



# TEC Engineering Services

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## About Us:-

Taiba Engineering Consultants ( TEC ) TEC ENGINEERING SERVICES LLC is a leading provider of MEP Designing, Drafting & Modelling services to our clients spread across Middle East, Asia & USA.

Our team consists of Young Talented Engineers, Modellers & Draughtsmen with Experience in their relevant fields. TEC is committed to provide highest level of accuracy and precision in our projects within allotted timeframe without compromising on quality. Our working is completely process driven and result oriented. We strive to continually improve and update our process and systems to stay In tune with the modern technology.

TEC has handled high-volume projects and consistently delivered accurately, on time services to the clients. We follow international standards and Codes for MEP Services. We provide our clients with creative and custom tailored MEP services. We can efficiently handle conceptual, preliminary and detailed design projects in compliance with your standards or requirements. We specialize in converting hand drawn sketches, fully detailed MEP drawing or a concept into accurate and precise 2D, 3D, 4D, or 5D drawings. Some of the input formats which we accept are PDF files, AutoCAD files, GIF or JPEG files, pictures, photos, scanned images, hand-drawn sketches and electronic files. We use AutoCAD, CADian and Revit MEP software.

A formal corporate quality policy with total commitment from every individual in our organization is the backbone of our quality initiative. Our customer segment includes **Architects, Building Contractors, MEP Consultants, Construction Companies and CADD service providers.**



Regd. # 1315/2007

# INFRASTRUCTURE



# INFRASTRUCTURE

**At TEC we have world class infrastructure for handling the corporate projects.**

We have PC's with latest configuration which enables to handle the large scale 3D models and files.

We have power back up to save our esteemed client's projects files from crashing due to power failure.

We have internal Email system for monitoring the status of the projects on daily basis.

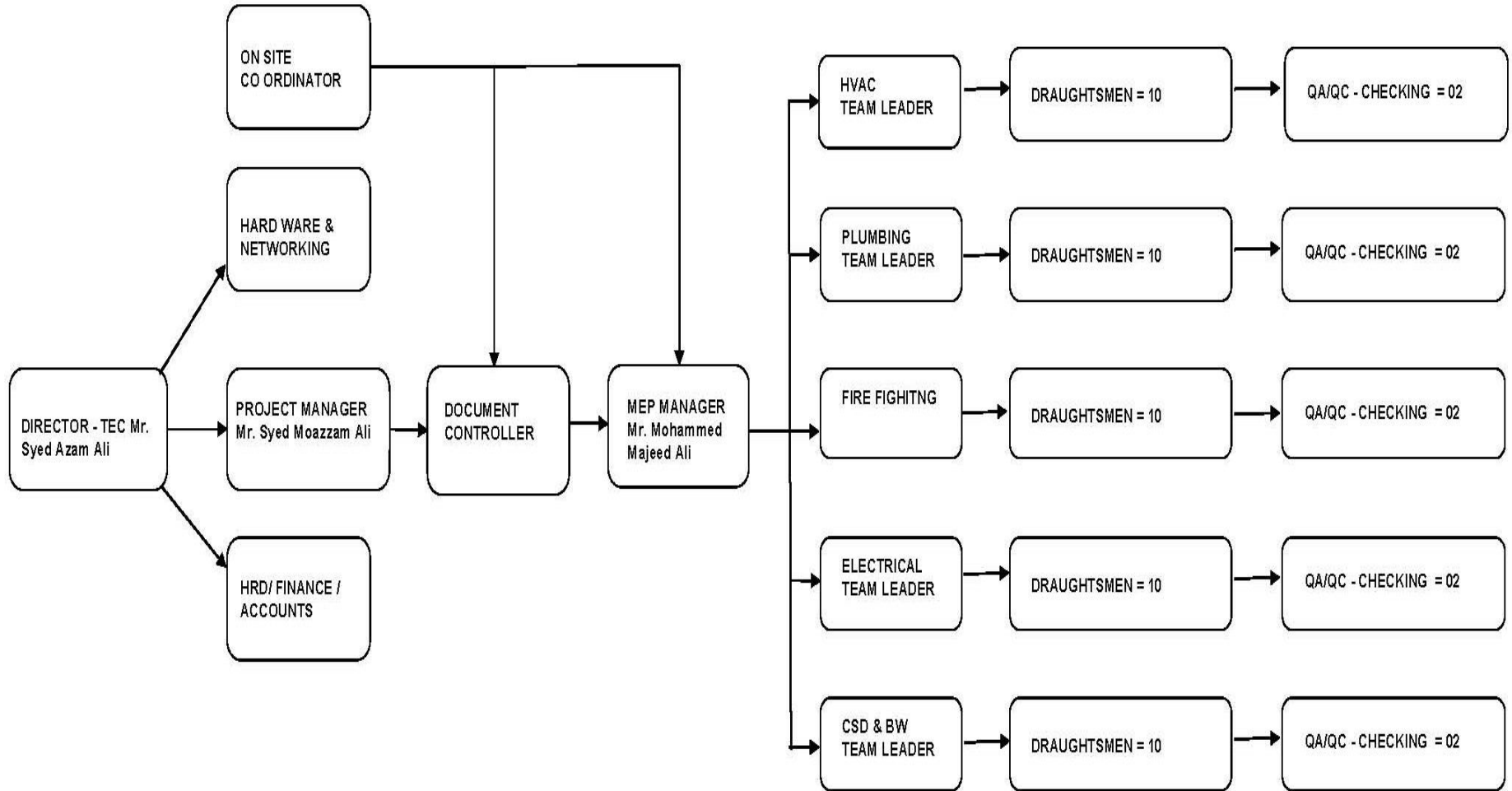
We have CCTV for Monitoring

Our	Hyderabad offices covers around	10,000 Sq.Ft
	Bangalore office covers around	3,000 Sq.Ft
	Kerala offices around	5,000 Sq.Ft



Regd. # 1315/2007

# ORGANIZATION CHART





# Scope of Work

## Designing and Preparing Shop Drawing

- HVAC
- Plumbing
- Electrical
- Fire Protection
- BIM



Regd. # 1315/2007

# HVAC





# HVAC - Heating Ventilation and Air-Conditioning

The main purpose of TEC MEP is to design and implementation of a Heating, Ventilation, and Air-Conditioning (HVAC) system is to help maintain good indoor air quality through adequate ventilation with filtration and provide thermal comfort. HVAC systems are among the largest energy consumers in any premise.

The choice and design of the HVAC system makes the difference in any living and working environment. This is why we strive to design quality systems that are cost-competitive while successfully providing an appropriate quality air, lower energy costs, and easier maintenance.

# HVAC





# HVAC - Heating Ventilation and Air-Conditioning



## Our HVAC services include :

### Designing Service

- Cooling and Heating Load Calculation by using E-20 , HAP 4.9, Elite with Concept Design Layout.
- Duct Designing by Equal Friction method, Velocity reduction Method and Static Regain Method
- Grilles and dampers selection
- ESP Calculation by using ASHRAE DUCT FITTING
- Quantity Take of Ducting

### Hourly Analysis Program

Version 4.90  
North American Edition



This software is licensed to: TEC MEP

No warranty, either expressed or implied, is given with respect to the accuracy or the sufficiency of the information provided hereby, and the user must assume all risks and responsibility in connection with the use thereof.

