



REPUBLIC OF THE PHILIPPINES
WESTERN MINDANAO STATE UNIVERSITY
NORMAL ROAD, BALIWASAN, ZAMBOANGA CITY
PHYSICAL PLANT AND ENGINEERING SERVICES



WMSU - PPO -FR – 007A.00
Effective Date: 08 - Sep - 2021

PROJECT TITLE: RENOVAION OF ANALYTICAL SERVICES AND PURE SCIENCE RESEARCH LABORATORY ROOM AT 3RD FLOOR OF SCIENCE AND TECHNOLOGY HUB BUILDING

PROJECT LOCATION: WMSU-MAIN CAMPUS, LOT-2 NORMAL ROAD, BALIWASAN, ZAMBOANGA CITY

SUBJECT: SUMMARY OF WORKS, GENERAL REQUIREMENTS AND TECHNICAL SPECIFICATIONS

I. SUMMARY OF WORKS

A. INTRODUCTION

The Works in this Contract is for the **RENOVAION OF ANALYTICAL SERVICES AND PURE SCIENCE RESEARCH LABORATORY ROOM AT 3RD FLOOR OF SCIENCE AND TECHNOLOGY HUB BUILDING** to be located at **WMSU-MAIN CAMPUS, LOT-2 NORMAL ROAD, BALIWASAN, ZAMBOANGA CITY**. The WMSU-Physical Plant and Engineering Services shall perform the construction management services including the management of project deliverables and all issues arising from this Contract Document.

B. NAME OF PROJECT

RENOVAION OF ANALYTICAL SERVICES AND PURE SCIENCE RESEARCH LABORATORY ROOM AT 3RD FLOOR OF SCIENCE AND TECHNOLOGY HUB BUILDING to be located at **WMSU-**



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MAIN CAMPUS, LOT-2 NORMAL ROAD, BALIWASAN, ZAMBOANGA CITY

C. START AND COMPLETION OF DATES

The Contractor shall be held responsible for meeting intermediate dates as contained within the attached documents.

Such dates are binding, and damages will apply to intermediate as well as end dates:

Start on Site : Based on date stipulated on Notice to Proceed

Punch listing :

All Works Complete :



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D. WORK AREAS

All works shall be done within the confine of the lot boundaries. Provide temporary work enclosures on all sides affected by building repair works. Provide appropriate announcement boards and signage's, to include all construction permits, clearances, and duration of works

E. SCOPE OF WORK - GENERAL

The Scope of Work includes the furnishing of all labors, materials, equipment, and tools including supervision necessary to complete all the Works stated herein. All Works are to be complete in accordance with the Contract Documents and as directed by the WMSU-Physical Plant and Engineering Services to result in a completely functional facility.

The Scope of Work shall consist of the following in accordance with the Drawings and Specifications, including Supplemental Agreement but is not limited to the following.

E.1 Site Works

- a. Health, Safety, & Environment
- b. Security
- c. Temporary Enclosures
- d. Clearing of site and disposal off-site debris, etc.

E.2 Structural Works

- a. Masonry works
- b. Structural concrete including reinforcements and formworks

E.3 Architectural Works

- a. Tiling and wall finishes as indicated in drawings



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- b. Construction of drywalls/partition as indicated in drawings
- c. Installation of doors and windows
- d. Installation of cabinets
- e. Installations of hardware

E.4 Plumbing/Sanitary Works

- a. General plumbing works for laboratory sink as indicated in drawings
- b. Installation of all plumbing fixtures (laboratory sink) as indicated in the drawing.

E.4 As-Built (Record) Drawings & Related Documents

II. GENERAL REQUIREMENTS

A. GENERAL

The works shall be carried out according to the Technical Specifications and shall govern the methods of construction and the kind of materials to be used for the repair of ceiling and retiling of College of Criminal Justice as shown in the plans and detail drawings.

The plans, detailed drawings, and this Specification, shall be considered as complementing to each other, so that what is mentioned or shown in one, although not mentioned or shown in the other, shall be considered as appearing on both. In case of discrepancy, between the Technical Specifications and Approved Detailed Drawings, the Technical Specifications shall prevail.



