



DETAILED OUTLINE SPECIFICATIONS

Name of Project: **RENOVATION OF THE OFFICE OF THE UNIVERSITY PRESIDENT**

Location: EVSU MAIN CAMPUS- TACLOBAN CITY

DIVISION 01 — GENERAL REQUIREMENTS

01 10 00 – Summary

- Interior renovation and fit-out of the President's Office
- Installation of new partitions, ceilings, finishes, doors, and MEPF systems
- Integration with existing building utilities and life-safety systems
- Testing and commissioning of all installed systems
- Demolition of existing partitions and finishes where indicated.
- Installation of glass wall partitions.
- New ceiling system including cove ceiling and lighting.
- Built-in cabinets and architectural woodwork.
- New doors, relocation/reinstallation of existing doors and sliding glass doors.
- Interior finishes including accent wall laminates, WPC, baseboards, and decorative metal strips.
- Mechanical works including air conditioning units.
- Electrical works including lighting and power provisions. Installation of Smart Switch for lighting control and smart outlet/plug for air-conditioning units.
- Fire protection supply and installation of portable fire extinguishers.
- Low voltage systems including internet, CCTV, and PA/BGM system.

01 30 00 – Administrative Requirements

- Shop drawings (partitions, cabinetry, ceiling, floor logo, glass systems)
- Product data and material samples (laminates, tiles, aluminum finish, metal strip)
- Coordination drawings for MEPF
- As-built drawings
- Operations and Maintenance manuals

01 40 00 – Quality Requirements

- Licensed contractors and certified installers
- Mock-ups for:
 - Glass wall partition
 - Built-in cabinets with strip lighting
 - Cove ceiling detail
 - Floor logo layout

DIVISION 02 — EXISTING CONDITIONS

02 41 19 – Selective Demolition

- Removal of existing partitions, ceilings, doors, and floor finishes
- Removal/relocation of MEPF components
- Debris disposal in accordance with local regulations

Note: Verify Engineer/Architect prior demolition.

DIVISION 05 — METALS

05 50 00 – Metal Fabrications

- Steel supports and anchors for partitions and cabinets
- Reinforcement plates for doors and glass systems

05 70 00 – Decorative Metal

- Rose gold stainless steel strips
 - Mirror or brushed finish
 - Thickness as specified
 - Installed at wall panel joints, transitions, or flooring accents

05 40 00 – COLD-FORMED METAL FRAMING

PART 1 – GENERAL

1.1 SUMMARY

This section includes **cold-formed metal framing members** used for:





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- Interior **drywall partition framing**
- **Ceiling suspension framing**
- **Bulkheads and soffits**
- Light-gauge framing supports

PART 2 – PRODUCTS

2.1 MATERIALS

A. Metal Stud Framing

Material: Cold-formed galvanized steel

Standard: ASTM C645

Thickness:

- 0.40 mm – 0.60 mm for interior partitions

Stud Sizes:

- 50 mm metal studs
- 75 mm metal studs
- 100 mm metal studs

Spacing:

- 400 mm to 600 mm on center

B. Steel Tracks

Provide matching **floor and ceiling tracks**.

Material:

- Galvanized steel

Thickness:

- Same as metal studs

C. Ceiling Framing System

Components shall include:

- Carrying channels
- Metal furring channels
- Suspension hangers

Material:

- Galvanized steel

Typical sizes:

Component	Size
Carrying Channel	38 mm
Metal Furring Channel	19 mm
Hanger Wire	2.0 mm diameter

Spacing:

- Carrying channel: **1200 mm O.C.**
- Furring channel: **400–600 mm O.C.**

D. Fasteners

Provide corrosion-resistant fasteners including:

- Self-drilling screws
- Anchor bolts
- Expansion anchors

PART 3 – EXECUTION

3.1 INSTALLATION

Install framing members in accordance with **ASTM C754** and manufacturer instructions.

Drywall Partitions

- Install floor and ceiling tracks anchored to structure.
- Install metal studs vertically at specified spacing.
- Provide additional studs at corners and door openings.

Ceiling Framing

- Install hanger wires from structural slab.
- Install carrying channels and metal furring channels.
- Ensure ceiling framing is level and properly aligned.





3.2 TOLERANCES

Maximum variation from plumb:

- **3 mm in 3 m**

Maximum variation from level:

- **3 mm**

3.3 PROTECTION

Protect installed metal framing from damage prior to installation of fiber cement boards.

Quick Technical Summary

Component	Typical Specification
Metal Stud	50–75 mm galvanized steel
Stud Spacing	400–600 mm O.C.
Furring Channel	19 mm
Carrying Channel	38 mm
Hanger Wire	2.0 mm

DIVISION 06 — WOOD, PLASTICS, AND COMPOSITES

06 10 00 – Rough Carpentry

- Wood blocking for wall-mounted fixtures and cabinetry

06 41 00 – Architectural Wood Casework (Built-in Cabinets)

- 18mm marine plywood carcass
- High-pressure laminate finish
- PVC edge banding
- Adjustable shelves
- Soft-close hinges and heavy-duty drawer slides
- Integrated LED strip lights with Aluminum LED Profile
- Concealed wiring provisions
- Shop drawings required

PART 1 – GENERAL

A. Section Includes:

1. Custom fabricated built-in cabinets with glass cabinet doors and push-up locking mechanism.
2. Cabinet carcasses, shelves, glass doors, door frames, and locking hardware.
3. Laminated finishes and edge treatments.
4. Accessories including cabinet lighting where indicated.

1.1 SUBMITTALS

A. Product Data

Submit manufacturer's product information for cabinet boards, laminates, glass panels, and push-up lock hardware.

B. Shop Drawings

Submit detailed shop drawings including:

1. Cabinet layout and dimensions
2. Glass door configuration and framing details
3. Shelf arrangement
4. Push-up lock hardware installation
5. Cabinet anchorage and installation details

C. Samples

Submit samples for approval:

1. High pressure laminate finish
2. Cabinet board material
3. Edge banding
4. Tempered glass sample
5. Hardware finish

1.2 QUALITY ASSURANCE

A. Cabinet fabrication shall comply with **AWI Custom Grade Standards**.

B. Fabricator shall have at least **three (3) years' experiences** in architectural cabinetry works.

C. Glass panels shall be **tempered safety glass** with polished edges.



1.3 DELIVERY, STORAGE, AND HANDLING

- A. Deliver cabinets properly wrapped and protected against moisture and damage.
- B. Store materials in a dry and well-ventilated location.
- C. Protect cabinets from scratches, warping, and other damage prior to installation.

