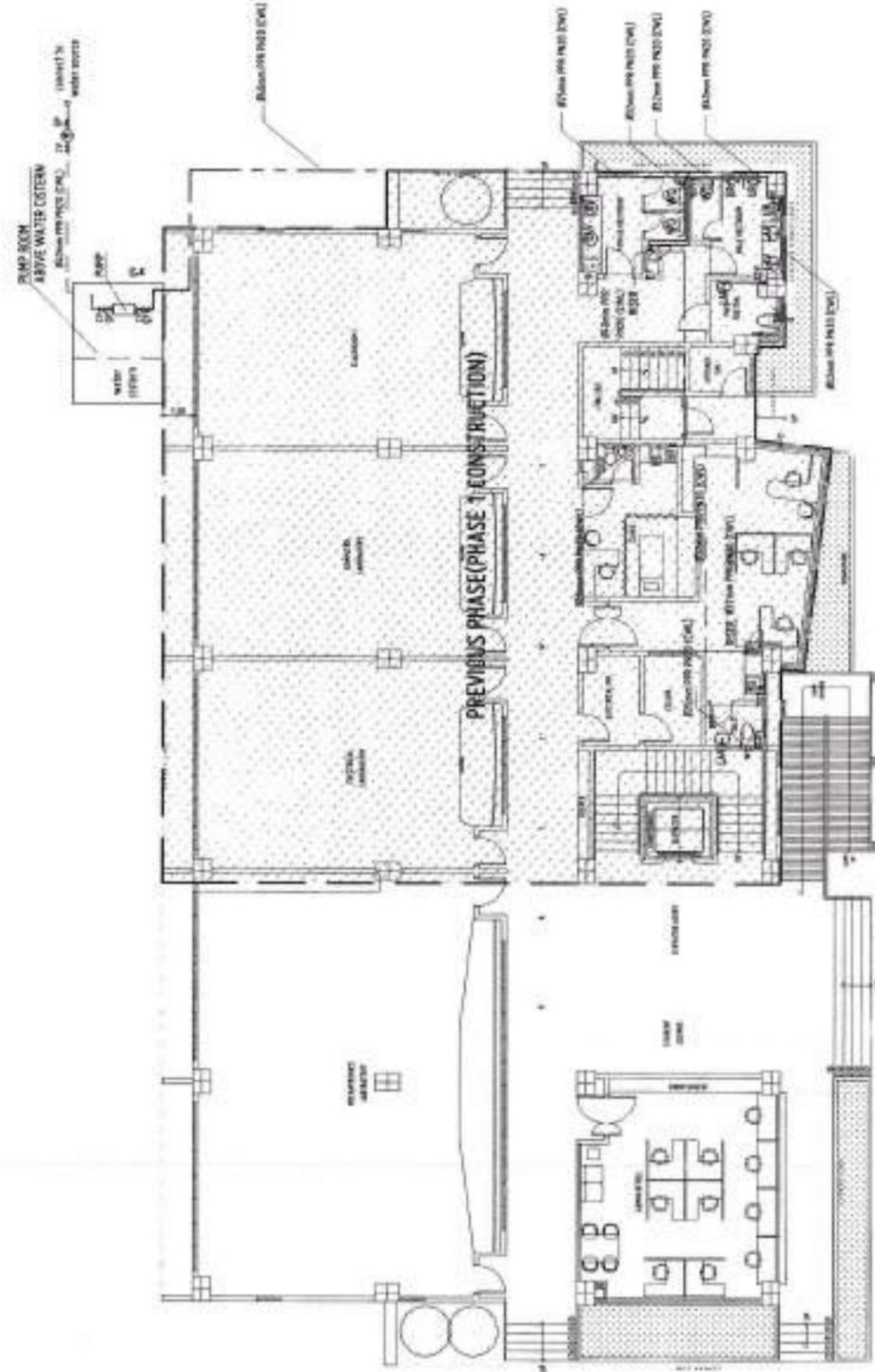
APPROVED BY:



**ROOF PLAN**  
SCALE 1:100 MTS



**ROOF DECK PLAN**  
SCALE 1:100 MTS



**GROUND FLOOR - WATER LINE LAYOUT**  
SCALE 1:100 MTS



REPUBLIC OF THE PHILIPPINES  
UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES  
CAGAYAN DE ORO CAMPUS  
INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT UNIT  
CLAREN, RECTO AVENUE, LAMPAN, CAGAYAN DE ORO CITY 9000  
TELEPHONE: (8032) 11-40-45 / 3446-4531 / 3446-4532 / 3446-4533 / 3446-4534 / 3446-4535  
WEBSITE: www.ustip.edu.ph

PROJECT PLUMBER	
PROJECT NO.	DATE
SITE	PLANS

PROJECT	CONSTRUCTION OF 21ST CENTURY CLASSROOM BUILDINGS PHASE III, VILLANUEVA CAMPUS
LOCATION	USTP VILLANUEVA CAMPUS, RIGANS ORIENTAL
OWNER	UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING OFFICER:  
**ENGR. GRACE C. BABA**  
DIRECTOR, UPDO

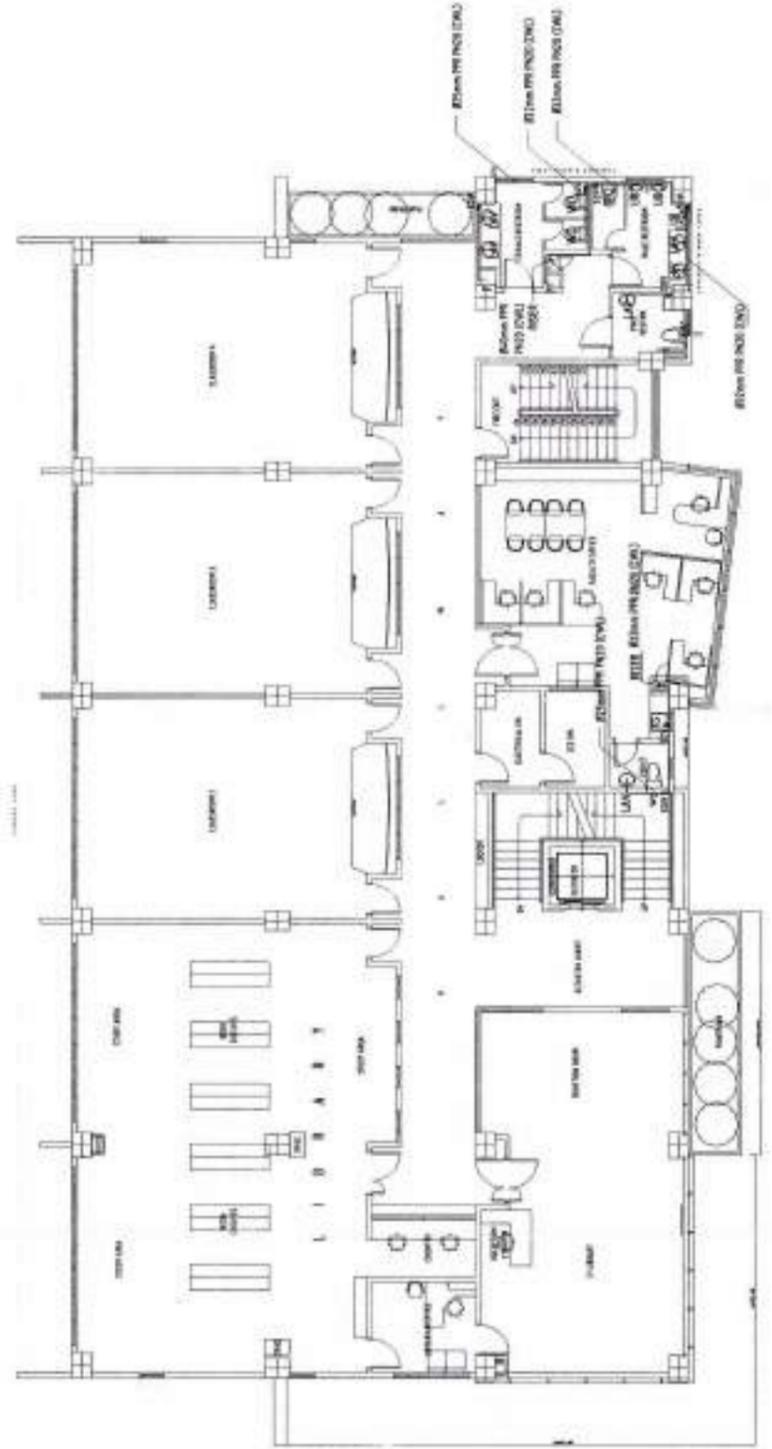
RECORDING/REVIEWER:  
**ATTY. ERWIN B. BERNAL**  
VP FOR ADMINISTRATION & LEGAL AFFAIRS

APPROVED BY:  
**DR. AMBROSIO C. CULTURA II**  
PRESIDENT, USTP SYSTEM

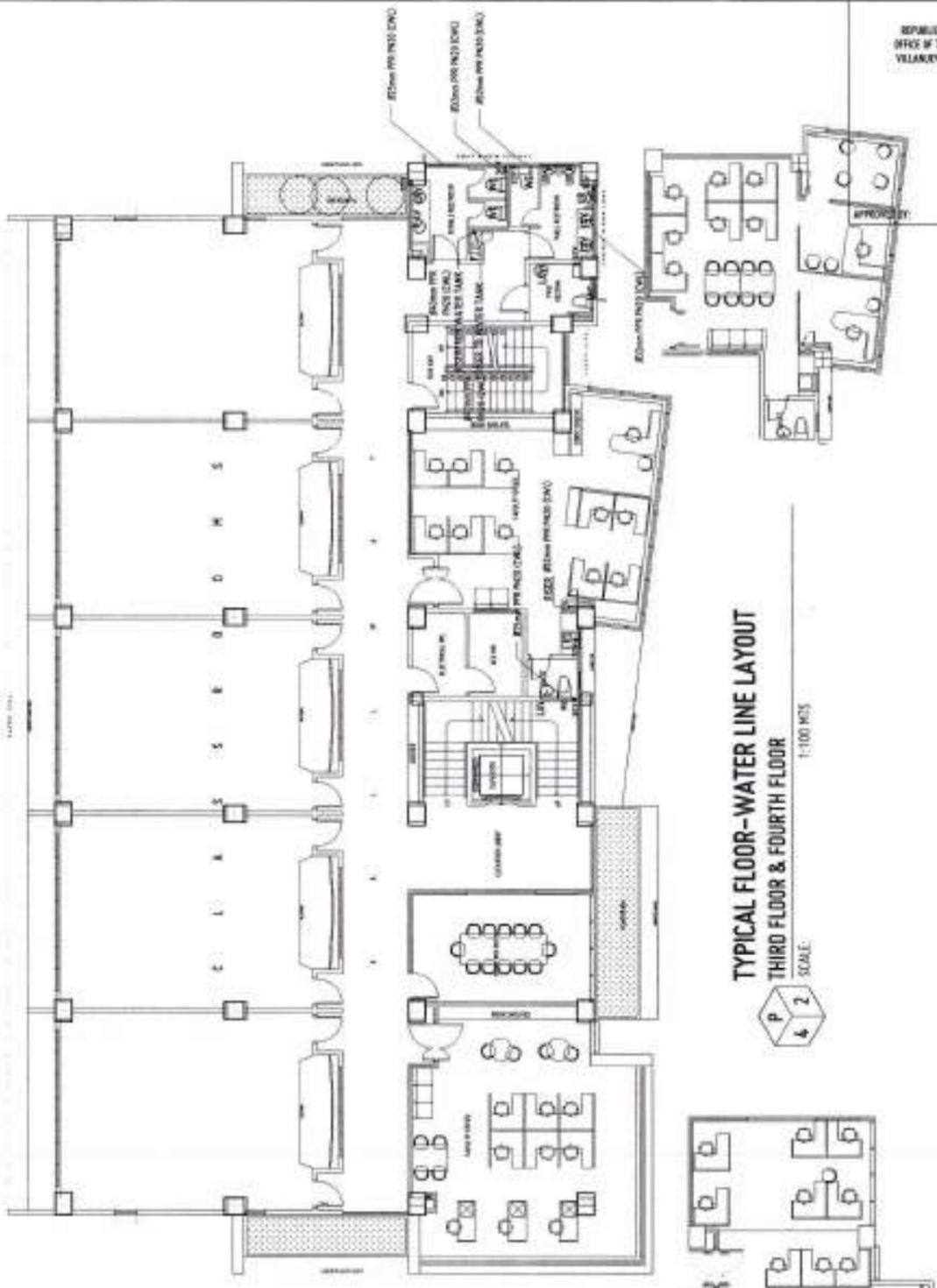
SHEET CONTENTS:  
PLUMBING WASTE LINE LAYOUT  
ROOF  
WATER LINE LAYOUT  
GROUND FLOOR

DATE	
BY	
NO.	

**P3**



**SECOND FLOOR - WATER LINE LAYOUT**  
SCALE: 1:1000 MTS



**TYPICAL FLOOR - WATER LINE LAYOUT**  
THIRD FLOOR & FOURTH FLOOR  
SCALE: 1:1000 MTS



REPUBLIC OF THE PHILIPPINES  
UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES  
TAGAYAN DE ORO CAMPUS  
INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT UNIT  
CLARK W. ROZASARON, LAMARAN CAMPUS/02 980 071 1888  
TELEPHONE 6 08623 70-40-61 / 0862 891-1739 / 891-1739 / 1888 181 0862 891-6888  
WWW.USTIP.USTP.EDU.PH

PROJECT NUMBER	
PROJECT NO.	PROJECT NAME
DATE	SCALE
DESIGNER	CLIENT

CONSTRUCTION OF 21ST CENTURY CLASSROOM BUILDINGS PHASE II,  
VILLANUEVA CAMPUS  
VILLANUEVA CAMPUS, MISAMI ORIENTAL  
UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL:  
ENGR. GRACE C. BABA  
DIRECTOR, UPED

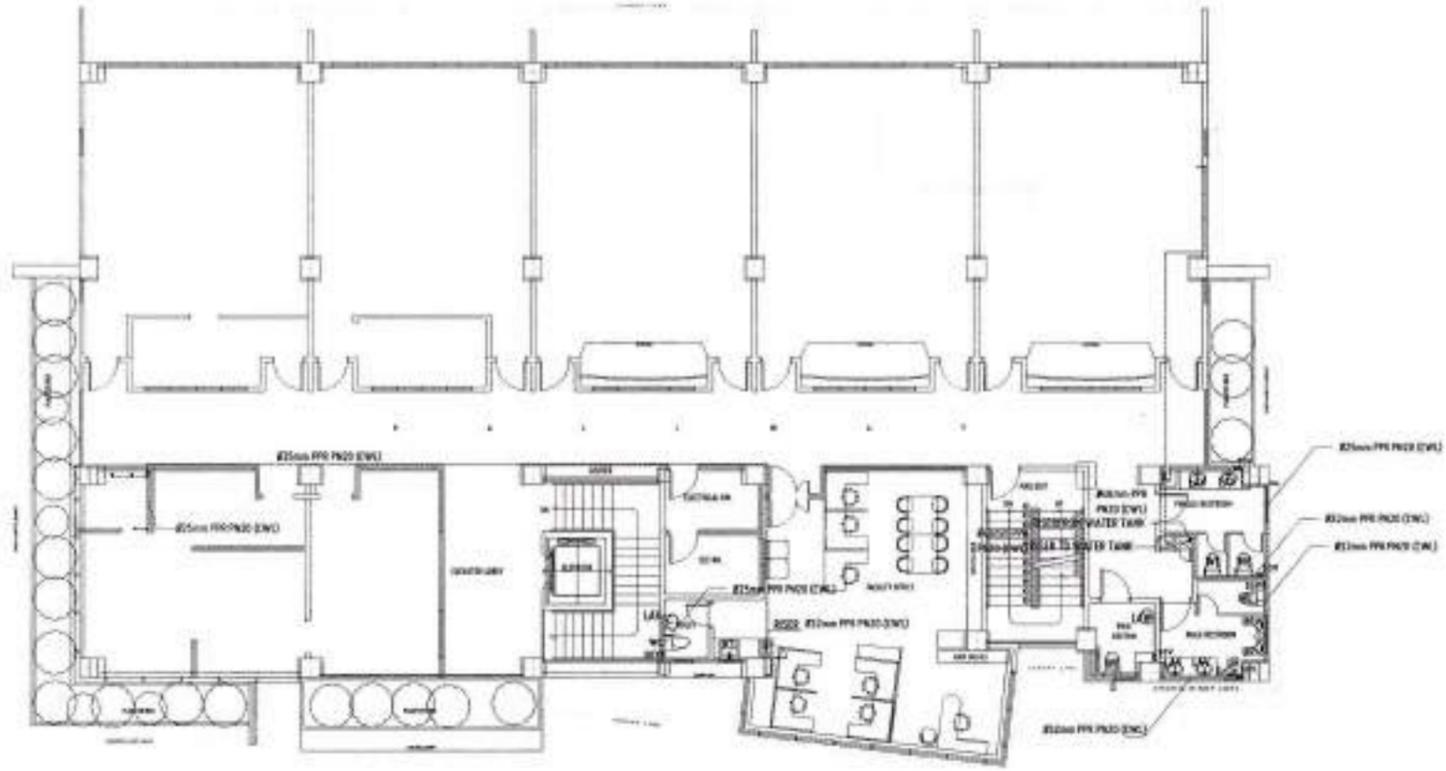
RECORDING APPROVAL:  
ATTY. ERWIN B. BIRRO  
VICE CHAIRMAN, ADMINISTRATION & LEGAL AFFAIRS

APPROVED BY:  
DR. AMERSON C. CULTURA II  
PRESIDENT, UPED SYSTEM

SHEET NO.	DATE
WATER LINE LAYOUT	SCALE
THIRD FLOOR	PROJECT NO.
WATER LINE LAYOUT	PROJECT NAME
TYPICAL PLAN - THIRD FLOOR & FOURTH FLOOR	PROJECT LOCATION