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All works shall be carried out in coordination with carpentry, masonry, electrical, plumbing, ancillary, and other building works. Materials not conforming to Specifications shall be rejected.

B. GENERAL CONDITIONS

Prior to execution of works, the Contractor shall verify the existing condition of the structural and project boundaries. Total demolition of existing portion of the structure within the proposed project site is required.

C. CONTRACTOR'S OFFICE & ACCOMODATION

Provision of Contractor's Temporary Facility is required. The structure of the building shall be adequate, rainproof, spacious, airy, and hygienic with proper lightings and toilet facilities. The area shall be kept neat and clean. Any garbage or sewage shall be disposed at a location and in a manner approved by WMSU-Physical Plant and Engineering Services.

Space allocation for storage of various materials such as cement, reinforcement steel and petroleum products, etc. shall be clearly separated to avoid contamination. Petroleum products shall be stored and handled in a way that avoids contamination of ground water. Workshops shall be installed with oil and grease traps for the same purpose.

The Contractor shall provide, at its own expense, adequate temporary accommodation and toilet facilities for its own workmen and keep the same in good conditions. The Contractor shall construct suitable soak pits along with room of pit-type latrines. Sufficient water must be provided and maintained in the toilets. Proper methods of sanitation and hygiene should be employed during the whole project duration. The above-mentioned temporary



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structures shall be removed on the completion of the works at Contactor's own cost. All materials and labor cost shall be provided by the Contractor.

The Contractor shall provide at his own expense calibrated meters for each water and electricity connection and pay billings thereof.

D. SAFETY MEASURES

The Contractor shall be responsible for safety of all workmen and other persons entering the Works and shall be all at his own expense take all measures necessary to ensure their safety. Such measures shall be subject to the approval of WMSU-Physical Plant and Engineering Services shall include but not limited to:

1. Appropriate personal protective equipment (helmet, dust mask, safety shoes, vest, and hand gloves) must be provided and worn by workmen.
2. First Aid Cabinet must be fully equipped and readily available for treatment of sickness and injuries.
3. Provide safety and emergency regulations for fire and electric shock prevention.
4. Safe control of flowing water; and
5. Conduct regular safety meeting.

E. NOTICE BOARD

The Contractor shall erect notice board (3' x 6') at the site giving details of the Contract in the format provided by COA. It shall be removed upon receipt of Certificate of Completion.



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F. ENVIRONMENTAL PROTECTION WORKS

The environment means surrounding area including human and natural resources to be affected by execution and after completion of works. The Contractor shall take all precautions for safeguarding the environment during the course of construction of the works. He shall abide by all prevalent laws, rules and regulations governing pollution and environmental protection. The Contractor shall prohibit employees from cutting trees and the former shall be the responsible for the action of the latter.

Waste materials must be collected, stored, and transported to approved dump / disposal area.

The WMSU-Physical Plant and Engineering Services shall have the power to disallow the method of construction and / or the use of any borrow / quarry area, if the stability and safety of the works or any adjacent structure will be compromised, or there is undue interference with the natural or artificial drainage, or the method or use of the area will promote undue erosion.

G. MATERIALS AND WORKMANSHIP

All materials and equipment used in the Works shall be new and best in quality, design, and performance. All materials used shall be of the quality specified and where not specified shall be in accordance with the relevant Standards **Acceptable by the University Architect.**

All materials and work necessary for the efficient functioning of the installation shall be provided even if not explicitly mentioned in the Contract Documents

All works shall be carried out to the best engineering practice by fully competent tradesmen.



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H. DELAYS

In the event the Contractor falls behind the Project Schedule, then he may be required to accelerate his work. In such cases, the Contractor shall immediately apply appropriate extra resources at his own expense until such time as the schedule slippage has been recovered.

