ENGCORP

Engineering Corporation International

Project Management – Engineering Design & BIM

CAPABILITY PROFILE

2021

SYDNEY
CROWN HOTEL & CASINO

MAHANAKHON
BANGKOK

WHO ARE WE?

WE ARE A TEAM OF PROFESSIONALS WORKING FOR MANY YEARS WITH THE REGION 'S BEST CLIENTS ON SOME OF THE REGION'S BEST PROJECTS



We were formed in Thailand & Vietnam, to cater for the Design and Project Management requirements of the ever expanding and on-going construction industry within Asia , with a commitment to expand to other neighboring
Countries, our 100% foreign invested Vietnam office opened officially Feb 2007

The Engcorp International Team is a group of Professional Engineers and Project Managers from, UK, Thailand, Australia, & Vietnam, as a collective we have worked together over a period of more than 15 years in Different Projects, in different companies, in different countries, this is a unique professional practice, whereby we have a collaboration of Consultants from east and west whom have joined together to offer the perfect solution to engineering and Project Management challenges in Asian, Middle eastern and European Markets in the Data & Telco, Residential, Hospitality, Retail, Information Technology, Power, Water and Industrial Sectors.

Our Design Standards

ASHRAE	American Society of Heating, Refrigerating and Air Conditioning Engineers
SMACNA	Sheet Metal and Air Conditioning Contractor's National Association
ASPE	American Society of Plumbing Engineers
IEC	International Electrotechnical Commission
NFPA	National Fire Protection Association
BSI	British Standard
CIBSE	Chartered Institution of Building Services Engineers
AS & AS/NZS	Australian Standard
TCVN	Vietnamese standard
UL&FM	Underwriters Laboratory & Factory Mutual
LEEDs	Leadership In Energy And Environmental Design
VGBC	Vietnam Green Building Council

Mechanical, Electrical, Plumbing & Fire

- Mechanical Air Conditioning & Ventilation Packages
- Electrical Engineering Software
- Cable Selection/ Sizing Package
- Fire & Life Safety Engineering Package
- Interior/Exterior Lighting Design Packages
- Main Switchgear Calculation Package
- Elevator & Escalators Package
- Hydraulic (Plumbing, Sanitary & Water Conservation)
- Building & Environmental Control Systems
- AutoCAD 2015 & Revit MEP 2016
- Revit Suite 2016 Architectural Structural and MEP
- Navis Works Manage 2016
- Bluebeam 3D PDF

OUR FEES With our Multinational Professional team, we can tailor our FEE to meet the individual requirements of each Client depending upon the Size & type of Project & Country of Location.

To offer our Clients the highest quality & lower Cost, we are targeting Markets in ASIA, UK, EU, USA & Australia to offer (outsourced) design solutions for Clients in each Country with all design/Drafting and documentation completed by our Local Professionals, checked and verified by our Expat Professionals, to ensure Highest Quality and International Standards Compliance & verification.

OUR SYSTEM We believe that a proven systematic approach to Project Management Procedures, affords a controlled environment, which generates a great team spirit between the Client team, Engcorp and the Contractors. We have developed our systems from many years of experience.

DESIGN ENGINEERING SYSTEMS Our design teams follow a rigid documented system from receipt of a Design enquiry through to Delivery, Construction Period, design modifications, Commissioning & "as built". All designs are prepared in accordance with the latest Health and Safety Procedures which are customized to suit individual Project requirements.

“As collaboration, we are committed to offering our Clients the very best Service for a fee that is based on our Pledge to join with and develop local professionals".

Complete Design Solutions MEFP

Electrical Systems ▪ Power Distribution ▪ Lighting ▪ Cable selection ▪ Voice and ▪ Data Systems ▪ Fire and Life Safety ▪ Fire Alarm & detection ▪ Fire Suppression Systems (Wet Sprinkler & Gaseous) ▪ Air Conditioning Systems Chilled water & Packaged Systems ▪ Hydraulic Systems ▪ Plumbing & Sanitary Systems Security CCTV Systems ▪ Access Control System ▪ Intruder Alarms Systems ▪ Building Management ▪ Environmental Controls ▪ Building Automation ▪ Intelligent Controllers ▪ Structural Design & Analysis Post tensioning – Pre cast Systems

The sectors covered by our integrated design teams are broad and include, but are not limited to the following project types:

Retail ▪ Commercial ▪ Data & Telco ▪ Industrial ▪ Residential ▪ Laboratory & Healthcare ▪ Hospitality ▪ Public Buildings

Project & Construction Management

Engcorp Typical scope of Services, these can be modified to suit the requirements of each Client or Project.

PRE-CONSTRUCTION Advise on Site Acquisition, grants ,Planning ▪ Arrange Feasibility Study and Report ▪ Develop Project Strategy ▪ Prep Project Handbook ▪Develop Consultants Briefs ▪ Devise Project Programme ▪ Select Project Team Members ▪ Establish Management structure ▪ Coordinate design Process ▪ Appoint Consultants ▪ Arrange insurance and Warranties ▪ Select Procurement System ▪ Arrange Tender documentation ▪ Organize Contractor Prequalification ▪ Evaluate Tenders ▪ Participate in Contractor Selection/Contractor Appointment

CONSTRUCTION Organise Control Systems ▪ Monitor Progress ▪ Arrange Meetings ▪ Oraganise communication reporting system/ Provide total coordination ▪ Issue Health and safety Procedures ▪ Address environmental aspects ▪ Coordinate Statutory authorities ▪ Monitor budget and Variations ▪ Develop Final Account ▪ Arrange precommissioning/ commissioning ▪ handover occupation/ ▪ Maintenance Manuals ▪ Plan for maintenance period ▪ Develop maintenance program ▪ Staff training ▪ Plan for facilities Management

BUILDING INFORMATION MODELING SERVICES

We offer our BIM services to Architects, Engineers, Project Managers, Contractors, Building Owners or Developers. With 3D BIM Modeling, we aim to shorten construction cost and construction time by providing drawings free from clashes.

OUR BIM SERVICES
(ARCHITECTURE – STRUCTURAL - MEP)

- BIM 3D Model creation from 2D CAD Designs
- BIM Coordination (All Disciplines).
- Clash Detection & Resolution
- Design Issues solving
- Family Creation
- Conversion Service From CAD To Revit
- 4D & 5D BIM As Required.
- LOD 100,200,300,400
- Steel Structures & Connection design using TEKLA

We Have completed Projects in Collaboration with our Clients in: Australia, UK, Middle East, HK, Singapore, USA, Vietnam. Thailand, Philippines

EXPERTS IN 2D & 3D ON

- Commercial
- Industrial
- Educational
- Residential
- Data Center ISP/Telecom
- Hotel & Resorts
- Infrastructure

TOOL

AUTODESK **REVIT**

AUTODESK **AUTOCAD**

AUTODESK **NAVISWORKS**

Tekla A Trimble Solution

SAP

THE REVIT MODEL

Our Team of Architectural, MEPF and Structural Designers, Drafters and Modelers are available to transform client designs into a fully coordinated and detailed Revit Model (in 3D), complete with necessary working and Construction Drawings and documentation as required specifically for each Project including - (All Disciplines):

- CAD Drafting
- Revit Drafting
- Revit Modeling
- Clash Detection Coordination of Services and Clearance
- Complete BIM Modeling

PARAMETRIC MODELING

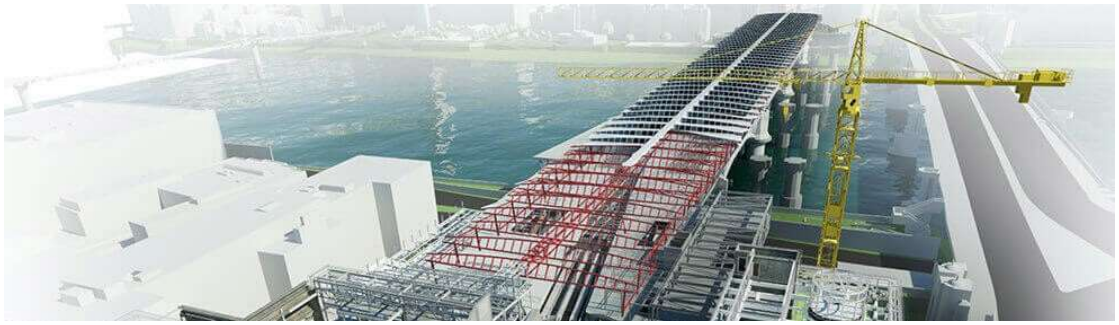
Components or so-called [FAMILIES] inserted in to model can be easily manipulated based on your design decision making for a more flexible approach.

PROJECT TEMPLATE CREATION

Preset setup and standardized display settings, project browser

BIM EXECUTION PLAN (BEP)

For BIM Execution, it is essential to come up with an effective work flow before and during the project process. This can dictate the optimal direction in the design development stage to better predict the outcome of the building before it was built. For BIM Execution, it is essential to come up with an effective work flow before and during the project process. This can dictate the optimal direction in the design development stage to better predict the outcome of the building before it was built. With this, it will enable designers to create more sustainable, accurate designs with fewer errors and less waste, which can result in higher profits and more satisfied clients.