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This program is protected by US and International copyright laws.

Ready OK



American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.  
1791 Tullie Circle NE  
Atlanta, GA 30329 USA  
(404) 636-8400  
[www.ashrae.org](http://www.ashrae.org)

## Duct Fitting Database

Version 2.5.0

*This program is copyright protected as described in Help About*

DesignTools DuctSizer V... - - -

Exit Print Clear Units About

68°F Air STP

Fluid density	0.075 lb/ft <sup>3</sup>
Fluid viscosity	0.0432 lb/ft-h
Specific Heat	0.24 Btu/lb°F
Energy factor	1.08 Btu/h°F-cfm

Flow rate  cfm


Head loss  in.WC/100 ft

Velocity  fpm

Equivalent diameter  in

Duct size  in X  in

Equivalent Diameter	18.89 in
Flow Area	1.9453 ft <sup>2</sup>
Fluid velocity	1028.1 ft/min
Reynolds Number	168,546
Friction factor	0.01886
Velocity Pressure	0.0659 in.WC
Head Loss	0.079 in.WC/100 ft



[www.mcquay.com](http://www.mcquay.com)



# HVAC - Heating Ventilation and Air-Conditioning

## Designing Service

- Chilled Water Pipe Sizing by using ASHRAE Standard
- Chilled Water Pump Head Calculation
- Expansion Tank Sizing
- Central DX / VRV systems
- Ventilation Design using **ASHRAE** Standards which includes
  - Toilet Exhaust System
  - Kitchen Ventilation Design
  - Car Park Ventilation
  - Stairwell Pressurization System,
  - Generator, Transformer and Electrical Room Ventilation System
- Energy Recovery
- Preparing Equipment Schedules

DRI ROTOR SELECTION SOFTWARE

File Help

VIEW REPORT SEARCH Project SAVE DATA

**DRI** **ARI CERTIFIED** **ECO-TECH** **Enthalpy Wheels**

Select Country: ALABAMA UNITS: SI (selected) or FPS

Select City: ANNISTON

DBT & WBT: 10500 cmh

	DBT	WBT	RH	G/Kg	Kj/Kg
S	33.9	24.4	46.1	15.3	73.6
M	33.9	24.4	46.1	15.3	73.6
W	-4.4	-6.6	49	1.3	-1.1

Outdoor Air (O/A): 10500 cmh

	DBT	WBT	RH	G/Kg	Kj/Kg
S	72.3	72.3	72.3	72.3	123
M	72.3	72.3	72.3	72.3	72.3
W	72.3	72.3	72.3	72.3	72.3

Exhaust Air (E/A): 10500 cmh

	DBT	WBT	RH	G/Kg	Kj/Kg
S	72.3	72.3	72.3	72.3	123
M	72.3	72.3	72.3	72.3	72.3
W	72.3	72.3	72.3	72.3	72.3

Energy Recovery: Summer 56 MBH 56 KW, Winter 28.28 MBH 56 KW

SELECT OPTIONS: WHEEL: Enthalpy (selected) or Sensible; PURGE: With Purge (selected) or Without Purge

Project Details: Wheel Depth 270 mm MS-Series

Supply Air (S/A): 10000 cmh

	DBT	WBT	RH	G/Kg	Kj/Kg
S	72.3	72.3	72.3	72.3	123
M	72.3	72.3	72.3	72.3	72.3
W	72.3	72.3	72.3	72.3	72.3

Return Air (R/A): 10000 cmh

	DBT	WBT	RH	G/Kg	Kj/Kg
S	26	18.7	54.9	10.9	53.1
M	26	18.7	54.9	10.9	53.1
W	26	18.7	54.9	10.9	53.1

Velocity: 56 m/s, Efficiency: 0.90, Pressure drop: 28.28 Pa

Diagram: A central rotor wheel with arrows indicating air flow: Outdoor Air (O/A) entering, Supply Air (S/A) exiting, Return Air (R/A) entering, and Exhaust Air (E/A) exiting. A drive motor and heat/enthalpy wheel are also shown.

Click For Automatic Selection: Economy Standard Enhanced (selected)

Click For Manual Selection: ALL MODELS

Metric Size (selected) or Imperial size

Calculate, <<<<Back, Exit

DesignTools PipeSizer Version 6.2

Exit Print About

Sch 40 Steel, 50°F Water, 1/2" diameter, 1.4 USgpm

Outside Diameter	0.84 in	Fluid density	62.411 lb/ft <sup>3</sup>
Wall Thickness	0.109 in	Fluid viscosity	3.1667 lb/ft-h
Inside Diameter	0.622 in	Specific Heat	1.002 Btu/lb°F
Inside Area	0.304 in <sup>2</sup>	Energy factor	501.6 Btu/h°F-ft
Cross Section Area	0.2502 in <sup>2</sup>	Fluid velocity	1.48 ft/s
Section Modulus	0.04071 in <sup>3</sup>	Reynolds Number	5,436
Moment of Inertia	0.0171 in <sup>4</sup>	Friction factor	0.03972
Radius Gyration	0.2613 in	Head Loss	2.602 ft/100 ft
Weight of Pipe	0.851 lb/ft	Elbow loss	0.068 ft
Weight Pipe + Fluid	0.983 lb/ft		

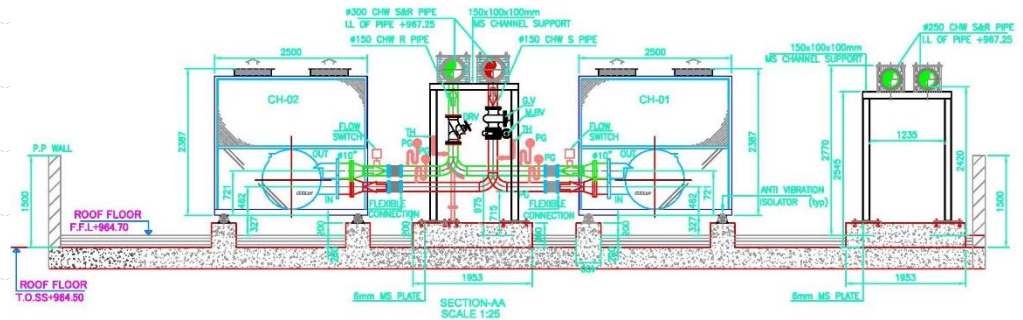
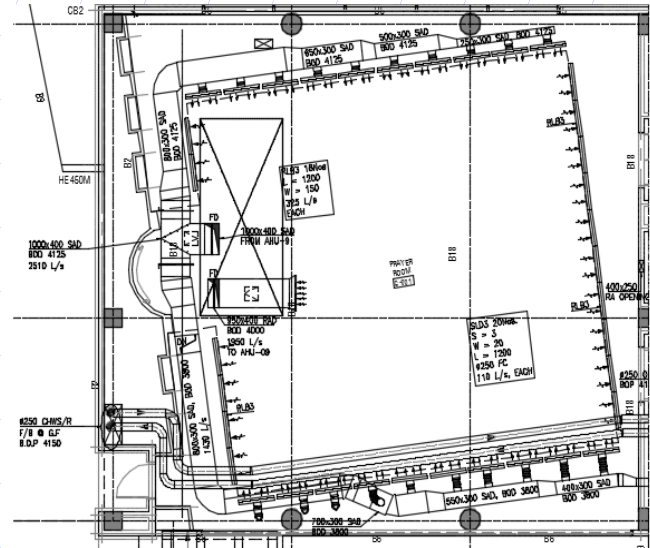
**McQuay** Air Conditioning