PART 2 – PRODUCTS

2.1 CABINET MATERIALS

A. Cabinet Carcass

- 1. 18mm thick **Marine Plywood** or **Moisture-Resistant Particle Board**.
- 2. Interior surfaces finished with white melamine or laminate.

B. Cabinet Back Panel

- 1. 9mm thick marine plywood securely fastened to cabinet frame.

C. Shelves

- 1. 18mm thick marine plywood with laminate finish.
- 2. Adjustable shelves with metal shelf support pins.

2.2 CABINET DOORS

A. Glass Cabinet Doors

- 1. Door Frame Material: Laminated plywood or powder-coated aluminum frame.
- 2. Glass Panel:
 - 6mm **Clear safety Glass**
 - Clear glass unless otherwise indicated.
- 3. Glass edges shall be polished and free of defects.

B. Swing Glass Door Hinge Mechanism

Example hardware: **Push Open Stainless Glass Hinge for Double Door Glass Cabinet Display**

Mechanism Specification

- Type: Concealed or surface mounted glass hinge
- Material: Stainless steel / zinc alloy
- Glass thickness: 5 mm – 10 mm tempered glass
- Opening angle: 95° – 110°
- Mounting: Screw-fixed to cabinet carcass with glass clamp
- Finish: Satin chrome / black / stainless
- Features:
 - Soft closing
 - Adjustable alignment
 - Anti-slip rubber glass pads

C. Push-to-Open Glass Cabinet Mechanism

Example: Magnetic Push-to-Open Glass Cabinet Door Hinge Catch

Mechanism Specification

- Type: Magnetic push-latch
- Material: Stainless steel / ABS body
- Operation: Push-release opening
- Holding force: 2–4 kg magnetic catch
- Mounting: Concealed or surface mounted
- Application: Handle-less cabinets

3. Additional Components

- **Glass Door Frame:** Aluminum profile frame for tempered glass.
- **Glass Type:** 6 mm tempered clear
- **Door Stops:** Integrated within lift system.
- **Rubber bumpers:** Provide silent closing.
- **Mounting brackets:** Adjustable steel mounting plates.

4. Performance Requirements

- Minimum **20,000 opening cycles durability**
- Smooth and silent operation.



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- No visible hardware when door is closed (for concealed systems).
- Corrosion-resistant finish.

2.3 HARDWARE

Provide heavy-duty commercial grade cabinet hardware.

A. Push lock mechanism

1. Magnetic Push-to-Open Glass Cabinet Door Hinge Catch designed for swing glass cabinet doors.
2. Mechanism shall support door weight and maintain door in open position.

B. Hinges

Concealed cabinet hinges.

C. Locks

Push-up lock system integrated with cabinet door operation.

D. Handles

Stainless steel or aluminum cabinet handles where indicated.

E. Miscellaneous Hardware

1. Magnetic catches
2. Rubber door bumpers
3. Adjustable shelf supports

2.4 ACCESSORIES

Provide the following accessories where indicated:

- A. LED strip lighting inside glass display cabinets.
- B. Cable management grommets for concealed wiring.
- C. Decorative metal trims or accent strips if required by design.

2.5 FINISHES

A. Exterior Cabinet Finish

-High Pressure Laminate (HPL) finish, color and pattern as selected by Architect.

B. Interior Finish

-White melamine or laminate finish.

C. Hardware Finish

-Brushed stainless steel, chrome plated, or powder coated aluminum.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify site conditions before installation.
- B. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.2 FABRICATION

- A. Cabinets shall be factory fabricated to sizes and configurations shown in drawings.
- B. Joints shall be glued, doweled, and screwed to ensure rigid construction.
- C. All exposed edges shall be finished with **2mm PVC edge banding**.
- D. Laminates shall be evenly applied without bubbles or surface defects.
- E. Glass panels shall be factory cut and tempered prior to installation.

3.3 INSTALLATION

- A. Install cabinets plumb, level, and properly aligned with adjacent construction.
- B. Anchor cabinets securely to wall framing or structural support.
- C. Install glass cabinet doors and push-up lift mechanisms according to manufacturer instructions.
- D. Coordinate installation of cabinet lighting with electrical works.

3.4 ADJUSTING

- A. Adjust lift-up mechanisms to ensure smooth opening and closing.
- B. Ensure glass cabinet doors remain stable and locked in open position when lifted.
- C. Adjust hardware to achieve proper alignment and operation.

3.5 CLEANING AND PROTECTION

- A. Clean cabinet surfaces and glass panels after installation.
- B. Protect installed cabinets from damage during remaining construction activities until project completion.



DIVISION 07 — THERMAL AND MOISTURE PROTECTION

07 21 00 – Thermal and Acoustic Insulation

- Mineral wool insulation within partitions

07 92 00 – Joint Sealants

Provide sealant at joints between:

- Glass partitions
- Cabinet edges and wall surfaces
- Aluminum framing
- Perimeter sealants for doors and windows

Sealant shall be:

- Neutral cure silicone sealant
- Color matched with adjacent materials

DIVISION 08 — OPENINGS

08 14 16 – Flush Wood Doors

- Solid core doors
- Laminate finish
- Complete with hinges, lockset, door closer

08 41 13 – Aluminum-Framed Entrances and Storefronts

- Powder-coated aluminum frame
- Tempered safety glass

08 44 13 – Glazed Aluminum-Framed Partitions

Interior Glass Wall Partition:

- 10–12mm tempered safety glass
- Aluminum alloy 6063-T5/T6
- Powder-coated finish
- EPDM gaskets
- Concealed fastening system
- Acoustic performance target: STC 35 minimum

1.1 SUBMITTALS

A. Product Data

Submit manufacturer's technical data for aluminum framing systems and glass panels.

B. Shop Drawings

Submit shop drawings indicating:

1. Partition layout and dimensions
2. Framing member profiles and sizes
3. Glass panel sizes and thickness
4. Connection details and anchorage
5. Glazing system and sealant details

C. Samples

Submit samples of:

1. Aluminum frame finish
2. Glass panel sample
3. Gasket and sealant materials

1.2 QUALITY ASSURANCE

A. Installer shall have a minimum **three (3) years' experience** installing aluminum-framed glass partitions.

B. Glazing work shall comply with **applicable building code requirements**.

C. Glass shall be **tempered safety glass** unless otherwise specified.

1.3 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials in manufacturer's original packaging with labels intact.