P4

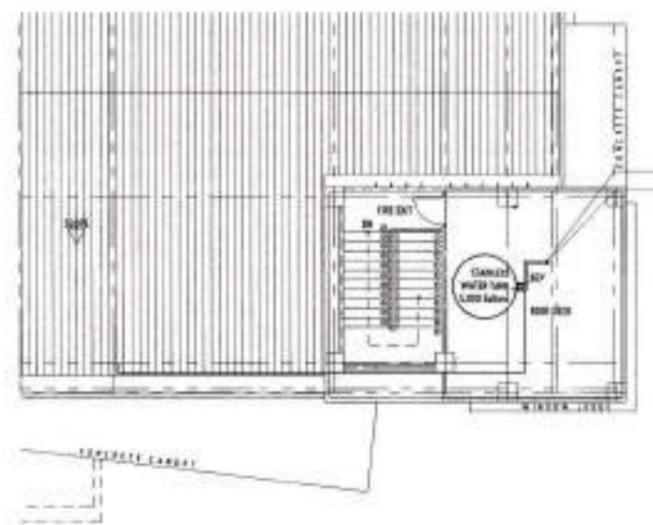
APPROVED BY:



**FIFTH FLOOR-WATER LINE LAYOUT**



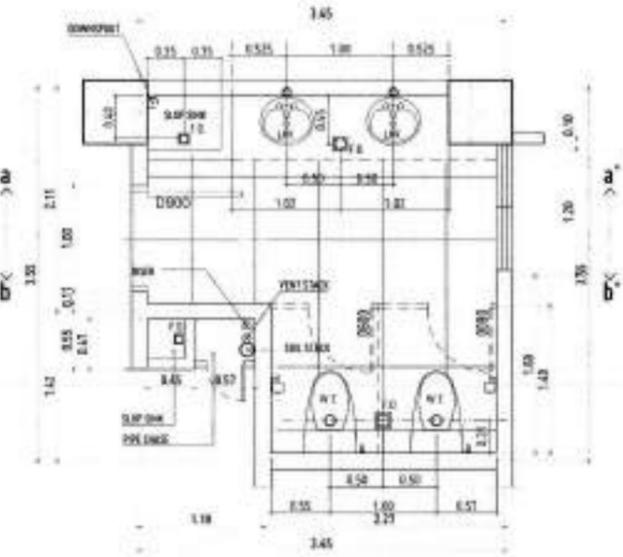
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**ROOF DECK-WATER LINE LAYOUT**



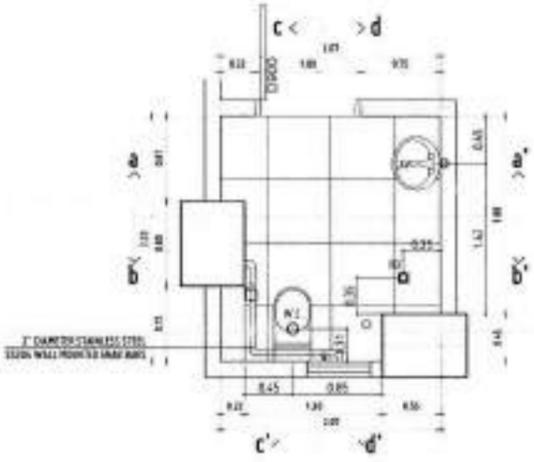
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**STUB-OUT PLAN FEMALE RESTROOM**



SCALE: 1:30 MTS



**STUB-OUT PLAN PWD RESTROOM**



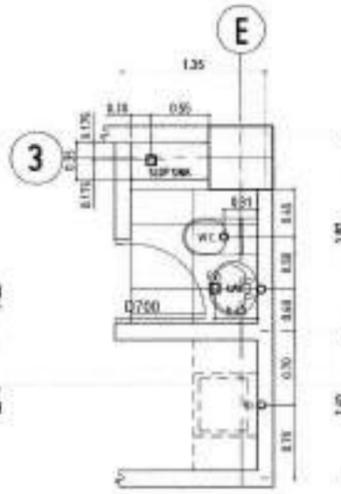
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**STUB-OUT PLAN STAFF/FACULTY RESTROOM**



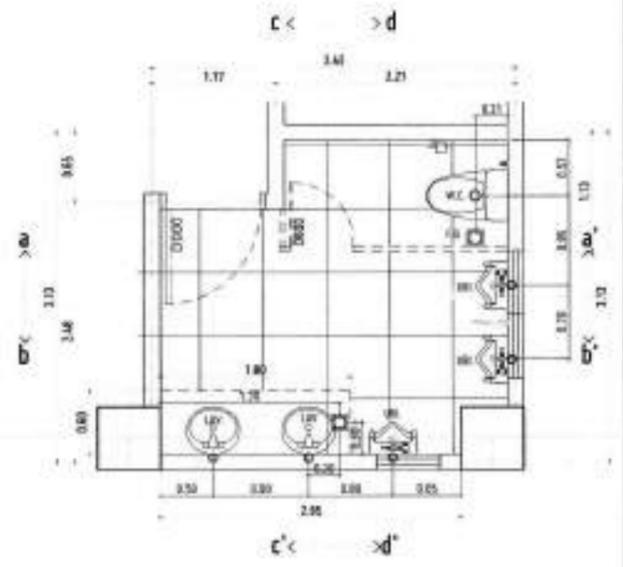
SCALE: 1:30 MTS



**STUB-OUT PLAN CLINIC RESTROOM**



SCALE: 1:30 MTS



**STUB-OUT PLAN MALE RESTROOM**



SCALE: 1:30 MTS



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UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES  
CAGAYAN DE ORO CAMPUS  
INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT UNIT  
SUITE 410 BOSTON AVENUE, LAPU-LAPU, CAGAYAN DE ORO CITY 9000  
TELEPHONE: (088) 711-40-45 / (088) 884-1154 / (088) 1700 / TELEFAX: (088) 884-4488  
WEBSITE: www.ustip.edu.ph

REGISTERED PLUMBER	
PRC NO.:	PRC REG. DATE:
EXPIRES:	PLACED:

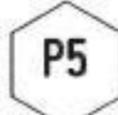
PROJECT:	CONSTRUCTION OF 21ST CENTURY CLASSROOM BUILDINGS PHASE III, VILLANUEVA CAMPUS
LOCATION:	USTP VILLANUEVA CAMPUS, PASIG CITY, METRO MANILA
OWNER:	UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL:  
*[Signature]*  
ENGR. GRACE C. BABA  
DIRECTOR, UPDO

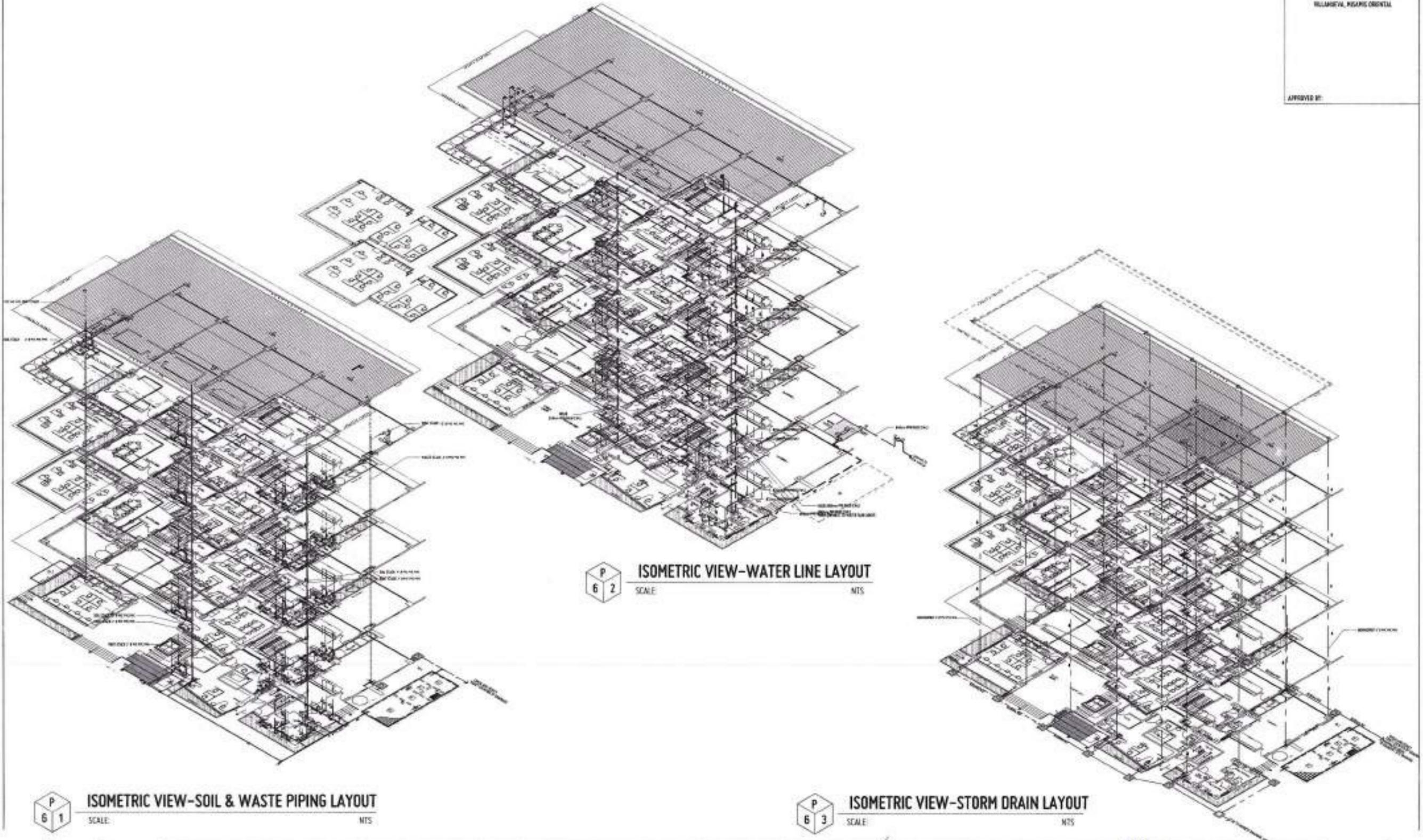
RECOMMENDING APPROVAL:  
*[Signature]*  
ATTY. ERWIN B. BENSER  
UP FOR ADMINISTRATION & LEGAL AFFAIRS

APPROVED BY:  
*[Signature]*  
DR. AMBROSIO B. CULTURA II  
PRESIDENT, USTP SYSTEM

SHEET CONTENTS:	NUMBER:
WATER LINE LAYOUT	INTRODUCTION
STUB-OUT PLAN	FRT
MALE RESTROOM	
PWD RESTROOM	
STAFF/FACULTY RESTROOM	



APPROVED BY:



P  
6  
2

ISOMETRIC VIEW-WATER LINE LAYOUT

SCALE: NTS

P  
6  
1

ISOMETRIC VIEW-SOIL & WASTE PIPING LAYOUT

SCALE: NTS

P  
6  
3

ISOMETRIC VIEW-STORM DRAIN LAYOUT

SCALE: NTS



REPUBLIC OF THE PHILIPPINES  
UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES  
CAGAYAN DE ORO CAMPUS  
INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT UNIT  
CLASS & ISOMETRIC LAYOUT DESIGN BY: ENGR. ERWIN B. BUCIO  
TELEPHONE (0922) 73-60-60 / 0906 856-1736 / 0906-17702/TEL/FAX 0906 856-4488  
WEBSITE: www.ustip.ustp.edu.ph

MASTER PLUMBER	
PROJECT NO.	PROJECT NAME
DATE	SCALE

PROJECT	CONSTRUCTION OF 21ST CENTURY CLASSROOM BUILDINGS PHASE III, VILLANUEVA CAMPUS
LOCATION	USTP VILLANUEVA CAMPUS, NEGROS ORIENTAL
OWNER	UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL:  
ENGR. GRACE C. BABA  
DIRECTOR, IPDOD

RECOMMENDING APPROVAL:  
ATTY. ERWIN B. BUCIO  
ATTORNEY FOR ADMINISTRATION & LEGAL AFFAIRS

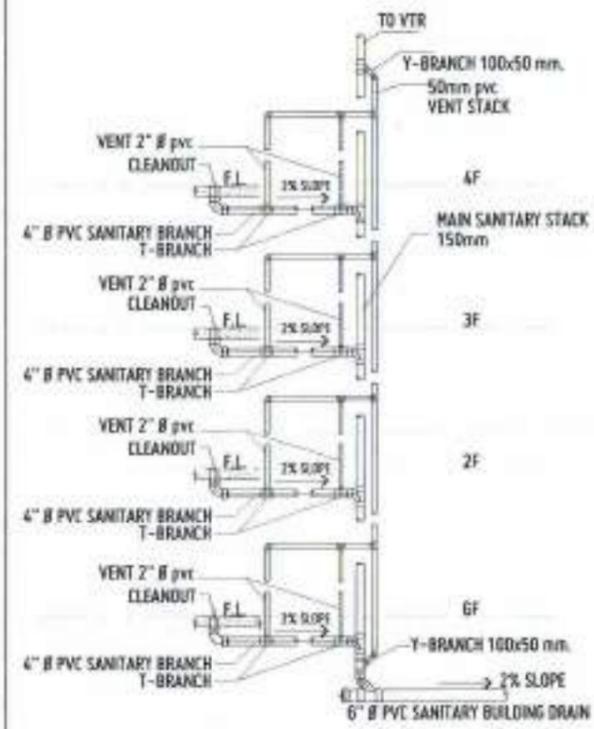
APPROVED BY:  
DR. AMBROSIO S. CULTURA II  
PRESIDENT, USTP SYSTEM

SHEET CONTENTS:  
ISOMETRIC VIEW  
PLUMBING WASTE WATER LAYOUT  
WATER LINE LAYOUT

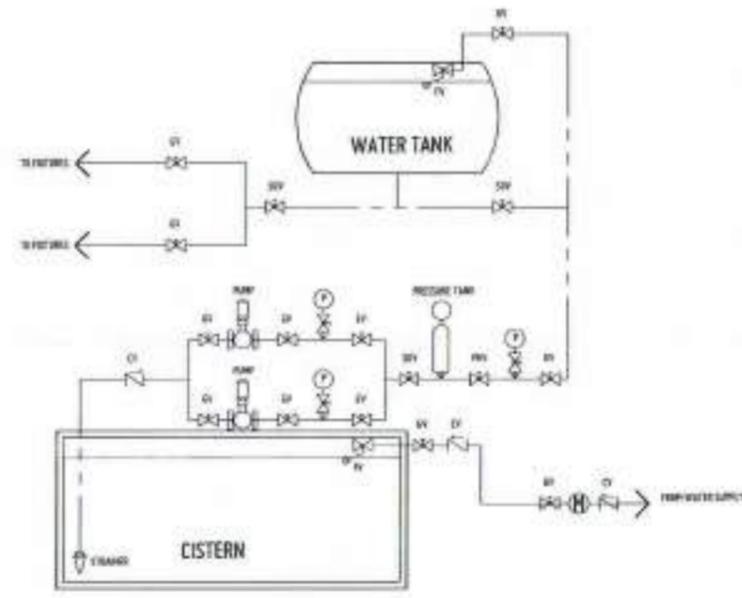
DESIGNER	
CHECKED BY	
DATE	

P6

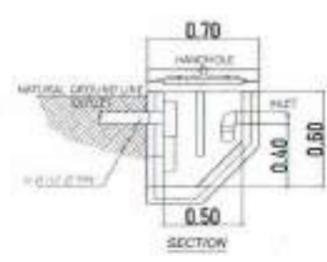
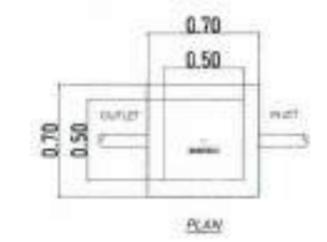
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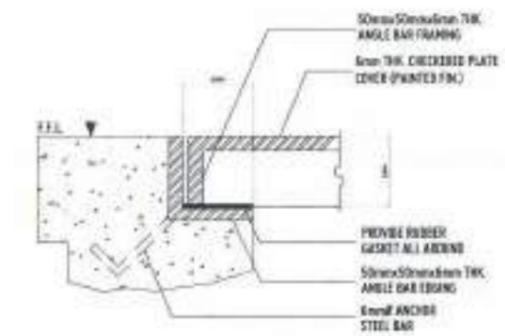
**P 7 1** PLUMBING WASTE DIAGRAM  
SCALE: NTS



**P 7 2** WATER SUPPLY SINGLE LINE DIAGRAM  
NOTES

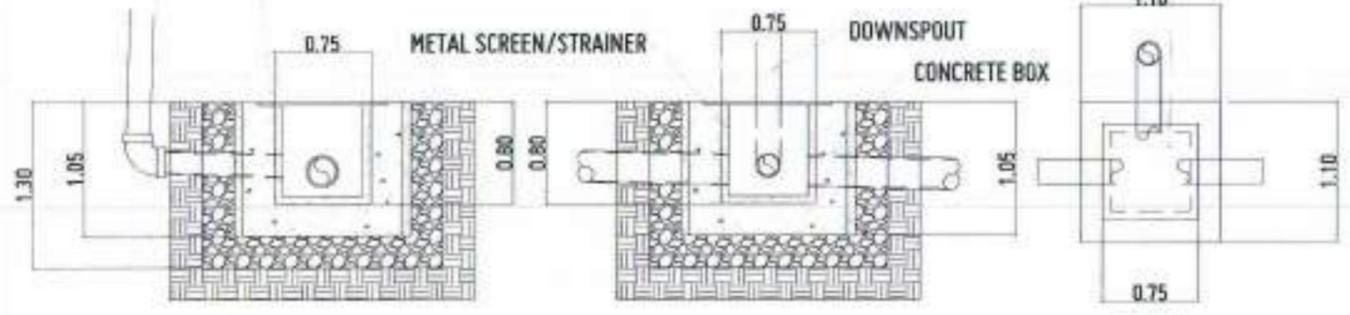


**P 7 3** GREASE TRAP DETAIL  
SCALE: 1:20 MTS



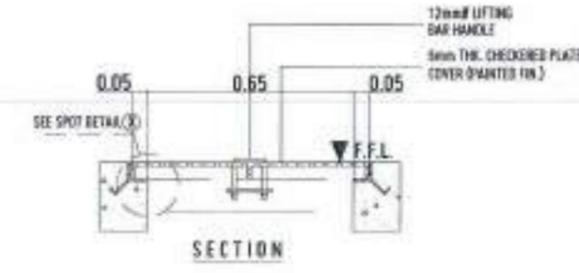
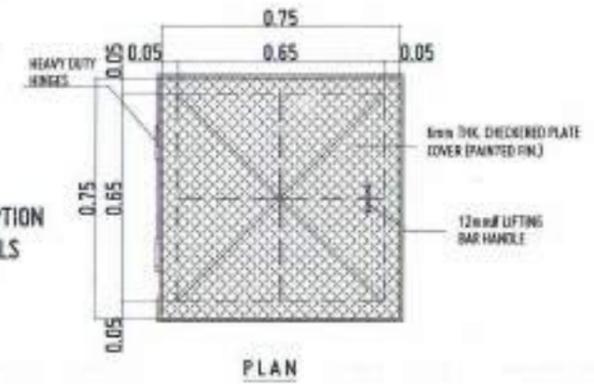
**P 7 4** SPOT DETAIL "X"  
SCALE: NTS

