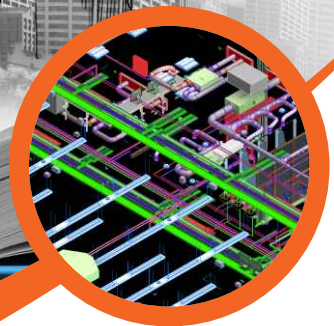
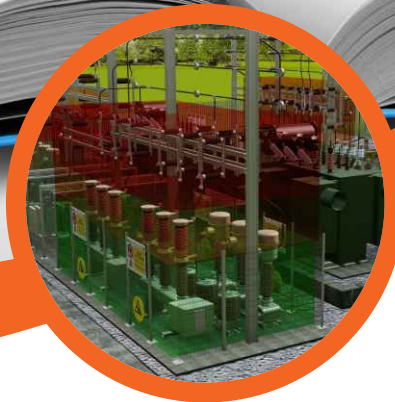
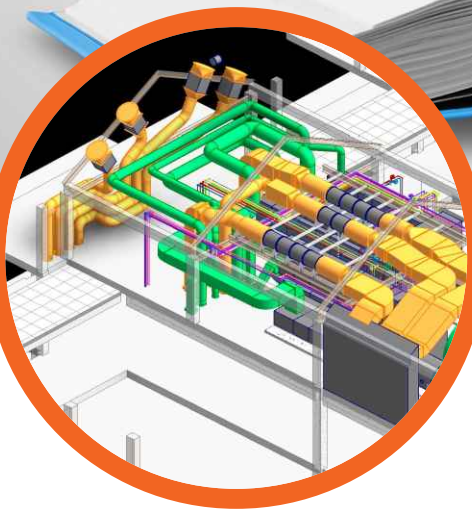


Engineering is a
magic with methods



ENGINEERING SERVICES

BIM for Architecture, Structure & MEPF

Civil and Infra

MEPF Design

INET

INET

Weaverbird Engineering & Technology Pvt. Ltd.

weaving smart information

Our position of strength has various reasons

- Deep understanding of clients' needs
- Cost-effectiveness in services
- Flexible approach to adjust to different project
- One-stop availability for Geomatics & Engineering Services
- Top level adherence to SLAs



WET Regional Office in Odisha

About WET

○

Weaverbird Engineering and Technology Pvt. Ltd. (WET), An ISO 9001:2015 Certified Company, registered with Software Technology Parks of India (STPI), is a young vibrant organization providing solutions in the domains of **MEP Engineering DESIGN - BIM Modeling - CAD Drafting Services and Geospatial Services** to global market since 2005. It is one of the fastest growing Engineering and Geospatial Services company in India. With customer-centric approach, striving to meet the rigorous quality & delivery schedules of its global clients, has enabled WET to render world-class solutions. Leveraging on the skills of its qualified & experienced personnel, equipped with the state-of-the-art infrastructure and backed by robust processes & systems, WET has been able to provide its clients cutting edge services. At the time when continual evolution has become vital for all organizations on global arena, we are completely geared up for the next level in Engineering & Geomatics Services domain.

BIM & CAD

- **MEPF Services**
- **Architecture**
- **Infrastructure**
- **Civil Structure**
- **Steel Structure**

Building Information Modeling (BIM)

As the Technical Know-how of BIM is increasing and the architects, home builders, developers, general contractors, building owners and construction companies are keen to adapt this technology. In this scenario, WET has emerged as one of the leading BIM service providers in India.

Services Offerings:

- Project BIM modelling 3D, 4D & 5D
- Project Co-ordination & collaboration
- 3D Rendering
- Project Design drawings in 2D output
- Construction Documentation
- Architectural & MEP BIM Modelling
- Developing 3D Co-ordinated Models
- CAD to BIM Modelling
- Point Cloud Scan to BIM Modelling
- BIM 4D & 5D Simulation
- Quantity Take-off from BIM Model
- Revit Family Creation
- PDF & Image to BIM Modelling
- MEP BIM Services with LOD 200 to 500
- BIM clash detection & co-ordination
- Shop Drawings from BIM Model
- Modification with Redline Mark-ups into 3D BIM Modelling

Software Expertize

We are well equipped with the World Class BIM softwares, Advanced 3D Rendering Software and latest CAD tools like ArchiCAD, Autodesk Revit, Solidworks, 3Ds Max, AutoCAD, Navisworks, Fabrication, Lumion, Recap, Showcase and other softwares to match the unique service demand of the cutting edge State of the Art technology.