B. Store glass panels vertically with proper support.

C. Protect aluminum framing and glass from scratches, moisture, and impact damage.



PART 2 - PRODUCTS

2.1 MANUFACTURERS

Subject to compliance with requirements, provide products by one of the following:

1. Mabuhay Glass Supplier
2. Approved equivalent manufacturer

2.2 ALUMINUM FRAMING SYSTEM

A. Material

Extruded aluminum alloy complying with **ASTM B221**.

B. Frame Thickness

Minimum **1.2 mm to 2.0 mm aluminum thickness**.

C. Frame Profiles

Provide vertical mullions, horizontal rails, and perimeter frames as required.

D. Finish

One of the following as indicated in drawings:

1. Powder-coated aluminum finish
2. Anodized aluminum finish

Color to be selected by Architect.

2.3 GLASS PANELS

A. Glass Type

-Tempered safety glass.

B. Glass Thickness

-Minimum **10 mm to 12 mm tempered glass** unless otherwise indicated.

C. Glass Options (if required)

1. Clear tempered glass
2. Laminated safety glass

D. Glass Edges

-Edges shall be **machine polished and free from chips or defects**.

2.4 GLAZING MATERIALS

A. Gaskets

Extruded EPDM or neoprene glazing gaskets compatible with aluminum framing.

B. Setting Blocks

Neoprene setting blocks to support glass panels.

C. Sealants

Neutral cure silicone sealant compatible with glass and aluminum.

2.5 FASTENERS AND ACCESSORIES

Provide complete system including:

1. Anchors and fasteners
2. Frame connectors
3. Glazing stops
4. Cover plates
5. Aluminum trims
6. Structural support brackets

All exposed fasteners shall be **stainless steel or corrosion-resistant**.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify opening dimensions and field conditions prior to fabrication.

B. Do not begin installation until unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Ensure supporting structures are properly aligned and capable of supporting the partition system.

B. Coordinate installation with adjacent construction including drywall partitions and ceilings.



3.3 INSTALLATION

- A. Install aluminum-framed partitions plumb, level, and true to line.
- B. Secure frames firmly to floors, walls, and ceilings with approved anchors.
- C. Install glass panels using manufacturer-approved glazing system.
- D. Provide proper gaskets, setting blocks, and sealants to ensure tight fit.
- E. Protect glass edges from contact with metal framing.

3.4 ADJUSTMENT AND CLEANING

- A. Remove protective coverings and clean aluminum and glass surfaces.
- B. Replace damaged or defective materials.

3.5 PROTECTION

Protect installed partitions from damage during remaining construction activities.

08 43 13 – Sliding Glass Doors

- Tempered glass panel
- Powder-coated aluminum track
- Soft-close sliding mechanism
- Floor guide system
- Locking hardware

08 71 00 – Door Hardware

- Lever handles
- Mortise locks
- Floor springs (for frameless glass doors if required)

08 50 00 — Windows

08 51 00 — Metal Windows

This section includes furnishing and installation of **powder-coated aluminum framed awning windows with tinted glass**, complete with operating hardware, sealants, and accessories.

1.3 SUBMITTALS

Contractor shall submit the following:

- Shop drawings showing window size, profile sections, and installation details
- Product data for aluminum framing system and glass
- Glass certification for tempered or safety glass
- Color samples for powder-coated aluminum finish
- Hardware specifications

1.4 QUALITY ASSURANCE

- Aluminum windows shall comply with industry standards for structural performance and weather resistance.
- Glass shall comply with safety glazing requirements.
- Fabricator shall have a minimum of **3 years experience** in aluminum window systems.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

Subject to compliance with requirements, provide products samples for approval.

2.2 ALUMINUM WINDOW FRAME

Window Type: Awning window (top-hinged outward opening)

Frame Material: Extruded aluminum alloy

Frame Thickness: Minimum 1.2 mm – 1.5 mm

Finish:

Powder-coated finish, color as selected by Architect

Frame Components:

- Main frame
- Awning sash frame
- Integrated drainage system
- Glazing bead

Color:

Black / Dark Bronze / Architect's selected color





2.3 GLASS

Type: Tinted glass

Glass Thickness:

- Minimum **6 mm tempered safety glass**

Glass Color Options:

- Bronze tint
- Gray tint
- Green tint

Glass Edges:

Machine polished edges.

2.4 HARDWARE

Provide complete hardware for operation including:

- Stainless steel friction hinges
- Aluminum or stainless steel handles
- Window stays
- Rubber gaskets
- Locking mechanism

All hardware shall be corrosion resistant.

2.5 SEALS AND GASKETS

- EPDM rubber glazing gaskets
- Silicone weather seal
- Continuous perimeter seal to prevent water penetration

PART 3 - EXECUTION

3.1 EXAMINATION

Verify opening dimensions and conditions before fabrication and installation.

3.2 INSTALLATION

Install aluminum awning windows in accordance with manufacturer recommendations.

- Ensure frames are plumb, level, and square.
- Provide secure anchorage to wall openings.
- Install weather seals and gaskets properly.
- Ensure smooth window operation.

3.3 ADJUSTMENT

Adjust hardware and hinges for proper operation.

3.4 CLEANING

- Clean glass surfaces after installation.
- Remove protective films and debris.
- Leave windows free from scratches and defects.

DIVISION 09 — FINISHES

09 29 00 –Gypsum board Assemblies

- 12mm thk. Gypsum Board on metal studs
- Joint treatment and surface preparation
- Acoustic insulation infill

09 30 13 – Ceramic/Porcelain Floor Tiling

- 600x600 or 800x800 porcelain floor tiles
- Tile adhesive and grout
- Tile trims

1.1 FLOOR TILES

A. Porcelain Floor Tiles:

1. Size: As indicated in drawings (e.g., 600mm x 600mm).
2. Finish: Matte / Polished / Textured.
3. Water absorption: $\leq 0.5\%$.
4. Slip resistance suitable for interior flooring.

B. Ceramic Floor Tiles:

1. Size and color as specified in drawings.



2. Non-slip finish for wet areas.

2.2 TILE ADHESIVE

- A. Cementitious Tile Adhesive complying with **ANSI A118.4**.
- B. Suitable for porcelain and ceramic tiles.

2.3 GROUT

- A. Cement-based grout complying with **ANSI A118.6**.
- B. Color as selected by Architect.

2.4 TILE TRIMS AND ACCESSORIES

- A. Edge trims:
 1. Aluminum or stainless steel tile trim.
- B. Movement joints:
 1. Sealant as specified in **07 92 00 – Joint Sealants**.