METAL SCREEN/STRAINER  
DOWNSPOUT

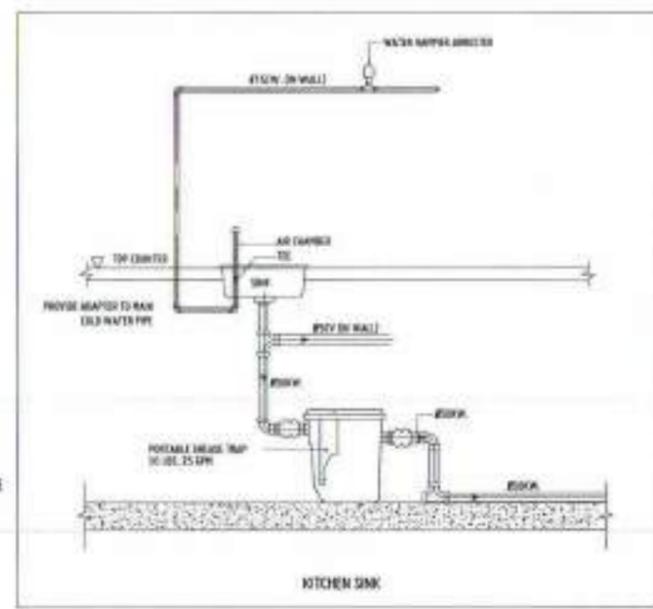


**P 7 6** CATCH BASIN DETAIL  
SCALE: 1:25 MTS

MANHOLE COVER, OPTION  
TO HAVE STEEL GRILLS



**P 7 5** METAL MANHOLE COVER DETAIL  
SCALE: 1:10 MTS



**P 7 5** PORTABLE GREASE TRAP CONNECTION  
SCALE: 1:10 MTS



REPUBLIC OF THE PHILIPPINES  
UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES  
CAGAYAN DE ORO CAMPUS  
INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT UNIT  
LAMPYR, BUTTELEPAIN, LAMPYR, CAGAYAN DE ORO CITY 9000  
TELEPHONE: (8092) 72-89-89 / (8092) 84-1128 / (8092) 84-1129 / (8092) 84-1130  
WEBSITE: www.ustip.edu.ph

REGISTERED PLUMBER	
REG. NO.	REG. NAME
DATE	CLASS
TRAINING	CLASS

PROJECT	CONSTRUCTION OF 21ST CENTURY CLASSROOM BUILDINGS PHASE III, VILLANUEVA CAMPUS
LOCATION	USTP VILLANUEVA CAMPUS, PASIGI, METRO MANILA
OWNER	UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL  
*[Signature]*  
ENGR. GRACE C. GABA  
DIRECTOR / PWD

RECOMMENDING APPROVAL  
*[Signature]*  
ATTY. ERWIN B. BUCIO  
VP FOR ADMINISTRATION & LEGAL AFFAIRS

APPROVED BY:  
*[Signature]*  
DR. AMBROSIO R. CULTURA II  
PRESIDENT, USTP SYSTEM

SHEET CONTENTS	PLUMBING WASTE DIAGRAM
	WATER SUPPLY SINGLE LINE DIAGRAM
	METAL MANHOLE COVER DETAIL
	SPOT DETAIL "X"
	GREASE TRAP DETAIL
	PORTABLE GREASE TRAP CONNECTION

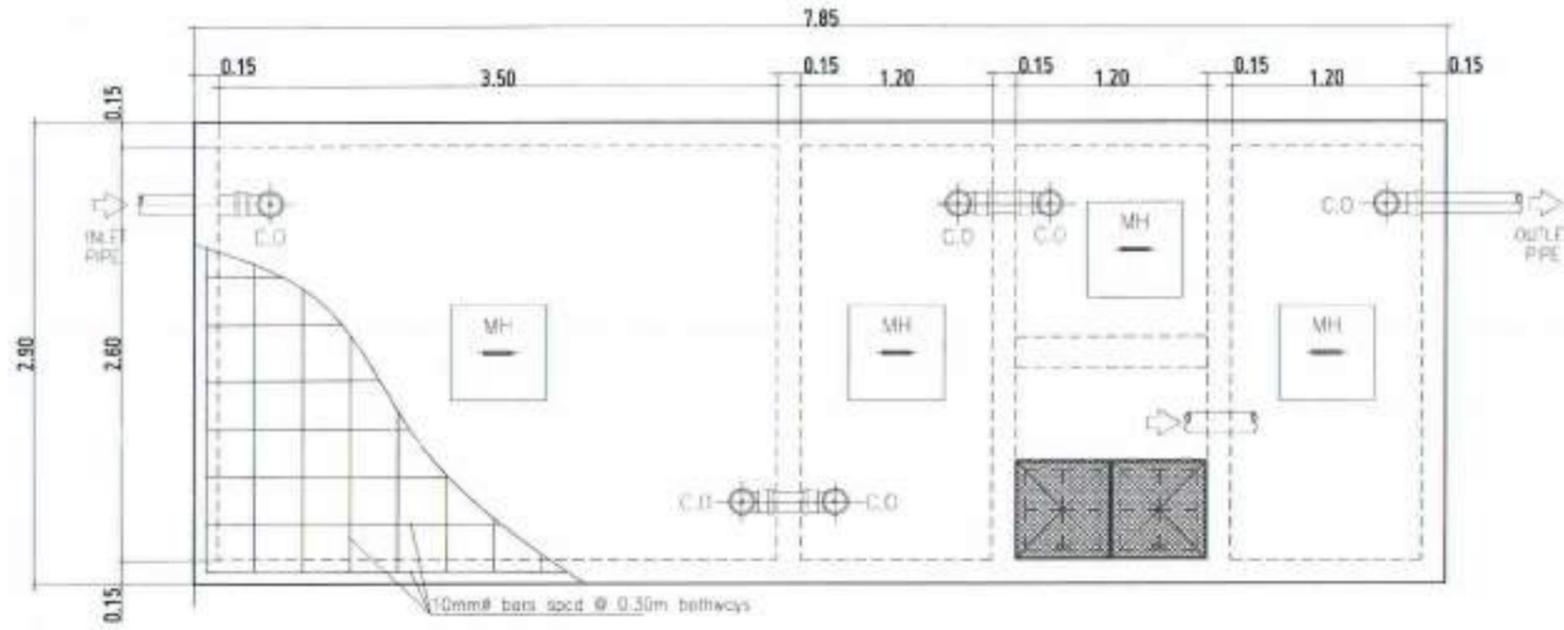
DRAWN BY:	DATE:
CHECKED BY:	DATE:
APPROVED BY:	DATE:

**GENERAL NOTES & SPECIFICATIONS:**

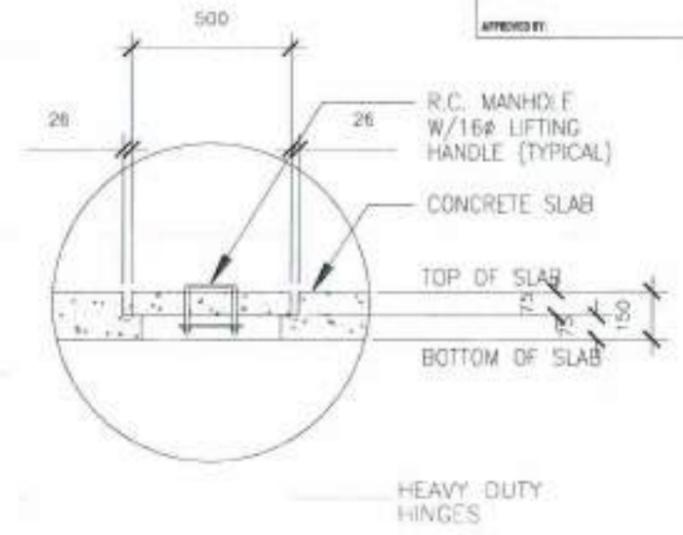
1. ALL PLUMBING WORKS SHOULD BE UNDER THE DIRECT SUPERVISION OF A LICENSED MASTER PLUMBER.
2. ALL PLUMBING INSTALLATION SHOULD BE GOVERNED BY THE NATIONAL PLUMBING CODE OF THE PHILIPPINES AND EXISTING CITY OR LOCAL ORDINANCES.
3. NO SEPTIC VAULT SHALL BE INSTALLED WITHIN OR INSIDE THE BUILDING.
4. TANK MUST BE BUILT WATER TIGHT OF CONCRETE, STONE OR C.H.B..
5. BOTH COMPARTMENTS ARE PROVIDED WITH MANHOLE AND TIGHT COVER FOR CLEANING AND REPAIRS.
6. INLET AND OUTLET ARE SUBMERGED AND ARRANGED IN SUCH A WAY THAT NIETHER SLUDGE NOR SCUM BE UNDULY DISTURBED. BOTTOM OF THE TANK SHOULD HAVE A SLOPE OF 1:10 TOWARDS THE MANHOLE IN THE CENTER TO FACILITATE CLEANING.
7. NOT LESS THAN 0.20M. OF AIRSPACE SHOULD BE LEFT BETWEEN THE TOP OF THE SEWAGE AND THE UNDER PART OF THE TANK.

Plumbing Symbol		REPUBLIC OF THE PHILIPPINES OFFICE OF THE BUILDING OFFICIAL VILLANUEVA, NEGROS ORIENTAL	
	Shower Stall		Sink
	Toilet		Water Heater
	Bidet		Floor Drain
	Shower Head		Floor Cleanout
	Shower Pan		Floor Cleanout
	Shower Valve		Floor Cleanout
	Shower Drain		Floor Cleanout
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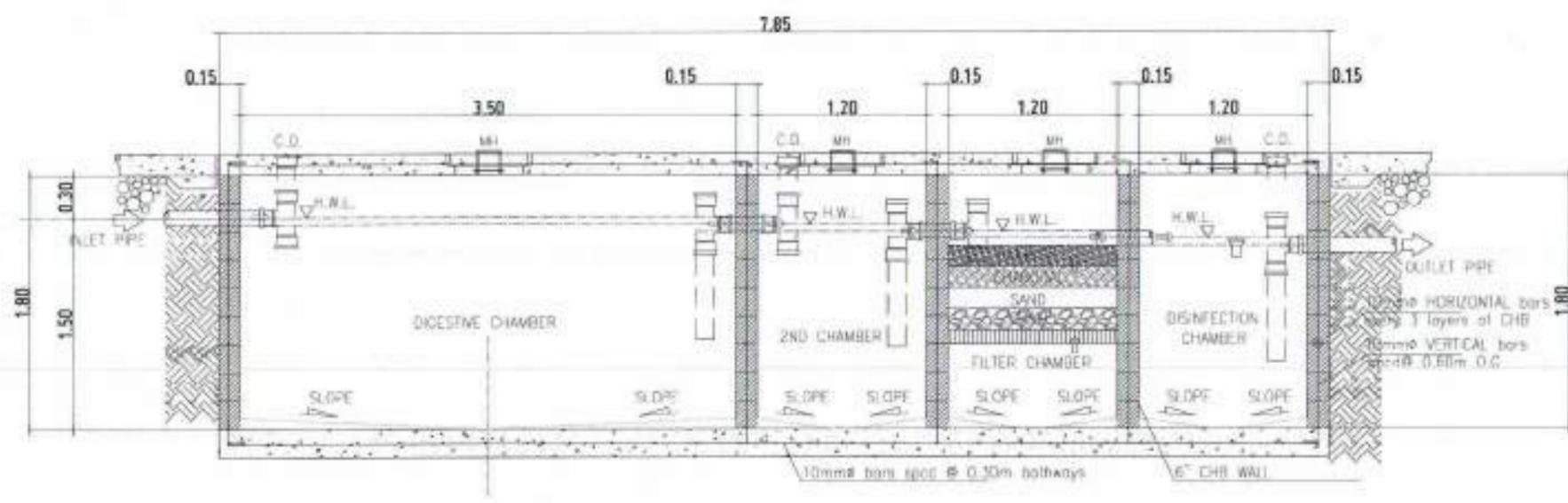
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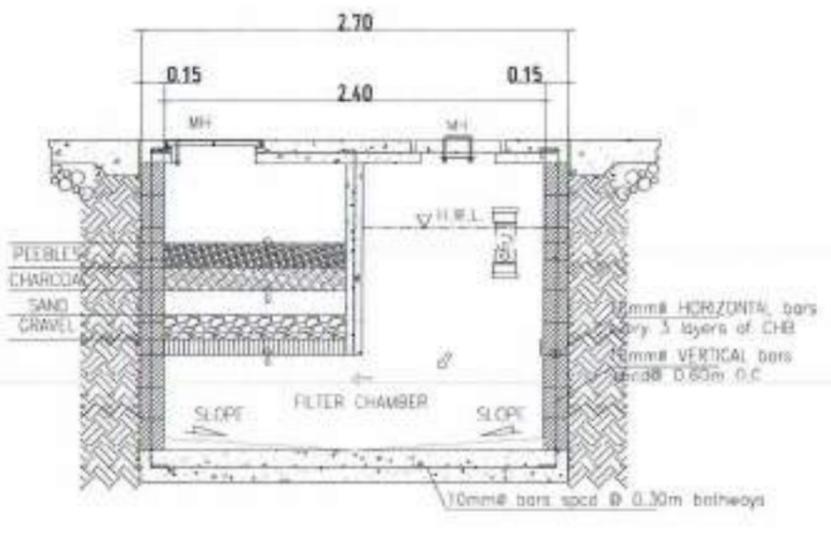
PLAN



**P 9 2** BLOW-UP DETAIL MANHOLE  
SCALE: 1:10MTS



LONGITUDINAL SECTION



CROSS SECTION

**P 9 1** SEPTIC VAULT DETAIL  
SCALE: 1:20MTS



REPUBLIC OF THE PHILIPPINES  
UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES  
DAGupan BC MID CAMPUS  
INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT UNIT  
CLAREN R. BELLO, PROJECT LEADER/ CHIEF OF BUDGETING  
TELEPHONE: (0922) 711-40-41 / (092) 426-1159 / (092) 711-1111 / FAX: (092) 426-1159  
WEBSITE: www.ustip.edu.ph

PROJECT NUMBER	
FILE NO.	ITEM NO.
DATE	SCALE
TW NO.	PLATE

PROJECT	CONSTRUCTION OF 21ST CENTURY CLASSROOM BUILDINGS PHASE III, VILLANGEVA CAMPUS
LOCATION	USTP VILLANGEVA CAMPUS, NEGROS ORIENTAL
OWNER	UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL:  
**ENGR. GRACE C. BABA**  
DIRECTOR, IPFO

RECORDING/ISSUANCE APPROVAL:  
**ATTY. ERWIN B. RUCIO**  
OFFICE ADMINISTRATION & LEGAL AFFAIRS

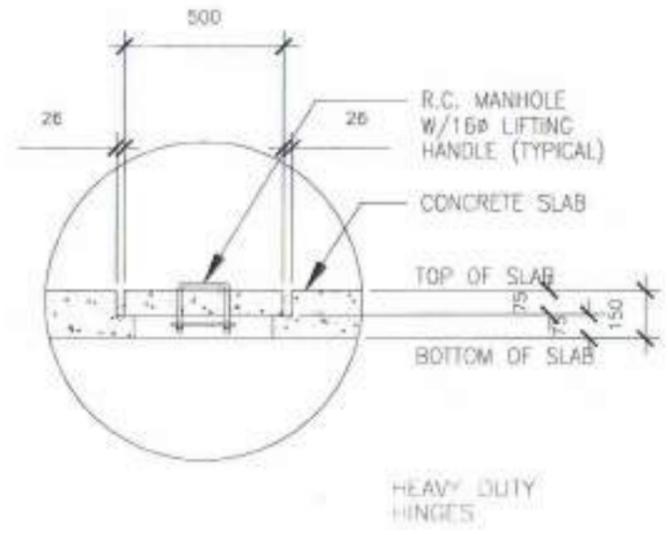
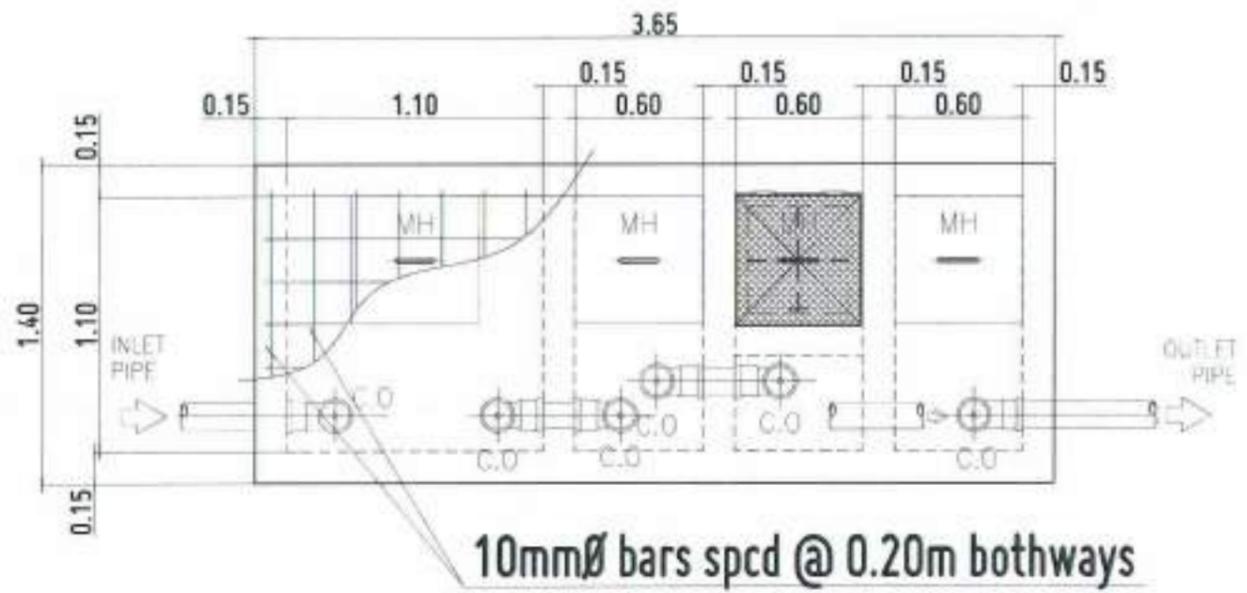
APPROVED BY:  
**DR. AMBROSIO B. CULTURA II**  
PRESIDENT, ICTP SYSTEM