WHY BIM?

ARCHITECTURAL, STRUCTURAL AND MEPF BUILDING INFORMATION MODELING

For the Project Investors and Stakeholders

At Pre-Construction - benefits

Using BIM, building investors / owners can estimate, before the start of actual construction of the building, whether the proposed building & Services designs are financially feasible, If a particular design is over the owner's budget, the owner can easily propose for a new design that can be built within a given cost and time budget.

For the Design Consultant

At Design - benefits

The BIM 3D model can be used to visualize the design at any stage of the process. While designing, if all the objects used in the model are controlled by parametric rules, ensuring proper alignment, then it can be sure that the 3D model can be constructed in actual sense. BIM also enables accurate extraction of 2D drawings at any stage of the design process. BIM also offers adequate information for building performance analysis and evaluation, which is of vital importance for sustainable building design. Using BIM, designers can analyze the building design in detail and locate human errors, if any. BIM provides accurate and extremely reliable information about the building, the structure the MEP Services Systems, the materials used, etc including the "green" aspects such as energy efficiency and daylighting.

For the Contractor

Construction & Fabrication -benefits

The BIM 3D model can be used to visualize the building architecture, Structure and MEP System and development site with realistic, realtime design scenarios to show how it will look like at any point in time. BIM allows the use of collision detection, which greatly decreases the errors made by design team members as well as the construction team. The BIM Model actually informs team members about parts of the building or MEP Systems in conflict or clashing, and through detailed computer visualization of each part in relation to the total building.

BIM operates on a digital database and any suggested design change made to this database is reflected throughout the entire drawing. BIM produces construction documents that contain information about Architecture, Structure & MEP, quantities, materials and other data that can be used in both — the construction and management of a building.

For the Operations & maintenance Managers

Post-Construction - benefits

A Completed BIM model provides an accurate source of information about the "AS BUILT" spaces and MEP systems and Installed Main Plant. It also serves as an excellent tool for managing and operating the entire building Fabric Interior and Overall Mechanical and Electrical Systems.

Revit MEP

ENGCORP provides dedicated 3D MEP modeling services to Client/ Investors, lead designers and multi-disciplinary consultants, MEP contractors and Consultants.

ENGCORP can produce the installation drawings and shop drawings extracted from the MEP model. ENGCORP's combined MEP and structural models include all aspects of MEP Modeling.

Revit MEP Advantages

BIM for MEP Engineering sustainable design and analysis Heating and cooling load analysis Mechanical systems and duct layout modeling Electrical lighting, Cable Route layout, and power circuit layout Plumbing systems modeling Fire protection systems modeling Multi discipline coordination and interference checking Design for constructability ENGCORP offers the following Revit MEP Services: Co-ordination among various MEP trades;

- Collision detection
- Fabrication drawings
- Shop drawings
- Builders work drawings
- Schedules, Bills of Quantities, Detailed section views

MEP BIM Services

MEP BIM provides an assortment of Mechanical, Electrical Fire and Plumbing services. Competency with software such as AutoCAD, Revit MEP, NAVISWORKS allows us to offer a range of quality MEP BIM services.

3D DUCTING & PIPING

One of the main advantages of our 3D ducting and piping services is that you can eliminate the risk of waste. As we create three dimensional models of the ducts and pipes as per your plan, we will be able to locate any collisions and rectify it instantly. This process will eventually ensure easy installation for Client/Installer as follows:

- Load Calculation
- Duct Design & Layout
- Pipe sizing & Layout
- Equipment Selection & Layout
- Schedule for Equipment

3D MEP – HVAC

Mechanical, electrical and plumbing (MEP) engineers / heating, ventilation, and air-conditioning (HVAC) engineers can make better decisions and minimize design errors to fit a project's sustainability strategy. Also with the 3D model, we will be providing you with Schedules, Riser Diagrams, Schematic Plans, Shop Drawings, and Bill of Materials to name a few.

OUR 3D MEP - HVAC SERVICES INCLUDE:

Conversion of 2D design drawings to 3D BIM models
Collision detection and coordination.
Clash reports
Fabrication drawings
Shop drawings
Parametric modeling and BIM library creation
Construction Documents

Our MEP 3D Design Services include

MECHANICAL SYSTEM

- 3D Modeling
- CAD Conversion
- Duct layout drawings
- 2D Drafting and Detailing
- Shop/Fabrication Drawings

HEATING SYSTEM

- Boilers
- Heat Pumps
- Indoor coil systems
- Natural Gas Heating
- Direct Vent Heating
- Forced Hot Air/Water

ELECTRICAL SYSTEM

- Wiring Diagrams
- Electrical site plans
- Electrical schematics
- Electrical, power and lighting plans
- Electrical one line diagrams (Riser Diagrams)

PLUMBING SYSTEM

- Equipment Schedule
- Demolition and existing plan drawings
- Plumbing and Drainage Drafting Services
- Natural and LP gas piping drafting services
- Drafting services for domestic water plumbing
- Locate and coordinate pipe sleeve requirements
- Compressed air and medical gas system plan drawings
- Shop drawings, As-builts, specifications and coordination
- Isometrics, Riser diagrams, details, schematics and schedules
- Legends and addendums supplement plumbing construction drafts

HVAC

- Equipment piping sizing and design layout plan
- drawings
- Details, schematics, schedules, legends and control diagrams
- Mechanical equipment layouts, submittals and elevation drawings
- Design and drafting services for HVAC system construction plan drawings
- As-builts, specifications, coordination drawings, shop drawings and addendums

Our Structural 3D & Design Services include

STRUCTURAL

- Structural design including ROBOT PLAXIS & ETABS
- Structural 3D Model from 2D CAD Design
- Structural detailing of Column Beam Slabs LOD-200-300400
- Steel Structural Modeling using TEKLA

DATA CENTERS & TELCO,s

State of the Art Power efficient Data Center Design & Project Management by Engcorp

ISP & Telco Stakeholder Today Stipulate that Data Centers MEP Plant and Equipment must be of the highest efficiency and achieve a minimum Power Usage Effectiveness (PUE) of 1.5. Power usage effectiveness (PUE) is a metric used to determine the energy efficiency of a data center. PUE is determined by dividing the amount of power entering a data center by the power used to run the computer infrastructure within it. PUE is therefore expressed as a ratio, with overall efficiency improving as the quotient decreases toward 1. PUE was created by members of the Green Grid, an industry group focused on data center energy efficiency. Data center infrastructure efficiency (DCIE) is the reciprocal of PUE and is expressed as a percentage that improves as it approaches 100%. This then leads to overall Design (Architectural, Structure and MEP) which shall also Conform where Possible to Guidelines set out by LEED. Through LEED the Green Building Movement offers an Opportunity to respond to the most important Challenges of Our Time, including, climate change, dependence on non-sustainable and expensive sources of Energy and threats to human health. Utilizing LEED is a critical component to achieving a sustainable built environment for all. **Engcorp** shall ensure that the Data Center Building complies fully with all the requirements from Uptime Institute, LEED and International Standards (TIA 942) where required by the Client and also including Local Statutory Requirements for Construction/ renovation and the Energy Efficient Data Center.

LEED CREDITS ARE DERIVED FROM THE FOLLOWING CRITERIA:

Data Center Design can be Modular and accommodate the Flexibility required regarding ongoing roll out requirements, as the demand for more Racks becomes necessary, Floor spaces are designated SERVER Rooms,

Floors and can be "Fast track" fitted Out for walls and Partitions, Doors, with all "Long Lead" Plant and Equipment being Ordered ahead of Install time, based on delivery Dates specified by Suppliers - A CRAC configuration with the Hot and Cold Aisle Containment system means A RAISED ACCESS FLOOR IS NOT REQUIRED – this is extremely important given the Height of the many buildings Floor Slab to Slab and Slab to Beam. The Air Handling efficiency can been verified by means of a CFD simulation, this alone offers a substantial reduction in the Construction Budget for the Project. Data Center Design can be Modular and accommodate the Flexibility required regarding ongoing roll out requirements, as the demand for more Racks becomes necessary, Floor spaces are designated SERVER Rooms, Floors and can be "Fast track" fitted Out for walls and Partitions, Doors, with all "Long Lead" Plant and Equipment being Ordered ahead of Install time, based on delivery Dates specified by Suppliers - A CRAC configuration with the Hot and Cold Aisle Containment system means A RAISED ACCESS FLOOR IS NOT REQUIRED – this is extremely important given the Height of the many buildings Floor Slab to Slab and Slab to Beam. The Air Handling efficiency can be verified by means of a CFD simulation this alone offers a substantial reduction in the Construction Budget for the Project.