EXECUTION

2.1 EXAMINATION

- A. Verify that substrate is:
 1. Clean
 2. Level
 3. Dry and structurally sound.
- B. Do not begin installation until unsatisfactory conditions are corrected.

2.2 PREPARATION

- A. Clean substrate to remove dust, oil, grease, and loose particles.
- B. Apply leveling compound if required.

3.3 INSTALLATION

- A. Install tiles in accordance with manufacturer's instructions.
- B. Lay tiles in pattern shown on drawings.
- C. Maintain uniform grout joints.
- D. Ensure proper alignment and level surface.

3.4 GROUTING

- A. Apply grout after tile adhesive has cured.
- B. Clean excess grout from tile surface.

3.5 CLEANING

- A. Clean finished tile surfaces.
- B. Remove excess adhesive and grout residue.

3.6 PROTECTION

- A. Protect tiled surfaces from damage until project completion

09 30 00 – Floor Logo (Entrance Feature)

A. Work includes furnishing labor, materials, equipment, and services for installation of **self-leveling resinous floor system incorporating decorative floor logo**, including:

1. Self-leveling epoxy or polyurethane flooring system.
2. Embedded floor logo graphic.
3. Primer, base coat, and topcoat.
4. Protective clear coat finish.
5. Surface preparation of concrete substrate.

1.1 SUBMITTALS

A. Product Data:

1. Manufacturer specifications for resin flooring system.
2. Technical data for primers, base coats, pigments, and topcoats.

B. Shop Drawings:

1. Layout and dimensions of floor logo.
2. Location of logo in flooring plan.

C. Samples:

1. Color samples of resin flooring.
2. Graphic/logo sample for approval.

QUALITY ASSURANCE

- A. Installer shall be **certified or experienced in resinous flooring installation**.





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- B. Flooring system shall be installed by **trained applicators** approved by manufacturer.
- C. Provide **mock-up sample of floor logo** when required.

1.2 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials in **original sealed containers** labeled with manufacturer's information.
- B. Store materials in **dry area between 10°C – 30°C**.

PART 2 – PRODUCTS

2.1 SELF-LEVELING RESIN FLOOR SYSTEM

- A. Flooring System:
 - 1. Type: Self-leveling epoxy or polyurethane flooring.
 - 2. Thickness: **20mm thk.**
 - 3. Finish: Gloss / Satin / Matte.
- B. Performance Requirements:
 - 1. High abrasion resistance.
 - 2. Chemical resistant surface.
 - 3. Smooth seamless finish.

2.2 FLOOR LOGO GRAPHIC

- A. Logo Material Options:
 - 1. Vinyl graphic embedded in resin.
 - 2. Painted logo using epoxy pigments.
 - 3. Pre-cut stencil logo system.
- B. Color and design **as approved by Architect/Owner**.

2.3 PRIMER

- A. Epoxy primer compatible with concrete substrate.
- B. Moisture-tolerant formulation where required.

2.4 CLEAR TOPCOAT

- A. Transparent polyurethane or epoxy topcoat.
- B. UV resistant finish.
- C. Slip resistant additive where required.

PART 3 – EXECUTION

3.1 EXAMINATION

- A. Verify that concrete substrate is:
 - 1. Fully cured (minimum 28 days).
 - 2. Dry and free of contaminants.
 - 3. Structurally sound and level.

3.2 SURFACE PREPARATION

- A. Prepare concrete surface by:
 - 1. Grinding or shot blasting.
 - 2. Removing laitance, oil, grease, and dust.
- B. Repair cracks and surface irregularities prior to installation.

3.3 INSTALLATION

- A. Apply primer to prepared substrate.
- B. Install self-leveling epoxy base coat to specified thickness.
- C. Install floor logo graphic in location shown on drawings.
- D. Apply additional resin layer to encapsulate logo.
- E. Apply protective clear topcoat.

3.4 CURING

- A. Allow flooring system to cure according to manufacturer recommendations before traffic.

3.5 CLEANING

- A. Clean finished flooring surfaces.
- B. Remove excess materials and debris.

3.6 PROTECTION

- A. Protect installed flooring from damage until project completion.



09 51 00 – Acoustical Ceilings and Cove Ceiling

- Suspended ceiling system
- 12mm thk. Gypsum board cove ceiling detail
- Concealed LED strip lighting
- Access panels for MEP services

09 65 13 – Baseboard

- ¾" Marine plywood in approved wood paint finish
- Coordinated finish with wall panels

09 72 16 – Decorative Laminated Wall Panels

- High-pressure laminate finish panels
- Backing board as required

09 91 00 – Painting

- Primer and 2 coats latex paint
- Enamel paint for metal surfaces

DIVISION 10 — SPECIALTIES

10 44 00 — FIRE PROTECTION SPECIALTIES

Fire Extinguishers Only (Outline Specification)

PART 1 — GENERAL

1.1 SUMMARYs

- Furnish and install **portable fire extinguishers** complete with mounting accessories.
- Work includes:
 - Supply of extinguishers
 - Installation and mounting
 - Tagging and initial inspection

1.2 REFERENCES

- National Fire Protection Association – NFPA 10 (Portable Fire Extinguishers)
- Bureau of Fire Protection – Fire Code of the Philippines (RA 9514)
- American Society for Testing and Materials (ASTM Standards)
- Underwriters Laboratories (UL Listed Equipment)

1.3 SUBMITTALS

- Product data (type, rating, capacity)
- Manufacturer's specifications
- Installation layout plan
- Warranty certificates

1.4 QUALITY ASSURANCE

- Extinguishers shall be:
 - UL-listed or equivalent
 - BFP-approved
- Installation by qualified personnel

1.5 DELIVERY, STORAGE, AND HANDLING

- Deliver in original packaging
- Store in dry, secure location
- Protect from damage and tampering

PART 2 — PRODUCTS

2.1 FIRE EXTINGUISHERS

- **Type:** ABC Dry Chemical (multipurpose)
- **Capacity:** Minimum 4.5 kg (10 lbs)
- **Rating:** At least 2A:10B:C or higher
- **Cylinder:** Steel, corrosion-resistant finish
- **Valve:** Brass with pressure gauge
- **Hose:** Flexible discharge hose with nozzle
- **Mounting:** Wall bracket or cabinet

2.2 ACCESSORIES

- Wall brackets or cabinets (recessed/surface-mounted)



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- Identification signage (visible and compliant)
- Instruction labels (English/Filipino)
- Inspection tags