# HVAC - Heating Ventilation and Air-Conditioning

## Drafting Service

- Preparation of Design Drawings and Shop Drawing
- Preparing Ducting and Piping Layouts for all Equipment's.
- Preparing Roof Plans for HVAC Equipment's.
- Preparing chilled water Piping Riser Diagram.
- Detailed Drawing of all HVAC details.
- Drafting of HVAC Schematics for central air systems and chilled water systems.
- Preparing Section Drawings, Plant Room Detail Drawing
- Preparing of Refrigerant Piping, chilled water piping design.





Regd. # 1315/2007

# PLUMBING



# PLUMBING (Water Supply and Drainage)

The plumbing industry is a basic and substantial part of every developed economy due to the need for clean water, and proper collection and transport of wastes.

Given the importance of water in our lives, our designers and installers are extremely careful in the treatment of a resource that is scarce worldwide. Team TEC MEP puts lots of emphasis to ensure we provide a plumbing

where pipes, drains fittings, valves, valve assemblies, and devices we design in a building for the distribution of water for drinking, heating and washing, and the removal of waterborne wastes are well sized and securely installed





# PLUMBING (Water Supply and Drainage)

Our Plumbing services include :

## Designing Service

- Water Supply Demand following UPC, IPC, IOP and NBCI Standards
- Underground reservoir, Elevated Roof Tank Sizing
- Cold Water, Hot Water, Gray Water Pipe Sizing by using IPC standard
- Foul Water Drainage Pipe Designing (Soil, Waste and Vent) by using IPC standard
- Manhole, Septic Tank, Soak away pit, Dispersion Trenches Calculation.
- Storm water drainage & External water supply Calculation.

Density	1000	kg/m <sup>3</sup>
Viscosity	1	cP
Flow	10	m <sup>3</sup> /h
Pipe Materials	Carbon Steel	
Exact Pipe Diameter	46.0	mm
Economic Velocity	1.6699	m/s

PIPE SIZE	HEAD LOSS	SURGE PRESSURE
Flow Rate (gpm)	Length of the Pipe, (m)	Modulus of Elasticity, E (MPa)
Density of Fluid (kg/m <sup>3</sup> )	Elevation Change (m)	Bulk Modulus of Fluid, K (MPa)
<b>FIND</b>	Type of fittings	Diameter of Pipe, D (mm)
Pipe Size, (mm)	K-factor for fittings (from table)	Thickness of Pipe, t (mm)
<b>Enter the next bigger Size (mm)</b>	<b>FIND</b>	Density of Fluid, d (kg/m <sup>3</sup> )
<b>REYNOLDS NUMBER</b>	Friction factor for Pipe	Change in Velocity, V (m/s)
Absolute Viscosity (poise)	Total Friction Head (m)	Pressure Class, Pc (psi)
<b>FIND</b>	Total Head (m)	Working Pressure, Pw (psi)
Velocity of flow, v (m/s)	Working Pressure drop (psi)	<b>VIEW THE EQUATION</b>
Reynolds Number	<b>IMPORT THE VALUES TO FIND SURGE</b>	<b>FIND</b>
	Total Head, H = H <sub>f</sub> + H <sub>e</sub>	Wave velocity, a (m/s)
	where, H <sub>f</sub> - Head loss due to Friction	Surge Pressure, Ps (psi)
	H <sub>e</sub> - Head loss due to change in elevation	<b>CONDITION: If the sum of Working pressure and Surge pressure is less than 1.4 times the pressure class, the design is safe (AWWA-C950/95)</b>
	<b>EXIT</b>	<b>CHECK</b>

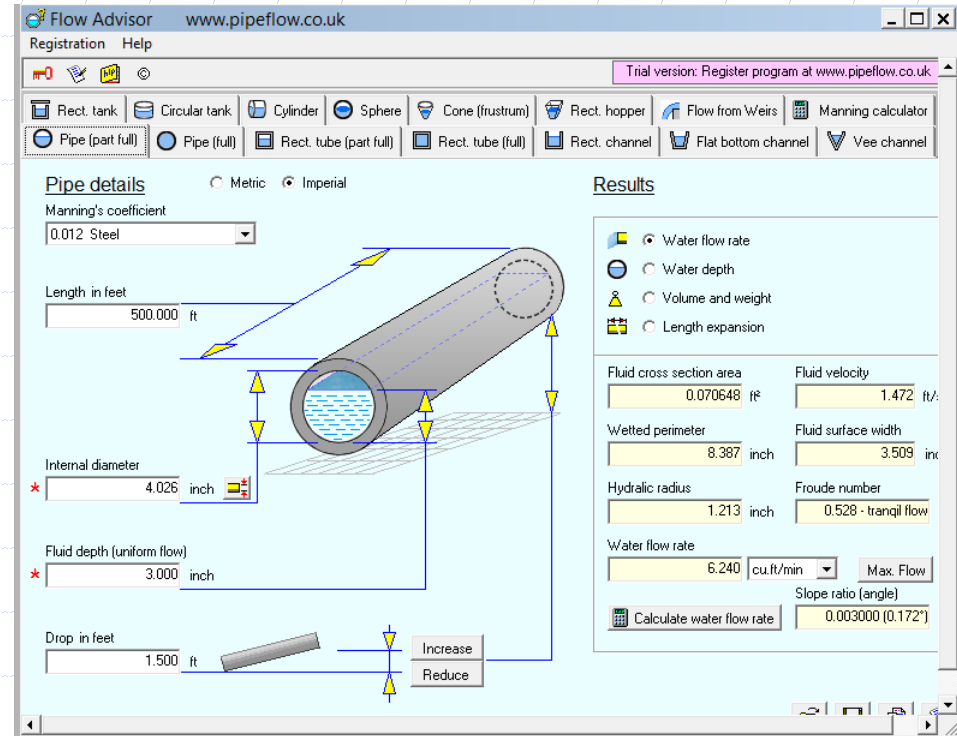
-Reynolds Number < 2100, Laminar flow  
-Reynolds Number > 3000, Turbulent flow  
-Reynolds Number between 2100 and 3000, the flow is in transition flow zone



# PLUMBING (Water Supply and Drainage)

## Designing Service

- Garden water supply & fountain designing
- Electrical Water Heater Design
- Head loss Calculation for Water Pipe System.
- Water Pump, Booster Pump, Auto Pneumatic Tank, Fountain Pump Selection.
- Grease Interceptor Designing, Lift Station Designing