SHEET CONTENTS	SEPTIC VAULT DETAILS FLOOR PLAN LONGITUDINAL SECTION AND CROSS SECTION OF THE MANHOLE & BLOW-UP OF THE
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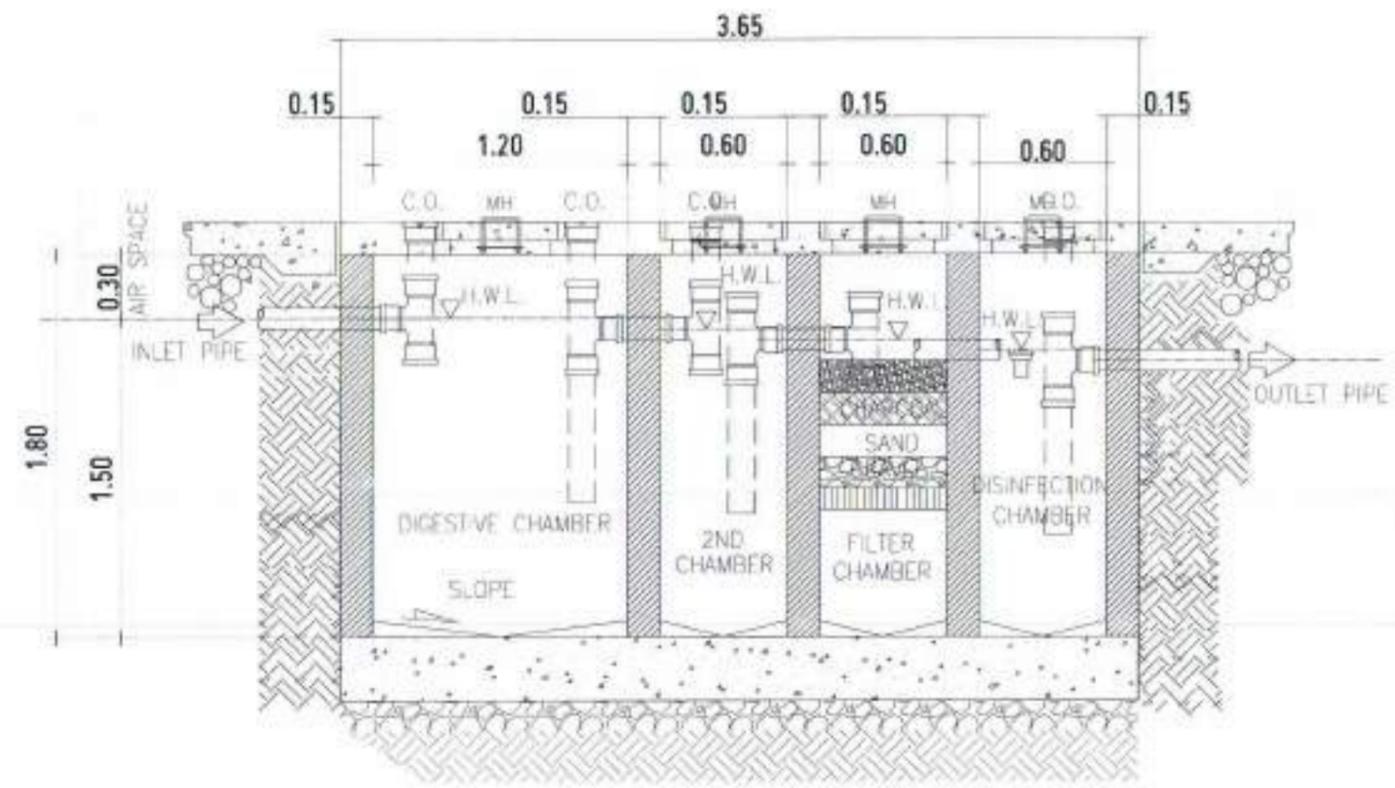
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DATE	

**P9**

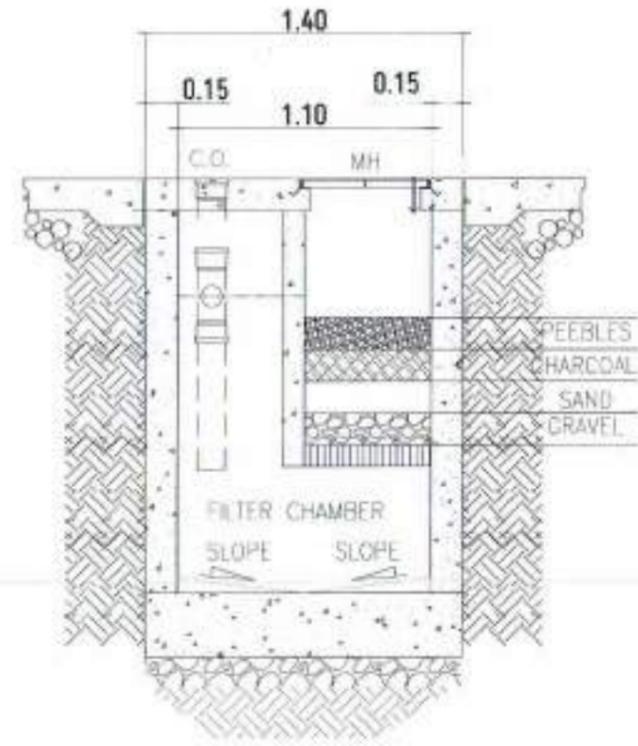
APPROVED BY:



**BLOW-UP DETAIL MANHOLE**  
SCALE: 1:10 MTS



**LONGITUDINAL SECTION**



**CROSS SECTION**

**SEPTIC VAULT - 2 DETAIL**  
SCALE: 1:20 MTS



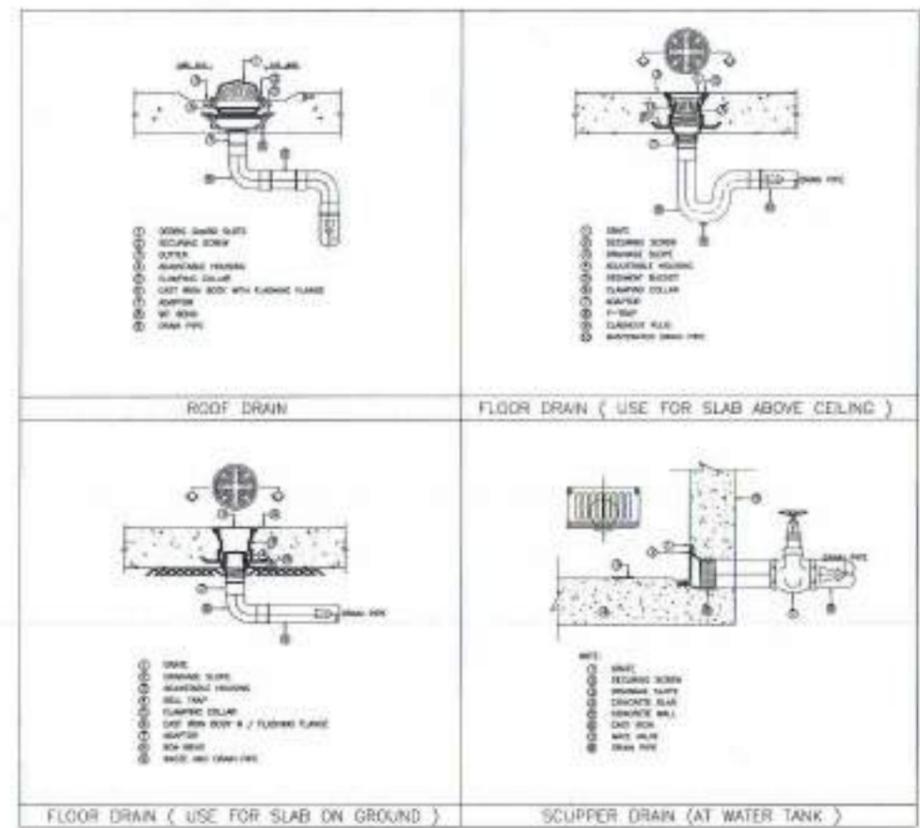
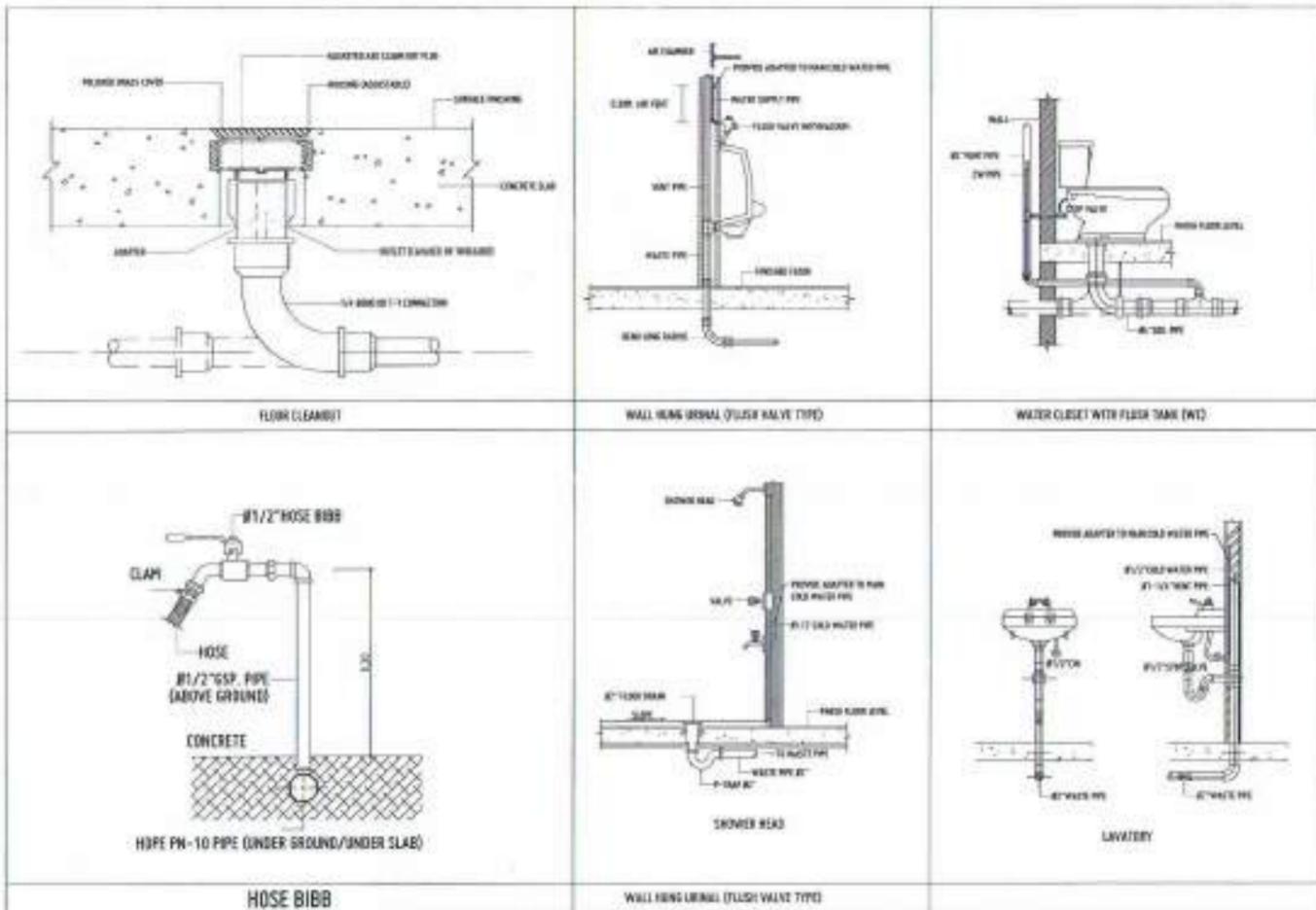
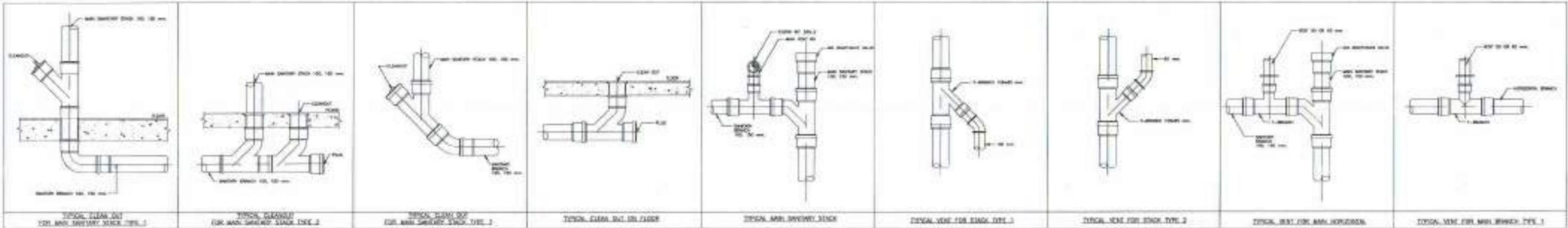
REPUBLIC OF THE PHILIPPINES  
UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES  
CAGAYAN DE ORO CAMPUS  
INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT UNIT  
2000 P. BETH ANNEL LARACA, CALABANG DR. CTD BLDG  
TEL: (083) 221-4000 / (083) 221-4001 / (083) 221-4002 / (083) 221-4003 / (083) 221-4004  
WWW.USTIP.USTP.EDU.PH

MASTER PLUMBER	
PROJECT	CONSTRUCTION OF 21ST CENTURY CLASSROOM BUILDINGS PHASE III, VILLANUEVA CAMPUS
LOCATION	USTP VILLANUEVA CAMPUS, NEGROS ORIENTAL
OWNER	UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL	RECOMMENDING APPROVAL	APPROVED BY	SHEET CONTENTS	DRAWN BY
ENGR. ENRIQUE C. BABA DIRECTOR / PWD	ATTY. ERWIN B. BENO VP FOR ADMINISTRATION & LEGAL AFFAIRS	DR. AMBROSIO S. CULTURA II PRESIDENT / USTP SYSTEM	SEPTIC VAULT 2 DETAILS FLOOR PLAN LONGITUDINAL SECTION (SETH) CROSS SECTION (SETH) MANHOLE BLOW-UP DETAIL	DATE

**P10**

APPROVED BY:



P  
10  
1

**TOILET INSTALLATIONS & CONNECTION DETAILS**

SCALE:

N75



REPUBLIC OF THE PHILIPPINES  
UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES  
CAMPUS OF NEGROS ORIENTAL  
INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT UNIT  
1000 N. HEDGECOCK LANSANA, CAGAYAN DE ORO CITY 9000  
TEL: (088) 822-1111 / (088) 822-1112 / (088) 822-1113 / (088) 822-1114 / (088) 822-1115  
WWW.USTIP.UTS.PH

PROJECT	CONSTRUCTION OF 21ST CENTURY CLASSROOM BUILDINGS PHASE III, VILLANUEVA CAMPUS
LOCATION	USTP VILLANUEVA CAMPUS, NEGROS ORIENTAL
OWNER	UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

