Building Management System

Proposal for the Kingsford Hotel Bacolod — BMS Project

Submitted to Megaworld Corporation · Manhattan Street, The Upper East, Bacolod City · 2026-04-28

Agenda

- 1. Our understanding of your project
- 2. System architecture overview
- 3. Scope of supply (equipment + services)
- 4. Project schedule
- 5. Quality and commissioning approach
- 6. Commercial summary
- 7. Stated assumptions and clarifications
- 8. Why partner with us
- 9. Next steps

01

Our Understanding of the Project

Kingsford Hotel Bacolod — at a glance

A Megaworld Corporation new-construction development covering HVAC, plumbing, casino MVAC, and electrical metering

Building characteristics

- Multi-floor hotel in Bacolod City
- Casino at the 2nd Level with dedicated MVAC
- Amenity facilities at the 3rd Floor
- Hotel guestrooms above the 3rd Floor
- Food and beverage outlets with kitchen scope
- Standard hotel back-of-house services

Mechanical / electrical services in BMS scope

- Centralised chilled-water plant (Ground)
- Hot-water generation plants (LZ + Roofdeck)
- Steam boilers for laundry (Lower Ground)
- Distributed ventilation across 5 zones
- Cooling towers at Roofdeck
- Multifunction electrical metering across 13 feeders

Reference Documents

Our proposal is grounded in your project's official documentation

- BMS Points list (TUEC) — sheets BMS-01, BMS-02, BMS-03
  - Process and Instrumentation Diagrams + I/O point tabulation
  - By R.J. Calpo & Company (Engr. Reynaldo J. Calpo, PME License No. 0001784)
  - Construction Bulletin, dated October 2025
- EE Plan (TUEC) — Construction Bulletin No.8
  - Revised electrical drawings, load schedules, power riser
  - By Mario A. Alix Philippines, Inc., dated 5 November 2025
- Megaworld MC Standards — DRC-004-2024 Revised BMS Standards
  - Mechanical and Plumbing Points Lists (CONDOTELS baseline)
- Customer enquiry letter (Requirement.rtf)
  - Defines the explicit scope statement

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System Architecture

Three-tier BMS Architecture

Open-standards, redundant, web-accessible, future-ready

- TIER 1 — HEAD-END (BMS Server Room)
  - Redundant primary–standby BMS servers with 30-min UPS protection
  - Two operator workstations (chief engineer + front desk / shift staff)
  - Graphics PC + 55-inch control-room display
  - BACnet-IP server software with energy-savings optimization module
- TIER 2 — NETWORK (Building backbone)
  - Isolated BMS LAN with single uplink to corporate network
  - 1 core managed switch + 6 edge switches across the building
  - OM3 fiber backbone to floor IDFs; Cat6 to BACnet-IP equipment
- TIER 3 — FIELD (Plant rooms and floor zones)
  - 18 BMS field panels with ~30 DDC controllers
  - BACnet-IP-native equipment: chillers, AHUs, DOAS, PAHU
  - Modbus power meters, BTU meter via Modbus-IP gateways

Scope at a Glance

The BMS engineering basis in numbers

619
BMS I/O points

23
Equipment instances

13
Field panels

21
DDC controllers

9
Subsystems

17 IDFs
Locations served

6,810 m
Total cable estimated

13
Power meters

35
Operator graphic pages

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Scope of Supply

Subsystem Coverage

Every BMS-monitored subsystem in the project

Subsystem	Equipment	I/O Points
Chilled Water Plant + Cooling Towers	13 (3 chillers, 4 PCHWP, 3 COMP, 3 CTs)	159
Basement-Podium BOH AHUs	3 confirmed (CHWP-1.1/1.2/1.3 at GND)	51
Plumbing/Sanitary Hotwater	20 (calorifiers ×6 + heat pumps ×6 + recirc ×6 + headers)	48
General Ventilation (5 zones)	68 exhaust fans (GF, 2nd, 3rd Amenity, Basement, Roofdeck)	204
Boiler / Laundry	2 steam boilers (SB-1, SB-2) at Lower Ground	32
Casino MVAC + Hotel/Roofdeck DOAS	3 (DOAS-2W + DOAS-RD.1/2 with ozonizers)	78
AHU 2nd Level + Roofdeck PAHU	6 (AHU-2M.1/2 + Ozonizers ×2 + PAHU-RD.1/2)	66
Power Metering / EE Integration	13 meters (3 main + 10 sub-feeder)	78

Equipment Highlights

Tier-1 BACnet/IP-native equipment — Megaworld portfolio standards

Head-end and network

• 2× redundant BMS servers (HE-SVR-01/02)
• 2× operator workstations
• 1× graphics PC + 55-inch commercial display
• 3 kVA UPS, 30-min runtime
• Server room rack + cabling + KVM + alarm printer
• Software: server + 3 client + energy module + graphics editor

• 1 core managed switch + 6 edge switches
• 300 m OM3 fiber riser + 14 transceivers
• Cat6 + BACnet-IP integration to all equipment

Field panels and devices

• 18 BMS field panels (IP54 wall-mount)
• ~30 DDC controllers (mix of network + I/O)
• I/O modules: 9 AI + 3 AO + 17 DI + 2 DO
• Surge protection on all panels