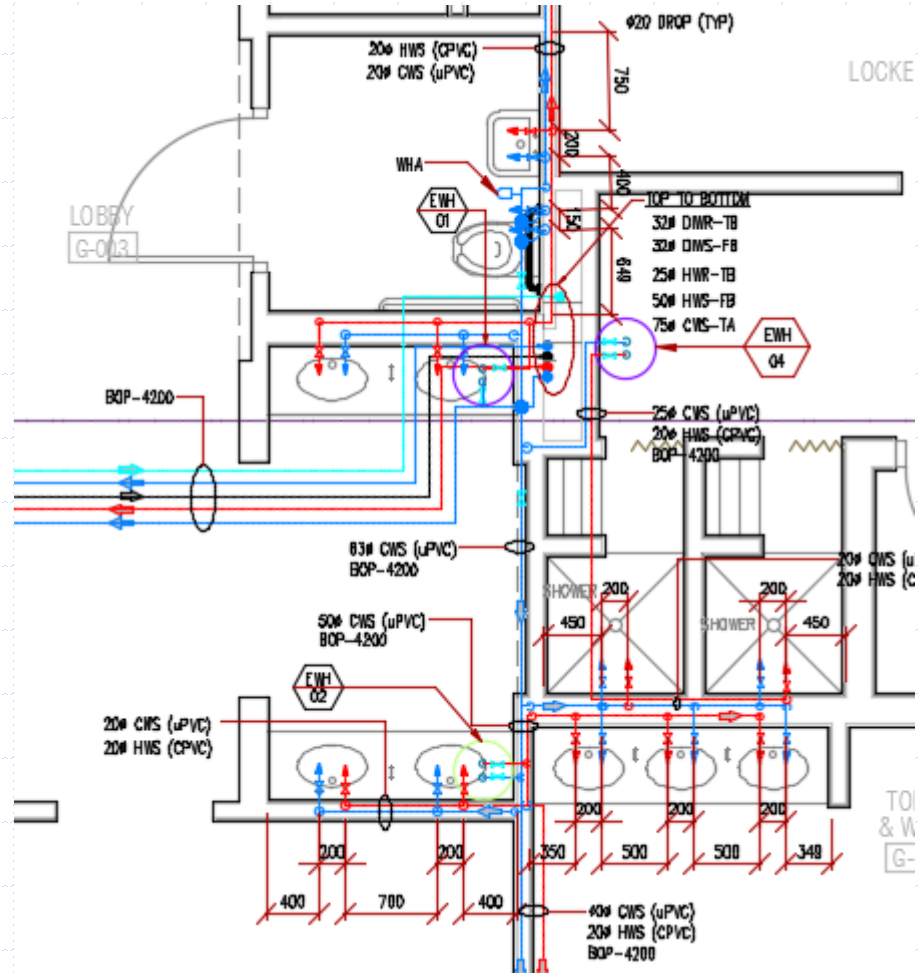




# PLUMBING (Water Supply and Drainage)

## Drafting Service

- Preparation of Design Drawings and Shop Drawing
- Preparing Water Supply Piping Layouts
- Preparing Drainage Piping layouts.
- Preparing Water Supply and Drainage Riser Diagram.
- Detailed Drawing of all Plumbing details.
- Preparing Section Drawings, Plant Room Detail Drawing and Water Tank Details Drawing with Sections





Regd. # 1315/2007

# FIRE PROTECTION



# FIRE PROTECTION

Our purpose behind our Fire protection practice is based on three vital goals. The continuity of operations, property protection and last but not least life safety.

TEC MEP team intend in their engineering of fire protection systems to prevent the interruption of critical services necessary for the public welfare and to prevent area wide conflagrations, all with life safety as the ultimate goal.



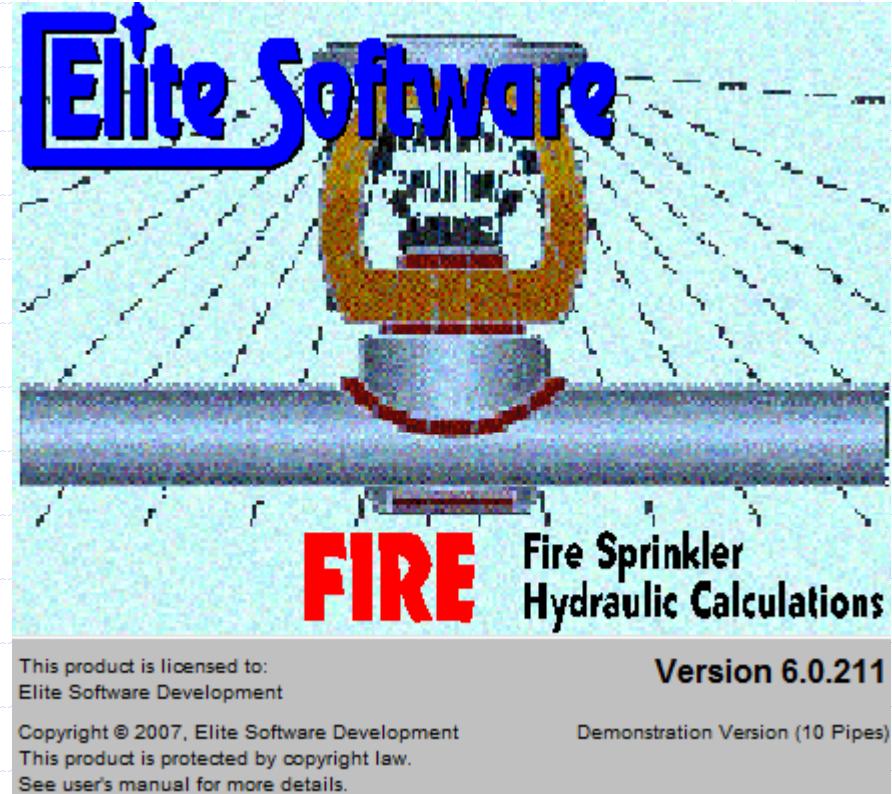


# FIRE PROTECTION

## Our Fire Fighting services include :

### Designing Service

- Fire water Demand & Fire water tank Calculation following NFPA Standards.
- Head Loss calculation for Fire water pumps system.
- Jockey pump, Main Pump, Diesel Operated Pump, and Booster Pumps Selection.
- Sprinkler system, Fire Hose Cabinet, Water Hydrant system, Smoke detector, Heat detector Selection.
- FM 200(Waterless system) Designing and Fire Extinguisher Selection..

