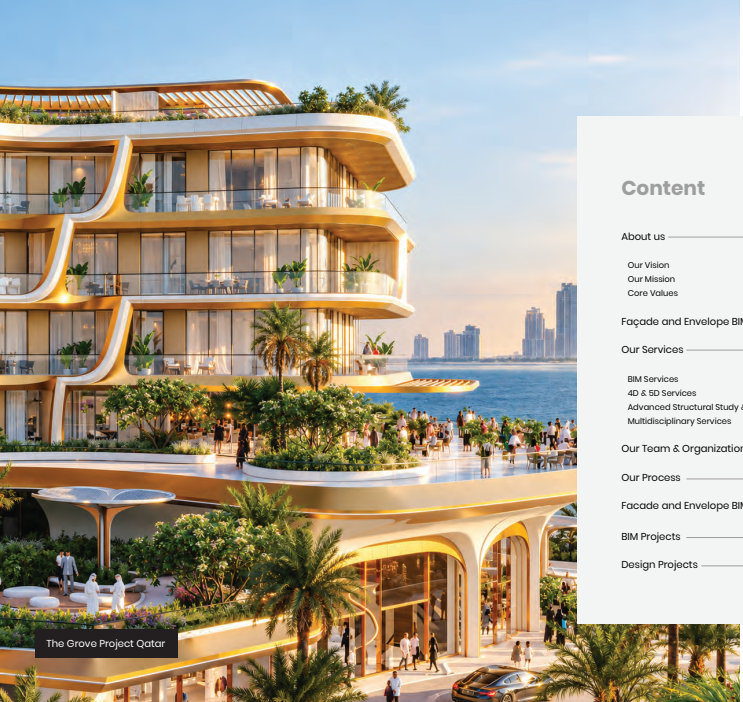


House of Engineers, Architects & Planners

COMPANY PROFILE

HEAP
House of Engineers, Architects & Planners



The Grove Project Qatar

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About Us

Founded by Architects Charbel Barmo and Samer Jabbour, Heap Global operates at the intersection of architectural vision and structural reality.

As an ISO-certified, multidisciplinary consultancy, we provide fully integrated Architecture, Interior Design, and MEP services, yet our defining edge is Advanced Façade BIM Engineering. Backed by rigorous structural analysis and specialized digital delivery, we engineer complex building envelopes into highly precise, constructible digital models.

ISO 9001 CERTIFIED — QUALITY ASSURANCE MANAGEMENT SYSTEM

ISO 14001 CERTIFIED — ENVIRONMENTAL MANAGEMENT SYSTEM

ISO 45001 CERTIFIED — OCCUPATIONAL HEALTH AND SAFETY

Our Vision

To be a leading consultancy shaping the future of the built environment through innovative, sustainable, and technology-driven engineering solutions.

Our Mission

To provide integrated architecture, engineering, and advanced façade BIM solutions that exceed client expectations through technical excellence, practicality, and collaboration.

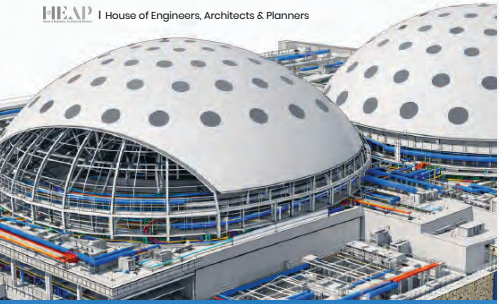
Core Values

Integrity, Excellence, Innovation, Collaboration, and Client Focus.

CERTIFIED ISO COMPANY



BIM for Alrajhi Medical Hospital, Riyadh KSA





GFRP Domes At Mekkah Entertainment Complex

Façade and Envelope BIM Engineering

We maintain a dedicated, highly specialized façade engineering team possessing deep technical expertise across complex materials, advanced systems, and rigorous compliance standards.