I. SITE DIARY OR MANUAL FIELD / LOGBOOK

The Contractor shall keep Site Diary or Manual Field Book wherein full details of the work carried out during each day shall be fully recorded. The Site Dairy or Manual Field Book shall be available for inspection by the WMSU-Physical Plant and Engineering Services anytime during normal office hours. It shall include:

1. Project Name;
2. Contractor's Name;
3. Contractor's Representative;
4. Weather Conditions, rainfall, and water level (indicate "NO WORK "if unworkable days)
5. Description, quality, and location of work performed;
6. Shift and working hours;
7. Number and category of workers working at the site;
8. Test carried out and results;
9. Inspection carried out by PPO;
10. Problems or abnormal occurrence;
11. DEFECTIVE / Non-Compliant Work & Corrective Action.
12. Site Instructions;
13. Visitors; and
14. Accidents (if any)



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III. TECHNICAL SPECIFICATIONS

A. SITE PREPARATION / DEMOLITION WORKS

I. CLEARING / DEMOLITION

- a. Works herein include the removal of existing tiles and disposing off the cleared materials.
- b. Materials obtained from removed existing tiles, shall be turned over to WMSU-Property Management Office (PMO) for assessment. Demolished materials assessed by PMO for discarding shall be disposed of by the Contractor. Burning of demolished or any unwanted materials shall not be allowed.

II. CONCRETE WORKS (Refer applicable sections on chapter 4 of the NSCP) for Quality of Materials, Workmanship, execution, acceptance, etc.

- a. General: Provide all labor, materials, equipment, transportation, and services required to complete all work specified herein indicated or as shown on the drawings.
- b. Standards: Except as modified by governing Codes and by Contract Documents comply with the provisions and recommendations of the following, latest Edition:
 1. ANSI American National Standards Institute
 2. ASTM American Society for Testing of Materials
 3. ACI American Concrete Institute
 4. NBCP National Building Code of the Philippines and its revised IRR
 5. NSCP National Structural Code of the Philippines
- c. All materials for concrete shall be from approved source by the Engineer-In-Charge.



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- c.1 Reinforced concrete- 3000 psi @28-days. Concrete mix shall be subject to adjustment to attain the required strength or desired mix consistency, subject to approval of the Engineer-in-Charge.
 - c.2 Portland cement, Type 1
 - c.3 Manufactured or river-run run Gravel G1 for structural concrete, $\frac{3}{4}$ "max properly graded
 - c.4 Coarse Sand for structural concrete
 - c.5 Water: Use potable water free from alkaline or deleterious substance that may affect the strength of concrete. Use of rainwater will not be permitted.
 - c.6 All materials shall be free from clay, lumps or any deleterious object or matter that will impair the strength of concrete.
 - c.7 Mixing of concrete shall be in accordance with current industry standards or best practices.
 - c.8 Slump of concrete shall not exceed 3 inches
 - c.9 Placement of concrete shall be in accordance with standard norms, when using portable concrete mixers.
 - c.10 Cure concrete sprinkling water and wetted continuously for 7-day period
- d. Formworks
- d.1 All forms shall be designed by the Contractor for a safe construction activity and installed to dimensions shown on the drawings
 - d.2 All materials for formworks shall be durable and free from warps, de-lamination and shall produce a neat surface upon stripping
 - d.3 All joints shall be free from mortar leak during placement of concrete
 - d.4 Stripping of forms shall only commence after the concrete has gained sufficient strength (min of 7 days) for major structural elements
- e. Removal of Formworks
- e.1 All Formworks shall be carefully removed without shock or disturbance to the concrete.



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- e.2 No formworks shall be removed until the concrete has attained sufficient strength to support its own weight and carry loads that maybe placed on it.
- e.3 Side forms of beams and girders may be removed earlier than bottom forms, but the additional post or shoring must be placed under the beam or girder until it attains the sufficient strength.