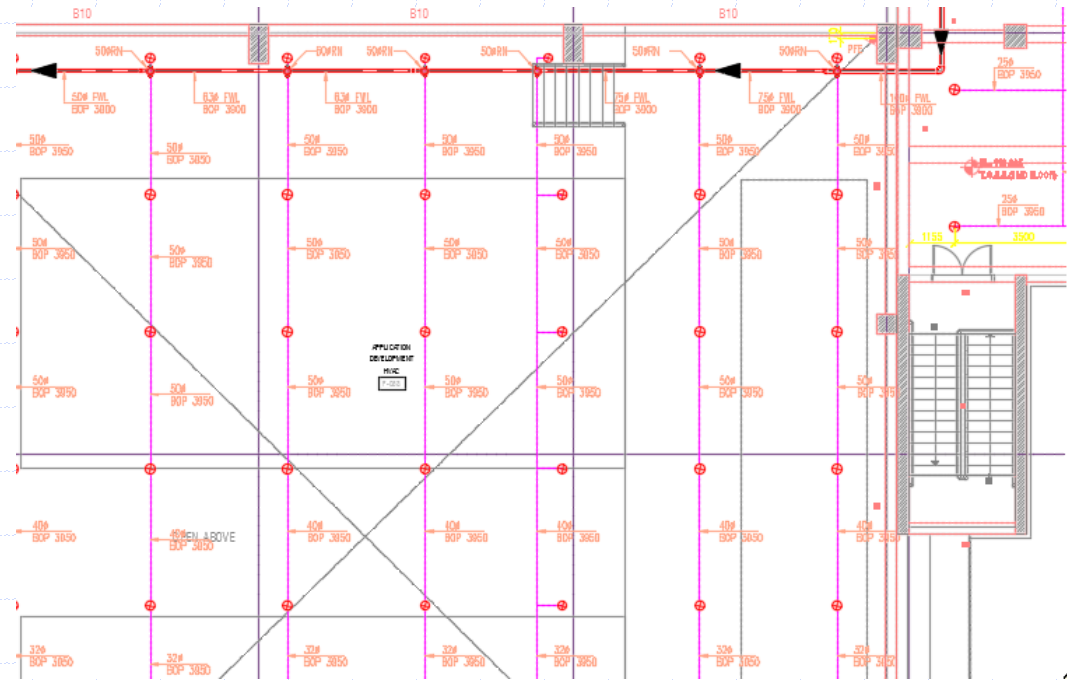




# FIRE PROTECTION

## Drafting Service

- Preparation of Design Drawings and Shop Drawing
- Preparing Wet and Dry Sprinkler Piping Layouts.
- Preparing Fire Protection Riser Diagram.
- Detailed Drawing of all Plumbing details.
- Preparing Section Drawings, Plant Room Detail Drawing and Fire Water Tank Details Drawing with Sections.





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# ELECTRICAL



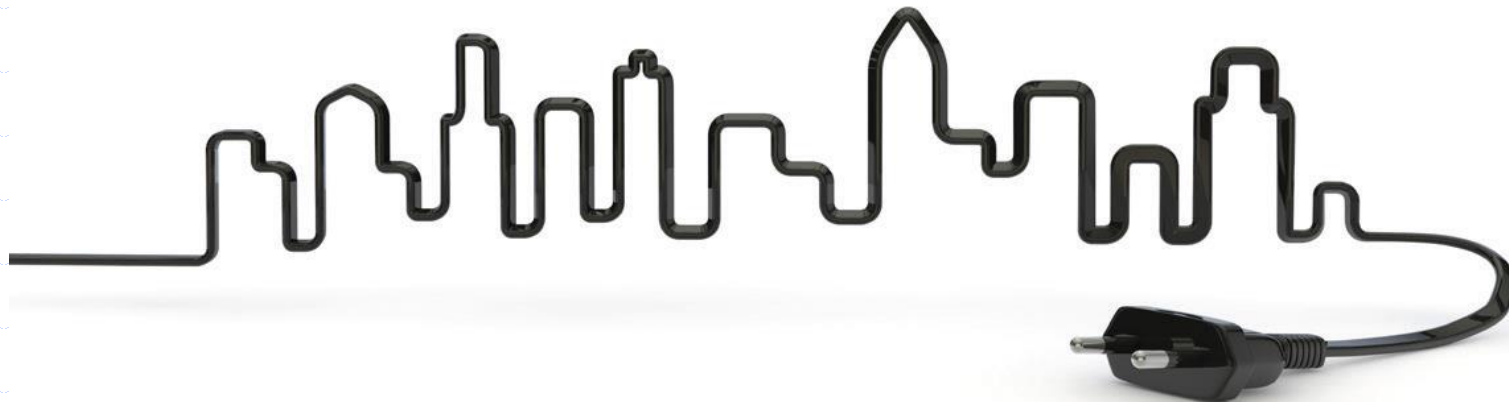
# ELECTRICAL

## Medium Voltage Substation

The substation is a small scale site specific electrical plant which distributes electricity to the building from the main grid. It transforms voltage from high to low, or the reverse and performs other important functions.

Our Design Includes

- *Switching*
- *Protection*
- *Controls equipment*
- *Transformers*





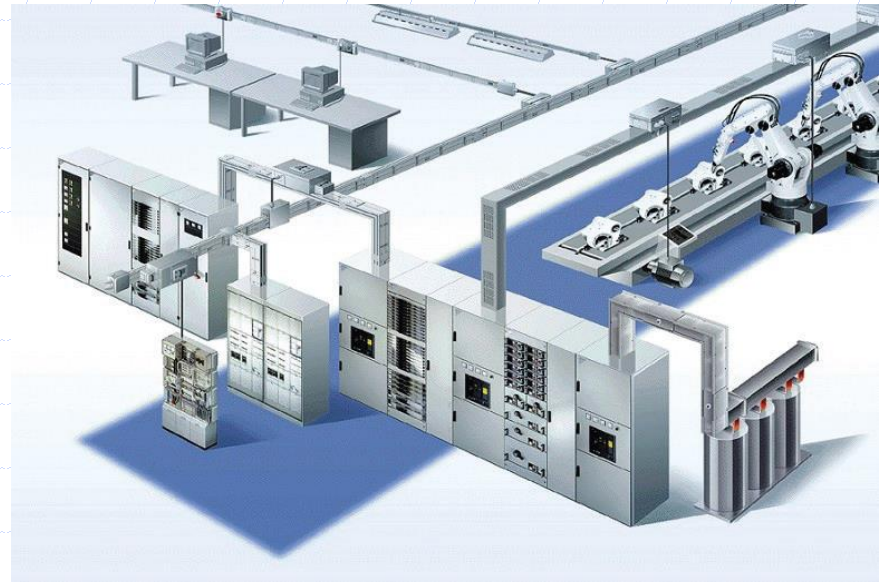
# ELECTRICAL

## Low Voltage Distribution

A low voltage distribution system consists of a combination of several electrical components to provide the required power to the end user.

### Our Design Includes

- *Grounding*
- *Main Distribution Boards (MDB)*
- *Secondary Distribution Boards (SDB)*
- *MDB*
- *Cables*
- *Lighting Fixtures*
- *Sockets*







# ELECTRICAL

## Emergency Power Systems

Emergency power systems provide backup power resources in a crisis or when regular systems fail. They find uses in a wide variety of settings from residential homes to hospitals, scientific laboratories, data centers, telecommunication equipment.

### Our Design Includes

- *Generators*
- *Sound Proofing*
- *Tanks*
- *UPS*





# ELECTRICAL

## Interior Lighting

Interior lighting has a significant impact on both the aesthetic and functional elements of living space and the human environment. Lighting sets the tone of a room with an artistic, sculptural presence based on the design and finish of the fixtures you choose.