PART 3 — EXECUTION

3.1 INSTALLATION

- Install extinguishers:
 - Along exit routes and accessible locations
 - Near fire hazard areas (electrical panels, pantry)
- Mounting height:
 - Top of extinguisher not more than **1.5 m above floor**
- Spacing:
 - Maximum travel distance per NFPA/BFP requirements

3.2 FIELD QUALITY CONTROL

- Inspect for:
 - Proper pressure (gauge in green zone)
 - Correct installation and signage
- Tag each unit with inspection date

3.3 CLEANING AND PROTECTION

- Clean units after installation
- Protect from damage during construction

3.4 DEMONSTRATION

- Provide basic orientation to owner/user:
 - PASS method (Pull, Aim, Squeeze, Sweep)

3.5 MAINTENANCE

- Monthly visual inspection
- Annual servicing by certified technician
- Refill/recharge after use

DIVISION 23 — HVAC

23 81 26 – Split-System Air Conditioners

- Inverter-type split units
- Capacity based on load calculation
- Refrigerant piping and insulation
- Condensate drainage system
- Testing and commissioning

A. Section Includes the **supply and installation of split-system air conditioning units** for office renovation.

B. Work includes but is not limited to:

1. Indoor fan coil units (wall-mounted, ceiling cassette, or concealed type).
2. Outdoor condensing units.
3. Refrigerant piping system.
4. Drain piping for condensate.
5. Refrigerant insulation.
6. Mounting brackets and supports.
7. Electrical connections and controls.
8. Testing and commissioning of units.

1.3 SUBMITTALS

A. Product Data:

1. Manufacturer's specifications for indoor and outdoor units.
2. Cooling capacity, electrical requirements, and performance data.

B. Shop Drawings:

1. Layout of indoor and outdoor units.
2. Refrigerant piping routing.
3. Condensate drain piping layout.

C. Operation and Maintenance Manuals.



1.4 QUALITY ASSURANCE

- A. Installation shall be performed by **qualified HVAC technicians**.
- B. Equipment shall be **factory assembled and tested**.
- C. All equipment shall comply with **energy efficiency requirements**.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver units in original packaging with manufacturer labels.
- B. Store equipment in **dry and protected areas**.

PART 2 – PRODUCTS

2.1 SPLIT-SYSTEM AIR CONDITIONERS

- A. System Type:
 - 1. Air-cooled split-type air conditioning system.
- B. Components:
 - 1. Indoor unit (evaporator/fan coil).
 - 2. Outdoor condensing unit.
 - 3. Remote controller or wall-mounted thermostat.
- C. Cooling Capacity:
 - 1. As indicated on drawings (e.g., 1.0 HP, 1.5 HP, 2.0 HP, etc.).
- D. Refrigerant:
 - 1. R410A or approved equivalent.
- E. Energy Efficiency:
 - 1. High efficiency inverter type where specified.

2.2 REFRIGERANT PIPING

- A. Seamless copper tubing conforming to **ASTM B280**.
- B. Brazed joints with nitrogen purging.

2.3 PIPE INSULATION

- A. Closed-cell elastomeric insulation.
- B. Minimum thickness: **13 mm to 19 mm** depending on pipe size.

2.4 CONDENSATE DRAIN PIPING

- A. uPVC pipe or approved equivalent.
- B. Provide proper slope for gravity drainage.

2.5 SUPPORTS AND MOUNTING

- A. Wall brackets or floor-mounted supports for outdoor units.
- B. Vibration isolation pads.

PART 3 – EXECUTION

3.1 EXAMINATION

- A. Verify that installation locations are suitable and coordinated with architectural and electrical works.

3.2 INSTALLATION

- A. Install air conditioning units in accordance with **manufacturer's instructions** and approved shop drawings.
- B. Coordinate installation with ceiling layout and other building systems.
- C. Install refrigerant piping with proper supports and insulation.
- D. Install condensate drain piping with proper slope.

3.3 TESTING

- A. Pressure test refrigerant piping.
- B. Vacuum test system prior to refrigerant charging.
- C. Check electrical connections and controls.

3.4 COMMISSIONING

- A. Start-up and test air conditioning system.
- B. Verify cooling performance and proper operation.
- C. Demonstrate system operation to Owner.

3.5 CLEANING AND PROTECTION

- A. Clean equipment and surrounding areas after installation.





B. Protect installed units from damage until project completion.

DIVISION 26 – ELECTRICAL

26 01 00 – GENERAL REQUIREMENTS

1.1 SUMMARY

Provide all labor, materials, equipment, and services necessary for complete electrical works for office renovation, including smart lighting controls, smart outlets for air-conditioning units, temporary power connection from existing supply, and future integration to powerhouse.

1.2 SCOPE OF WORK

- Electrical demolition and modification
- Installation of lighting and power systems
- Installation of panelboards and protection devices
- Installation of **smart switches for lighting control**
- Installation of **smart outlets/plug for air-conditioning units**
- Provision of **temporary electrical connection from existing source**
- Preparation for **future powerhouse connection**
- Testing and commissioning

1.3 DESIGN REQUIREMENT

- All **smart switches and smart outlets shall be of the SAME BRAND and ECOSYSTEM** to ensure compatibility and unified control system.
- System shall be expandable for future automation.

1.4 CODES AND STANDARDS

- Philippine Electrical Code (PEC)
- Local authority and utility requirements
- Manufacturer's standards

1.5 SUBMITTALS

- Product data (smart switches, smart outlets, lighting fixtures)
- Shop drawings (lighting layout, power layout, single-line diagram)
- Temporary power connection plan
- As-built drawings
- Operation manuals

26 05 00 – COMMON WORK RESULTS FOR ELECTRICAL

2.1 GENERAL

- Verify existing electrical system prior to installation
- Coordinate with other trades
- Maintain operation of existing services where required

26 05 19 – LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS

3.1 CONDUCTORS

- Copper, THHN/THWN, 600V
- Minimum sizes:
 - Lighting: 3.0 mm²
 - Power: 3.5 mm² or as required by load
 - ACU: 5.5 mm² or as required by load

26 05 26 – GROUNDING AND BONDING

- Ground all electrical equipment
- Ensure grounding continuity for both temporary and permanent systems

26 05 33 – RACEWAYS AND BOXES

5.1 RACEWAYS

- PVC for concealed works
- EMT for exposed works



5.2 BOXES

- Provide deep utility boxes for smart devices
- Ensure sufficient space for wiring and devices

26 09 23 - LIGHTING CONTROL DEVICES (SMART SWITCHES)

6.1 GENERAL

Provide smart switches for control of lighting circuits with manual and wireless operation.