DESIGNER	ENGR. ERWIN S. BOTOS
DATE	
SCALE	

RECOMMENDING APPROVAL:  
ENGR. ERWIN S. BOTOS  
DIRECTOR, UPDO

RECOMMENDING APPROVAL:  
ATTY. ERWIN S. BOTOS  
OFFICE OF THE BUILDING OFFICIAL

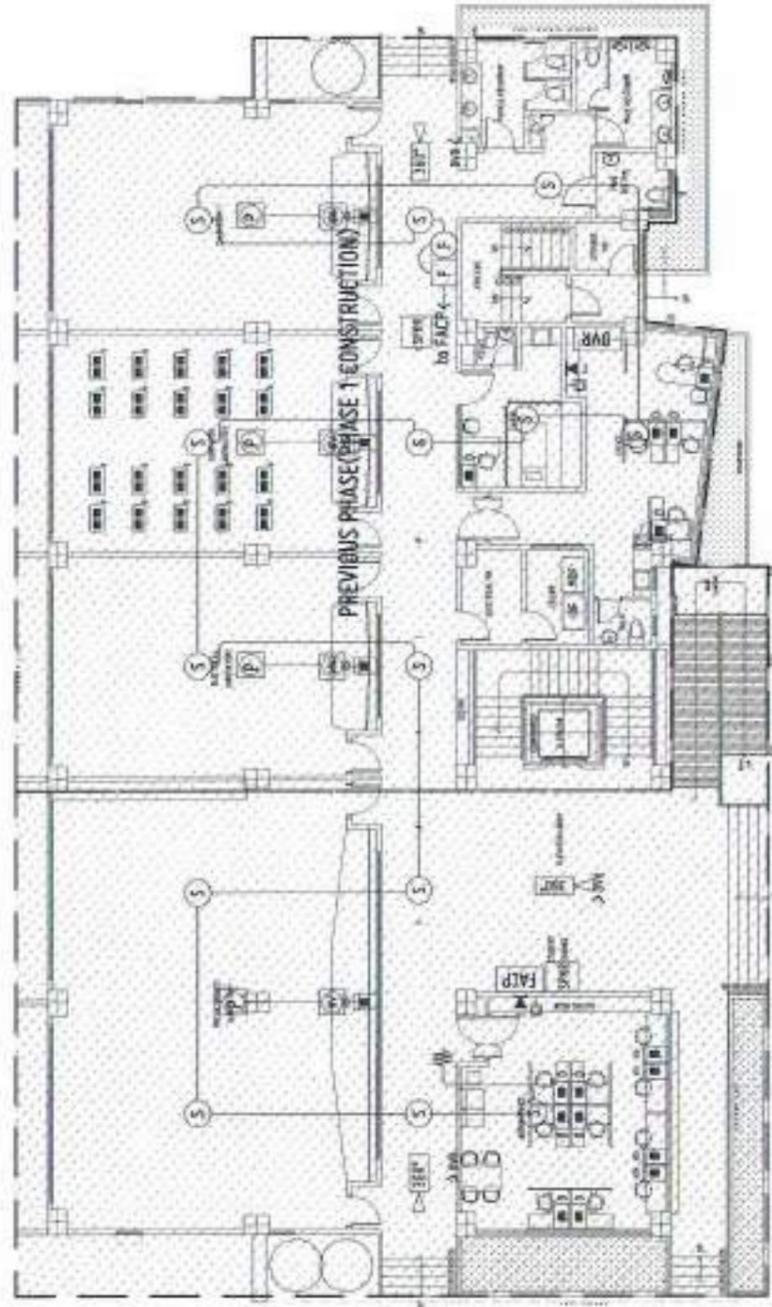
APPROVED BY:  
DR. AMBROSIO B. CULTURA II  
PRESIDENT, USTP SYSTEM

SHEET CONTENTS:  
TOILET INSTALLATIONS & CONNECTION DETAILS

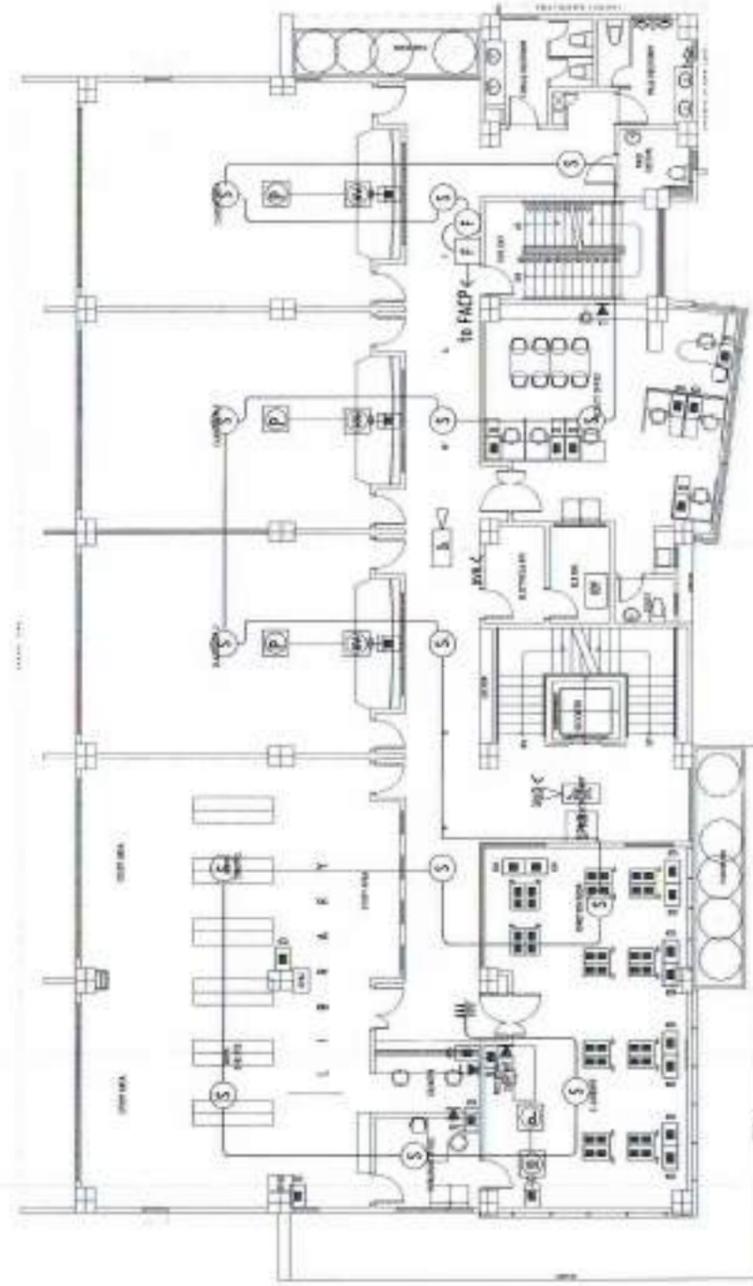
DRAWN BY	
CHECKED BY	
DATE	

P11

APPROVED BY:



GROUND FLOOR - ECE LAYOUT PLAN  
SCALE 1:100 MTS



SECOND FLOOR - ECE LAYOUT PLAN  
SCALE 1:100 MTS



REPUBLIC OF THE PHILIPPINES  
UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES  
CARAGA BI-800 CAMPUS  
INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT UNIT  
CLARKE, MICTO AVENUE, LIPDAK, DAVAO BI-800 CITY 8000  
TELEPHONE & FAX: 083-22-40-45 / 083-22-40-46 / 083-22-40-47 / 083-22-40-48 / 083-22-40-49  
WEBSITE: www.ustip.edu.ph

PROFESSIONAL ELECTRONICS ENGINEER  
REG. NO. PTO NO. R.E.E. NO. PLACE

PROJECT: CONSTRUCTION OF 21ST CENTURY CLASSROOM BUILDINGS PHASE III, VILLANUEVA CAMPUS  
LOCATION: USTP VILLANUEVA CAMPUS, MISAMO ORIENTAL  
OWNER: UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL:  
ENGR. GRACE C. BABA  
SECTION IN-500

RECOMMENDING APPROVAL:  
ATTY. ERWIN B. SUELO  
ATTORNEY AT LAW & LEGAL AFFAIRS

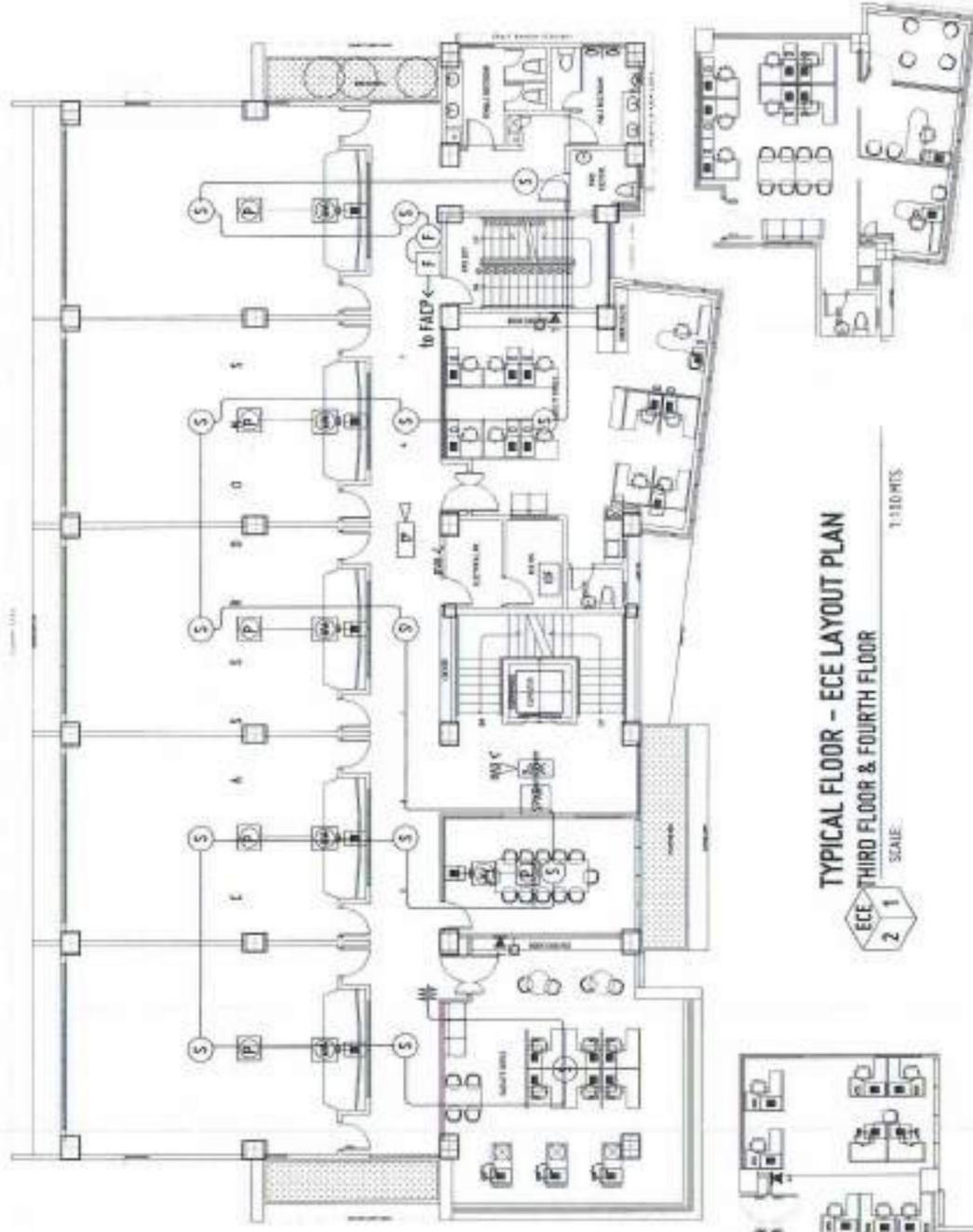
APPROVED BY:  
DR. AMBROSIO B. CULTURA II  
PROCTOR, USTP SYSTEM

SHEET CONTENTS:  
VILLANUEVA - EG LAYOUT PLAN  
SECOND FLOOR - ECE LAYOUT PLAN

DATE: \_\_\_\_\_  
SCALE: \_\_\_\_\_  
NO. \_\_\_\_\_

AUX1

APPROVED BY:

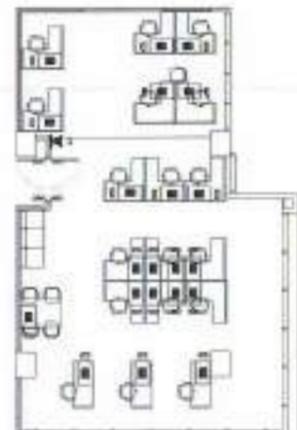


TYPICAL FLOOR - ECE LAYOUT PLAN  
SCALE 1:100 MTS

ECE  
2 1  
SCALE

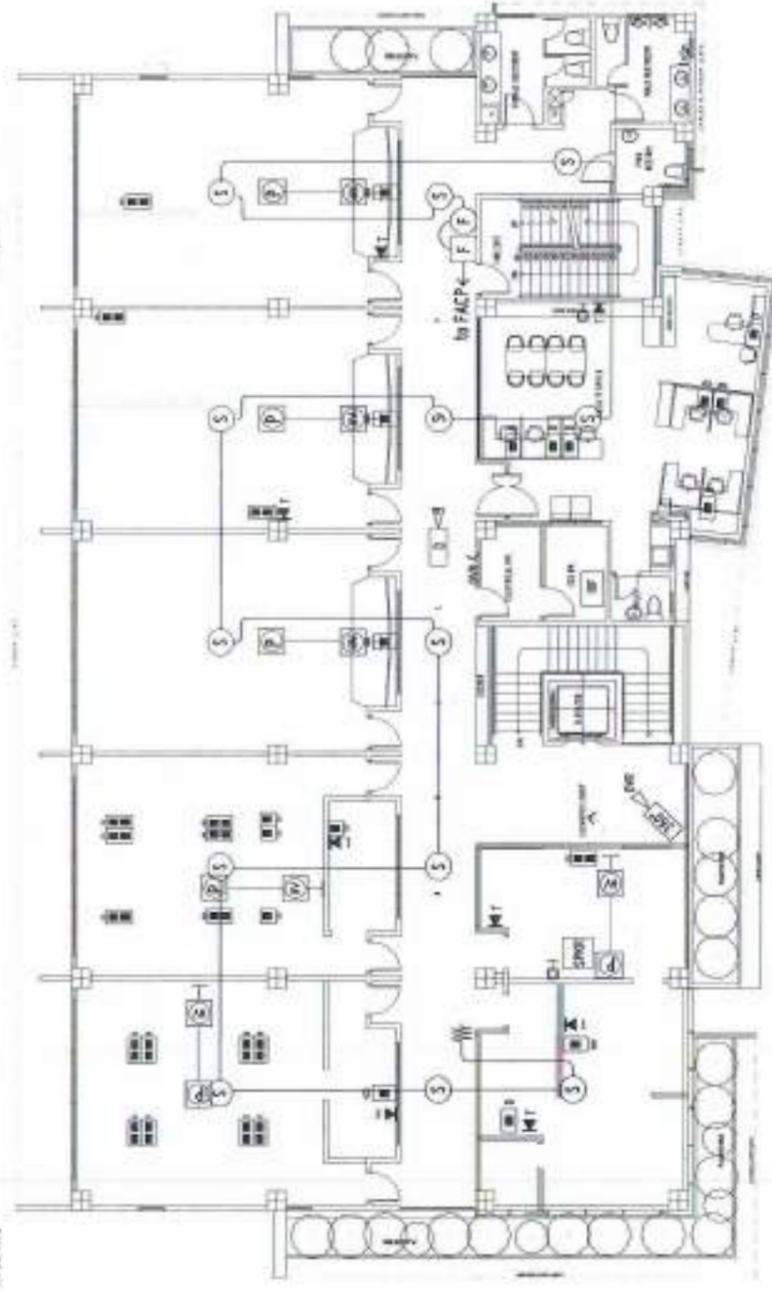
THIRD FLOOR OSA OFFICE  
SCALE 1:100 MTS

ECE  
2 1  
SCALE



THIRD FLOOR GEN-ED OFFICE  
SCALE 1:100 MTS

ECE  
2 1  
SCALE



FIFTH FLOOR - ECE LAYOUT PLAN  
SCALE 1:100 MTS

ECE  
2 2  
SCALE

LEGEND:

- ☐ 1 SINGLE SLEEPING WALL MOUNTED BESET
- ☐ 1 SINGLE TELEPHONE FLOOR MOUNTED BESET
- ☐ 1 SINGLE HORIZONTAL DATA WALL MOUNTED BESET
- ☐ 1 HORIZONTAL HORIZONTAL DATA WALL MOUNTED BESET
- ☐ 1 NETWORK DISTRIBUTION TRUNK
- ☐ 1 HIGH SPEED NETWORK FRAME
- ☐ 1 WALL MOUNTED TV OUTLET, PROVIDE 1- MAIN CABLE CARRY
- ☐ 1 CABLE TV BOX
- ☐ 1 TELEPHONE AND CABLE TV BOX
- ☐ 1 PROVIDE FOR HORIZONTAL CABLE FOR PERIPHERAL PER DEVICE, VERIFY EXACT LOCATION WITH ARCHITECT
- ☐ 1 WORK & DATA WALL MOUNTED IN ONE OF PLATE IN CONNECTION WITH THE PERIPHERAL PROJECTOR HORIZONTAL WIRING PROVIDE BY TV APPLIANCE FROM VISA CABLE FOR ADMINISTRATION TO LAYOUT
- ☐ 1 OPEN DETECTOR - CEILING MOUNTED
- ☐ 1 OPEN DETECTOR - WALL MOUNTED
- ☐ 1 HEAT DETECTOR - CEILING MOUNTED
- ☐ 1 FIRE ALARM STROBE AND BELL, UL LISTED DEVICE
- ☐ 1 FIRE ALARM MANUAL CALL STATION, UL LISTED DEVICE
- ☐ 1 END OF LINE RESISTOR



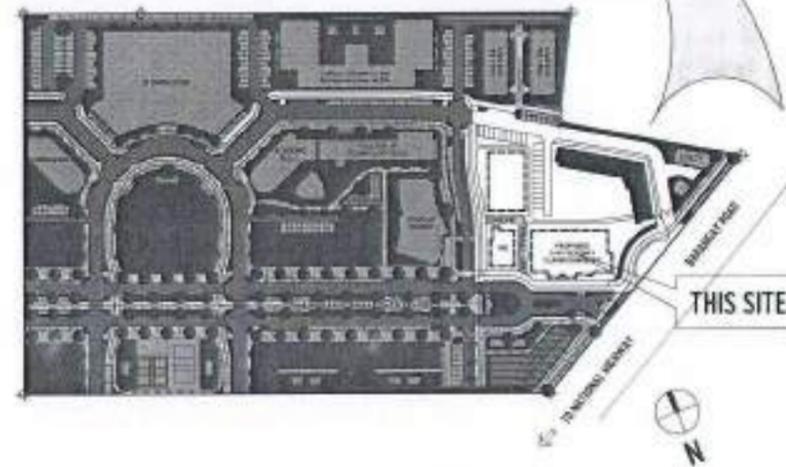
REPUBLIC OF THE PHILIPPINES  
UNIVERSITY OF SCIENCES AND TECHNOLOGY OF SOUTHERN PHILIPPINES  
CAGAYAN DE MISamis CAMPUS  
INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT UNIT  
SUITE 101, BLDG. 401, LAMPARAN, CAGAYAN DE MISamis 9000  
TELEPHONE: (0905) 211-401-402, 1380-1381, 1382-1383, 1384-1385, 1386-1387, 1388-1389, 1390-1391, 1392-1393, 1394-1395, 1396-1397, 1398-1399, 1400-1401, 1402-1403, 1404-1405, 1406-1407, 1408-1409, 1410-1411, 1412-1413, 1414-1415, 1416-1417, 1418-1419, 1420-1421, 1422-1423, 1424-1425, 1426-1427, 1428-1429, 1430-1431, 1432-1433, 1434-1435, 1436-1437, 1438-1439, 1440-1441, 1442-1443, 1444-1445, 1446-1447, 1448-1449, 1450-1451, 1452-1453, 1454-1455, 1456-1457, 1458-1459, 1460-1461, 1462-1463, 1464-1465, 1466-1467, 1468-1469, 1470-1471, 1472-1473, 1474-1475, 1476-1477, 1478-1479, 1480-1481, 1482-1483, 1484-1485, 1486-1487, 1488-1489, 1490-1491, 1492-1493, 1494-1495, 1496-1497, 1498-1499, 1500-1501, 1502-1503, 1504-1505, 1506-1507, 1508-1509, 1510-1511, 1512-1513, 1514-1515, 1516-1517, 1518-1519, 1520-1521, 1522-1523, 1524-1525, 1526-1527, 1528-1529, 1530-1531, 1532-1533, 1534-1535, 1536-1537, 1538-1539, 1540-1541, 1542-1543, 1544-1545, 1546-1547, 1548-1549, 1550-1551, 1552-1553, 1554-1555, 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### VICINITY MAP