• ~150 BMS-supplied sensors (T, RH, P, flow, CO2, CO, VOC)
• 13 multifunction power meters + 39 CTs
• 2 Modbus serial-to-IP gateways
• 1 plant-level BTU meter

• ~6,810 m total cable + branch conduit

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Project Schedule

16-Week Project Schedule

From Purchase Order to Handover

Wk	Phase	Key activities
1	Mobilization + Engineering	Site mobilization, kick-off, MEP coordination
2-4	Engineering & Submittals	Panel layouts, IO list, control sequences, network design
4	Procurement	Long-lead supply orders placed (chillers, server, UPS)
5	Factory Acceptance Test	FAT in vendor facility prior to site mobilization
6	Material Delivery	All supply on site
7-12	Installation	Containment → cable pulling → panels → devices → head-end
12	Pre-Commissioning	Power-up, smoke tests, panel verification
13	Point-to-Point Testing	523 physical I/O verified panel-by-panel
14	Functional Testing	135 equipment functional sequences
15	Integrated + SAT	8 cross-system sequences + Owner Site Acceptance Test
16	Training + Handover	16 hours operator training, as-built docs, warranty start

Resourcing Plan

Peak headcount of 11 personnel during weeks 9–10; total project effort 4,648 hours

Manpower mix

- Project Manager × 1 (full duration)
- Engineering: 2 BMS engineers during design phase
- Wireman/Electrician crew of 4–6 during installation
- BMS Technician crew of 1–3 during commissioning
- Graphics Engineer × 1 during programming weeks
- Total person-days: 581
- Total project hours: 4,648

Effort by phase

- Engineering & Design (1.2): 320 hr
- Project Management (1.1, 3.1): 720 hr
- Submittals & FAT (1.3, 1.4): 120 hr
- Installation (3.0): 3,336 hr
- Programming (4.1): 219 hr
- Graphics (4.2): 140 hr
- Testing & Commissioning (5.x): 313 hr
- SAT + Docs + Training (5.5–7, 6.x): 200 hr

Total: 4,648 hours

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Quality and Commissioning

Quality Framework

Engineering, factory, and site quality stages

- ENGINEERING QUALITY
  - All submittals peer-reviewed; panel general arrangement drawings signed by engineer of record
- MATERIAL QUALITY
  - Tier-1 brand selection; factory-tested controllers; FRLS-compliant cabling per fire code
- FACTORY ACCEPTANCE TEST (Week 5)
  - Demonstration of programming, graphics, BACnet integration, redundancy failover at vendor facility
- INSTALLATION QUALITY
  - Site supervision by BMS technician at all times during cable pulling and panel installation
- COMMISSIONING (Weeks 12–15)
  - 100% P2P coverage of physical I/O — every point calibrated and verified
  - 100% functional test coverage of equipment — every sequence verified
  - Cross-system integrated commissioning — all chiller-AHU-DOAS-energy savings sequences
- SITE ACCEPTANCE TEST (Week 15)
  - Live demonstration with Owner's representative; warranty commences upon SAT signature

Warranty and Post-handover Support

Two-year coverage from handover

- WARRANTY PERIOD
  - 1-year manufacturer warranty (per equipment vendor)
  - 1-year on-site defect liability by ourselves
- DURING ON-SITE DEFECT LIABILITY
  - Site visits in response to fault calls within 24 hours of report
  - Replacement of any defective BMS-supplied component at no charge
  - Programming or graphics adjustments at no charge
  - Software updates within manufacturer's release schedule
  - Telephone support during business hours
- OPTIONAL EXTENSIONS
  - 1-year preventive maintenance contract — quote on request
  - Vendor factory training — quote on request
  - Spare-parts inventory beyond warranty stock — quote on request

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Commercial Summary

Pricing Summary

All values in Philippine Pesos (PHP)

Item	PHP
Base proposal cost (material + labor + services)	13,274,500
Overhead and margin (20%)	2,389,410
Contingency reserve (7.5%)	1,409,752
Sub-total before VAT	17,073,662
VAT (12%)	2,048,839
GRAND TOTAL (VAT-inclusive)	19,122,501

Cost Breakdown by Section

Material supply represents the largest cost component (~71%)

Section	PHP	% of base
1.0 Project Management & Engineering	1,688,000	12.7%
2.0 Material Supply	10,271,215	77.4%
3.0 Installation	497,245	3.7%
4.0 Programming & Configuration	359,440	2.7%
5.0 Testing & Commissioning	367,400	2.8%
6.0 Training & Handover	91,200	0.7%
Base total	13,274,500	100.0%

Proposed Payment Milestones

Aligned with manpower and material delivery cycles

%	Milestone	Trigger
10%	Mobilization advance	Upon PO + signed contract
15%	Engineering complete	Submittals approved (Week 4)
25%	Long-lead materials delivered	Site delivery (Weeks 5–6)
20%	Standard materials delivered	Site delivery (Weeks 6–7)
15%	Installation complete	Mech-ready at Week 12
10%	T&C complete + SAT	Customer SAT signed (Week 15)
5%	Handover + warranty start	Documentation accepted (Week 16)