Materials & Systems:	GRP, GRC, Unitary and Stick Curtain Walls, bespoke metal cladding, and innovative architectural envelopes.
Engineering & Calculation:	Comprehensive structural calculations, thermal performance, and wind-load engineering tailored to extreme environments.
Digital Engineering, BIM & Fabrication (LOD 400 & LOD 450):	Fully coordinated, clash-free modeling delivering high-precision shop drawings, fabrication drawings, fabrication orders, and comprehensive Material Take Offs (MTO). We also excel in developing precise mold drawings and advanced 3D models for highly complicated geometries. Furthermore, our technical design managers provide customized services tailored to fit specific client or site needs.
parametric and computational facade design	Developing dynamic digital models that respond instantly to geometric, structural, and environmental constraints, allowing for rapid design iterations and complex freeform geometries.
Software Mastery:	Utilizing industry-standard tools including Revit, Rhino, Grasshopper, and Autodesk Inventor to bridge design intent and constructability.



BIM Services

Beyond specialized facades, we deliver comprehensive Building Information Modeling solutions to streamline project execution and enhance collaboration across all disciplines.

BIM Modeling & Coordination:

Multidisciplinary clash detection and resolution to ensure constructability before site execution.

4D & 5D Services

We elevate project management by integrating time and cost dimensions directly into our digital models, providing comprehensive project control.

4D Sequencing (Time):

Visualizing construction phasing and logistics to optimize schedules, mitigate delays, and improve site safety.

5D Estimation (Cost):

Linking model components to cost data for automated quantity extraction, dynamic budget tracking, and precise financial forecasting.

Advanced Structural Study & Analysis

Structural integrity is foundational to our engineering solutions. We provide in-depth structural analysis and design to ensure safety, stability, and performance across all project scales.

Structural Analysis & Design:

Advanced computational modeling and calculations to simulate real-world physical loads and environmental stressors.

Material-Specific Engineering:

Specialized design and calculation for Reinforced Concrete and complex Steel Structures.

Foundation & Assessment:

Comprehensive foundation design and rigorous structural assessments for new and existing frameworks.

Multidisciplinary Services

We elevate project management by integrating time and cost dimensions directly into our digital models, providing comprehensive project control.

Architecture & Interiors:

Conceptual design, space planning, design development, and construction documentation.

MEP Engineering:

Fully integrated Mechanical and Electrical engineering services.



Our Team & Organizational Structure

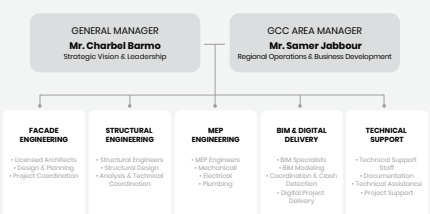
Our organizational structure is engineered for agility, technical precision, and seamless project delivery.

Executive Leadership:

Led by our General Manager, Mr. Charbel Barmo, driving strategic vision, and our GCC Area Manager, Mr. Samer Jabbour, overseeing regional operations and business development.

Technical Departments:

Our operations rely on a robust matrix of specialized professionals, including dedicated numbers of licensed Architects, Structural and MEP Engineers, specialized BIM Specialists, and Technical Support Staff.



Our Process

01 **Client Consultation**

02 **Planning & Concept Design**

03 **Engineering & Structural Analysis**

04 **BIM Coordination**

05 **Construction Documentation**

06 **Construction Support & Project Delivery**





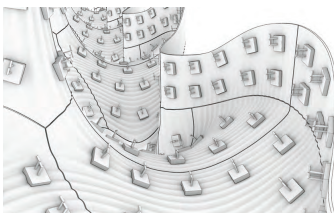
Façade and Envelope BIM Engineering

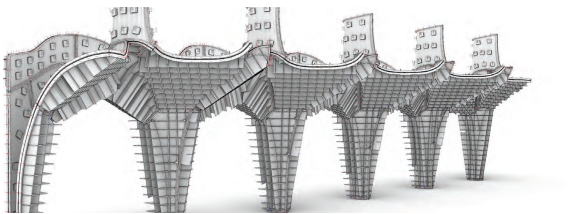


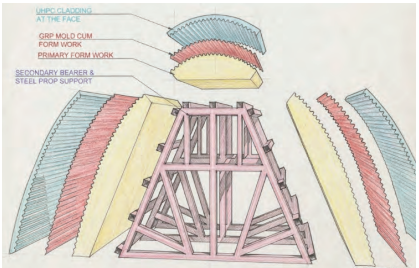
Hypostyle Arcades-King Salman Park-Riyadh