III. MASONRY WORKS (Refer to Chapter 7 of the NSCP for Hollow Masonry Units)

- a. All CHB walls to be demolished must be removed completely from bottom of beam or topmost blocks down to the floor level. In no case shall unsupported CHB walls be retained whether it is above or below the ceiling line.
- b. Provision of door and window openings on existing CHB walls must be done with the use of electric concrete cutter to prevent impacts that might result to cracks on the existing walls. Lintel beams shall be constructed to support the remaining CHB walls above door and window headers.
- c. Closing of existing openings on existing CHB walls. All new CHB reinforcing bars must be properly anchored/attached to the reinforcing bars of the existing CHB walls. Adequate trimmer bars of size & length shall be provided within the new openings as indicated in drawings.
- d. Deliver to site CHB units undamaged and free from breakage to edges or corners.
- e. Concrete hollow block units shall be nominal 100 x 200 x 400 or 150 x 200 x 400 (as indicated in plan) stretcher blocks, all cells grouted with steel reinforcements shown on Drawings, (350min) psi when tested to applicable ASTM Standards and Industry norms.
- f. Erect CHB units to plumb and true to alignment within acceptable tolerance.
- g. Mix proportion for grouting and setting bed shall be 1: 4 (Cement: sand), maximum proportion. The Contractor shall make necessary adjustments to suit project requirements without extra cost to the Company.



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- h. Damaged unit masonry shall not be used
- i. The Contractor shall provide and maintain extra units or numbers at site without extra cost to WMSU-Physical Plant and Engineering Services (PPES).
- j. All masonry units and associated materials shall satisfy test requirements of ASTM C190, C140), non- load bearing test.
- k. Install all CHB based on anchorage details as shown in drawings.

IV. ARCHITECTURAL WORKS

Furnish materials and labor and all incidentals necessary for the completion of all architectural works shown on Drawings and as herein specified.

a. WALL FINISHES

- a.1. All painting materials shall be delivered on site intact in the original drums or tins and shall be mixed and applied strictly in accordance with the manufacturer's instructions and to the approval of the WMSU-Physical Plant and Engineering Services Director or University Architect
- a.2. All materials to be used herein shall be brand new and passing Philippine Standard material quality control requirements. It shall have cast, stamp, or indelible marks on it like manufacturer's trademarks or name, weight, type, or classes of products when so required.
- a.3. Furnish materials and labor and all incidentals necessary for the completion of all architectural works shown on Drawings and as herein specified.
- a.4. All paint and painting materials shall be delivered to the building with sealed containers and stored in dry but adequately ventilated room. Paint type and number of coatings for each surface type shall be as follow:



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- a. Building concrete surfaces solvent based paint, gloss /
4 coatings
 - b. Building fiber cement / wood surfaces solvent based paint, flat / 4
coatings
 - c. Concrete surface shall be smooth and free from defects and shall be
allowed to dry out thoroughly.
 - d. Surfaces shall be thoroughly brushed down and left free from dirt and dust.
 - e. The Contractor shall perform all painting and finishing works as shown in
the plans
- a.5. The priming undercoats and finishing coats shall each be of differing coats.
“SAMPLE” cards and application sample of all paint type and colors shall be
submitted to the WMSU-Physical Plant and Engineering Services for approval to
become the standard of work quality.
- a.6. Each coat of paint shall be properly dried and shall be well rubbed down with fine
sandpaper before the next coat is applied.
- a.7. The paintwork shall be finished smooth and free from brush marks.
- a.8. Upon completion of painting works, the painting Contractor shall remove all paint
spots from all finished works together with the equipment before leaving the premise
and shall present the work to WMSU-Physical Plant and Engineering Services free
from blemishes.
- b. **Rendering to CHB or Concrete Surfaces**
- b.1. All surfaces to be rendered or cement plastered shall be clean from any loose
material or contamination to provide strong bond between plaster and the surface.
 - b.2. Mix proportion shall not be less than 1 part of cement to 4 parts of screened sand
Necessary adjustments shall be made to provide a strong and consistent mix, free
from cracking due to rapid hydration of plaster mix.