BIM Projects

BIM MODELLING (MEPF Services)

Project Description	Hotel & Commercial, Dublin, Ireland
Involvement	Upgradation of 3D model based on Design drawings and coordination to prepare Construction & As-Built drawings (LOD 400 & 500)
Deliverables	Clash free BIM Model, Construction drawings & As-built drawings
Software used	Revit 2020, Naviworks, AutoCAD



HARD COPY TO BIM

Project Description	Heritage Museum, Melrose, UK
Involvement	Preparation of BIM Model (LOD 300) from existing drawings for renovation.
Deliverables	BIM Model & 2D CAD drawings
Software used	Revit 2020, Naviworks, AutoCAD, BIM 360



DESIGN DRAWINGS TO BIM

Project Description	Residential & Commercial Office space, London, UK
Involvement	Preparation of MEP BIM Model from Design drawings & documents to prepare clash free LOD 300 & 400 model
Deliverables	Clash free BIM Model, Construction drawings
Software used	Revit 2019, Naviworks, AutoCAD



SCAN TO BIM

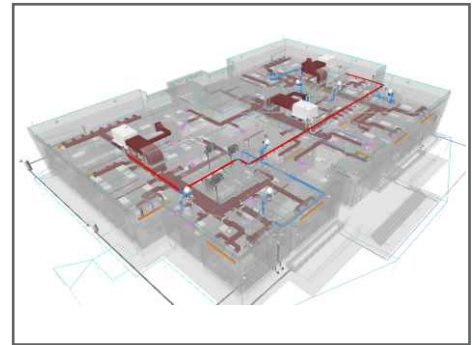
Project Description	Chemical Storage Yard
Involvement	Preparation of LOD 300 BIM model from Point Cloud scan Images
Deliverables	3D BIM Model with Rendered Images
Software used	Revit 2020, Naviworks, Enscape



BIM Projects

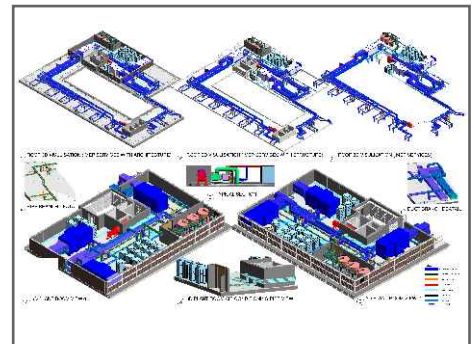
SHOP DRAWINGS (MEPF Services)

Project Description	Aviation Academy & Training Centre, Saudi Arabia
Involvement	Upgradation of 3D model based on Design drawings and documents with coordination to prepare Construction & As-Built drawings (LOD 400 & 500) for Architecture & MEPF services
Deliverables	3D model, Shop Drawings, BOQ & As-Built Drawings
Software used	Revit 2020, Naviworks, AutoCAD, BIM 360, MS Office



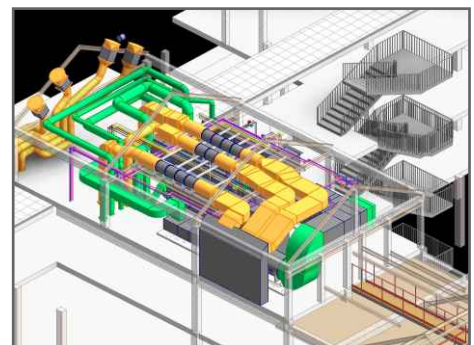
CAD TO BIM

Project Description	Hotel Chain, Dublin, Ireland
Involvement	Preparation of Clash free LOD 300 BIM model from 2D CAD files and Mark-up Images
Deliverables	3D BIM Model and CAD Drawings
Software used	Revit 2019, Naviworks, AutoCAD



PLANT ROOM BIM MODELLING

Project description:	Central Plant Room for Healthcare Building at Plymouth, UK
Involvement:	Coordinated MEP Plant Room BIM Model from CAD input and Mark-up PDF's.
Deliverables	Coordinated MEP BIM Model using Revit
Software used	AutoCAD Revit & Naviworks