6.2 SMART SWITCH SPECIFICATIONS

- Voltage: 220–240V AC, 60Hz
- Current Rating: Minimum 10A per gang
- Type: 1-gang, 2-gang, 3-gang
- Connectivity: Wi-Fi (2.4 GHz)
- Control:
 - Manual (touch/button)
 - Mobile application
- Compatible with:
 - Google Home
 - Amazon Alexa
- Material: Fire-retardant casing

6.3 INSTALLATION REQUIREMENTS

- Provide **neutral wire at all switch locations**
- Label switches per room/zone
- Ensure strong Wi-Fi signal coverage

6.4 ACCEPTABLE BRANDS (SHALL MATCH SMART OUTLETS)

- TP-Link Kasa
- Sonoff
- Tuya
- Or approved equivalent

26 27 26 - WIRING DEVICES (SMART OUTLETS / SMART PLUGS)

7.1 GENERAL

Provide smart outlets or smart plugs for control of air-conditioning units and selected equipment.

7.2 SMART OUTLET SPECIFICATIONS (FOR AIRCON)

- Voltage: 220–240V AC
- Frequency: 60Hz
- Current Rating:
 - Minimum **16A (recommended for ACU)**
- Power Capacity: Minimum 3000W
- Connectivity: Wi-Fi (2.4 GHz)
- Control:
 - Manual ON/OFF
 - Mobile application
- Monitoring (preferred): Energy consumption monitoring
- Protection:
 - Overload protection
 - Overheat protection

7.3 REQUIREMENTS

- Smart outlet/plug shall be **same brand and ecosystem as smart switches**
- Provide **dedicated circuit for each air-conditioning unit**
- Do NOT exceed rated capacity of device
- Use heavy-duty type outlet for ACU

7.4 INSTALLATION

- Install in accessible location near ACU
- Provide proper grounding
- Ensure tight and secure connections



26 51 00 – INTERIOR LIGHTING

8.1 FIXTURES

- LED panel lights / downlights
- Voltage: 220–240V
- Color temperature: 4000K–6500K

8.2 INSTALLATION

- Install per reflected ceiling plan
- Connect to smart switches

26 28 00 – CIRCUIT PROTECTION

- Provide MCB/MCCB
- Lighting: 15A–20A
- ACU: 20A–30A (depending on load)
- Proper labeling of circuits

26 24 16 – PANELBOARDS

10.1 GENERAL

- Provide panelboard with main and branch breakers
- Include spare capacity for future powerhouse connection

26 05 00 – TEMPORARY ELECTRICAL SYSTEM

11.1 GENERAL

Provide temporary electrical power supply from existing source for operation of renovated office.

11.2 TEMPORARY CONNECTION

- Connect to **existing electrical supply** as approved
- Provide temporary feeder and protection devices
- Ensure compliance with PEC

11.3 FUTURE CONNECTION (POWERHOUSE)

- System shall be designed for **easy transfer to powerhouse**
- Provide provisions in panelboard for incoming feeder
- Upon completion:
 - Disconnect temporary supply
 - Connect to powerhouse
 - Re-test all systems

11.4 SAFETY

- Protect temporary wiring
- Provide grounding and circuit protection
- Clearly label temporary installations

26 08 00 – COMMISSIONING

12.1 TESTING

- Continuity and insulation resistance test
- Load testing for ACU circuits

12.2 SMART DEVICE TESTING

- Verify smart switches operation (manual and app)
- Verify smart outlet control for ACU
- Test grouping and connectivity

12.3 TURNOVER

- Provide demonstration to owner
- Submit manuals and warranties



DIVISION 27 — COMMUNICATIONS

27 00 00 – COMMUNICATIONS

PART 1 – GENERAL

1.1 SUMMARY

- Furnish and install complete **internet and data communication system**.
- Includes structured cabling, devices, testing, and commissioning.
- Coordinate with Electrical and Architectural works.

1.2 SCOPE OF WORK

- Supply and installation of:
 - Data outlets and faceplates
 - Structured cabling (LAN cables)
 - Network racks and patch panels
 - Network switches and routers
 - Cable trays / conduits for data
- Testing and commissioning of system

1.3 SUBMITTALS

- Product data (cables, switches, router, accessories)
- Shop drawings (layout of data points and routing)
- Test results and certification

1.4 QUALITY ASSURANCE

- Work by qualified technicians
- Certified installer for structured cabling

27 10 00 – STRUCTURED CABLING

PART 2 – PRODUCTS

2.1 DATA CABLES

- Category 6 (Cat6) UTP Cable
- Compliant with TIA/EIA standards

2.2 DATA OUTLETS

- RJ45 modular jacks
- Faceplates (single/dual port)

2.3 PATCH PANEL

- 24-port / 48-port patch panel
- Rack-mounted type

2.4 EQUIPMENT RACK

- Floor-mounted or wall-mounted rack
- With cable management and cooling provision

2.5 CONDUITS AND RACEWAYS

- PVC / EMT conduits
- Cable trays or ladder-type tray

PART 3 – EXECUTION

3.1 INSTALLATION

- Concealed wiring unless otherwise specified
- Maintain minimum bending radius of cables
- Separate data and power lines

3.2 LABELING

- Label all cables, outlets, and patch panels
- Provide identification system

3.3 TESTING

- Perform continuity and performance testing
- Certification using cable tester



27 20 00 – DATA COMMUNICATIONS EQUIPMENT

PART 2 – PRODUCTS

2.1 NETWORK SWITCH

- Managed Gigabit Switch (8/16/24 ports)

2.2 ROUTER / MODEM

- ISP-compatible router
- With firewall and security features

2.3 WIRELESS ACCESS POINT (WAP)

- Ceiling or wall-mounted
- Dual-band (2.4GHz / 5GHz)

PART 3 – EXECUTION

3.1 INSTALLATION

- Install equipment in designated IT room or cabinet
- Provide proper ventilation

3.2 CONFIGURATION

- Setup IP addressing
- Configure network security (password, firewall)