Client: Royal Commission for Riyadh City
Contractor: Nema and Partners, Doha Extraco
Consultant: Omrania

In our UHPC fabrication project, we began with the designer-provided IFC surface, carefully referencing joint locations. Following manufacturer specifications, we refined these joints, adjusting dimensions and modeling essential flanges, locators, and offset thicknesses for both GRP molds and UHPC panels. Structural anchors were precisely located based on structural requirements to secure the panels to the main concrete structure. Locators were also strategically placed on the flanges to streamline fabrication and panel installation. Additionally, a custom wooden backing structure was designed to reinforce the GFRP molds, meeting all manufacturer standards and process requirements.





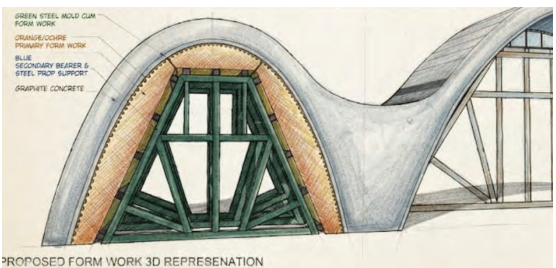

UHPC CLADDING
AT THE FACE
GRP MOLD CUM
FORM WORK
PRIMARY FORM WORK
SECONDARY BEARER &
STEEL PROP SUPPORT









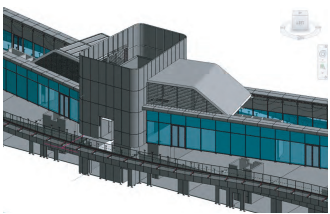

GREEN STEEL MOLD CUM
FORM WORK
ORANGE/OCHRE
PRIMARY FORM WORK
BLUE
SECONDARY BEARER &
STEEL PROP SUPPORT
GRAPHITE CONCRETE
PROPOSED FORM WORK 3D REPRESENATION

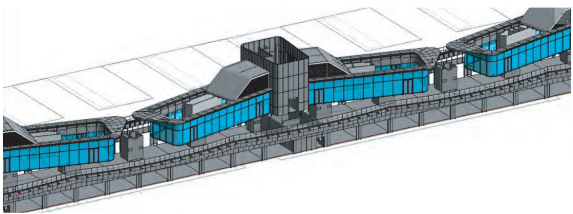


K1 Building at Qiddiya speed park-KSA

Client: The Qiddiya Investment Company
Contractor: ESA, Alutec
Consiltant: WSP

For the K1 Building at Qiddiya Speed Park, the façade scope including aluminium systems, canopy, ACP cladding, and glass balustrades was developed from the IFC model with full coordination of interfaces and system requirements. The design was detailed into fabrication and installation shop drawings in line with manufacturer specifications, covering profiles, connections, subframes, and fixing systems to ensure buildability and compliance. Glass balustrades were detailed with appropriate structural and safety requirements, while canopy and ACP systems were coordinated for support and joint alignment. A complete Material Take-Off (MTO) was prepared for aluminium, ACP, glass, and related steel components to support procurement, fabrication, and site installation.



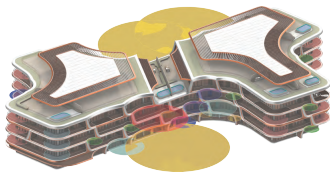




Zaha Hadid - The Grove Lusail - Qatar for JMJ

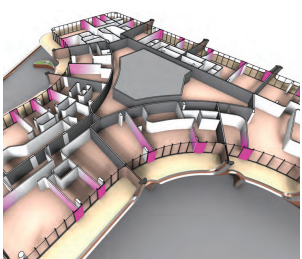
Contractor: JMJ Qatar
Consultant/Designer: Zaha Hadid Architects

This architectural masterpiece presented an immense geometric and engineering challenge, requiring the successful delivery of a complex free form façade featuring over 7,000 sqm of Glass Fiber Reinforced Concrete (GRC) panels. The project was defined by extreme complexity, with panel repetition remarkably low at less than 15%.Our specialized Façade Engineering team overcame these challenges through an advanced digital workflow, beginning with rigorous structural calculations. We utilized Rhino 3D and cutting-edge computational design to rationalize and optimize the intricate shapes. This data was seamlessly translated into a comprehensive BIM environment, advancing from LOD 400 construction modeling to LOD 450 fabrication-ready detailing. The scope culminated in the precision design of complex fabrication molds, ensuring the exact realization of the architect's vision.