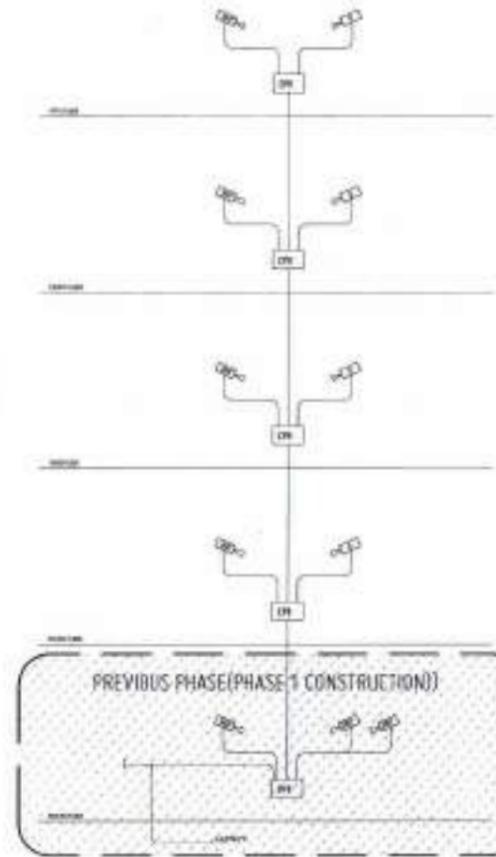
SCALE MTS



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### LOCATION PLAN

SCALE 1:1500 MTS



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### CCTV SYSTEM RISER DIAGRAM

NOT DRAWN TO SCALE

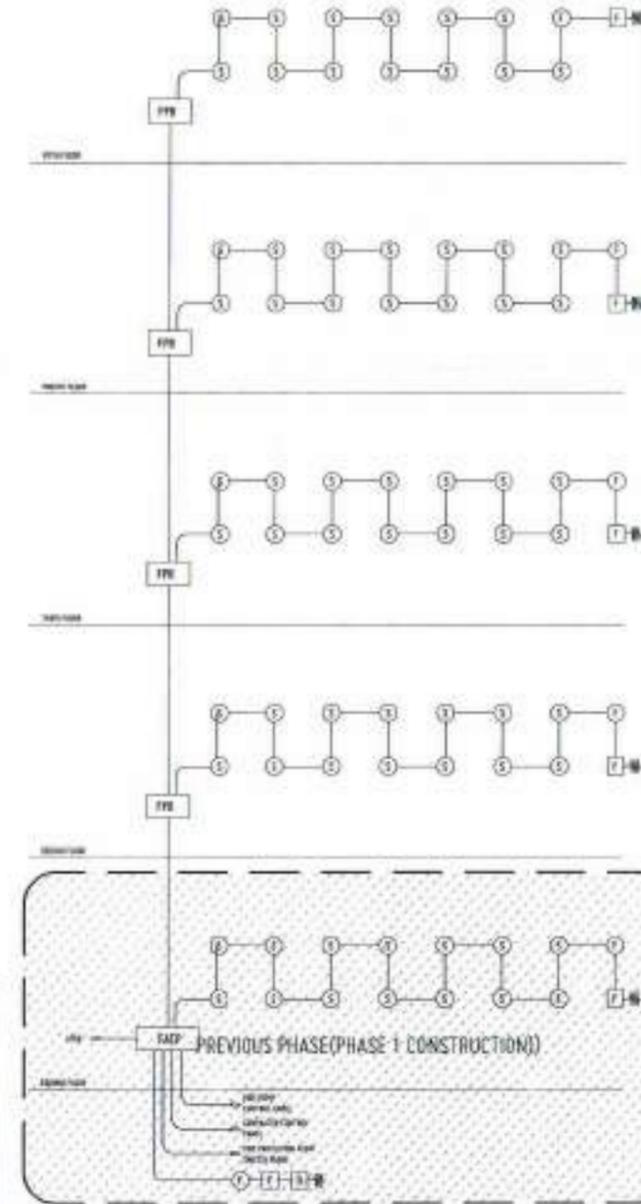
#### LEGEND:

- SINGLE TELEPHONE WALL SOCKET, 4x11
- SINGLE TELEPHONE FLOOR MOUNTED SOCKET
- SINGLE UNIVERSAL ON/WALL SOCKET, 4x6
- DUPLEX UNIVERSAL ON/WALL SOCKET, 4x6
- INTERMEDIATE DISTRIBUTION FRAME
- MAIN DISTRIBUTION FRAME
- WALL CABLE TV SOCKET, PROVIDE 1-1/2x2-1/2 COAXIAL CABLE
- LARGE TV BOX
- TELEPHONE AND CABLE RISER
- RISER FOR HORIZONTAL CABLING FOR OVERHEAD PROJECTOR, 1/2x1/2 EXACT LOCATION WITH ARCHITECT
- 1/2x1/2 WALL OUTLET IN SINGLE PLANE INTERCONNECT WITH THE OVERHEAD PROJECTOR RISER, 1/2x1/2 PROVIDE 3/8 TV WALL/CEILING RISER/CABLE FROM CEILING FLOOR UP TO LAYOUT
- SMOKE DETECTOR - CEILING MOUNTED
- SMOKE DETECTOR - WALL MOUNTED
- HEAT DETECTOR - CEILING MOUNTED
- FIRE ALARM STROBE AND HORN, 1x1/2 BRAND
- FIRE ALARM MANUAL PULL STATION, 1x1/2 BRAND
- END OF LINE RESISTOR

#### NOTES:

1. SYMBOL
2. MINIMUM CONDUIT SHALL BE 20MM (3/4") IN USE FOR ALL EXPOSED CONDUIT OR INCRE. BR/WALL AND PVC FOR ALL CONCRETE EMBEDDED CONDUIT
3. VERIFY EXACT NUMBER OF CCTV CAMERA WITH LAYOUT
4. VERIFY ANALOG COORDINATE WITH OWNER, VISIT THE EXACT LOCATION OF RISER PRIOR TO LAYOUT OF CONDUIT
5. BOND ALL CPB, CABLE TRAY USING 5.0MM<sup>2</sup> GROUND WIRE AND BOND TO REFR
6. CCTV SYSTEM AND WIRING SCHEDULE

C	CONDUIT SIZE, MIN. LENGTH, NO. LAL	WIRING, SUPPLY
1	20	25 (1.2/4)
2	20	25 (1.2/4)
4	25	30 (1)
8	32	48 (1-1/2)
16	40	60 (1-1/2)
16	50	60 (2)



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### FIRE ALARM SYSTEM RISER DIAGRAM

NOT DRAWN TO SCALE

REPUBLIC OF THE PHILIPPINES  
OFFICE OF THE BUILDING OFFICIAL

#### APPROVED BY:

#### DATE:

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC) AND THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) STANDARDS.
2. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC) AND THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) STANDARDS.
3. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC) AND THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) STANDARDS.
4. VERIFY EXACT NUMBER OF CCTV CAMERA WITH LAYOUT
5. VERIFY ANALOG COORDINATE WITH OWNER, VISIT THE EXACT LOCATION OF RISER PRIOR TO LAYOUT OF CONDUIT
6. BOND ALL CPB, CABLE TRAY USING 5.0MM<sup>2</sup> GROUND WIRE AND BOND TO REFR
7. VERIFY EXACT NUMBER OF CCTV CAMERA WITH LAYOUT
8. VERIFY ANALOG COORDINATE WITH OWNER, VISIT THE EXACT LOCATION OF RISER PRIOR TO LAYOUT OF CONDUIT
9. BOND ALL CPB, CABLE TRAY USING 5.0MM<sup>2</sup> GROUND WIRE AND BOND TO REFR
10. CCTV SYSTEM AND WIRING SCHEDULE



REPUBLIC OF THE PHILIPPINES  
UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES  
CAGAYAN DE ORO CAMPUS  
INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT UNIT  
CAGAYAN DE ORO AVENUE, LAMPASAAN, CAGAYAN DE ORO CITY 9000  
TELEPHONE: (8092) 71-60-60 / (8092) 84-1128 / (8092) 720-1128 / (8092) 380-0148  
WEBSITE: www.ustip.edu.ph

PROFESSIONAL ELECTRONICS ENGINEER  
REG. NO. \_\_\_\_\_  
DATE: \_\_\_\_\_  
PLACE: \_\_\_\_\_

PROJECT: CONSTRUCTION OF 21ST CENTURY CLASSROOM BUILDINGS PHASE III, VILLANUEVA CAMPUS  
LOCATION: NSTP VILLANUEVA CAMPUS, PEARLS ORIENTAL  
OWNER: UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL:  
ENGR. GRACE C. BABA  
DIRECTOR, IPCE

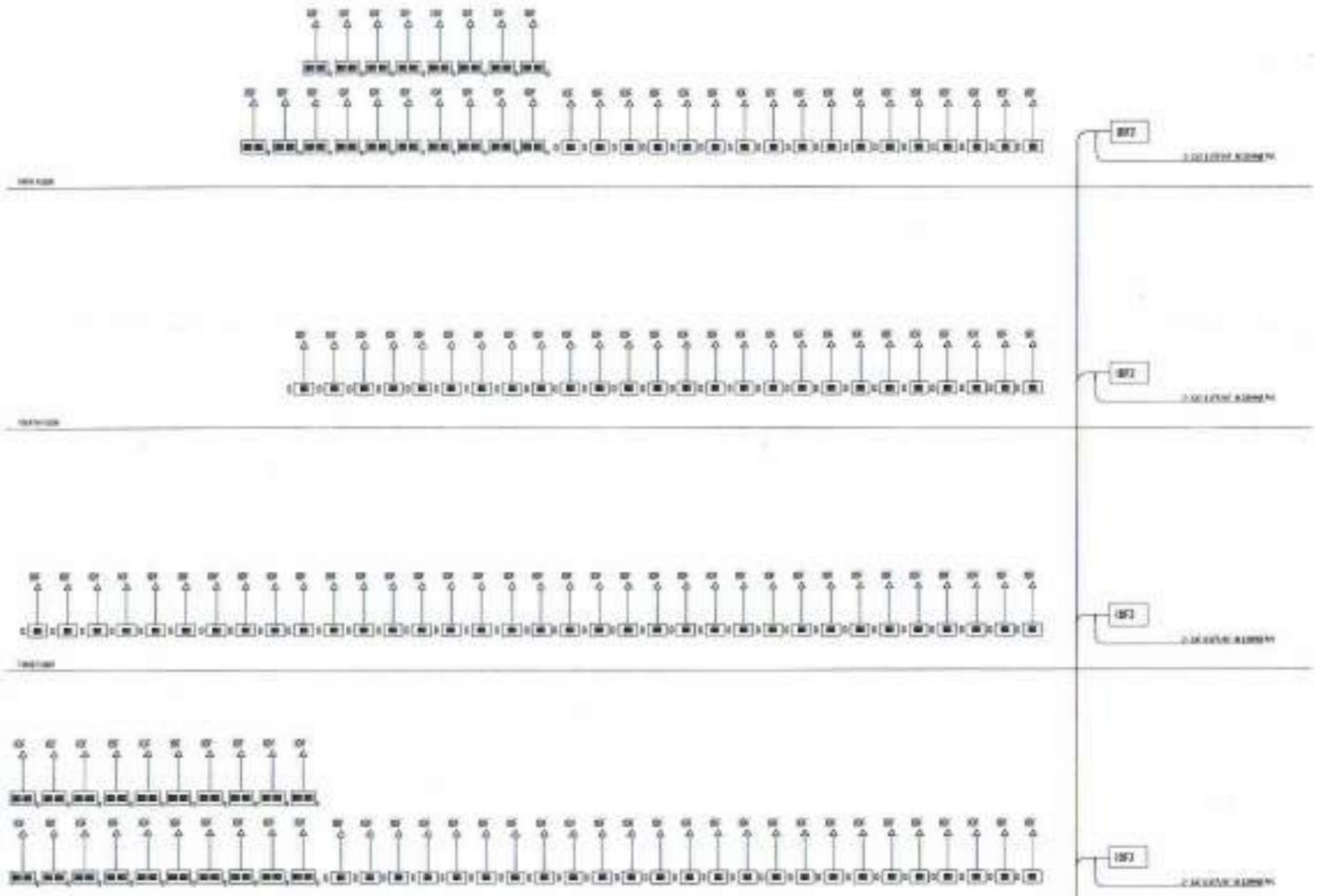
RECOMMENDING APPROVAL:  
ATTY. ERWIN B. BUNO  
VICE CHAIRMAN & LEGAL ATTORNEY

APPROVED BY:  
DR. AMBROSIO B. CULTURA II  
PRESIDENT, USTP SYSTEM

SHEET CONTENTS:  
SHEET NO. \_\_\_\_\_  
LOCATION PLAN  
CCTV SYSTEM RISER DIAGRAM  
FIRE ALARM SYSTEM RISER DIAGRAM

DRAWN BY:  
DATE: \_\_\_\_\_

AUX3



- GENERAL NOTE:**
- ALL ELECTRONIC WORKS HEREIN SHALL BE DONE ACCORDING TO THE PROVISIONS OF THE LATEST EDITION OF THE PHILIPPINE ELECTRONICS CODE, THE RULES AND REGULATIONS OF THE LOCAL ENFORCING AUTHORITIES AND THE REQUIREMENTS OF THE UTILITY TELEPHONE COMPANY.
  - ALL ELECTRONIC WORKS HEREIN INCLUDED SHALL BE EXECUTED BY THE PERSONNEL WITH ELECTRICAL EXPERIENCE UNDER THE DIRECTION SUPERVISION OF A FULL TIME LICENSED EEE TRINITY ENGINEER. WORKS SHALL BE NEATLY PLACED, SECURELY FACTORED AND PROPERLY TYPED.
  - THE CONTRACTOR SHALL VERIFY AND OBTAIN THE ACTUAL LOCATION OF THE TAPPING POINT TO CONNECTION TO COMMUNICATION SUPPLY.
  - ALL PATTERNS SHALL BE DRAWN NEW AND SHALL CONFORM WITH THE PROVISIONS OF THE OFFICE WRITERS LABORATORIES INC., IN EVERY CASE WHERE SUCH A STANDARD HAS BEEN ESTABLISHED.
  - ALL CONDUITS MUST BE PROTECTED AGAINST DAMAGES BY THE ENTRANCE OF THE WATER AND FOREIGN MATTERS DURING CONSTRUCTION. ENDS OF CONDUITS SHALL BE PLUGGED TO EXCLUDE MOISTURE AND DIRT IMMEDIATELY AFTER THE CONDUITS ARE PLACED.
  - UNLESS OTHERWISE SPECIFIED, ALL ELECTRONIC WIRING INSTALLATION SHALL BE DONE BY THE RATHER SIZE OF CONDUIT SHALL BE 1/2 INCH.
  - ALL SCHEDULES, WALL AND FLOOR PENETRATION SHALL BE PROVIDED WITH FIRE BARRIERS OF THE APPROVED TYPE.
  - ALL OBJECT RIDGES SHALL BE KEPT UNDER CARE TO BE KEPT FREE WITH THE FACTORY RIDGES. PULLBOXES SHALL BE USED WHEN APPLICABLE FOR EASY PULLING OF WIRES AND SHALL BE IN ACCORDANCE WITH THE PHILIPPINE ELECTRICAL CODE REQUIREMENT. PREFERRED BRAND FOR JUNCTION, PULLBOXES OR UTILITY SQUARE BOXES SHALL BE PHOENIX/ALCO, WHO BE APPROVED LOCAL.
  - WORKING HEIGHTS OF DEVICES SHALL BE: CONDUIT TO ARCHITECTS APPROVAL PRIOR TO INSTALLATION.
  - ALL SPEAKER WIRING SHALL BE 3-4 TO 16 AWG SHIELDED SPEAKER WIRE.
  - NETWORK CABLES/ CONDUIT SHALL HAVE A MINIMUM DISTANCE OF 2.5M FROM POWER CONDUIT WHEN LAID PARALLEL AND MUST RUN PERPENDICULAR TO THE STEEL CONDUIT WHEN CROSSING A POWER LINE.
  - THE PLANS AS DRAWN ARE BASED UPON THE ARCHITECTURAL PLANS AND THE DETAILS ARE SHOWN EXHIBITION AS ACCURATELY AS IT IS POSSIBLE TO INDICATE THEM IN SCALE. THE PLANS ARE DIAGNOSTICAL AND DOES NOT NECESSARILY SHOW ALL FITTINGS NECESSARY TO FIT TO THE BUILDING CONDITION. THE LOCATIONS OF OUTLETS, APPLIANCES AND APPLIANCES SHOWN ON THE PLANS ARE APPROXIMATE. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR THEIR PROPER LOCATION IN ORDER TO MAKE THEM FIT WITH THE ARCHITECTURAL DETAILS AND RESTRICTIONS FROM THE ENGINEER'S REPRESENTATIVE AT THE SITE.

- APPROVED BY:**
1. PROJECT ENGINEER (SEE SHEET FOR SIGNATURE AND SEAL)  
2. ALL INFORMATION HEREIN ARE BASED ON LATEST AND VALID INFORMATION AND/OR CORRECT FIELD OBSERVATION. WARNING:  
3. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE PHILIPPINE ELECTRICAL CODE AND ALL APPLICABLE STANDARDS.  
4. VERIFY ALL DIMENSIONS, WALL THICKNESS AND SPACING.  
5. VERIFY PROVISIONS IN THE PLANS AND WORKING DRAWINGS FOR THE WORK SHALL BE CORRECTED IMMEDIATELY TO THE ARCHITECT'S APPROVAL.  
6. VERIFY ALL DIMENSIONS, WALL THICKNESS AND SPACING.  
7. VERIFY ALL DIMENSIONS, WALL THICKNESS AND SPACING.  
8. VERIFY ALL DIMENSIONS, WALL THICKNESS AND SPACING.  
9. VERIFY ALL DIMENSIONS, WALL THICKNESS AND SPACING.  
10. VERIFY ALL DIMENSIONS, WALL THICKNESS AND SPACING.  
11. VERIFY ALL DIMENSIONS, WALL THICKNESS AND SPACING.  
12. VERIFY ALL DIMENSIONS, WALL THICKNESS AND SPACING.