Engcorp Project management Teams Utilize BIM tools On Site during Construction for design Validation and Problem Solving including overall coordination between Disciplines to ensure a Smooth Project and limited exposure to Costly Variations

Design & Project Management of INTENET & TELECOM Data Centers & MSC Switch

SOME OF OUR PROJECTS
PROJECT MANAGEMENT, ENGINEERING DESIGN & BIM

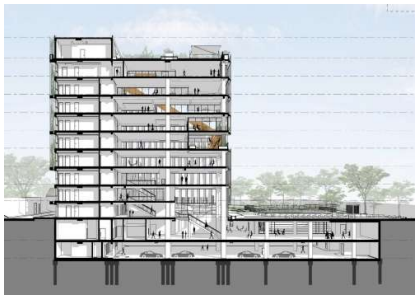
CP GROUP V.N. NEW HQ OFFICE IN DONG NAI

Engineering Design, BIM & Project Management

CP Vietnam (Owned by the Parent Company CP Thailand) are a huge animal feed and food production Company from Thailand with CPV being the Vietnamese Subsidiary.
CPV are expanding at a rapid pace and now require a Newly designed and constructed Head quarter office for up to 500 Staff

The building will follow LEED PLATINUM certification and consists of 2 basement levels, with underground parking and canteen areas, with 8 Upper office floor levels. GF is the Main reception area and Conference center for 300 Persons, 2nd to 7th floors will be general staff Office floors, with 1 floor housing a data center with IT equipment tp cater for all CP sites around Vietnam. 8th flor is the Executive Floor level for BOD,s & roof deck will be Green and available for Outdoor door functions.

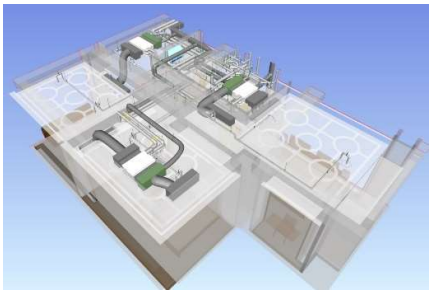
The buildings will be constructed adjacent their Current Old Office building and will aLso have a Fully fitted and equipped Gym, Badminton Indoor Courts, and a Badminton Pavilion also a Large Outdoor Green area with walkways Paths soundscapes and Hardscapes, Outdoor Furniture and Fish Pond

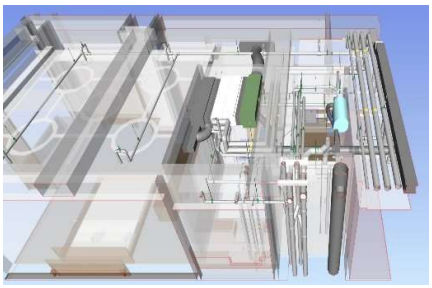


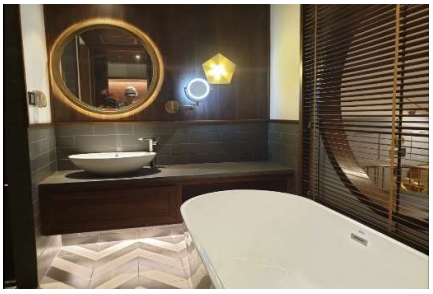
FUSION ORIGINALS HOTEL (RENOVATION PROJECT) SAIGON CENTER

Engineering Design BIM and Project Management

Many buildings in the center of Saigon downtown areas are aging, now some are in the 20+ (year old) category, with some aging well, many badly (mainly due to maintenance regimes during the life cycle). Renovation of commercial and Hospitality buildings in Vietnam poses somewhat of a challenge to local Consultants and Contractors as this is relatively new to this country's construction industry that mainly consists of demolition & New builds. Renovation of an existing building especially when that building is Live (in Use) can be extremely challenging and has to be done safely, quietly, & systematically, with the minimum disruption to the building owners, clients and guests. Many of the buildings designed in the late 90,s were mixed-use, Commercial, Residential, Hospitality and retail, which resulted in complex mechanical and electrical systems with convoluted routing and containment systems, and in many cases over designed (over sized cables, Pipes & switchgear) making it more challenging to redesign/ renew, certain sections of new M&E system requirements for the new Project to connect to the existing aging (Landlords) Systems. Designing and constructing a New Hotel Facility (in the top 10 floors of a 24-floor building, which is 25 years Old, with 100+ rooms atop 14 lower floors of leased commercial Office, (Live 6 days per week), does pose certain challenges







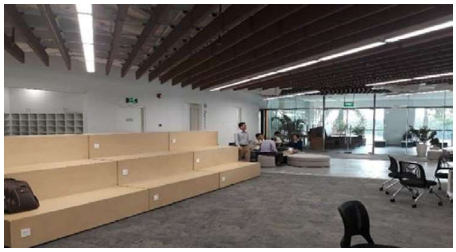
ACADEMIC BUILDING – FULBRIGHT UNIVERSITY USA IN VIETNAM

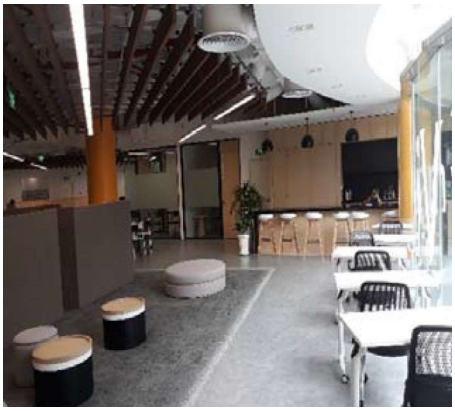
Project Management, MEPF Engineering Design and Building information Modeling. (MEPF)

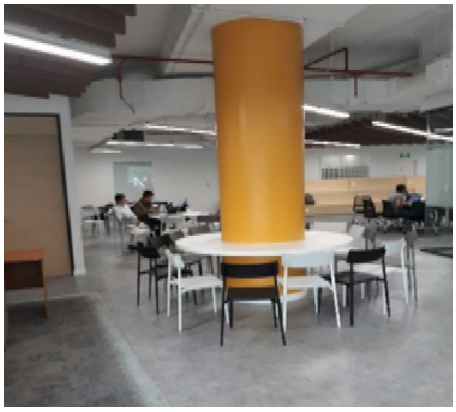
As Project Managers for the Fit Out we introduced the Client to the Benefits of BIM which enabled a Fast track Fit out Period as required by the Client

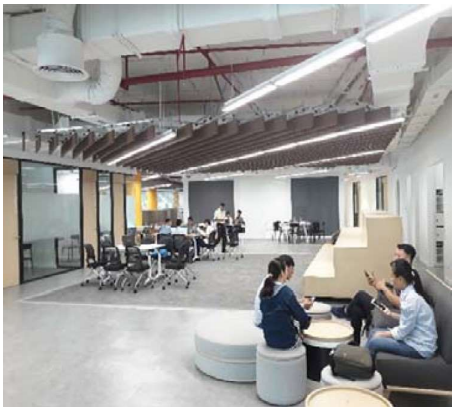
Deliverables:

- PM Deliverables
- Budget Control
- Weekly Progress Models (WIP) Revit Weekly Progress Design & BIM Report
- Solving Design & Coordination Issues
- Weekly Clash test detection Report Clash Solution Navisworks Suggestions on 3D PDF
- DWG Files









ORTHOLITE (USA) NEW HQ OFFICE, INSOLE & FOAMING FACTORIES IN BINH DUONG

Project Management and BIM

Engcorp was selected by an International investor in USA/Vietnam, As Project Manager, to Control and Monitor a Design and Construction Project for a New Factory facility in Binh Duong. The Form of Contract selected for the Project will be FIDIC Silver Book 1999 for Engineering, Procurement and Construction Projects, Engcorp shall be engaged on the Project within the "FIDIC Contract terminology" as the "Engineer" and Clients representative.
Our PMC Team Scope covers all aspects from the Design, review, Government Approvals, Procurement of Quality Materials and Plant, Cost Control, and Construction method, including Installation ,Testing and Commissioning of MEPF Services to the highest International Standards of Safety and Quality to our Clients satisfaction.
To Ensure a Smooth PM Process throughout the Project Life-cycle our Engcorp Team shall utilize our BIM 360 Documentation (Platform) which is web based and Cloud Connected for unlimited data Space. All Project Documents and Deliverables can be viewed/Marked up & Commented – via a dedicated Dashboard for each user, which caters for 2D & 3D Design viewer packages for CAD and IFC (BIM) Files, and can be accessed and viewed on Laptop, Tablet or Handset anywhere in the World

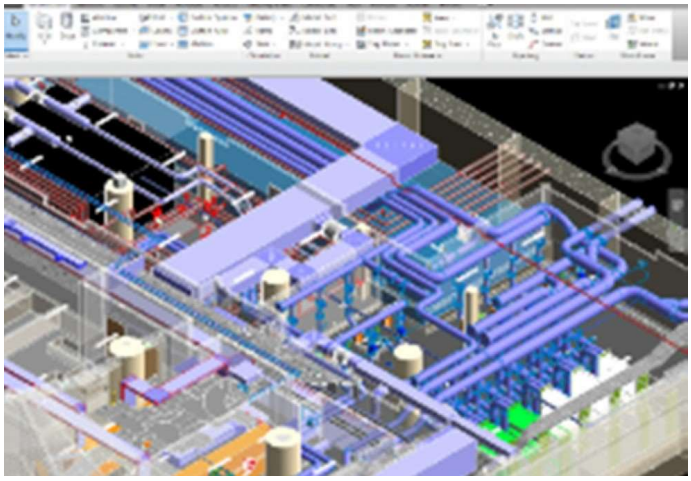
CROWN HOTEL AND CASINO SYDNEY

MEPF Design and Building Information Modeling. LOD 200/300

Modeling the Base Build MEPF from AECOM in Sydney. Our Services included full MEPF BIM Services in Revit 2016, from CAD and Red Pen Mark Up PDFs from Client Mechanical and Electrical Design Teams. Our Scope also included resolving Clashes with recommended solutions using Revit and 3D PDF also Clash detection reports.