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b.3. Tampering of previously mix concrete will not be permitted.

b.4. All surfaces to receive paint finish shall be smooth whilst surfaces to receive tiles shall be rough to provide better adhesion or bond.

c. **Doors and Windows**

c.1 Furnish all materials and labor, use of tools for the fabrication, delivery and installation of doors and windows as shown on drawings and herein specified.

c.2 Unless otherwise specified, All Solid Wooden Doors shall be kiln dried and treated Matimco flush doors. Panel doors ready for installation with the provisions for locksets, door keys, and hinge completely operational.

c.3 Windows (glass/glazing) shall be as shown on Drawings and herein specified. Glass shall be 6mm thick reflective glass on powder coated aluminum framings.

c.4 Locks of doors shall be filled at the lock block, 1000 mm above the finished floor level. Locks shall be installed in conformity with the templates and instructions supplied with the locksets

c.5 Deliver all doors and windows free from any damage. Store materials to avoid contamination form soil or unwanted materials.

d. **TILEWORKS**

d.1 Works herein shall include supply and placing of glazed granite tiles and granite slab as indicated in the plans and drawings.

d.2 The surface where the tile is laid must be level, true to elevation, dry and free from oil and other sediments.

d.3 Allow at least 7 days curing of the scratch coat and setting bed.

d.4 Selected areas shall be finished with 0.60m x 0.60m glazed granite tiles.



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- d.5 The Tile grout color shall be subject for the University Architect's approval. The Contractor shall submit sample of tiles to the WMSU-Physical Plant and Engineering Services for approval of type, quality, and color.
 - d.6 All materials to be used herein shall be brand new and passing Philippine Standard material quality control requirements. It shall have cast, stamp, or indelible marks on it like manufacturer's trademarks or name, weight, type, or classes of products when so required.
 - d.7 Before the tiles are placed, the surfaced shall be brushed cleaned and wetted. The surface shall be tested for levelness or conformity of slope by flooding it with water.
 - d.8 Tiles shall be installed by applying heavy duty adhesive to backs of tile and firmly pressing tile into the floating coat to true plane and position.
 - d.9 Joints shall be maintained uniformly wide by aligning spacer lugs on tile edges. All joint lines shall be kept straight and true to profiles, plumbed and internal corners rounded using the appropriate trims.
 - d.10 Flooring shall be sloped to floor drain as shown in the plans.
 - d.11 All tile work finishing shall be adequately protected from damage during the progress of construction. Chipped, cracked, or broken tile shall not be used, and all defective work shall be replaced and repaired to the approval of the WMSU-Physical Plant and Engineering Services at Contractor's expense.

III. PLUMBING

GENERAL DESCRIPTION:

- a. The work to be done under this Specification consists of the fabrication, furnishing, delivery and installation, complete in all details, testing and commissioning of this contract, at the subject premises and all work materials incidental to the proper completion of the installation, except those



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portions of the work which are expressly stated to be done by others. All works shall be in accordance with the governing Codes and Regulations and with this Specification, except those where same shall conflict with such Codes, etc., which the later shall then governs. The requirements with regards to materials and workmanship specify the required standards for the furnishing of all labor, materials, and appliances necessary for complete installation of the work specified herein and indicated on the Drawings. The specification is intended to provide a broad outline of the required equipment but is not intended to include all details of design and construction.

The term “Contractor” in this specification means “Trade Contractor” unless otherwise specified. The term “Plumbing & Drainage Installation” in this specification has the same meaning as “Sanitary Works” unless otherwise specified.

b. SCOPE OF WORK

Under this section of the specification, provide all labor, materials and equipment and perform all the work necessary for the complete execution of all the Work as shown on Drawings and specified in this specification. Scope of works shall include but does not be limited to the following major items of work:

- b.1. Connections to existing waterline and sanitary line system.
- b.2. Submittal and certificate of tests on installed equipment and piping system.
- b.3. Preparation and submittal of reproducible and print as-built plans.
- b.4. Supply and installation of accessories.
- b.5. Investigation of all conflicts of this work and coordination with other trades.
- b.6. Testing, balancing, and commissioning of all equipment.
- b.7. Securing of all permits and licenses from relevant Authorities as required.