**NOTES:**

- FIRE ALARM SYSTEM SHALL BE CONVENTIONAL TYPE.
- MINIMUM CONDUIT SIZE SHALL BE 20MM (3/4") USE PVC FOR ALL EXPOSED CONDUIT ON EXTERIOR WALL AND PVC IF CONCRETE EMBEDDED.
- ALL RISER CONDUIT SHALL BE PVC, PROVIDE 50MM (2") SPARE PVC RISER CONDUIT.
- FINAL WIRING AND CONDUIT SCHEDULE:

CONDUIT SIZE (MM Ø)	NUMBER OF TV WIRES (E.L. CABLE TYPE)	CONDUIT SIZE (MM Ø)	NUMBER OF TV WIRES (E.L. CABLE TYPE)
20	25(2/0)	25	30(2/0)
25	30(2/0)	30	35(2/0)
30	35(2/0)	35	40(2/0)
40	40(2/0)	40	45(2/0)
50	50(2/0)	50	55(2/0)

5. SYMBOLS

- ▲ = 4/0-1/2 AWG. CIRCUIT INTEGRITY (E.L. CABLE TYPE, IN LISTED BRAND)
- FAZP = FIRE ALARM CONTROL PANEL, IN LISTED BRAND
- ⊙ = SMOKE DETECTOR - CEILING MOUNTED
- ⊙ = SMOKE DETECTOR - WALL MOUNTED
- ⊙ = HEAT DETECTOR, CEILING MOUNTED
- ⊙ = FIRE ALARM STROBE AND HORN, IN LISTED BRAND
- ⊙ = FIRE ALARM MANUAL PULL STATION, IN LISTED BRAND
- ⊙ = END OF LINE RESISTOR
- ⊙ = FIRE ALARM SYSTEM WIRING PULL BOX

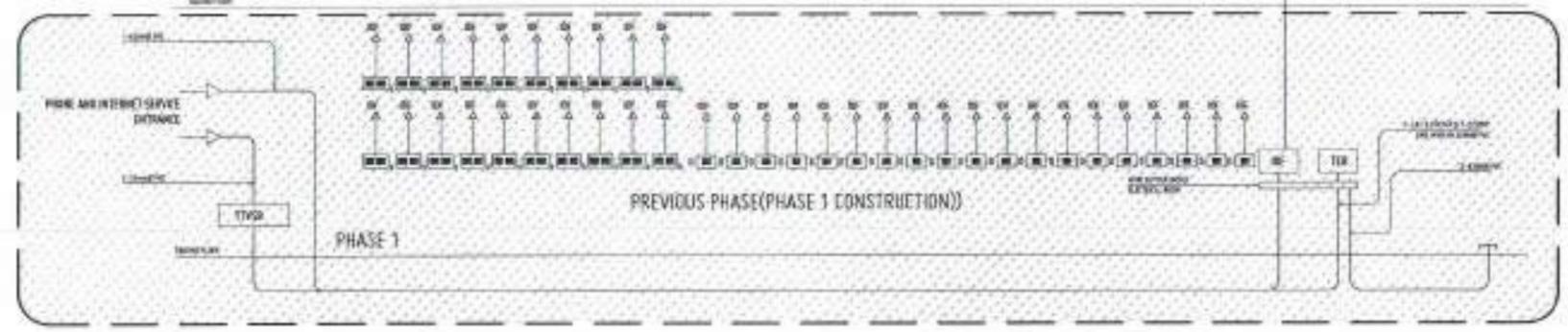
6. PROVIDE SUPERVISORY WIRES TO THE FOLLOWING:

- ELEVATORS
- FIRE PROTECTION FLOW SWITCH CONTROL PANEL OR INDIVIDUAL FLOW SWITCH VERIFY LOCATIONS
- SHAFT PRESSURIZATION BLENDERS BY PANEL VERIFY EXACT LOCATION
- SMOKE VENTILATION SYSTEM AND/OR SMOKE CONTROL SYSTEM
- FIRE PUMP CONTROL PANEL

7. PROVIDE WIRING FROM RACP TO GENERATOR CONTROL PANEL TO MONITOR THE FOLLOWING CONDITIONS:

- GENERATOR RUNNING
- GENERATOR FAULT
- GENERATOR SWITCH IN NON-AUTOMATIC POSITION (P/B)

8. FINAL WIRING SHALL BE AS PER MANUFACTURER'S STANDARDS.

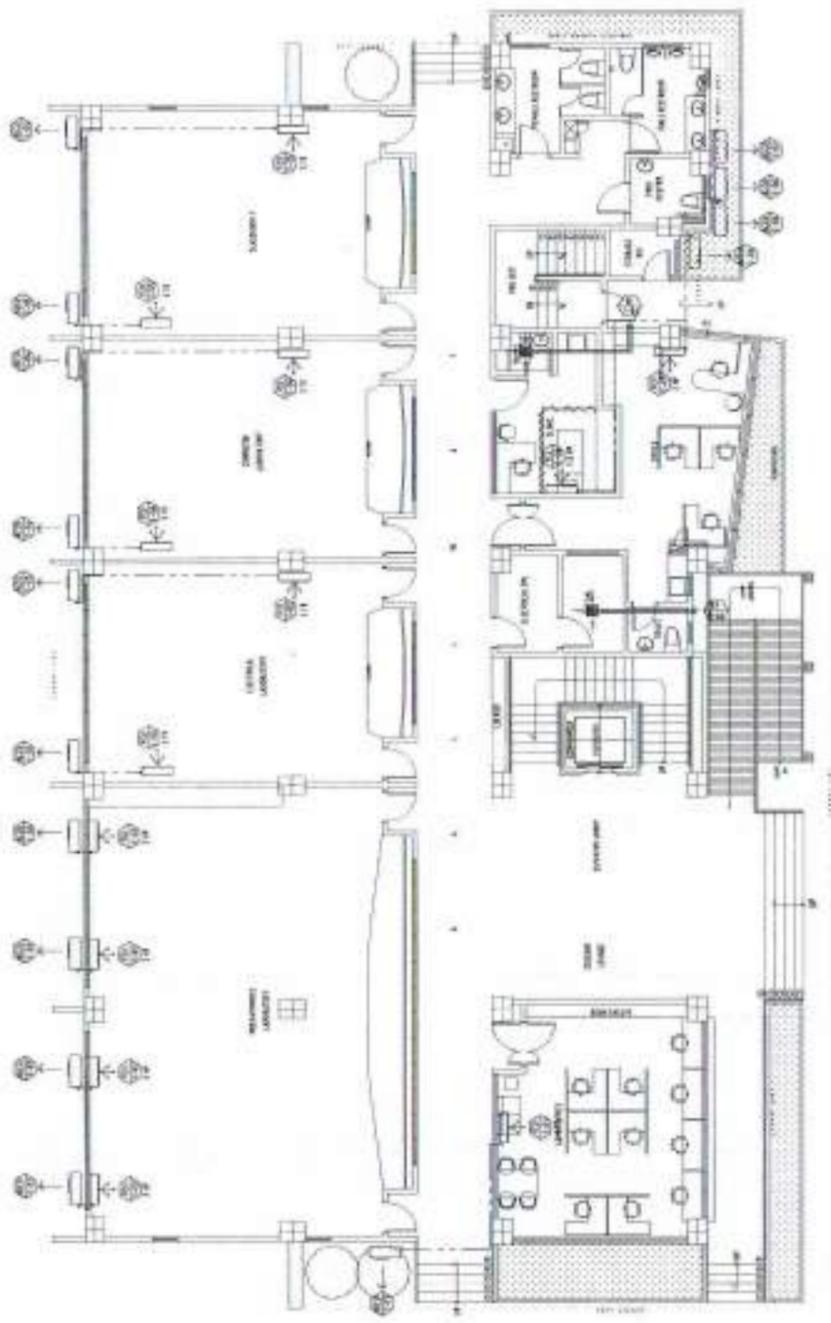


**ECE 41**  
**TELEPHONE AND INTERNET RISER DIAGRAM**  
DRAWN NOT TO SCALE



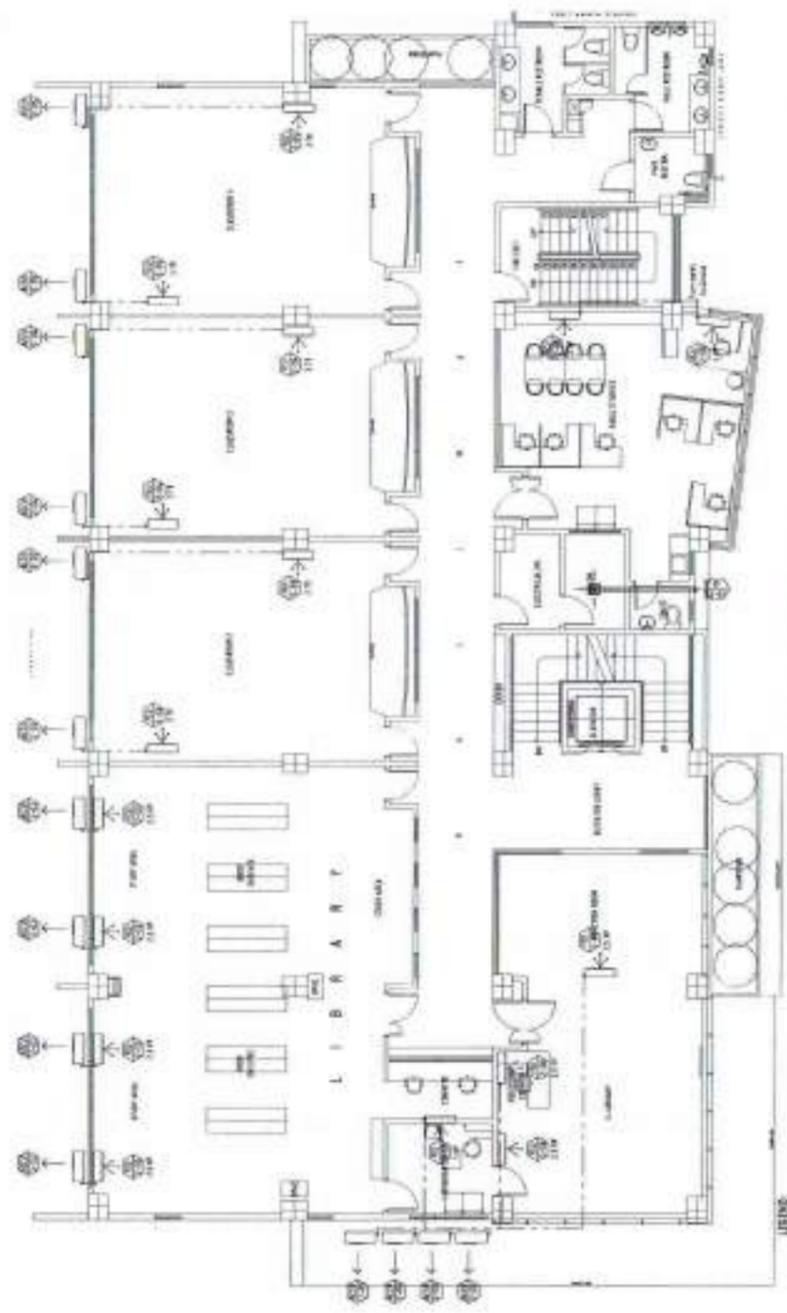
REPUBLIC OF THE PHILIPPINES  
UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES  
CASATAN BI-000 CAMPUS  
INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT UNIT  
CLARENCE, BETA AVENUE, USTIP, CASATAN BI-000  
CONTACT: 09052 73-40-00 / 09052 73-40-1118 / 1188 / 1189 / 1190 / 1191 / 1192 / 1193 / 1194 / 1195 / 1196 / 1197 / 1198 / 1199 / 1200 / 1201 / 1202 / 1203 / 1204 / 1205 / 1206 / 1207 / 1208 / 1209 / 1210 / 1211 / 1212 / 1213 / 1214 / 1215 / 1216 / 1217 / 1218 / 1219 / 1220 / 1221 / 1222 / 1223 / 1224 / 1225 / 1226 / 1227 / 1228 / 1229 / 1230 / 1231 / 1232 / 1233 / 1234 / 1235 / 1236 / 1237 / 1238 / 1239 / 1240 / 1241 / 1242 / 1243 / 1244 / 1245 / 1246 / 1247 / 1248 / 1249 / 1250 / 1251 / 1252 / 1253 / 1254 / 1255 / 1256 / 1257 / 1258 / 1259 / 1260 / 1261 / 1262 / 1263 / 1264 / 1265 / 1266 / 1267 / 1268 / 1269 / 1270 / 1271 / 1272 / 1273 / 1274 / 1275 / 1276 / 1277 / 1278 / 1279 / 1280 / 1281 / 1282 / 1283 / 1284 / 1285 / 1286 / 1287 / 1288 / 1289 / 1290 / 1291 / 1292 / 1293 / 1294 / 1295 / 1296 / 1297 / 1298 / 1299 / 1300 / 1301 / 1302 / 1303 / 1304 / 1305 / 1306 / 1307 / 1308 / 1309 / 1310 / 1311 / 1312 / 1313 / 1314 / 1315 / 1316 / 1317 / 1318 / 1319 / 1320 / 1321 / 1322 / 1323 / 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APPROVED BY:



**GROUND FLOOR PLAN**  
SCALE 1:100 MTS

- LEGEND:
- ⊕ ELECTRICAL SYMBOL
  - ⊖ MECHANICAL SYMBOL
  - ⊙ AIR UNIT
  - ⊗ TELECOMMUNICATIONS SYMBOL
  - ⊘ SECURITY SYMBOL
  - ⊙ AIR CONDITIONING UNIT
  - ⊙ RECYCLED SYMBOL
  - ⊙ FIRE ALARM



**SECOND FLOOR PLAN**

- LEGEND:
- ⊕ ELECTRICAL SYMBOL
  - ⊖ MECHANICAL SYMBOL
  - ⊙ AIR UNIT
  - ⊗ TELECOMMUNICATIONS SYMBOL
  - ⊘ SECURITY SYMBOL
  - ⊙ AIR CONDITIONING UNIT
  - ⊙ RECYCLED SYMBOL
  - ⊙ FIRE ALARM



REPUBLIC OF THE PHILIPPINES  
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PROFESSIONAL ELECTRICAL ENGINEER  
REG. NO. \_\_\_\_\_  
DATE \_\_\_\_\_  
PAGE \_\_\_\_\_

PROJECT: CONSTRUCTION OF 21ST CENTURY CLASSROOM BUILDINGS PHASE III, VILLANUEVA CAMPUS  
LOCATION: USTP VILLANUEVA CAMPUS, NEGROS ORIENTAL  
OWNER: UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL:  
ENGR. GRACE C. BABA  
DIRECTOR, IPDGO