Deliverables:

- Weekly Progress Models (WIP) Revit
- Weekly Progress Report
- Weekly Clash test detection Report
- Clash Solution - Navisworks Suggestions on 3D PDF



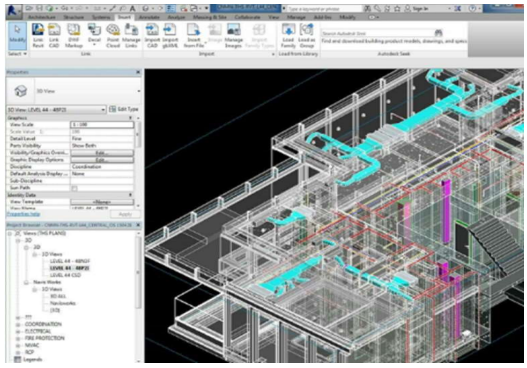
MAHANKHON HOTEL AND APARTMENTS COMPLEX

MEPF- Building Information Modeling. MEPF. LOD 300/400

Modeling the Interiors of each Luxury Apartment on the MEPF System, in coordination with the As built conditions at Site and the Architect and Interior Designers Details Our Scope also included resolving Clashes with recommended solutions using Revit and 3D PDF also Clash detection reports.

Deliverables:

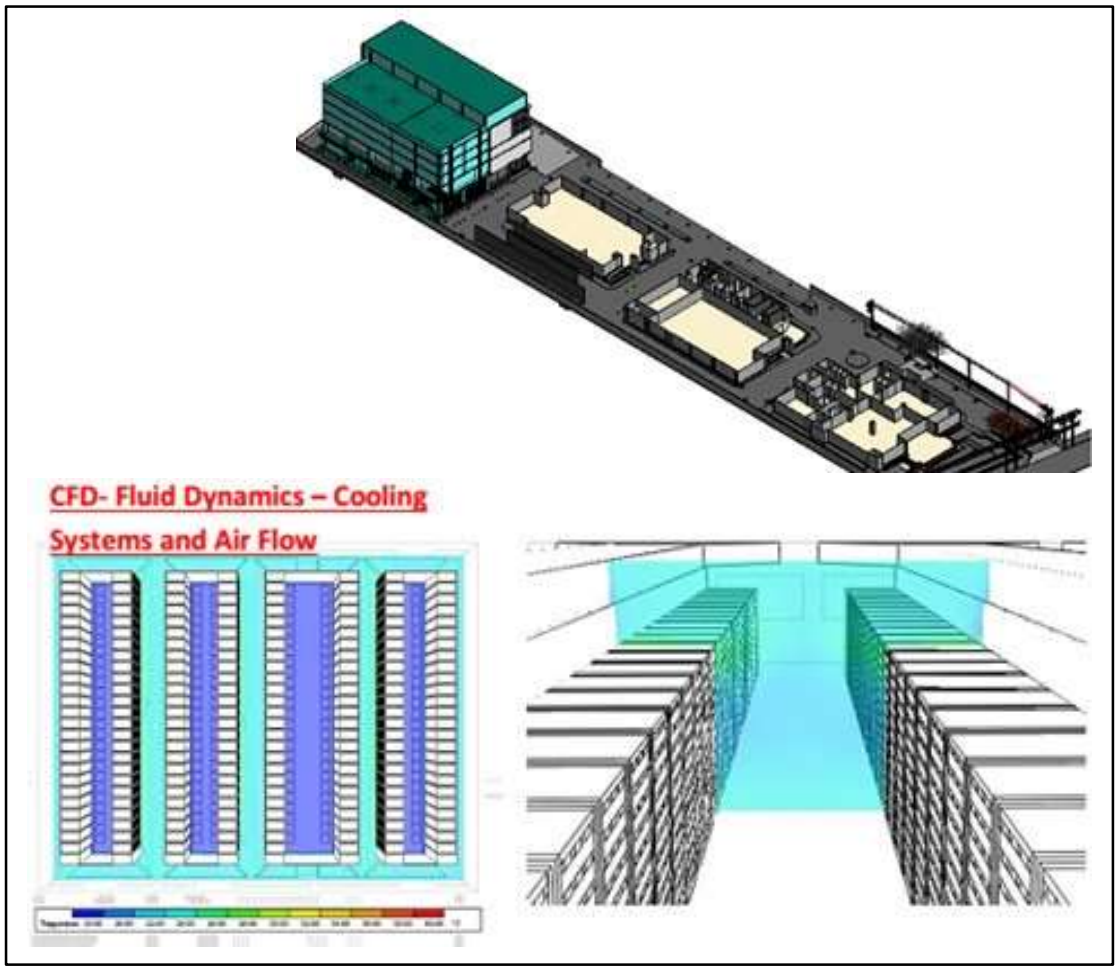
- Weekly Progress Models (WIP) Revit
- Weekly Progress Report
- Weekly Clash test detection Report
- Clash Solution - Navisworks Suggestions on 3D PDF
- DWG & DWF Files



TT2 TAYNAN INTERNET DATA CENTER & OWER AND PLANT BUILDING BANGKOK THAILAND

Design and Project Management

MEPF Design and Project Management of Main Power and Plant Equipment & control systems for Internet Service Provider Data Center and telecoms (MSC) for TRUE future expansion Plans c/w upgrading of the 22KV incoming Power overhead / underground supplies, Power distribution and Cooling Systems The Project was fast tracked in design and Installation with BIM integration as all services were available in 3D and fully coordinated and clash free.



TIDC -INTERNET DATA CENTER PHASE 1 BANGKOK THAILAND

Design and Project Management

With Building Information Modeling LOD 300/400/500

MEPF Design and Project Management of Internet Service Provider Data Center with Electrical Power and State of the Art Mechanical Cooling Systems for 800-1000 Data Racks & Blade Servers. The Project was fast tracked in design and Installation with BIM integration as all services were available in 3D and fully coordinated and clash free.

TIDC -INTERNET DATA CENTER PHASE 2 BANGKOK THAILAND

Design and Project Management

With Building Information Modeling – LOD300/400/500

MEPF Design and Project Management of Internet Service Provider Data Center with Electrical Power and State of the Art Mechanical Cooling Systems for 1000 Data Racks & Blade Servers. This Phase Included upgrading of the 22KV incoming Power Supply and transformers to 2 GW The Project was fast tracked in design and Installation with BIM integration as all services were available in 3D and fully coordinated and clash free.

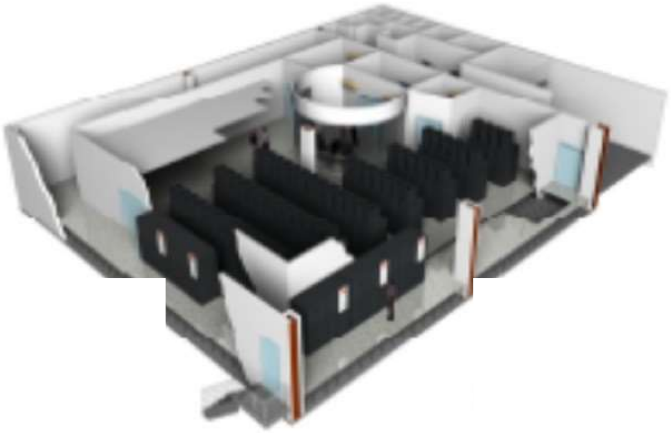
VINAGAME ONLINE DATA CENTER HCMC VIETNAM

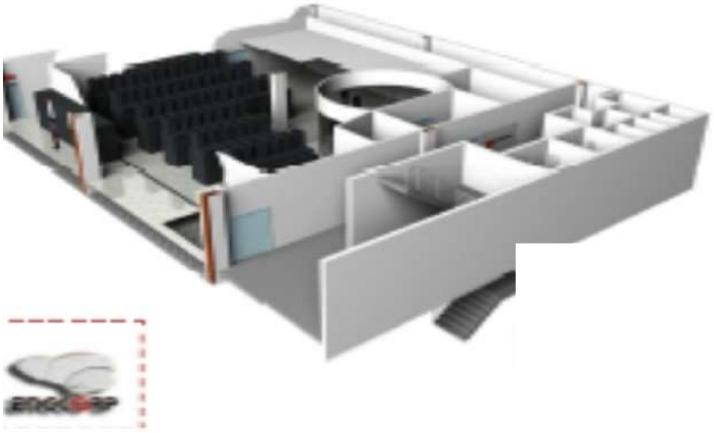
Design and Project Management

Mechanical and Electrical Fire and Plumbing Systems Design

Vinagame Engaged Engcorp to design and Construct their 1st" State of the Art" 3 Floor Energy Efficient Environmentally Controlled Data Center in Vietnam. First of its Kind in Vietnam. The Data Center shall operate on a 24/7 -365 days per year Basis with Zero Down time, the Electrical and cooling systems are extremely Complex with Uninterruptible Power supply (UPS) and 100% Back Up Diesel Power Generators, Consumes 4MeggaWatt of Energy from 2200V/400V Transformer.