QUANTITY TAKE-OFF (BOQ)

Project description	Metro Rail Transportation at Doha, Qatar
Involvement	Coordinated MEP BIM Model and the BOQ for 3 Metro Stations.
Deliverables	Coordinated MEP BIM Model with BOQ
Software used	Autodesk Revit & MS Excel



BIM Projects

BIM MODELLING (Architecture)

Project Description	Aviation Academy & Training Centre, Saudi Arabia
Involvement	Develop 3D model based on Design drawings and documents to prepare Construction drawings (LOD 400) for Architecture services
Deliverables	3D model, Shop Drawings, BOQ
Software used	Revit 2020, Naviworks, AutoCAD, MS Office



BIM MODELLING (Civil Structure)

Project Description	Concrete Bridge in India
Involvement	BIM Modeling for Structural with Rebar and Rendering for 6 Nos Bridges.
Deliverables	Structural BIM Model using Revit
Software used	Autodesk Revit & Auto Desk Showcase



CONSTRUCTION DOCUMENTATION

We prepare the Construction document after completion of BIM coordinated clash free model with indispensable installation information such as System description, Design information, Equipment schedule & specification, Location from nearby reference, Elevation Level etc.

Our M&E team is customized according to the project specifications and requirements for various clients: • Real Estate Developers • MEP Engineering Consultants • Building Contractor • Product manufacturers



CAD Projects

SHOP DRAWINGS

Project description	5 Star Hotel & Apartments at Chicago, USA
Involvement	Coordinated MEP Shop drawings from 2D IFC Drawings
Deliverables	2D MEP Shop drawings in CAD with full details
Software used	AutoCAD



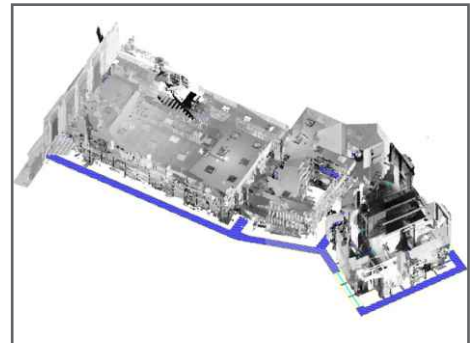
2D FABRICATION DRAWINGS

Project description:	Healthcare Building at Michigan, USA
Involvement:	Window Fabrication Layout, Section, Elevation, Detail Drawings In Cad From PDF Mark-Ups
Deliverables	CAD drawings for Door & Window fixtures & Mullions
Software used	AutoCAD



SCAN (POINT CLOUD) TO CAD

Project description:	Residential Building at Lisbon, Portugal
Involvement:	2D Floor Plan, Elevation & Section drawings from Point Cloud Scan file
Deliverables	CAD drawings with annotation & details
Software used	AutoCAD & Recap



CAD MARK-UP DRAWINGS

Project description	Supermarket chain at London, UK
Involvement:	Mechanical & Electrical Shop Drawing From Design IFC Drawings Mark-Ups
Deliverables	Shop drawings with annotation & details in CAD
Software used	AutoCAD



Architectural Competencies

ARCHITECTURAL SERVICE OFFERINGS

- 2D/3D CAD Drafting, Detailing & Conversion
- 3D BIM Modeling, Rendering & Animation
- BIM modeling from Point cloud
- Interior design modeling
- Door/ Window manufacturing 2D modeling
- Furniture/Product modeling & many more
- Bridge modeling with BIM



Overall View - Interior (Commercial)

Structural Services

WET offers complete BIM structural and construction documentation services for both Concrete & Steel Structures for low & high-rise residential buildings, institutional buildings, industrial buildings, and commercial buildings.

WET caters to the demands of structural engineering services pertaining to **Steel, Composite, Reinforced Concrete, Pre-Stress, Post-Tensioned** and **Masonry Structures** to name a few. We have worked on a lot of complex and structurally demanding projects that involve • **Load Calculation** • **Foundation Design** • **Retaining Wall Design** • **Roof Structure, Beam** • **Slab and Column** • **Frame Design** • **Steel, Concrete, RCC Structure Design**, etc.