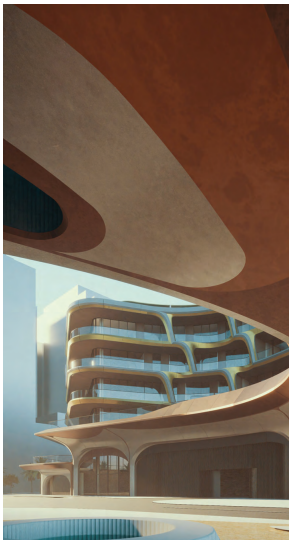












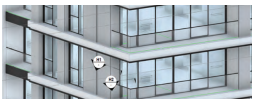


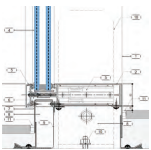


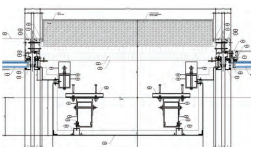
Montiva Tower

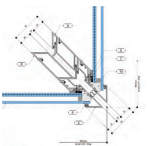
Client: EMAAR
Contractor: Profession Arabia Company

Delivered an end-to-end technical engineering and manufacturing workflow for high-rise tower façades, such as Montiva Tower, encompassing rigorous structural calculations for wind loads, dead loads, and deflection criteria. The process utilized Logikal for optimized fenestration design, thermal performance evaluation, and precise system profiling, followed by high-fidelity 3D BIM modeling for multi-discipline clash detection and spatial coordination. The technical pipeline advanced seamlessly from engineering design to production, generating exhaustive shop drawings, precision fabrication drawings for assembly, accurate material take-offs (MTO), and systematically structured job orders to streamline manufacturing operations.







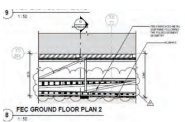


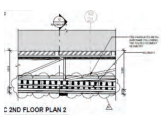


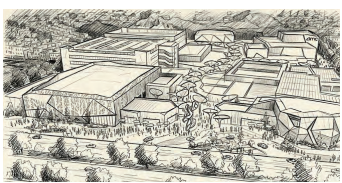
The Taif Project
7 FEC And Carpark

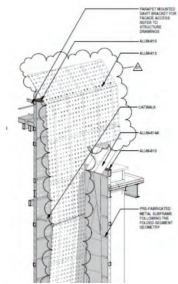
Contractor: Profession Arabia Company

Delivered the comprehensive end-to-end engineering and digital delivery scope for complex free-form 3D shaped perforated APC cladding systems, managing the complete workflow from rigorous structural calculations and advanced parametric modeling at LOD 400 to fabrication-ready BIM detailing at LOD 450 and precise manufacturing drawings.











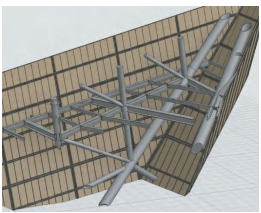
E1 and N1 building at Qiddiya Speed Park-Riyadh

Client: The Qiddiya Investment Company
Contractor: ESA, GGRC
Consiltant: WSP

GRC fabrication began with the designer-provided IFC surface, refining joints per manufacturer specifications. Leveraging computational design workflows and Rhino 3D, we adjusted dimensions, modeled flanges, locators, and offset thicknesses for GRP molds and UHPC panels. Structural anchors were precisely placed to secure panels to the concrete structure, with locators on flanges for efficient fabrication and installation.Our scope includes structural, acoustical, and thermal study and verification, along with BIM design elaboration (LOD 350), BIM construction and fabrication (LOD 400 & LOD 450), and BIM 4D for scheduling. Utilizing Autodesk Inventor alongside our computational methodologies, we also handle shop drawings, fabrication drawings, installation drawings, quantity take-offs, and all related fabrication management.