27 30 00 – SYSTEM TESTING AND COMMISSIONING

PART 3 – EXECUTION

3.1 TESTING

- Verify connectivity for all data points
- Perform speed and signal testing

3.2 COMMISSIONING

- Demonstrate system operation to Owner
- Provide training for basic use

3.3 DOCUMENTATION

- As-built plans
 - Test reports
 - Warranty certificates
-

DIVISION 22 — PLUMBING

1. GENERAL REQUIREMENTS

- Scope of Work
 - Renovation of existing Comfort Room (CR) plumbing system
 - Installation of new plumbing system for pantry area
- Applicable Codes and Standards
 - National Plumbing Code of the Philippine Society of Plumbing Engineers
 - Local Building Code and Sanitary Regulations
- Submittals
 - Shop drawings (layout of water supply and drainage)
 - Material specifications and catalogues
- Quality Assurance
 - All works to be performed by licensed plumber
- Testing and Commissioning
 - Leak testing
 - Flow testing

2. EXISTING CONDITIONS

- Verification of existing plumbing layout
- Inspection of existing water supply and drainage lines
- Identification of lines to be retained, modified, or removed

3. DEMOLITION WORKS

- Removal of existing pipes, fixtures, and fittings (as required)
- Proper capping of existing lines not in use
- Protection of adjacent structures and finishes



4. WATER SUPPLY SYSTEM

- Supply and installation of water lines (PPR / uPVC / PEX)
- Connection to existing main water line
- Installation of valves:
 - Gate valve / Ball valve
 - Angle valves for fixtures
- Pipe supports and hangers
- Pressure testing of water lines

5. SANITARY AND DRAINAGE SYSTEM

- Installation of sanitary pipes (uPVC / PVC)
- Floor drain installation (CR and pantry)
- Proper slope (minimum 1% or as per code)
- Connection to existing sewer line
- Vent pipes installation (if required)
- Cleanouts provision

6. PLUMBING FIXTURES – COMFORT ROOM

- Water Closet (WC)
- Lavatory with faucet
- Shower
- Floor drains
- Bidet spray / health faucet
- Accessories:
 - Soap holder
 - Tissue holder

7. PLUMBING FIXTURES – PANTRY

- Stainless steel sink
- Faucet (single or double control)
- Drain connection for sink
- Water supply connection

8. SPECIALTIES AND ACCESSORIES

- Trap seals and P-traps

9. TESTING AND COMMISSIONING

- Hydrostatic pressure test for water lines
- Leak testing for drainage system
- Functional testing of fixtures
- Final inspection and approval

10. CLEANING AND CLOSEOUT

- Cleaning of pipes and fixtures
- Removal of debris
- Turnover documents:
 - As-built plans
 - Warranty certificates

WORK ITEM	DESCRIPTION
1. Waterproofing a. President's Cr	3coats Cementitious waterproofing on floor and wall at least 900mm Height. (Shall conduct flood test before installing of wall and floor tiles.)
2. Wall a. Interior walls	12mm thk. Gypsum board and standard metal studs wall framing with batt insulation.



PROJECT MANAGEMENT OFFICE

a.1 Finishing	Apply joint compound on seams Embed paper tape or fiber mesh tape Covers joints between boards Apply 2-3 coats of joint compound / skim coat and level the surface and hide imperfections. Painted with approved paint finish
b. Glass wall	1.4mm thk. Powder Coated Aluminum frame with 8-10mm thk. Clear tempered glass and frosted film sticker. (The Contractor shall submit Shop drawings for approval)
3. Stainless Logo & Letters	(Verify architect/engineer prior installing)
a. Façade Entrance b. Reception area c. Board room	-100mm height and 25mm thk. Stainless letters - See detail plan Stainless letters height and atleast 25mm thickness -1000mm diameter and 30mm thk. Stainless steel EVSU logo
4. Acrylic logo	(Verify architect/engineer prior installing)
a. Waiting Area b. Presiden't Office	-900mm diameter and 50mm thickness Acrylic Evsu Logo with backlight. -600mm diameter and 50mm thickness Acrylic Evsu Logo with Backlight.
5. Doors	Refer to Door and Window Schedule (Submit Samples for approval)
a. D1 (Entrance & Exit)	(Existing) Clean and refurbish existing door entrance & exit
b. D2 (President's Office & Executive assistant Office	-Relocation of Existing door -Submit method statement for removal and reinstallation. Identify damaged components requiring replacements. -Careful Dismantling and Reinstallation. HARDWARES: Replacement damage hardware's/materials and provide new materials matching existing (Refer to manufacturer details and submit specs for approval)
c. D3 (President's Office & Executive assistant Office	-Relocation of Existing door -Submit method statement for removal and reinstallation. Identify damaged components requiring replacements. -Careful Dismantling and Reinstallation. HARDWARES: Replacement damage hardware's/materials and provide new materials matching existing (Refer to manufacturer details and submit specs for approval)
d. D4 (Exit Doors at Staff Lounge)	-Solid Wood Panel Door with 50x100mm door Jamb painted with wood protection and approved paint finish. -New Installation (Submit manufacturer specification for approval) HARDWARES: 3sets of Door Hinges 1set Hydraulic Door Closer 1set Lever type Lockset
e. D5 (Exit Door at President's CR	-Existing Door -Repaint and replace damaged hardware. (Submit manufacturer specification for approval) HARDWARES: 3 sets door hinges 1 set Hydraulic Door Closer 1 set Lever type Lockset 1 set barrel bolt
f. D6 (T&B of President's Office)	-Relocation and repair of existing panel door. Wood Panel door with 50x100mm door jamb painted with wood protection and approved paint Finish. -Repaint and replace damaged hardware. HARDWARES: 3 Sets Door Hinge 1 set Lever Type Lockset
g. D7 (Dining room and Board sec office)	-8mm thk. Tempered clear glass with frosted film sticker with 1.4mm thk. Powder coated aluminum frame glass swing door. HARDWARES: 4sets Stainless steel hinges