BIM - Structural Design

- Preparation of Accurate **3D Models** for the Complete Structure from the Architectural and Structural Drawings
- Detailing of **Structural Designs**, Detailed Construction and **Working Drawings**
- **Shop Drawings** of Beams, Columns, Joists, Stairs, Lintels, Roof Frames, Shelf Angles, Bearing Plates,

Frames, Bracings, and Wall Partition Supports

- Accurate Quantity Take-Off and Cost Estimates for Bidding / Procurement / Construction planning, 3D Modelling and Production sequences / Erection Drawings for Construction Management and Visualization.

BIM - Structural Detailing

WET delivers Structural Detailing Services for all types of buildings and materials.

- Structural Revit 3D Modelling
- Structural Rebar 3D Modeling
- Structural Rebar Shop Drawings
- Structural Drafting and Detailing
- As-Built modelling and drawings
- As-Built Drawings
- Quantification
- Schematic Design Documentation
- Clash detection services with MEP
- Construction Documentation
- Design Development Documentation
- Structural steel structure modeling

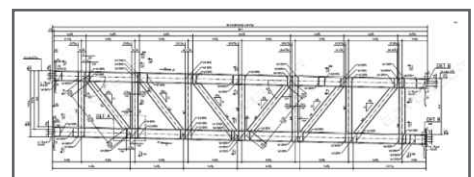
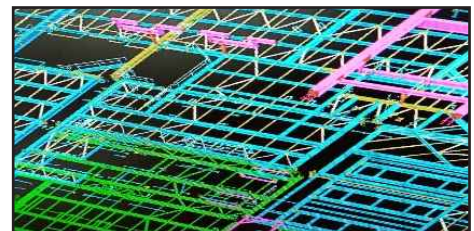
Steel Structure

3D MODELING

Project Description	Airport BHS System
Involvement	3D modeling
Deliverables	3D model
Software used	Autodesk Steel/Teckla

SHOP DRAWINGS

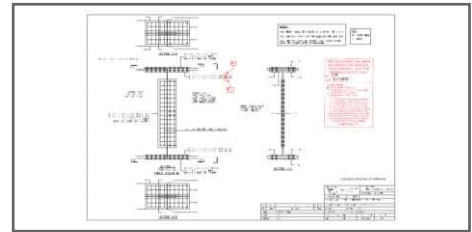
Project Description	Airport BHS System
Involvement	Shop Drawing Extraction
Deliverables	Shop Drawing/Detailing
Software used	Autodesk Steel/Teckla



Steel Structure

AS-BUILT DRAWINGS

Project Description	Airport BHS System
Involvement	As-built Drawing Extraction
Deliverables	As-built Drawing Extraction
Software used	Autodesk Steel/Teckla



Type of Clients

• Architects • Real Estate Developers • Engineering Consultants • Building Contractors • Product Designers & Manufacturers • Interior Designers

We deliver a spectrum of professional & high quality 3D Architectural Services to help our clients visualize their architectural projects. We partner them by creating highly accurate 3D Models, Photorealistic Renderings and Virtual Walkthroughs.



Conceptual Model (Interior)



Rendered Model with Material



Actual Site Image after Construction

Civil & Infrastructure Services

Highways/Railways Project:

WET has emerged as one of the known integrated players in the Railway EPC industry. We offer an entire range of services on a turnkey basis in Highways and Railway infrastructure projects. Our services include Shop Drawing preparation for;

- Civil infrastructures, including earthworks, bridges, station buildings, and facilities
- New Railway track laying & rehabilitation of existing tracks
- Railway electrification and power systems
- Railway signaling & Telecommunication
- Rough grading, finished grading, lot-setting, road, paving,
- Storm-drain, Potable water,

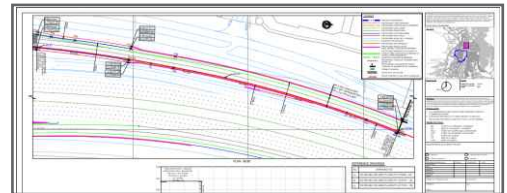
Sanitary, Irrigation, Power, Street lighting, Gas system • BIM/ 3D coordinated models for all services.