Optional Items (Quote on Request)

Available add-ons not in base proposal

- 1-year preventive maintenance contract (post-warranty)
  - Quarterly site visits + emergency call-out + spare-parts replenishment
- FDAS (Fire Detection & Alarm) integration
  - BACnet/Modbus from fire panel + smoke control sequences
- PMS (Property Management System) integration
  - Guestroom occupancy → BMS for fan-coil unit control
- Additional administrator training (8 hr session)
  - ~PHP 30,000 per session
- Vendor factory training (overseas)
  - Quote on request, varies by vendor and location
- Spare-parts inventory beyond warranty stock
  - 5% of critical-replacement items, quote on request

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Stated Assumptions

Top Stated Assumptions

These form the basis of our proposal — confirmation will refine accordingly

Item	Default assumed	Sensitivity
Project stage	Greenfield (per technical docs)	±30% if retrofit
Schedule duration	16 weeks PO → handover	+20-30% if shorter
Working hours	Standard daytime construction	+15% if night-work
Per-guestroom FCUs	Not in scope	+30-40% if confirmed
FDAS / PMS / CCTV / ACS integration	Not in scope	+PHP 200K-500K each
Brand selection	Tier-1 BACnet IP	±15% per Q-013
Network architecture	Isolated BMS LAN, flat /24	Minor refinement
Cable lengths	30 m avg run, 80 m/floor trunk	Refined post-Q-005/Q-008
Commercial terms	30-day net, 10% retention, 1+1 yr warranty	Refined per Q-014
Training scope	16 hr operator, included	Admin/factory training as options

Open Clarification Items (RFI)

Your responses will refine our base proposal

- P1 — CRITICAL (cost-swing potential > 10%)
  - Confirm project stage (greenfield, per technical evidence)
  - Confirm required project duration (16 weeks assumed)
- P2 — IMPORTANT (refines pricing)
  - Confirm contracting entity, architectural / mechanical / electrical drawings, working hours
- P3 — USEFUL (refines pricing precision)
  - Confirm 'TUEC' project code, integration scope, brand standardization, commercial terms
  - Confirm training scope, maintenance scope, CONDOTELS standard alignment
  - Confirm FCU scope, booster pump scope, complete BOH AHU schedule
-
- Detailed RFI list (19 questions) is provided as an appendix and as a separate Word document.

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Why Partner With Us

Why Partner With Us

What sets this proposal apart

What we bring

• ENGINEERING DEPTH
Every quantity in this proposal traces back to your project documentation.

• OPEN STANDARDS
BACnet/IP and Modbus throughout — no vendor lock-in, future-proof.

• OPERATIONAL RELIABILITY
Redundant servers, UPS-backed head-end, isolated BMS LAN.

• TRANSPARENT PRICING
Detailed BOQ with 86 line items, peer-reviewable rates.

How we work

• AUDITABLE BASIS
Full working-doc package (BOQ, equipment, cable, panel schedules) provided.

• EXPLICIT ASSUMPTIONS
19 stated assumptions with cost-impact tags — no hidden surprises.

• ENERGY-SAVINGS DRIVEN
Pre-engineered chiller plant sequencing + demand control.

• PROACTIVE COMMUNICATION
19 customer clarifications surfaced upfront for joint resolution.

Proposal Documentation Package

Comprehensive supporting documents accompany this presentation

Document	Format	Content
Initial Overview	PDF	Executive summary + headline numbers
Standard Proposal	PDF	Customer-facing 30-page narrative
Comprehensive Proposal	PDF + DOCX	Full enterprise-grade proposal with all appendices
Bill of Quantities	Excel	86 line items, 11 sheets, by-section breakdowns
I/O List	Excel	716 BMS I/O points with full metadata
Equipment Takeoff	Excel	135 equipment instances with location/panel/supplier
Cable Schedule	Excel	200 cables, 6,810 m, by-panel breakdown
Panel Schedule	Excel	18 panels with I/O density + power
Open Items / RFI	Word	19 customer clarifications with cover letter
Stated Assumptions	Word	19 active assumptions with rationale
This Presentation	PowerPoint	Customer-facing proposal walkthrough

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Next Steps

Proposed Next Steps

How we move from proposal to project execution

- 1. YOUR REVIEW
  - Internal review by Megaworld engineering and commercial teams
  - Review of supporting working documents (Excel + Word) provided in package
- 2. CLARIFICATION RESPONSES
  - Your team responds to the 19 clarification items (RFI document)
  - Priority: 2 P1 items first (project stage and schedule)
- 3. PROPOSAL REFINEMENT (optional)
  - Based on your responses, we issue a revised proposal with refined pricing
  - Typically 5–7 working days for revised proposal
- 4. COMMERCIAL NEGOTIATION
  - Final commercial terms (payment schedule, retention, warranty)
- 5. PROJECT KICK-OFF
  - Upon Purchase Order, mobilization begins Week 1
  - Engineering deliverables start within 1 week of PO

Thank you

a Building Management System that meets the operational and energy-efficiency objectives of the Kin

look forward to your response.