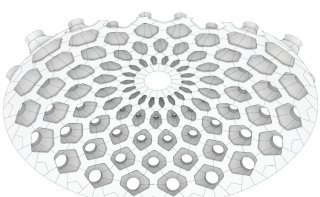


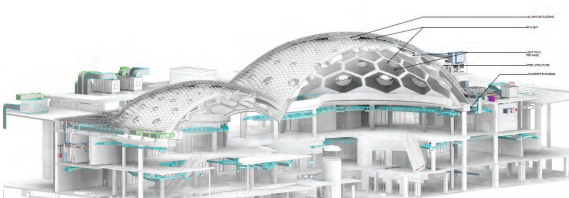


GFRP Domes At Mekkah Entertainment Complex

Client: Seven Mekkah
Contractor: UCC/CPC - Doha Extraco
Consultant: DAR

The engineering and production workflow for the Makkah project GRP domes initiated with the designer-issued IFC geometry, which underwent rigorous review and refinement to satisfy GRP manufacturing constraints and project specifications. Every critical parameter—including panelization strategy, joint detailing, flange development, thickness offsets, and mold requirements—was meticulously modeled to align with specialized GRP production processes. Integrated fixing systems and structural supports were coordinated precisely to ensure secure anchorage to the primary structure, while built-in alignment locators streamlined fabrication, logistics, and site installation.The contractor's comprehensive scope spans structural verification and coordination, advanced BIM design development (LOD 350), and detailed construction and fabrication modeling (LOD 400 and LOD 450). Additionally, the mandate encompasses the preparation of coordinated shop drawings, fabrication blueprints, installation layouts, precise quantity take-offs, and end-to-end technical support throughout manufacturing and on-site assembly.







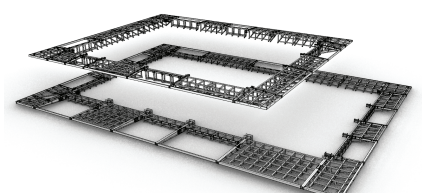
Triple Bay Project-Villa Beach Hotel and Condos - Amala Red Sea - KSA

Client: Amala- Red Sea Global
Contractor: Doha Extraco
Consultant: DAR

On this project we acted as the Technical team representing the Fabricator. GRC and UHPC fabrication engineering started with the designer-provided IFC, ensuring precise placement of structural anchors to secure the panels to the concrete structure. Locators were integrated into the flanges to streamline both fabrication and installation.

Our scope covers structural analysis alongside BIM design development (LOD 350) and BIM-driven construction and fabrication (LOD 400 & LOD 450). Additionally, we manage shop drawings and fabrication drawings to support seamless execution.

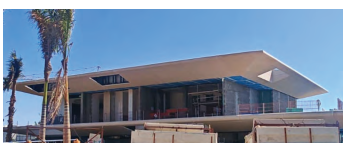


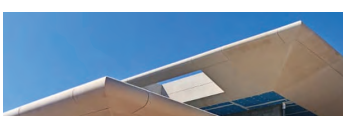


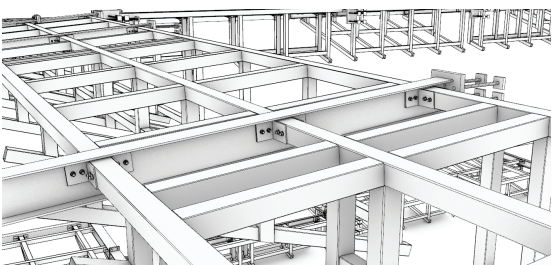
The Taif Project 7 FEC And Carpark





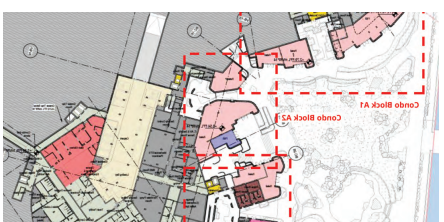







Condos
Villas
Villas


Condo Block A3
Condo Block A2


Condo Block A2
Condo Block A1

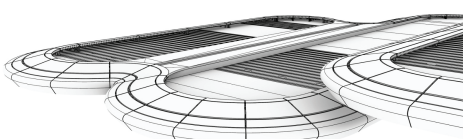

Condo Block A2
Condo Block A1
Condo Block A3



AL SHURA ISLAND
Red Sea - KSA

Curtain walls and Aluminum fabrication development, began with the designer-provided IFC .