PROJECT MANAGEMENT OFFICE

h. D8 (Storage)	1 set mortise lever type lockset (Submit manufacturer specification for approval) -Solid core flush door with 50x100mm wood door jamb painted with wood protection and approved paint finish. HARDWARES: 3sets Door Hinge 1set Lever type lockset
i. D9 (Hidden door at Board Room)	-Wood Solid core flush door with 50x100 wood door jamb painted with wood protection and approved paint finish. And clad with fluted WPC Panels one side of hidden swing door. HARDWARES: 3sets Concealed Door Hinge 1 set secret door lock and 1side Door Handle
j. D10 (Board sec office)	-1.4mm thk. Powder coated aluminum frame and 8mm thk. Tempered safety clear glass with frosted film sticker sliding door. HARDWARES: 1set Heavy-Duty Extruded Aluminum top and bottom track 1 set recessed pull handle or stainless-steel pull handle (Refer to Manufacturer's Details)
6.Windows	(Submit sample for approval prior installation) 1.6mm thk. Powder coated aluminum frame and 6mm thk. Tinted glass awning window.
7.Interior Floor Finish	(Submit samples for approval)
a.Evsu Floor Logo	-2.00 m dia. Decal Sticker Evsu logo in 20mm thk. Clear Epoxy Resin.
b.Offices	-60x60cm Homogeneous Floor tiles
c.President's Office, EA Office, Board room	-50x50cm Floor Carpet tiles (The supplier will install carpet tiles, exclude from contractor's scope
d. Pantry	60x60cm Homogeneous Floor tiles
e. T&B	60x60cm Homogeneous Floor tiles
8. Interior Wall Finish	(Submit samples for approval)
a.President's office, EA office, Staff office	-Approved paint finish/ Chalk white paint finish
b. Board Room	-Accent wall with laminate and Fluted WPC finish, strip lights and Stainless Logo (see detail plan) -Fluted Wpc Panels with Evsu Logo Stainless -Maroon limewash paint finish with 300mm width floating shelve -Chalk white paint finish -150mm width and 12mm thk. Marine Plywood baseboard with Approved wood paint finish.
c.Waiting Area	-Accent with laminate finish, mirror and Striplights (see detail plan) -Chalk white paint finish/ approved paint finish -150mm width and 12mm thk. Marine Plywood baseboard with Approved wood paint finish.
d. Reception Area	-Accent wall with 1/2thk. Marine plywood with 10mm grooves and laminates. And Stainless steel Letters (See detail plan)
e. Board Secretary Office	-Chalk white paint finish/ approved paint finish
f. dining room	-Chalk white paint finish/ approved paint finish
9.Interior Ceiling Finish	(Submit samples for approval)
a. Waiting Area	-12mm thk. Gypsum Board painted with approved flat paint finish and Gold metal strip on corner drop ceiling.



PROJECT MANAGEMENT OFFICE

b. Offices,Board room, pantry,storage	-12mm thk. Gypsum Board painted with approved flat paint finish -Maroon limewash ceiling paint at Board room
c. President's CR	-12mm thk. Moisture resistant Gypsum Board painted with approved flat paint finish
d. President's Office	-12mm thk. Gypsum board ceiling with 5watts strips lights for cove lightings. Painted with approved flat paint finish and maroon limewash paint. (see Reflected ceiling plan)
10. Cabinetry	(Submit samples of finish and hardwares for approval) The contractor shall submit Shop drawings for approval.
a.President's Office (built-in Cabinetry)	-3/4 thk. Marine plywood in high-pressure laminates as indicated in the architectural detail plan, with 5watts strip lights in Aluminum LED profile and magnetic push-up lock mechanism for 6mm thk. Safety glass cabinet door, concealed hinges for cabinets. With WPC finish and 600mm dia. Lighted Acrylic Evsu logo.
b.ExecutiveAssistant Office	-3/4 thk. Melamine board/marine plywood in high-pressure laminates as indicated in the architectural detail plan, with 5watts strip lights in Aluminum LED profile. Concealed hinges for cabinets and drawer roller guides for drawers.
c. Reception Area	-3/4 thk. Marine Plywood in high-pressure laminates as indicated in the architectural detail plan, with 5watts strip lights. And drawer roller guides for drawers.
e.Pantry	-3/4 thk. Marine Plywood in high-pressure laminates countertop cabinets and overhead shelves as indicated in the architectural detail plan, with 120x60cm porcelain tiles for countertop and backsplash.
11. Plumbing Fixtures 01. President's Cr	(Submit plan & samples for approval)
a. Lavatory	1set ceramic lavatory set with fittings
b. Water Closet	1set Siphon vortex Elongated One piece watercloset
c. Fittings	Chrome Finish
d. Shower	1set Chrome finish Shower
e.Mirror	reflected mirror (same length with the lavatory area)
f. Floor drain	Chrome Finish (atleast 2sets)
02. Pantry	1 set stainless kitchen sink
12. Plumbing System	(Submit materials for approval)
a.Sewage System	UPVC Pipes
b.Water System	PPR Pipes and fittings
c. Surface Drainage	Proper disposal away from building foundations, French drains
13. Lighting System	(See reflected ceiling plan)
a. Waiting Area, Reception	- 16watts LED recessed lightings daylight color. -10watts LED Pinlight recessed type -25watts modern pendant lamp LED ring circle ceiling chandelier.
b. All Offices	- 16watts LED recessed lightings daylight color. -10watts LED Pinlight recessed type -18watts 30x30 square panel LED recessed light.
C. Board room	- 16watts LED recessed lightings daylight color. -18watts 30x30 square panel LED recessed light.
d. President's Office	- 16watts LED recessed lightings daylight color. -10watts LED Pinlight recessed type



PROJECT MANAGEMENT OFFICE

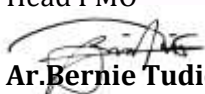
	-5watts strip lights warm color for Cove lightings.
14. Fire protection a. Fire extinguisher d. Emergency Lighting e. Exit Sign g. Fire Alarm control panel	Along exit routes and accessible locations located along escape routes, near exits located along escape routes, near exits located in secured and monitored areas
15. Mechanical System a.Mechanical Ventilation c.Air-Conditioning System d.Controls	(See Mechanical Plan) Exhaust fans for toilets. Split-type or inverter-type units. System selection based on load calculations. Individual room thermostats
16. Electrical System a. Conduits b. Junction and Pull Boxes c. Lighting System d. Convenience Outlets e. Dedicated Outlets f. Smart outlet/plug g. Circuit Protection h. Smart Switches g. Emergency Lighting and Exit Signs	(See Electrical Plan) Rigid PVC or EMT conduits, Concealed where possible to preserve heritage Character Metal boxes with covers LED lighting fixtures, Energy-efficient and low-maintenance Duplex grounding-type outlets and Floor Outlets. For air-conditioning units, IT equipment, and special loads For Air-conditioning units Properly rated circuit breakers For lighting control LED emergency lights with battery backup, Illuminated exit signs where required.
17. Electronics System a. Data and Network System b. CCTV and Security System	(Submit plan for approval) structured cabling system (CAT 6 or approved equivalent) Data outlets for every office table. -Indoor cameras with appropriate resolution -Network video recorder (NVR) -Monitoring station in administration area -CCTV's locate strategically at high risk entry points, vulnerable areas, and high traffic zones to maximize security.

Prepared By:

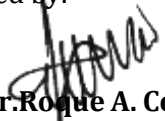

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