### Our Design Includes

- *General ambient lighting*
- *Lux Calculation*
- *Task lighting*
- *Accent lighting*
- *Chandeliers*
- *Ceiling mounted fixtures*
- *Wall mounted fixtures*
- *Track lighting*





# ELECTRICAL

## Exterior Lighting

Low voltage outdoor lighting can be used in a landscape to provide safety, security, accent and character. The specific design of a lighting system will be influenced by site-specific characteristics such as the landscape, its function, and the homeowner's desires.

### Our Design Includes

- *Up lights*
- *Down lights*
- *Backlights*
- *Path lights*
- *Specialty lights*





# ELECTRICAL

## Emergency Lighting Systems

Emergency lighting refers to light fixtures whose purpose is to illuminate the exit pathway of a building in an emergency situation when AC electrical power is lost. During such emergencies, normal lighting systems cease to operate and emergency lighting systems turn on.

### Our Design Includes

- *Central battery system*
- *Maintained lighting fixtures*
- *Non maintained lighting fixtures*

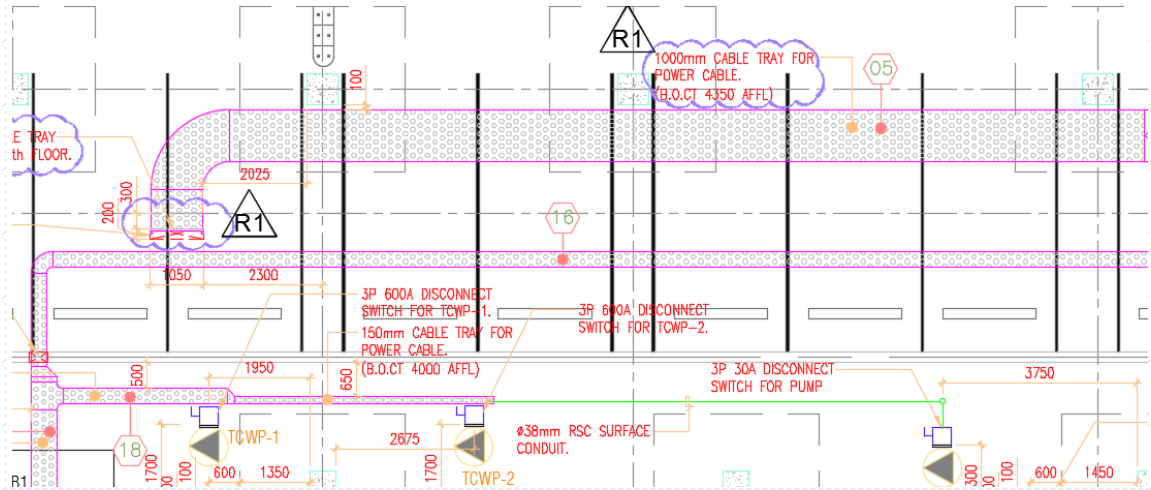
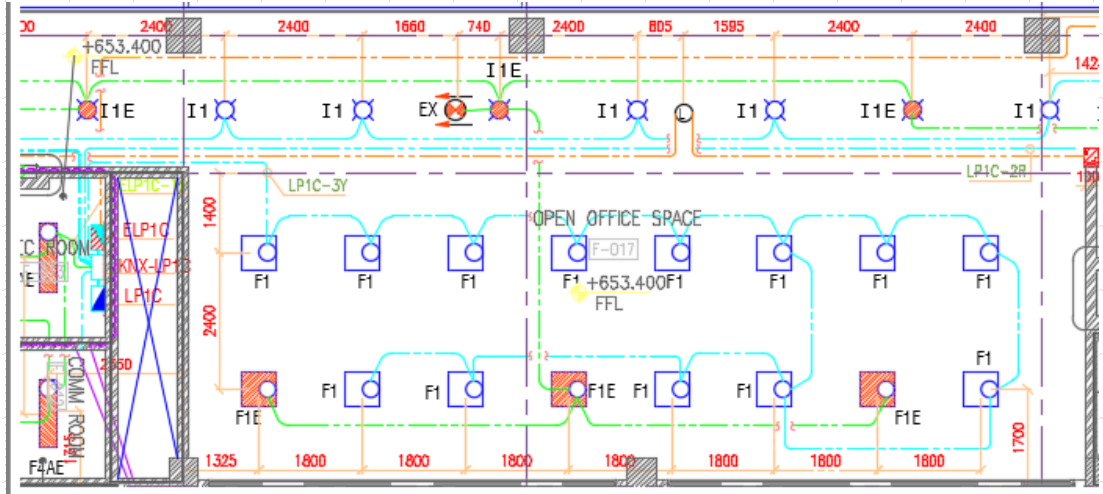




# ELECTRICAL

## Drafting Service

- Preparation of Design Drawings and Shop Drawing
- Preparing Lighting Layout
- Preparing Power Layout
- Preparing Fire Alarm Layout
- Detailed Drawing of all Electrical Detail
- Preparing Section Drawings, Transformer Room, Electrical Room and Generator Room Detail Drawing





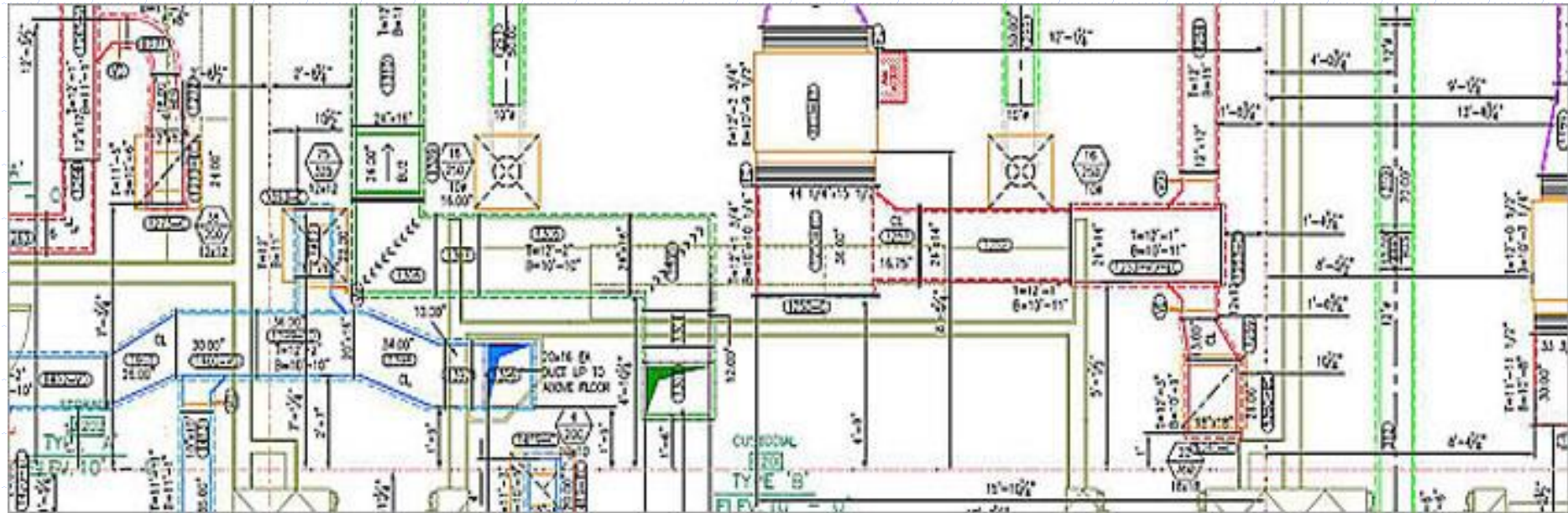
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# CO ORDINATION



# CO-ORDINATION DRAWING

Coordinate the Architectural, Structural; RCP Drawings with the individual MEP [HVAC, Plumbing, Firefighting and Electrical] services Shop drawing for identifying the FFL, SOS, TOC, FCL & rerouting the MEP services at fouling.