VinaGame





SACOMBANK CORE BANKING DATA CENTER HCMC VIETNAM

Engineering Design and Project Management

Budget; $4m USD

The National Data Center will be the nerve center for the data and operations of all their Banks Nationwide, linking all Core Banking operations to this central Hub. The Facility is complete with "State of the Art" Energy Efficient, Environmentally Controlled dust free Data Center, operating from a 2Megga Watt Main Power Transformer, with 100% Stand-by Power and uninterruptible Power Supply When Launched the Data Center will Manage, Store and Back Up all SACOMBANK Data and

Information at Lightning Speed and Efficiency, bringing SACOMBANK in to the Future of 21st century Core Banking.

Sacombank

NGÂN HÀNG SÀI GÒN THƯƠNG TÍN

AUSTRALIAN CONSULATE & DFAT HCMC VIETNAM

Mechanical and Electrical Fire and Plumbing Systems Design

Full engineering Design Mechanical, Electrical Power, Lighting, Plumbing, Fire Systems and HVAC Construction & Authorship Supervision For the New AUSTRALIAN CONSULATE in HCMC 3000M2 Luxury Office Space for DFAT, VISA and Consul General Data Center & Security Systems.

Australian Consulate-General
Ho Chi Minh City, Vietnam

2 MSC MAIN SWITCH CENTERS ORANGE/ TRUE BANGKOK THAILAND

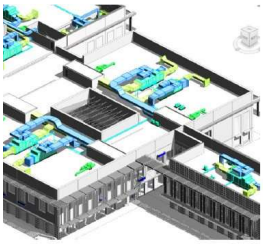
Design and Project Management

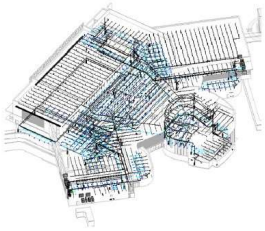
Design and Project Management of Main Power and Plant Equipment & control systems for 2 No Telecom MSC Switches in diverse Locations in Bangkok, in conjunction with France Telecom and Alcatel. This Project Also Included for the Construction of 280 BTS / BTR Remote Stations (roof top and Green field) in N/S/E Thailand Orange (France Telecom) network was Later acquired by TRUE Thailand.

AL KHOR UNIVERSITY QATAR

Detailed Design of MEPF Systems - MEPF- Building Information Modeling. LOD 300/400

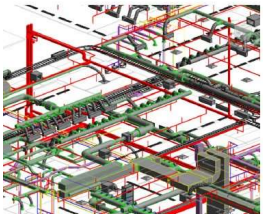
Client Issued the Approved Schematic esign Report and Calculations to Engcorp these were developed by Our in house teams in Vietnam and Philippines, Designs were issued and approved by Client UK Design Team Leaders. A complete MEPF BIM Model was Constructed from the Detailed design Documentation – Revit Files

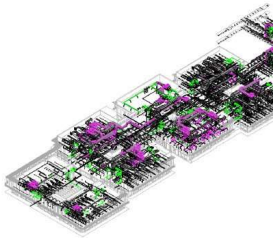


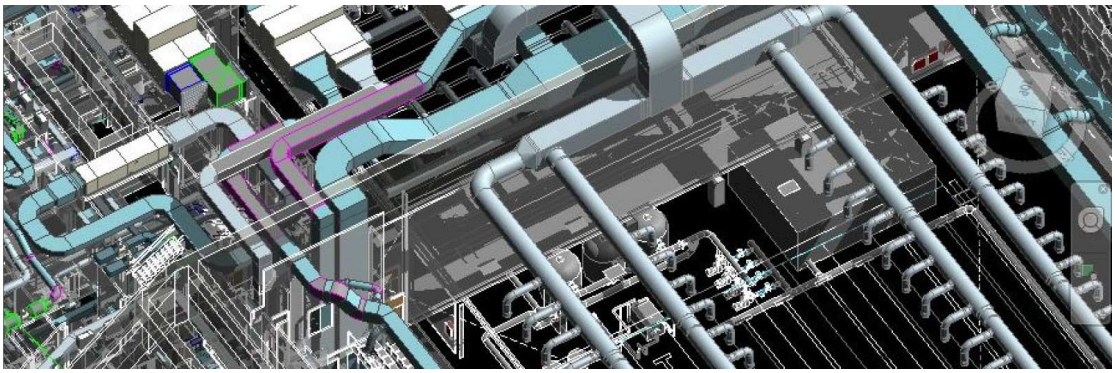


Deliverables:

- Full Detailed Design for Mechanical and Electrical Systems
- Weekly Progress Design & BIM Report
- Solving Design & Coordination Issues
- Weekly Clash test
- Clash Solution - Navisworks on 3D PDF
- DWG & DWF Files







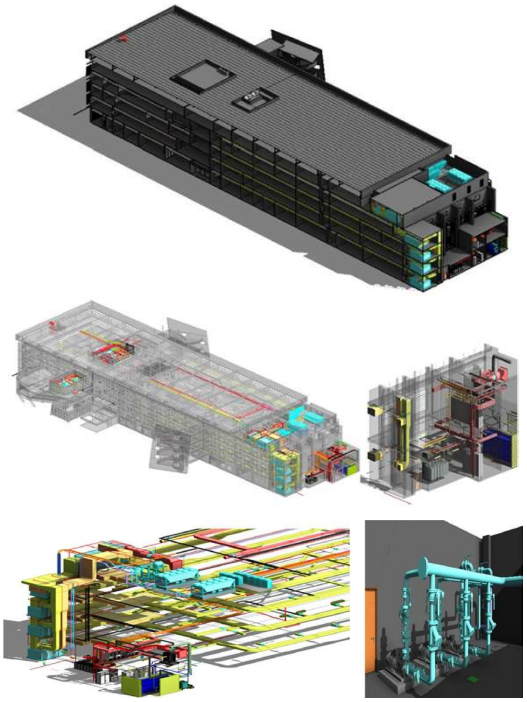
ACADEMIC BUILDING 1 – RMIT VIETNAM

Retrospective Building information Modeling. Architectural Structural and MEPF. LOD 500

We introduced the Client to the Benefits of BIM – we constructed a Complete, Architectural Structural and MEPF Model for RMIT from building As built Drawings Deliverables:

Deliverables:

- PM Deliverables
- Weekly Progress Models (WIP) Revit
- Weekly Progress Design & BIM Report
- Solving Design & Coordination Issues
- Weekly Clash test detection Report
- Clash Solution - Navisworks Suggestions on 3D PDF
- DWG Files



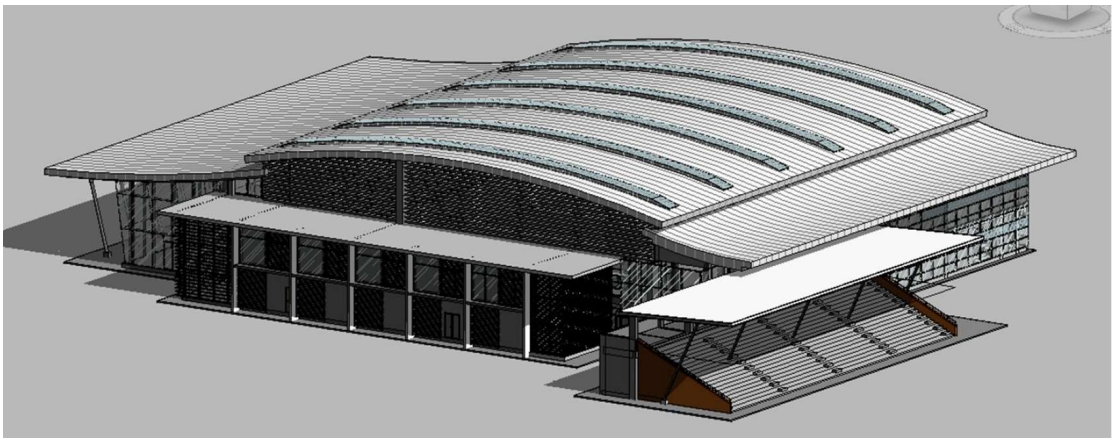
SPORTS BUILDING 10 – RMIT VIETNAM

Retrospective Building information Modeling. LOD 500

CWe introduced the Client to the Benefits of BIM – we constructed a Complete, Architectural Structural and MEPF Model for RMIT from building As built Drawings

Deliverables:

- PM Deliverables
- Weekly Progress
- Progress Design & BIM Report
- Solving Design & Coordination Issues
- Weekly Clash test detection Report
- Clash Solution - Navisworks Suggestions on 3D PDF
- DWG Files