Metro Project:

In a short span of time, WET has established itself as a preferred MEP BIM Modeling Organisation for Metro Projects. With our legacy of exceptional project execution capabilities, we have emerged as one of the leading players in this Segment.

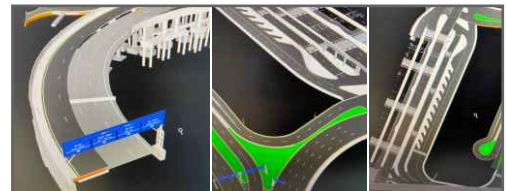
SHOP DRAWINGS

Project Description	Diriyah Square
Involvement	Civil & Infrastructure (Roads)
Deliverables	3D model
Software used	Civil 3D/Revit/Naviswork



3D MODELING

Project Description	Diriyah Square
Involvement	Civil & Infrastructure (Roads)
Deliverables	Shop Drawings
Software used	Autodesk Civil 3D/Autocad/ Naviswork/Revit



AS-BUILT DRAWINGS

Project Description	Diriyah Square
Involvement	Civil & Infrastructure (Roads)
Deliverables	As-Built Drawings
Software used	Civil 3D/Revit/Naviswork



MEP Engineering Design Services

HVAC System

Details of Building Services Design:

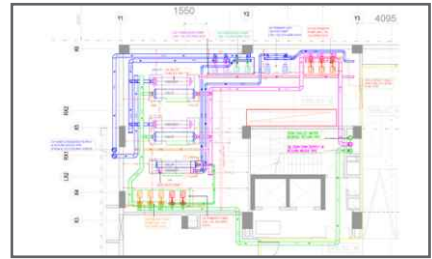
- Design Load Calculations using Trace/HAP/Hevacomp software
- High Side Equipment (Water Cooled, Air Cooled) Selection and Layouts
- Low Side Equipment (Air Handling Units, Indoor Units) Selection and Layouts
- Piping Layouts and Schematics (Chilled Water, Condenser Water, Hot Water, Refrigerant, Condensate Drain)
- Air Distribution Ducting Layout (Supply air, Return air, Fresh air, Exhaust air)
- Mechanical Ventilation System (Normal, Smoke) Calculations and Layouts
- Pressurization System Calculations, Layouts and Schematics (Lift Well, Staircase, Lift Lobby)
- Coordination with other Services
- Bill of Quantities preparation

Electrical System

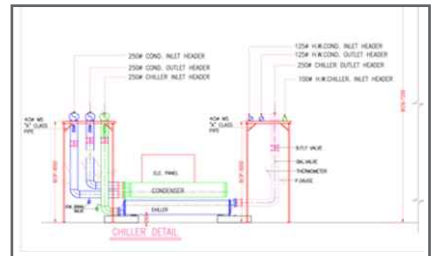
- Electrical Load Calculations
- Lighting Calculations using Dialux software and Control Schematics
- MV/LV Switch gear selection
- Transformer Selection
- Emergency Power Generation Equipment (DG Sets) Selection
- Generating Single Line Diagrams (SLDs) for MCCs and Panels
- Cable Sizing Calculations and Cable Schedules
- Voltage Drop Calculations
- Equipment Sizing
- Space Planning
- Grounding design & Layouts
- System analysis using Amtech/Hevacompsoftwares
- Understanding and Removal of errors and discriminations from circuits
- Standby Power and UPS System
- Containment Calculations and Sizing
- LT Switch Socket Layouts
- ELV (Data, PA, Music, TV) Layouts
- Fire Alarm System Layouts
- Lightning Protection System Layouts
- Vertical Transport System (Lifts, Escalators, Elevators) Layouts
- HSD Bulk Storage Calculations and Layout
- External Lighting Layout
- Solar PV cell external lighting system
- Coordination with other Services
- Bill of Quantities Preparation

Plumbing System

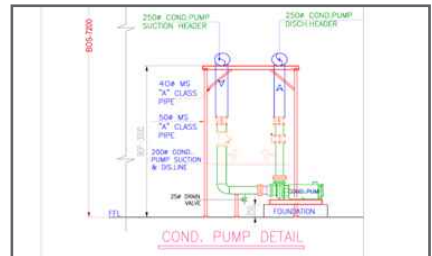
- Water Supply System Calculations and Layouts
- Sewage and Drainage System Calculations and Layouts
- Storm Water System Calculations and Layouts
- Rain Water Harvesting System Calculations and Layouts
- Sewage Treatment Plant Capacity Calculations and General Layouts (Detailed Layouts by STP Vendor)