RECOMMENDING APPROVAL:  
ATTY. EDWIN B. BOSIB  
VP FOR ADMINISTRATION & LEGAL AFFAIRS

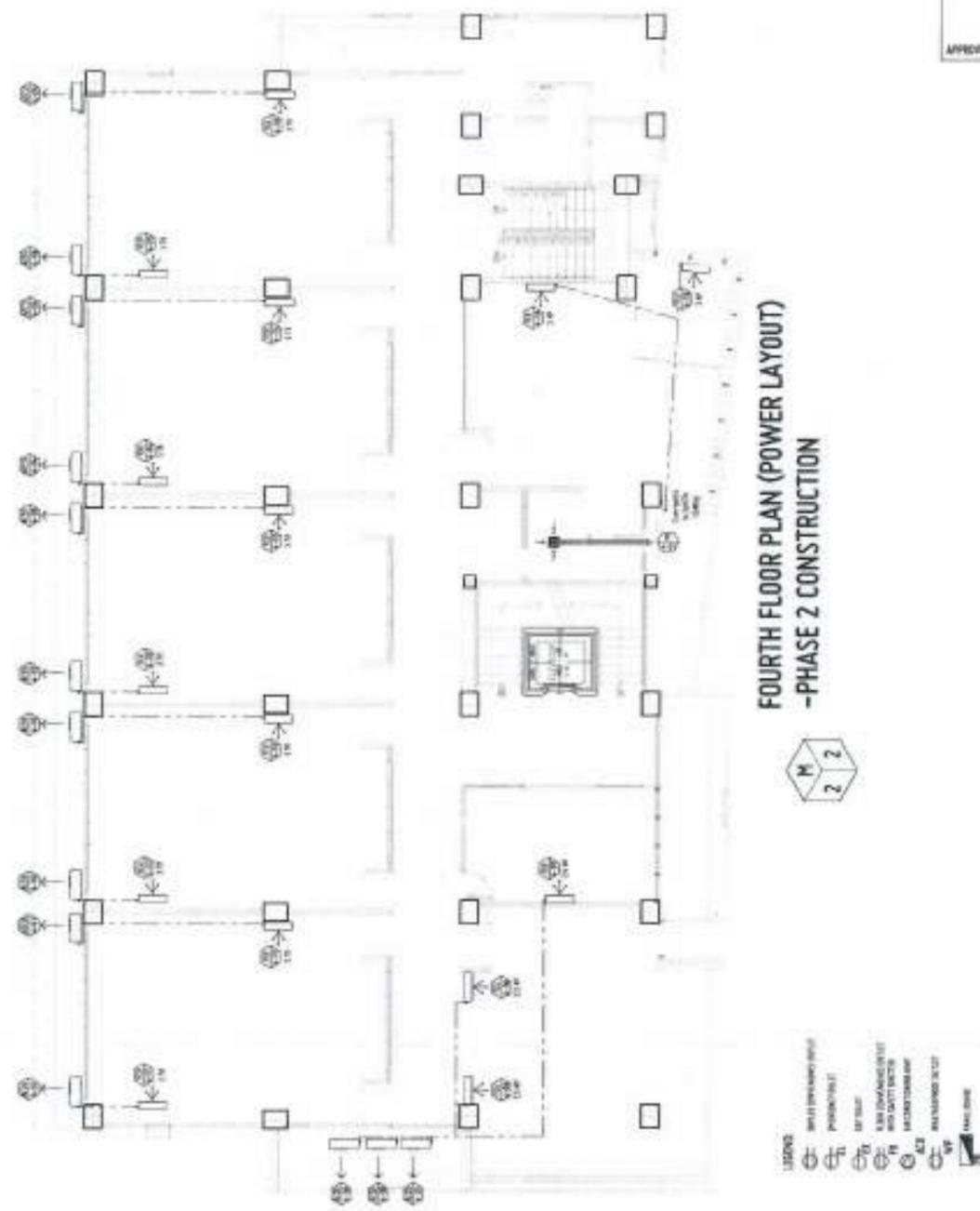
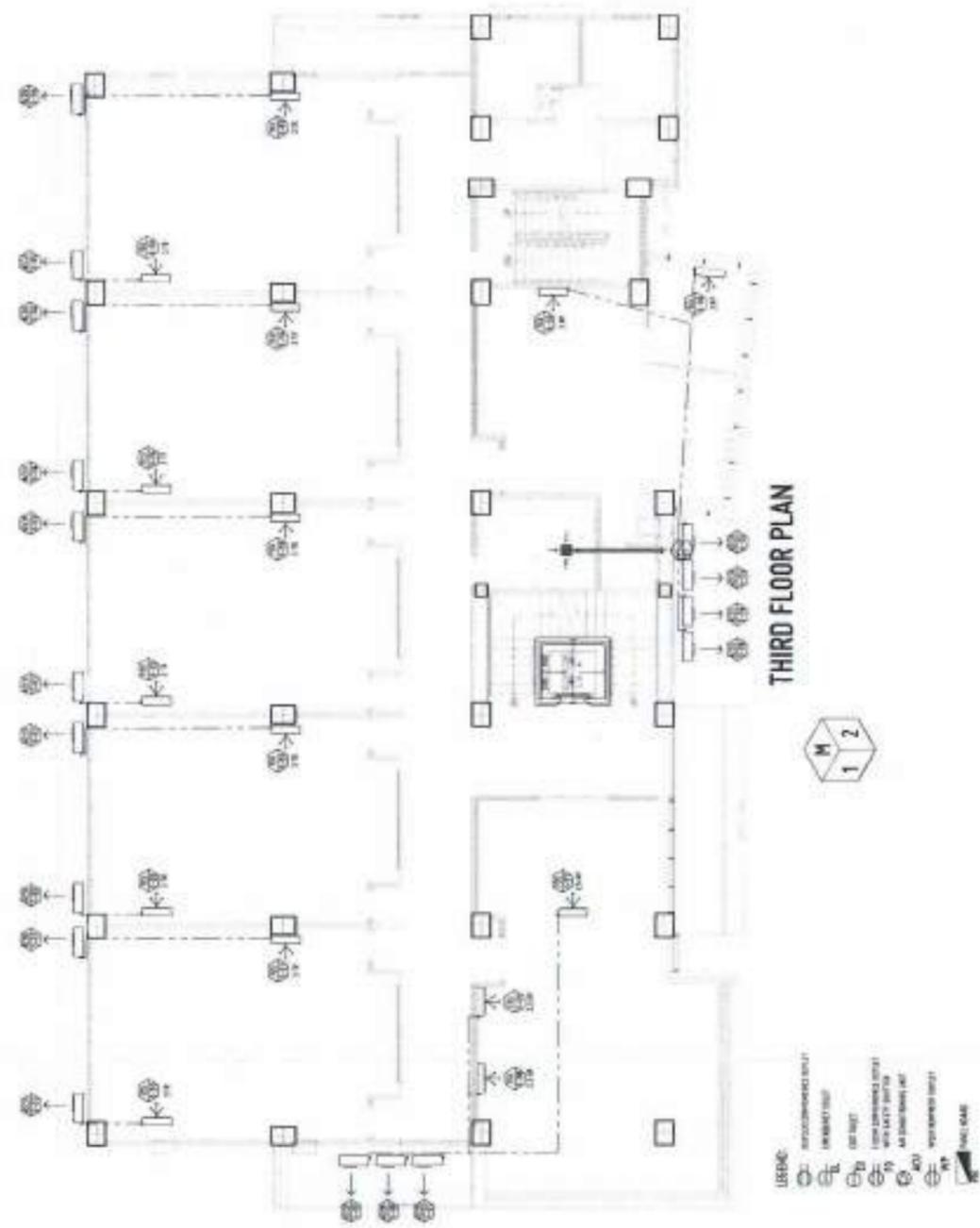
APPROVED BY:  
DR. AMBROSIO S. CULTURA II  
PRESIDENT, USTP SYSTEM

SHEET CONTENTS:  
1. 1st FLOOR PLAN (LAYOUT AND SWITCHING LAYOUT)  
2. 2nd FLOOR PLAN  
3. GROUND FLOOR PLAN (LAYOUT)

REVISIONS:  
NO. \_\_\_\_\_  
DATE \_\_\_\_\_  
BY \_\_\_\_\_

M1

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PROFESSIONAL ELECTRICAL ENGINEER	
PR. NO.	PR. NO.
SIGN.	SIGN.
DATE	DATE

**PROJECT**  
CONSTRUCTION OF 21ST CENTURY CLASSROOM BUILDINGS PHASE III,  
VILLARREAL CAMPUS

**LOCATION**  
USTP VILLARREAL CAMPUS, PISAPAS ORIENTAL

**OWNER**  
UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL  
*[Signature]*  
**ENGR. GRACE C. BABA**  
DIRECTOR, UPDO

RECOMMENDING APPROVAL  
*[Signature]*  
**ATTY. ERWIN B. BUEN**  
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*[Signature]*  
**DR. AMBROSIO R. CULTURA II**  
PRESIDENT, USTP SYSTEM

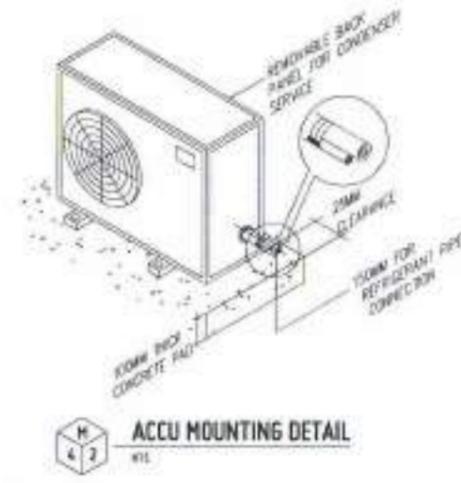
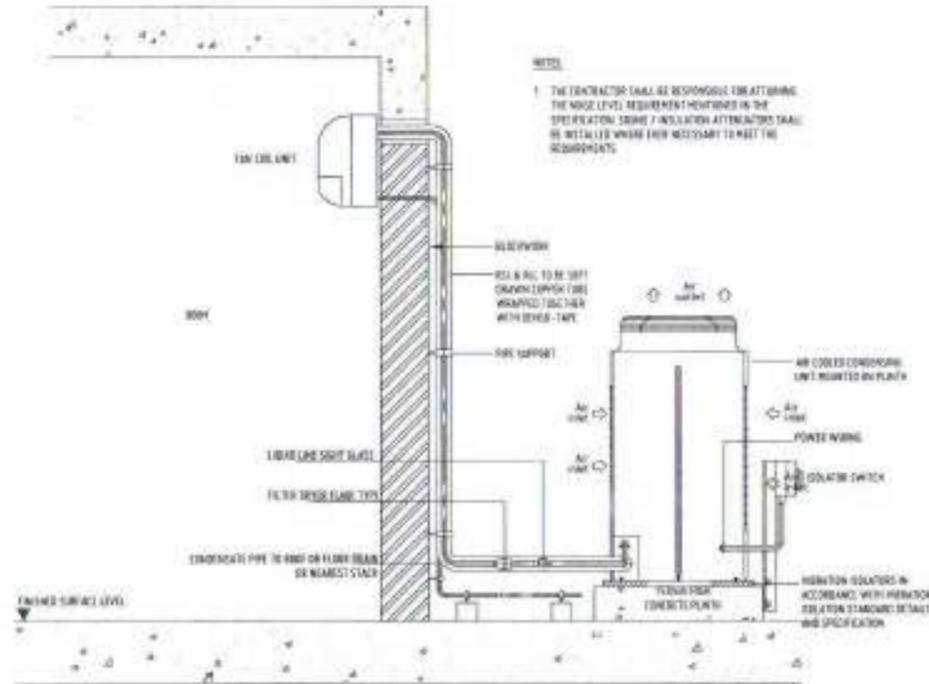
**SHEET CONTENTS**  
SECOND FLOOR PLAN (POWER LAYOUT)  
THIRD FLOOR PLAN (POWER LAYOUT)

<b>DRAWN BY</b>	
<b>CHECKED BY</b>	
<b>DATE</b>	

**M2**



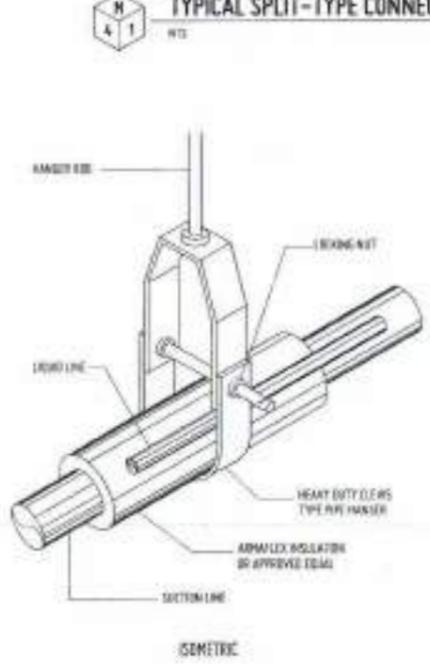
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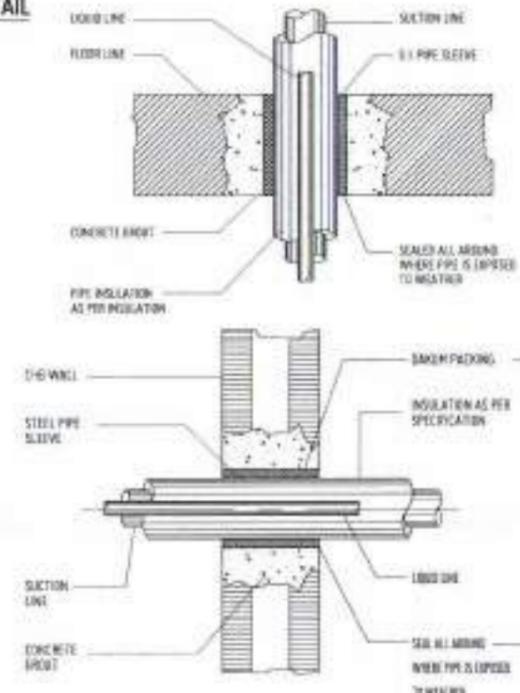
**GENERAL NOTES:**

1. ALL MECHANICAL WORKS SHALL BE DONE IN ACCORDANCE WITH THE LATEST REQUIREMENTS OF THE PHILIPPINE NATIONAL BUILDING CODE, PSPC CODE, PSMA, FIRE CODE OF THE PHILIPPINES AND OTHER REGULATION OF THE LOCAL COMMUNITY.
2. THE TOTAL SCOPE OF WORKS SHALL INCLUDE ALL WORKS DESCRIBED IN THE PLANS LISTED IN THE TECHNICAL SPECIFICATIONS FOR MECHANICAL WORKS.
3. THE WORKS SHALL BE EXECUTED IN CLOSE COORDINATION WITH ALL OTHER TRADES.
4. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS, EQUIPMENT CATALOGS, SAMPLES OF ALL THE MATERIAL TO BE USED BEFORE EXECUTION OF THE WORKS.
5. THE CONTRACTOR OR SUPPLIER SHALL INSTALL ALL MATERIAL AND EQUIPMENT IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION.
6. ALL PIPE AND DUCT PENETRATION SHALL BE CAROLDED WITH FIRE SEALANT.
7. ALL EQUIPMENT REST ON SLAB AND CEILING SHALL BE PROVIDED WITH VIBRATION ISOLATOR TO PREVENT VIBRATION AND NOISE TRANSMISSION.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONCRETE PAD AND SUPPORT OF ALL MECHANICAL EQUIPMENT.
9. THE CONTRACTOR SHALL ARRANGE THE PIPING, DUCTING AND EQUIPMENT TO HAVE EASY ACCESS FOR REPAIRING, CLEANING AND SERVICING WITHOUT DISMANTLING THE SYSTEM.
10. ALL POWER WIRING UP TO SPLICE BOX SHALL BE THE ELECTRICAL CONTRACTOR'S RESPONSIBILITY TO THE EQUIPMENT BY MECHANICAL CONTRACTOR.
11. PROVIDE AND INSTALL CONTROLS AND CONTROL WIRING FOR ALL AIR-CONDITIONING EQUIPMENT.
12. PROVIDE THERMOSTAT TO ALL ROOMS UNITS.
13. PROVIDE SEPARATE CONDENSER DRAIN RISER.
14. PIPE ALL EQUIPMENT DRAIN TO THE NEAREST FLOOR DRAIN PROVIDED BY PLUMBING CONTRACTOR.
15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL BALANCING, TESTING AND COMMISSIONING OF THE WHOLE AIR CONDITIONING, VENTILATION SYSTEM AND SUBMIT WRITTEN DATA POINT TO TURN OVER.
16. WORKMANSHIP: THE WORK THROUGHOUT SHALL BE EXECUTED IN THE BEST & MOST THOROUGH MANNER KNOWN TO TRADE & TO THE SATISFACTION OF THE ARCHITECT AND THE ENGINEER.
17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING ALL GOVERNMENT/LOCAL CONSTRUCTION AND OPERATION PERMITS AND PAY ALL THE REQUIRED FEES.
18. ALL ACCESS BY GROUND FLOOR SHALL BE PAD MOUNTED.

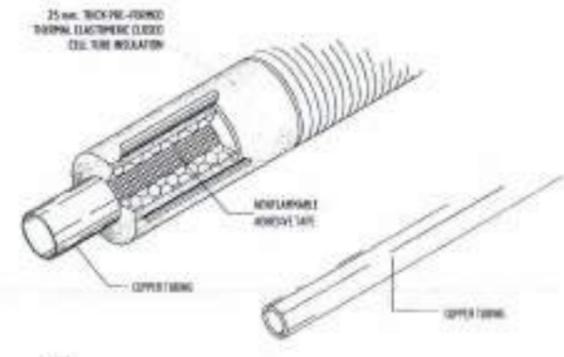
**TYPICAL SPLIT-TYPE CONNECTION DETAIL**



**REFRIGERANT PIPE HANGER DETAIL**



**REFRIGERANT PIPE THRU WALL DETAIL**



**REFRIGERANT PIPE INSULATION DETAIL**

**NOTES ON PIPING INSTALLATION:**

1. REFRIGERANT PIPES SHALL BE INTERNALLY CLEANED BY SWABBING WITH CLEAN COTTON CLOTH TO REMOVE ALL DUST, BURRS, AND OTHER MISCELLANEOUS DIRT.
2. WHILE SOLDERING JOINTS, A SWEEP OF INERT NITROGEN GAS SHOULD BE PASSED THROUGH PIPES TO PREVENT OXIDATION DEPOSITS INSIDE.
3. FITTINGS
  - A. USE STANDARD LONG RADIUS COPPER ELBOWS, REDUCERS, ETC. DO NOT USE FIELD-FORMED ELBOWS, REDUCERS, ETC.
  - B. JOINTS BETWEEN PIPES SHOULD BE THROUGH STANDARD COPPER COUPLING FORMED FITTING MADE BY SWAGING OR SOLDERING ONE PIPE END TO BE ABLE TO RECEIVE THE OTHER PIPE SECTION. WELDING IS NOT ALLOWED.
  - C. JOINTS TO SCREWED ACCESSORIES SUCH AS EXPANSION VALVES, FILTER DRIERS, ETC. SHALL BE MADE WITH STANDARD FLARED FITTINGS.
4. THE COMPLETED PIPING INSTALLATION SHOULD BE LEAK TESTED BY SUBJECTING THE SAME (BOTH LIQUID AND SUCTION LINE) TO A PRESSURE OF 3100 Pa USING DRY NITROGEN GAS. THIS PRESSURE SHOULD BE LEFT FOR 24 HOURS AND IF THERE IS NO NOTICEABLE REDUCTION IN PRESSURE WITHIN THE PERIOD, THE NITROGEN CHARGE SHALL BE RELEASED DOWN TO 100kPa TO SERVE AS HOLDING CHARGE WHILE WAITING FOR THE EQUIPMENT CONNECTION. IF THERE IS NOTICEABLE REDUCTION IN THE TEST PRESSURE, LEAK SHOULD BE LOCATED AND REPAIRED.
5. PROPERLY TESTED PIPING SHOULD BE SECURELY CAPPED AT BOTH ENDS AND WITH HOLDING CHARGE AS STATED IN ITEM 4 ABOVE WHILE WAITING FOR FINAL CONNECTION TO EQUIPMENT. INSULATE SUCTION PIPING ONLY AFTER PROPER LEAK TESTING.



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PROFESSIONAL ELECTRICAL ENGINEER  
PROJECT: CONSTRUCTION OF 21ST CENTURY CLASSROOM BUILDINGS PHASE III, VILLANUEVA CAMPUS  
LOCATION: USTIP VILLANUEVA CAMPUS, BANGALIPAL, ORIENTAL  
OWNER: UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL: ENGR. GRACE C. BABA, DIRECTOR, RPRD  
RECOMMENDING APPROVAL: ATTY. ERWIN B. SUECIB, VP FOR ADMINISTRATION & LEGAL AFFAIRS  
APPROVED BY: DR. AMBROSIO B. CULTURA II, PRESIDENT, AEPY SYSTEM

SHEET NUMBER:	DATE DRAWN:	NO.
M4		