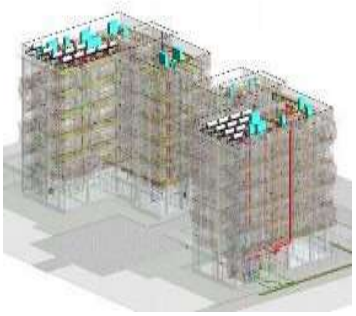
RESIDENTIAL BUILDING 8&9 RMIT VIETNAM

Retrospective Building information Modeling. Architectural Structural and MEPF. LOD 500

We introduced the Client to the Benefits of BIM –
we constructed a Complete, Architectural Structural and
MEPF Model for RMIT from building As built Drawings

Deliverables:

- PM Deliverables
- Weekly Progress Models (WIP) Revit
- Weekly Progress Design & BIM Report
- Solving Design & Coordination Issues
- Weekly Clash test detection Report
- Clash Solution - Navisworks Suggestions on 3D PDF
- DWG Files



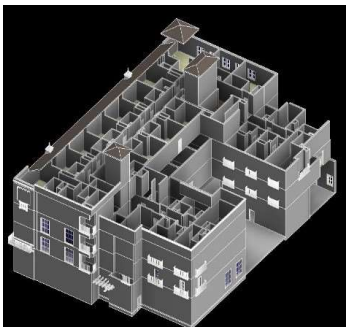
ENTRADA HOTEL USA

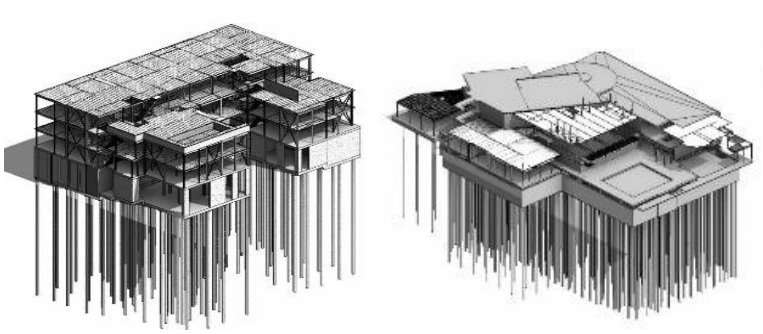
Building information Modeling. Architectural & Structural – LOD 300

Architectural and Structural BIM Modeling from Client Construction Drawings from California Site. Scope Included incorporating Mark Ups from Designer and Contractors. MEP by US Contractor

Deliverables:

- Weekly Progress Models (WIP) Revit
- Weekly Progress BIM Report
- Weekly Clash test detection Report
- Clash Solution - Navisworks Suggestions on 3D PDF





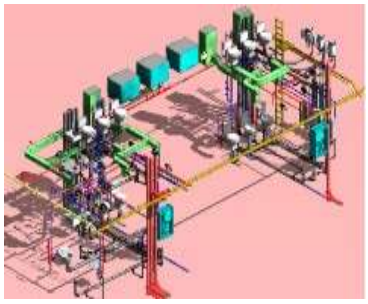
UNITED NATIONS GREEN ONE VIETNAM

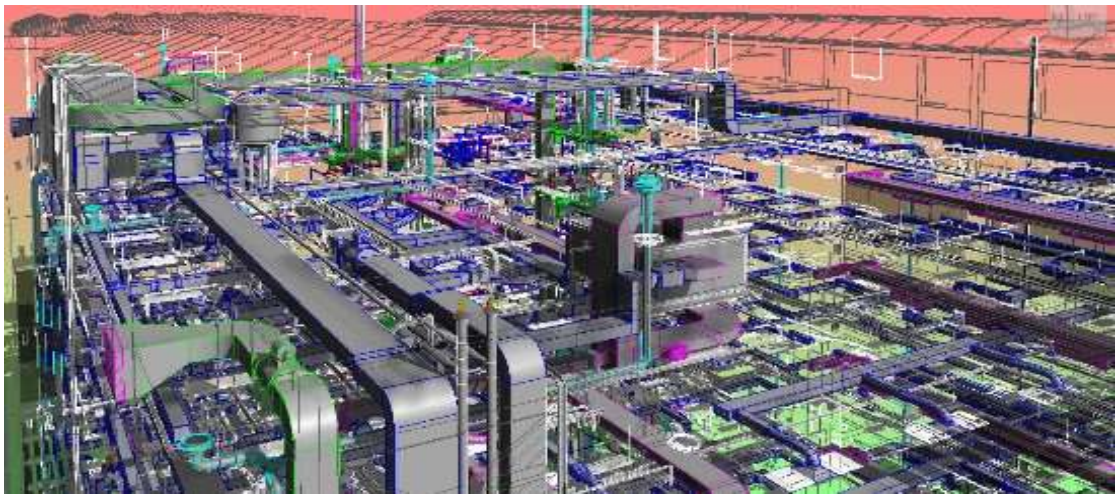
Full MEPF Design and Building information Modeling. LOD 300

In Partnership with GHD Australia we carried out the Full MEPF Design all Phases including Statutory Approvals in Hanoi. – Clit Required BIM from DD Design Stage – Our Teams Developed a DD model for Architecture and MEPF – Client Further Developed the Architectural Model to LOD 300

Deliverables:

- PM Deliverables
- Weekly Progress Models (WIP) Revit
- Weekly Progress Design & BIM Report
- Solving Design & Coordination Issues
- Weekly Clash test detection Report
- Clash Solution - Navisworks Suggestions on 3D PDF
- DWG Files





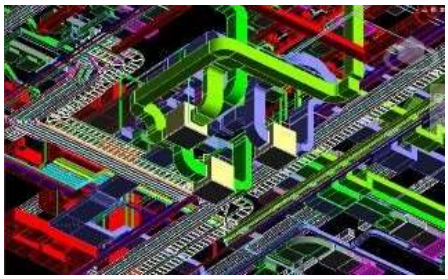
KSC GOLF ACADEMY HONG KONG

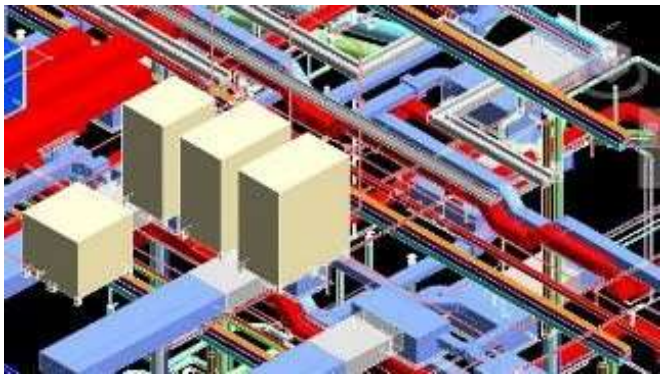
Building information Modeling. MEPF LOD 300

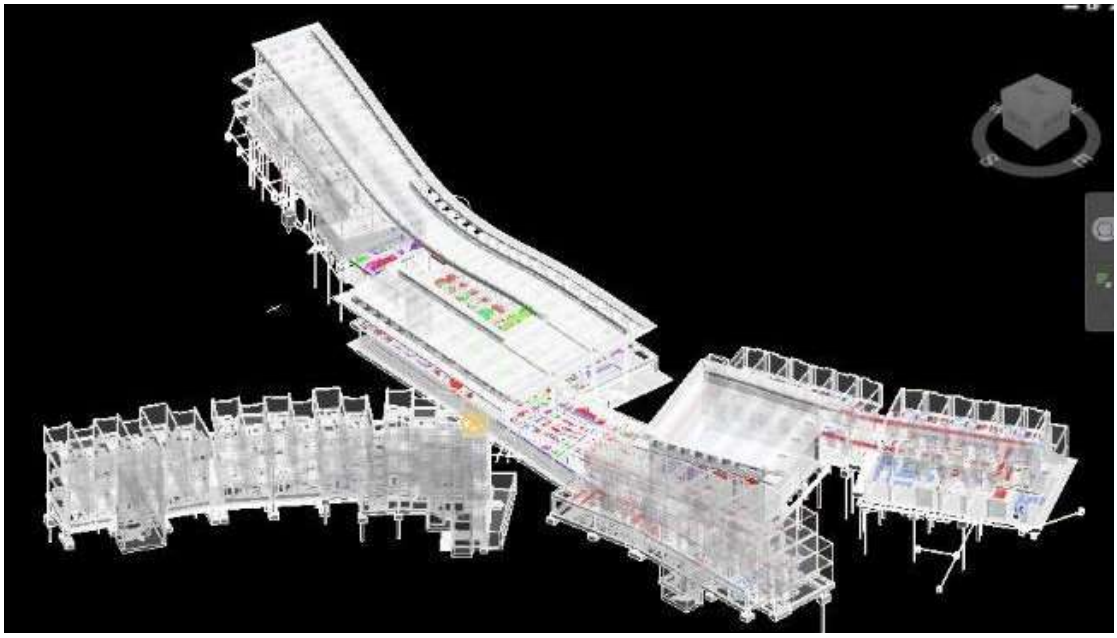
Full MEPF BIM Model for Client – Architectural and Structural provide by HK Client – Difficult Model as we had to fix mistakes in earlier model from other outsourced Provider

Deliverables:

- Weekly Progress Models (WIP) Revit
- Weekly Progress BIM Report
- Weekly Clash test detection Report
- Solving Coordination Issues
- Clash test detection Report
- Clash Solution - Navisworks Suggestions on 3D PDF







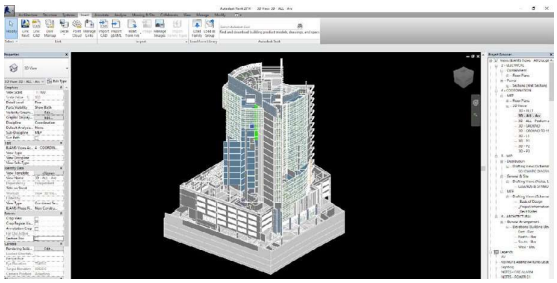
CANADA HOUSE DUBAI

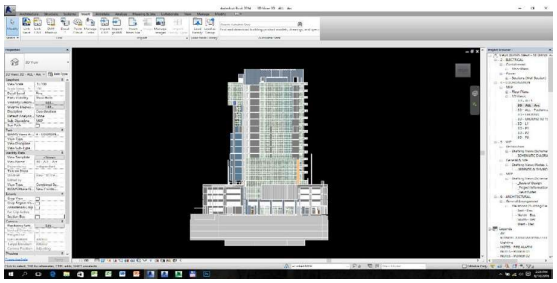
Building information Modeling. MEPF LOD 300/400

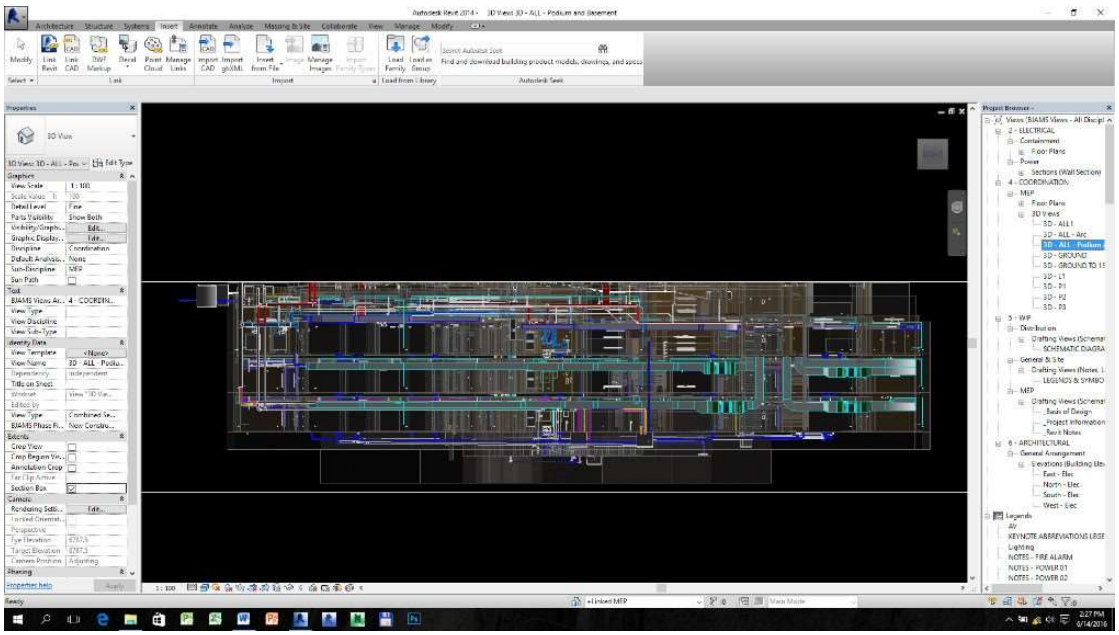
Full Design and Coordination of MEPF & MEPF BIM Model for Client – Architectural and Structural provide by Client – Redesign of MEPF services from Older 2007 Design

Deliverables:

- Weekly Progress Models (WIP) Revit
- Weekly Progress Design & BIM Report
- Solving Coordination Issues
- Clash test detection Report
- Clash Solution - Navisworks Suggestions on 3D PDF
- DWG & DWF files



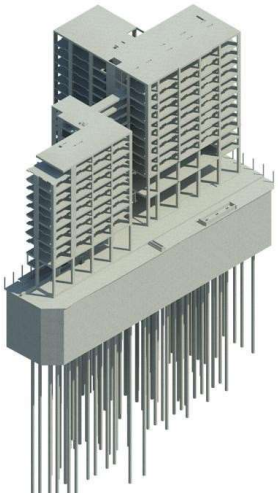




MARIE CURIE HOTEL HCMC

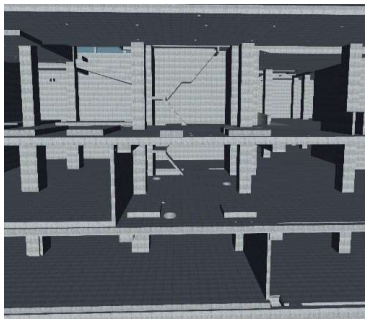
Building information Modeling. Architectural Structural MEPF –LOD 300

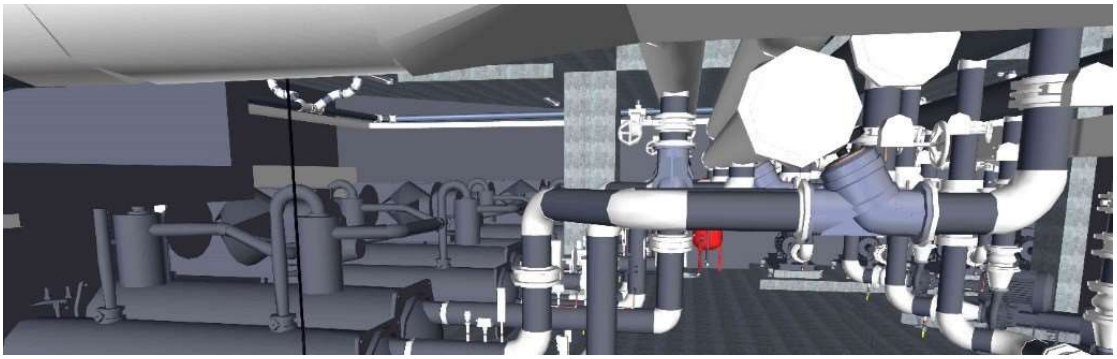
Full BIM for Architecture Structure and MEPF – design coordination.

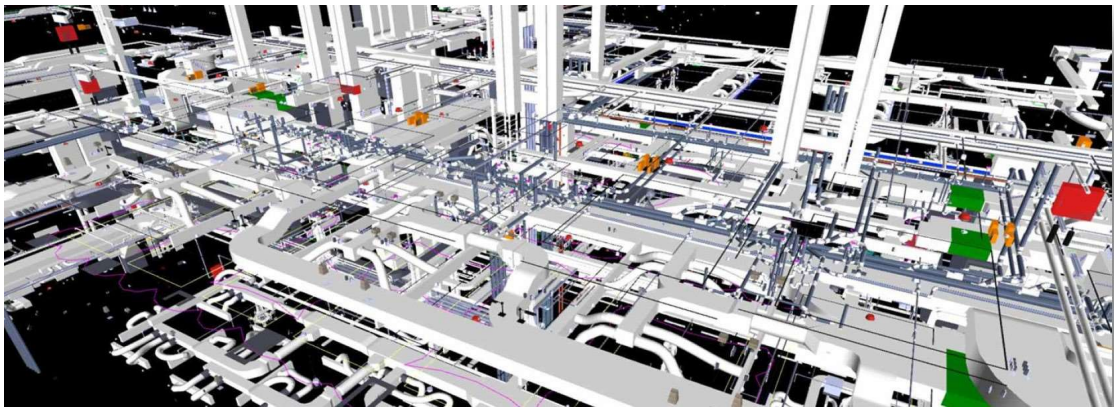


Deliverables:

- Weekly Progress Models (WIP) Revit
- Weekly Progress Design & BIM Report
- Solving Coordination Issues
- Clash test detection Report
- Clash Solution - Navisworks Suggestions on 3D PDF
- DWG & DWF Files







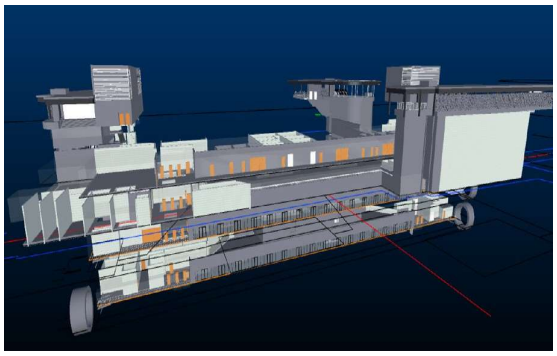
MALAYSIA MASS RAPID TRANSIT UNDERGROUND STATIONS

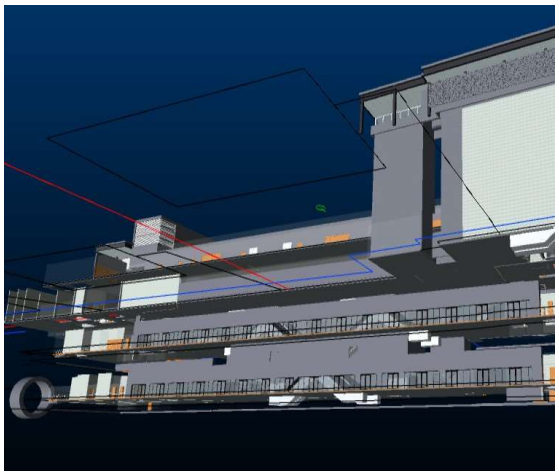
BIM Models LOD 300. Building information Modeling. Architectural & Structural