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c. BUILDING PROVISION:

Certain provisions have been made in the building for the accommodation of this installation. These provisions include space allocation, holes through beams and structural slabs, etc. The provisions so made are shown on the Drawings. Before proceeding with the Works, the Trade Contractor must check and confirm that the provisions are satisfactory for the Works, and where necessary, additional information and requirement is to be furnished. It is the Trade Contractor's responsibility to ensure that the WMSU-Physical Plant Office (PPO) is informed of all holes and any other provision requested in the structure. Any subsequent structural openings required due to negligence in providing sleeves beforehand shall be at the expense of the Trade Contractor unless they are covered on a duly authorized variation order issued by the WMSU-Physical Plant Office (PPO). All pipe sleeves shall be supplied and installed by the General Contractor.

The Trade Contractor shall ensure that the fixing is good, and the sleeves will not be shifted or moved by concreting or by other trades. It is also the Trade Contractor's responsibility to check and ensure that all holes, openings etc., are provided correctly during construction of the building.

OTHER APPLICABLE STANDARDS OR CODES FOR THIS SUBCONTRACT:

A. CODES:

- a.1. National Building Code of the Philippines
- a.2. Revised National Plumbing Code of the Philippines, Latest Edition
- a.3. Philippine Code on Sanitation, PD 856
- a.4. Uniform Plumbing Code, Latest Edition by International Association of Plumbing and Mechanical Officials
- a.5. Applicable regulations and local ordinances of City of Zamboanga, Zamboanga del Sur

B. STANDARDS:

- b.1. Underwriters' Laboratories (UL)
- b.2. American Society for Testing and Materials (ASTM)



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- b.3. American National Standards Institute (ANSI)
- b.4. National Electrical Manufacturers' Association (NEMA)
- b.5. American Society of Mechanical Engineers (ASME)
- b.6. Factory Mutual (FM)
- b.7. National Fire Protection Association (NFPA)

Proof of conformance shall be submitted to the WMSU-Physical Plant Office (PPO) for approval. Nothing contained in this specification or shown on the Drawings shall be constructed as to conflict with National and Local Ordinances of the City of Zamboanga, Zamboanga del Sure. All such laws and ordinances shall form part of this specification.

C. Materials meeting authoritative standards of other rating agencies and organizations which will ensure an equal or higher quality than standards herein specified will also be accepted. Unless otherwise specified in drawings, materials for potable water line shall with the following specifications:

- c.1 All I works herein shall be done in accordance with the latest edition of the Philippine Plumbing Code, rules, and regulations of the National Building Code and shall comply with the requirements of the Local City Ordinances and issued Approved Plans.
- c.2 Read the drawing in connection with other related drawing & specification. The Architect and Engineer shall be notified immediately of any discrepancy found therein.
- c.3 The contractor shall determine the actual location and depth and invert all discrepancy of all existing pipe and structures to conform with the proposed sanitary utilities.
- c.4 The location of pipes can be transferred whenever required for proper execution of other trades or conditions that such changes of locations meet the requirements.
- c.5 The Contractor shall provide the facility with calibrated ZCWD water meter and shall tap to nearest existing Zamboanga City Water District (ZCWD) water pipeline shown in the plan. Processing of water connection shall be done by the Contractor.
- c.6 Size of water supply pipes to fixtures shall be in accordance with the instruction of the manufacturer.



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- c.7 Unless otherwise specified, use 4" Ø PVC pipes S-1000 for sanitary pipes
 - c.8 Unless otherwise specified, use 1/2 Ø pp-r pipe PN-20 for water supplies.
 - c.9 Ensure that the permanent connections to the local lines for water, drainage, electrical and sewer lines including materials, equipment, facility are working in order.
 - c.10 No Revisions in the design shall be done without the prior knowledge and approval of the designer and owner, any revisions done without approval shall cause responsibility of the designer to cease.

APPROVED BY:

A handwritten signature in blue ink, appearing to read 'AR. JOSEPH ANDREW L. SAHIAL'.

AR. JOSEPH ANDREW L. SAHIAL

OIC Director for Physical Plant and Engineering Services