Our scope includes structural, acoustical, and thermal study and verification, along with BIM design elaboration (LOD 350), BIM construction and fabrication (LOD 400 & LOD 450), and BIM 4D for scheduling. We also handle shop drawings, fabrication drawings, installation drawings, quantity take-offs, and all related fabrication management.

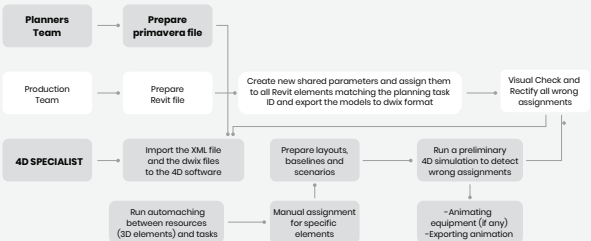




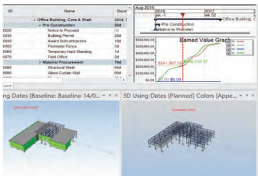


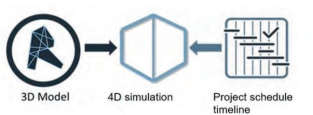
BIM Projects

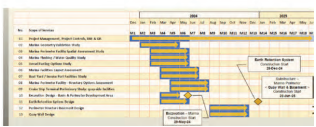
BIM 4D



4D Sequencing is a model-based process where the construction schedule is linked to the modeled elements; non-technical and design discipline stakeholders can grasp not just the final static design intent but identify issues arising during the project design progress.



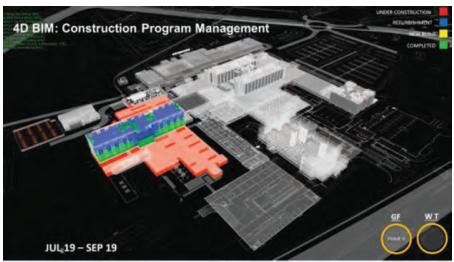




It is the visual simulation of the project schedule timeline with the project stages .

A Generic and Symbolic 3D Model for the 4D simulation of planning stages based on available information provided by Client.

High-Level information will be added to the Generic 3D Model to enable Dar to develop and deliver a 4D simulation.









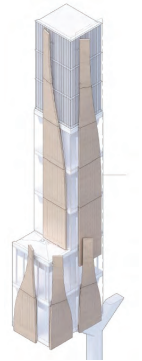
Alrajhi Medical Hospital

Client: AL RAJHI MEDICAL CORPORATION
Consultant: DAR

For the Al Rajhi Medical Hospital project, the BIM delivery framework progresses seamlessly from initial design validation to digital construction management. The process begins with LOD 300/350 to establish precise spatial coordination, primary structures, and multidisciplinary interface management. This transitions into LOD 400 for detailed digital construction and installation modeling, generating accurate erection sequences and coordination drawings.
Parallel 4D and 5D workflows integrate construction scheduling and dynamic quantity take-offs directly with the model elements to track milestones and manage costs. The lifecycle concludes at LOD 500, delivering verified as-built documentation and a precise digital twin for hospital operations and maintenance.