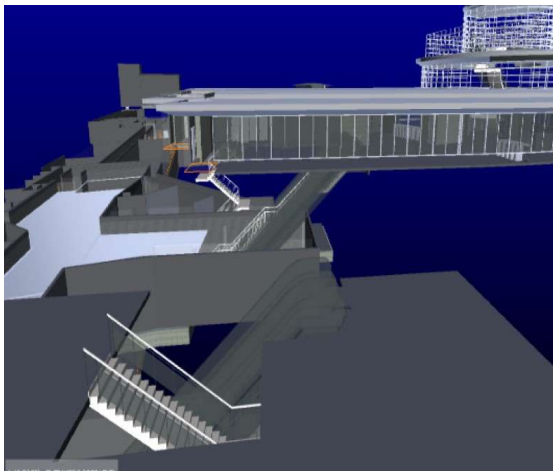
Architectural and Structural BIM Modeling from Client Construction Drawings from KL Scope Included incorporating Mark Ups from Designer and Contractors. MEP by Others.

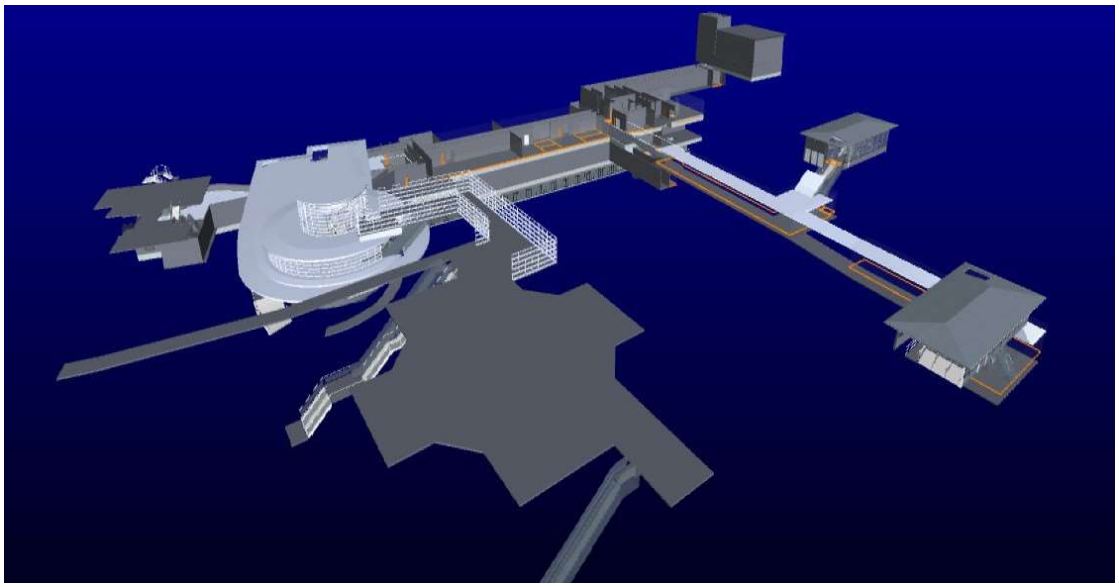
Deliverables:

- Weekly Progress Models (WIP) Revit
- Weekly Progress BIM Report
- 3D PDF









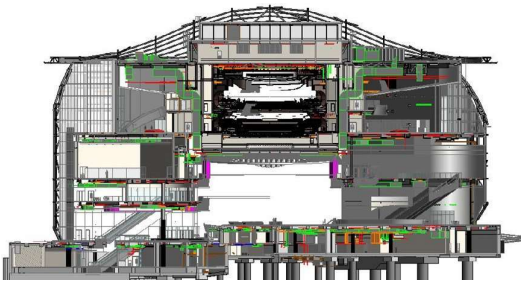
XIQU CULTURAL CENTER HONG KONG

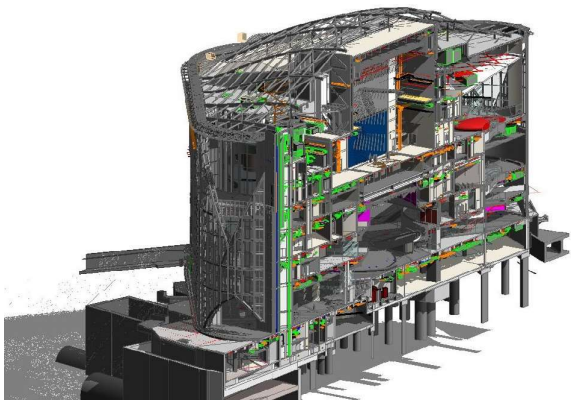
LOD 300/400 Building information Modeling.

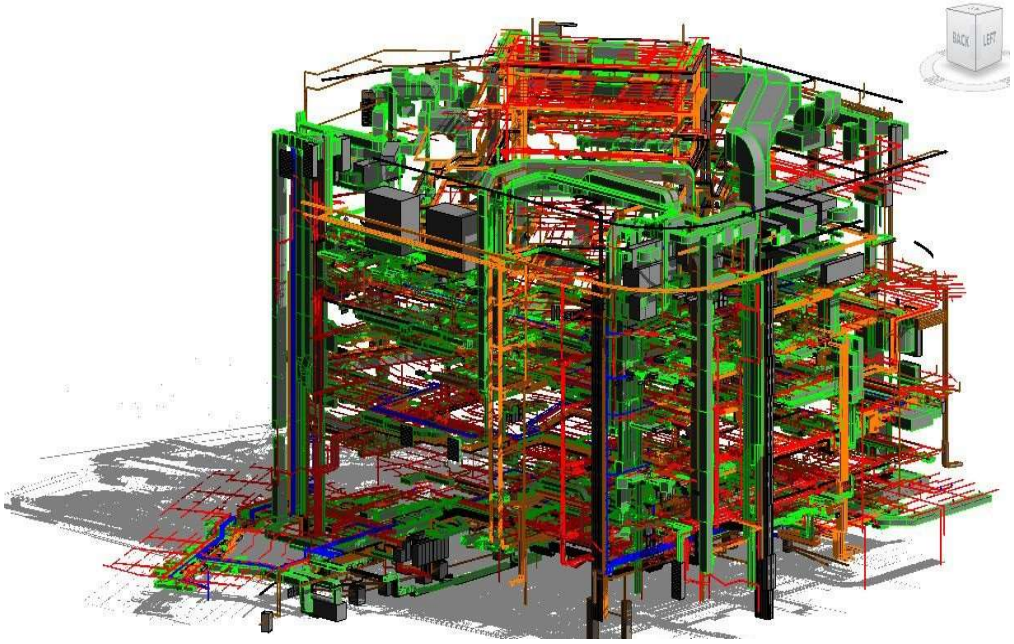
Full MEPF BIM Model for Client – Architectural and Structural provide by HK Client – Difficult Model as we had to fix mistakes in earlier model from other outsourced Provider

Deliverables:

- Weekly Progress Models (WIP) Revit
- Weekly Progress Design & BIM Report
- Solving Coordination Issues
- Clash test detection Report
- Clash Solution - Navisworks Suggestions on 3D PDF
- DWG & DWF







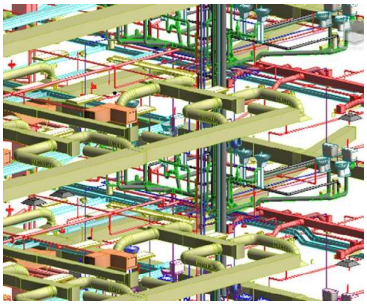
ACADEMIC BUILDING 2 – RMIT VIETNAM
LOD500

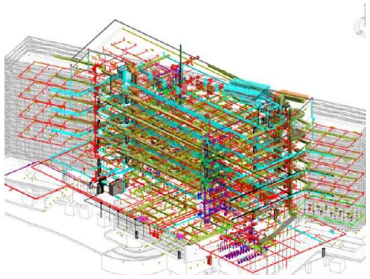
Project Management and Building information Modeling. Architectural Structural and MEPF.

As Project Managers for the Construction we introduced the Client to the Benefits of BIM – we constructed a Complete, Architectural Structural and MEPF Model for RMIT c/w As built Models

Deliverables:

- PM Deliverables
- Weekly Progress Models (WIP) Revit
- Weekly Progress Design & BIM Report
- Solving Design & Coordination Issues
- Weekly Clash test detection Report
- Clash Solution - Navisworks Suggestions on 3D PDF
- DWG Files





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