Regd. # 1315/2007

# BUILDERS WORKS







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# REVIT MEP



# REVIT MEP

General Project Setup Exploring the User Interface, Creating an Effective Project Template, Work sets and Work sharing, Best Practices for Sharing Projects with AutoCAD & other Consultants.

Revit MEP for **Mechanical** Creating Logical Systems, HVAC Cooling and Heating Load Analysis, Mechanical Systems and Ductwork, Mechanical Piping.

Revit MEP for **Electrical** Lighting, Power, Communications, Circuiting and Panels. Load Schedules

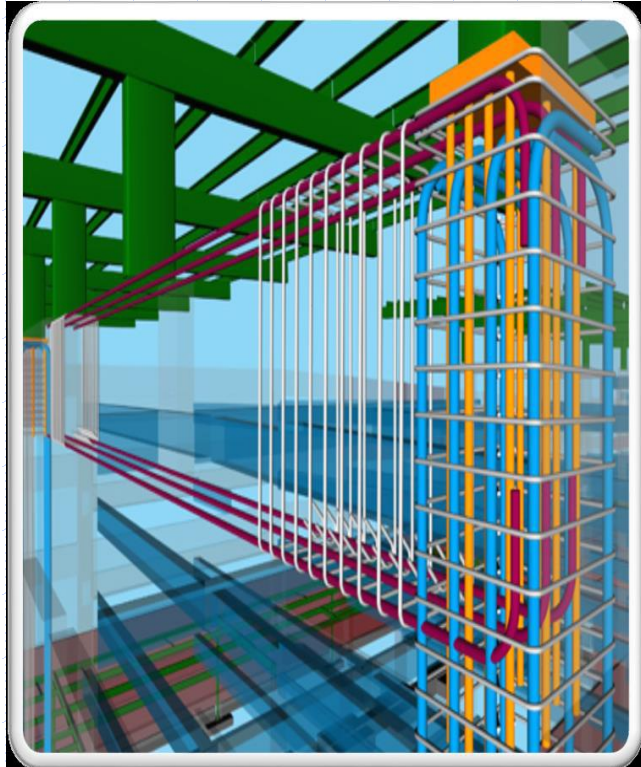
Revit MEP for **Plumbing** (Domestic, Sanitary, and Other Piping), Pipe Routing Auto & Manual

Revit MEP for **Fire Protection** Sprinkler Heads, Fire Pump Assembly, Creating a Fire Riser Assembly,

Fire Protection Piping Auto & Manual. Creation of Families Solid Modeling, Creating Symbols and Annotation, Parameters, Creating Equipment, Creating Lighting Fixtures, Creating Devices



# REVIT MEP





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# OUR PROJECT HISTORY



Project: Millennium 5-Stars Hotel in Tabuk - MEP

Location: Tabuk, KSA

Scope: Scope included HVAC, PLUMBING & FIRE-FIGHTING designing for a five stars hotel located in Tabuk comprising five (5) floors with a total of 200 rooms including 24 king guest executive rooms, 47 king guest rooms, 3 king guest rooms for handicapped, 66 twin guest room, 16 executive twin guest rooms, 38 executive suites, 3 suites, 1 royal suite, 1 main guest room and 1 residential suite included chiller and transformer plant, a generator buildings, switchgear substation, etc....





Project: Sabic Plastics Application Development Center

Location: Riyadh, KSA

Scope: Scope included HVAC, PLUMBING & FIRE-FIGHTING designing for the main building including a chiller and transformer plant, a generator buildings, switchgear substation, etc....





Project: Office Building

Location: Riyadh, KSA

Scope: Scope included all HVAC, Plumbing & Fire Fighting Designing which includes VRV system







Project: Millennium 5-Stars Hotel in Hail

Location: Hail, KSA

Scope: Scope included all HVAC, PLUMBING & FIRE-FIGHTING designing of a five stars hotel located in Hail comprising eight (8) floors with 118 rooms, 22 standard suites, 20 duplex villas, 5 living rooms, and 2 diplomatic suites included chiller and transformer plant, a generator buildings, switchgear substation, etc....





Project: KAFD ( High Rise Building)

Location: Riyadh, KSA

Scope: All HVAC Designing for four high-rise multi-use offices and residential buildings with heights that range between 19 and 31 floors





Project: KAFD ( Dedicated Car Parking)

Location: Riyadh, KSA

Scope: All HVAC Designing for Car Parking which includes central ventilation system with jet fans