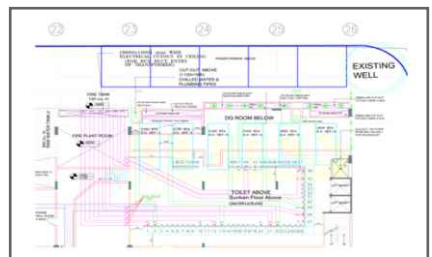
AC Plant Room Layout



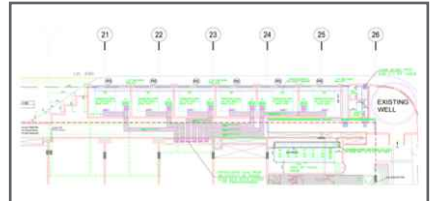
Typical Connection Details of Chiller



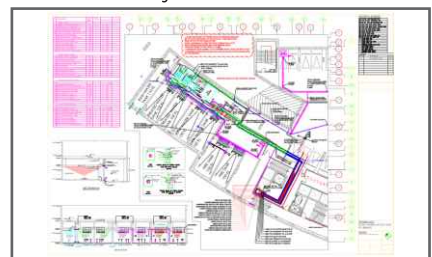
Typical Condenser Water Pump Connection Details



DG Room Layout



Meter Room Layout



Plant Room - Plumbing and Fire Fighting

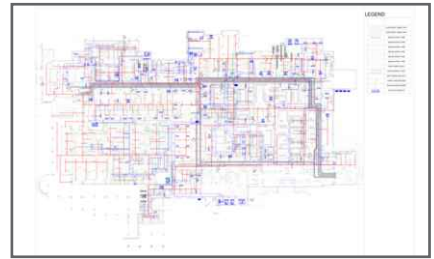
MEP Engineering Design Services

- Water Treatment Plant Capacity Calculations and General Layouts (Detailed Layouts by WTP Vendor)
- Solar Hot water Generation Calculations and General Layouts (Detailed Layouts by Solar Hot Water Vendor)
- Pumps Selection, Piping Design and Layouts for all Systems
- Plumbing Plant Room Layout

Fire Fighting System

(Design Basis: Local Building Codes):

- Calculations, Design and Layouts of:
 - i) Automatic Sprinklers
 - ii) Fire Hydrants
 - iii) Portable Fire Extinguishers
 - iv) Gas (NOVAC123, Co₂) based Fire Suppression
 - v) Foam based Fire Suppression
 - vi) Deluge system for Basements
- Fire Plant Room Layouts



Coordinated Layouts - MEP Services

MEP Services Design Projects



Health Centre and Hospital
at Doha, Qatar



Shopping Mall
at Jaipur, India



5 Star Hotel at Kolkata, India



Residential Buildings
at Gurgaon, Haryana

GEO-BIM Services

The use of BIM and GIS introduces a whole new spatial element to this smart and innovative industrialized construction process with one simple goal in mind – to increase the efficiency of the entire design and construction process. BIM and GIS integration is the process of blending the BIM model into layers of the geospatial context. So, designers can use GIS to get the most accurate information about any area, where construction is to take place.

As part of Geo-BIM services, WET delivers Geospatially positioned model along with Revit BIM Model. It can be viewed in GIS platform superimposing with World Imagery.



Advantages of Geo-BIM model

- Being in real-world presentation over Earth Imagery, can help modellers & architects to better & innovative decision making related to availability of surrounding facility.
- Being in a comprehensive GIS platform, analysis can be made by Local Governments & emergency planners to deal with emergencies.
- All the features modelled in Revit comes as distinct feature layers in GIS platform. Analysis can be made out to Architectural, Structural, Electrical, Mechanical & Piping designs separately.
- As part of GIS analysis, particular features with attributes can be highlighted with putting conditional query & expressions.
- Thematic property can be put to objects such as types of rooms available in a Building interactively.



Weaverbird Engineering & Technology Pvt. Ltd.

(An ISO 9001:2015 Certified Company)

weaving smart information

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