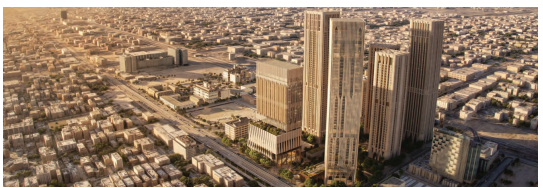


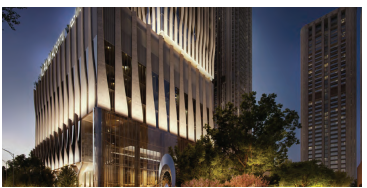
Alrajhi Medical Hospital













SIX FLAGS QIDDIYA - Riyadh-KSA

Client: The Qiddiya Investment Company
Contractor: Bouygues Bâtiment International
Consultant: Atkins

Prepare Lod 400 starting from Lod 300
Prepare shop drawings (structure)
Prepare Lod 500 after approval on shop drawings,
And work as as-built drawings.
Work using Autodesk Construction cloud (ACC)
Prepare as-built drawings







Design Projects

AJ. Morino Tower - Nigeria





Nupco - Saudi Arabia





Elegushi Mini-Estate -Nigeria
















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Sahel Alma





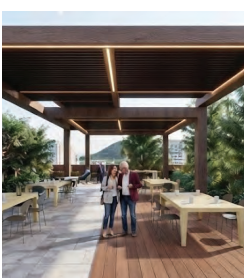












Awkar Residence







Mak Villa - Lebanon, Beit Mery





Villa Derjani - Lebanon, Rachiine





El Sayed Villa





Park View





Amman Commercial Center





Rabban Souks

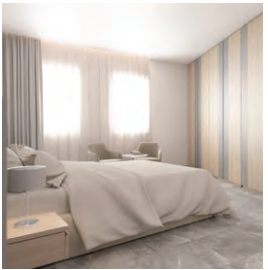




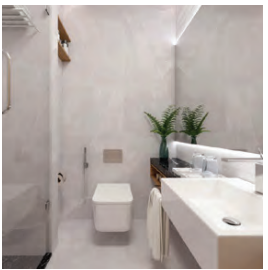














Prequalification

Walter Treadwell
RSG-AMAALA DESTINATION

Final (WF-018715) TB VBH - Envelope Supply Only W...
AMA01008-WTRAN-054493

AMAALA

Red Sea Global

MAIL TYPE	MAIL NUMBER	REFERENCE NUMBER
Workflow Transmittal	AMA01008-WTRAN-054493	AMA01008-WTRAN-054493

Final (WF-018715) TB VBH - Envelope Supply Only Works - (006C44 DOH)- AML - Pre-Qualification Documents for House of Engineers, Architects & Planners (HEAP) Global FZE LLC (Structural Design & BIM Services for Doha Extraco Building Envelope Works)

From: Mr Walter Treadwell - RSG- Amaala Destination
To: (10) Mr Hady Sonour - Dar Al-Handasah (Shair and Partners) - Saudi Arabia (+14 more...)
Cc: (5) Mr Anthony Elnar - Dar Al-Handasah (Shair and Partners) - Saudi Arabia (+4 more...)
Sent: Tuesday, 5 November 2024 8:36:01 AM AST (GMT +03:00)
Status: N/A

DOCUMENT ATTACHMENTS (1)

(0 selected)

File	Document No	Revision	Title	Status
	1TB01006-006C44-DOH-PRQ-FA-0003	C0	Prequalification Documents for HEAP Global FZE LLC (Structural Design & BIM Services for Doha Extraco Building Envelope Works)	Accepted with Comments

MESSAGE

Workflow Review History

The attached documents have completed the "TB VBH - Envelope Supply Only Works - (006C44 DOH)- AML - Pre-Qualification Documents for House of Engineers, Architects & Planners (HEAP) Global FZE LLC (Structural Design & BIM Services for Doha Extraco Building Envelope Works)" workflow with the following results :

This transmittal was automatically generated

Doc No	Step	Participant	Review Outcome	Comments
1TB01006-006C44-DOH-PRQ-FA-0003	DC QA Check	J.Aellum	Accepted	



A.J. Morino Tower - Nigeria

Lebanon +961 78 825 675
Lebanon, Jeita, sector 4, street 2,
Barmo building, GF

Qatar +974 6651 8410
Level 21, Doha Tower, West Bay,
Doha, Qatar, P.O.Box 27110

USA +1 (646) 868-6774
HEAP GLOBAL FZE LLC
117 S Lexington St Ste 100
Harrisonville, Mo, 64701

info@heap-global.com

HEAP
House of Engineers, Architects & Planners

www.heap-global.com