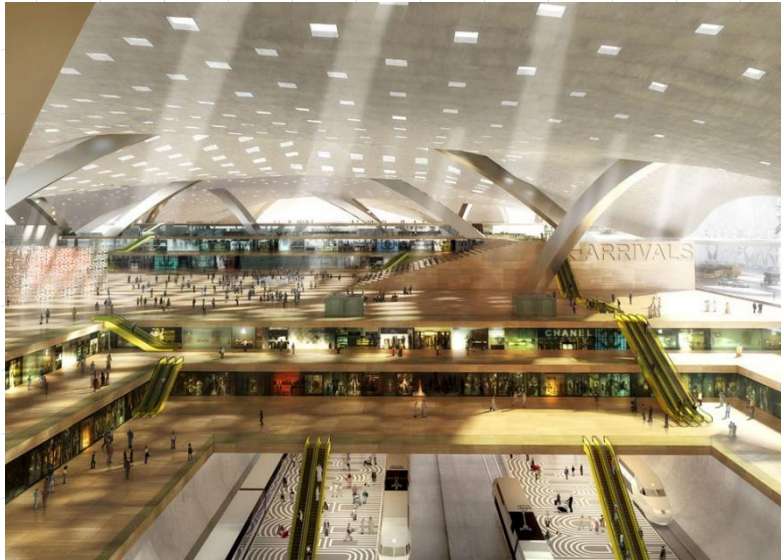
elevation WEST  
DCP 2.15



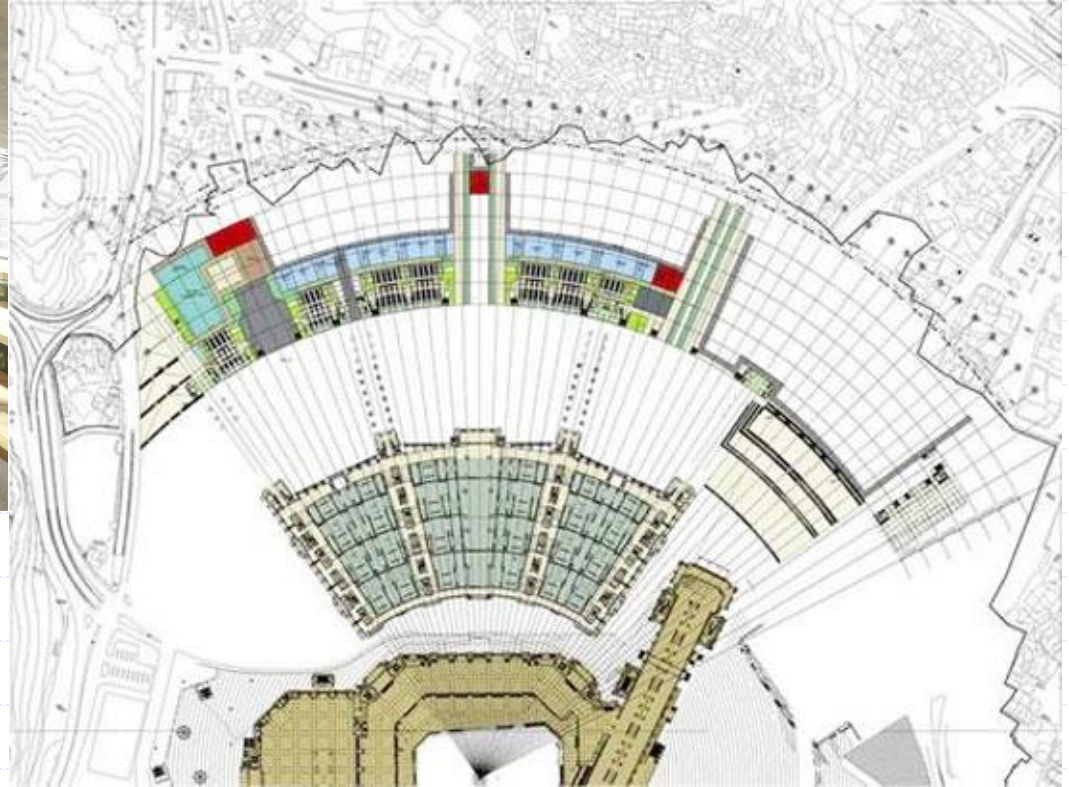
elevation NORTH  
DCP 3.11



## Qatar Airport Project



## HARAM EXTENSION TOILET -6 PROJECT (Makkah Mukarrama)





Regd. # 1315/2007

Al Magrabi Eye Hospital (Gezan)



Al Farooq Mosque Jeddah





## Few of the prestigious projects for which we have worked are

<b>PROJECT</b>	<b>CITY</b>
Ever Green Building	Cario
Fume Project	Dubai
Al Wasi Apartment	Dubai
QSTec Poly silicon	Qatar
AL ETIHAD Gold Refinery	Dubai
Hotel Building	Qatar
Qatar Foundation Golf Club	Qatar
Villas	Khobar Dammam KSA
Hotel Building	Abu Dhabi
CITY HOTELS Resort Hotel and Site Wide Infrastructure	Muscat
Medical University	Al Jouf KSA
Library	Assam, INDIA
Skm hospital	Srinagar INDIA
King Khalid Hospital	Jeddah



## Few of the prestigious projects for which we have worked are

<b>PROJECT</b>	<b>CITY</b>
Al Esai Motors	Yambo
Palestine/Boughdadia Hotel	Makkah Mukarrama
Darul Hadees School	Makkah Mukarrama
Main Kitchen for HRH Governor of ASSIR	(Abha)
Sulaimania Clinic	Jeddah (KSA)
Loori Beach Resort	Jeddah (KSA)
Baharis Villa - Khaladia,	Jeddah (KSA)
Dr.Wisam Villa - Khaladia	Jeddah (KSA)
Sharafia Shopping Centre	Jeddah (KSA)
Al Bagees Mall - Hai Al Rouda	Jeddah (KSA)
Adil Al Gamdi Muli story Residential Building Sulaimania,	Jeddah (KSA)
Port	Jeddah (KSA)
Allstaff & NDY, D&E	Australia



## Few of the prestigious projects for which we have worked are

PROJECT	CITY
Maruti car showroom	Hyderabad
Western Office	Hyderabad
Shadan Engineering College Building	Hyderabad
Dr.Sohail Luxury Villa	Hyderabad
Luxury Furniture house	Hyderabad
Trinetra Shopping Centre	Hyderabad
Dr Zaffershahnawaz villa	Hyderabad
Sark Project	Hyderabad
Hood Project Grand Bawarchi	Hyderabad
Aishwarya Silk -	Cochin
3 Star Hotel Project	Nuzvid
Hospital	Srinagar
Energy Bhavan (Green Building Project)	Hyderabad
Gas Station Project	kuwait





Regd. # 1315/2007

# SUMMARY



# HEATING, VENTILATION & AIR-CONDITIONING

## HVAC

- Heat & Winter Load Calculations
- Equipment Designing & Selection its Accessories
- HVAC Duct Designing
- Chilled Water & Cooling Tower Pipe Designing
- Package A/c, DX Units, Split A/c Designing
- AHU & Pump Room Designing
- Ventilation Designing - Toilet, Kitchen, Car Parking
- Expansion Tank Designing
- Stair Well Pressurization System Designing
- Refrigerant Pipe Sizing for DX Systems
- De-Humidifier, VAV & Sound Attenuator Designing
- ESP Calculations for Blower Fan Selection
- Hydraulic Calculations for CHW Pump Selection
- Bill of Quantity, Estimation & Costing of a Project
- Shop Drawings



Regd. # 1315/2007

## ELECTRICAL DESIGNING

### ELECTRICAL

- Load Schedule Calculation
- Designing of Lighting Distribution Systems
- Designing of Power Distribution Systems
- Designing of Fire Protection Systems
- Fire Alarm Systems & Load Calculation
- CCTV Designing
- Single Line Diagram
- Cable Sizing & Tray Designing
- Transformer Selection
- Panel Board (MDB, SMDB, SDB) Selection
- Fault Level Calculation for Transformer
- Short Circuit Calculation, Circuit Breaker Selection
- Capacitor Bank Selection
- Bus Bar Selection
- UPS & Generators Selection
- Telecommunication
- Emergency Lighting
- Conduit Designing
- Earthing Layout
- Public Addressable Systems
- Lighting Arrestor
- Voltage Drop Calculations
- Selection of Solar Panel, Solar Battery, Solar Regulators
- Bill of Quantity, Estimation & Costing of a Project
- Shop Drawings
- Schematic, Section, Isometric, Schedule Drawings



## PLUMBING DESIGNING

### PLUMBING

- Sump Designing
- Overhead Tank Designing
- Pumping Main Pipe Designing
- Hydraulic Calculations for Pump Selection
- Storm Water Drainage in Building
- Auto Pneumatic System
- Pressure Tank Sizing
- Septic Tanks, Soak Away Pits, Dispersion Trenches.
- Oil & Grease Trap Designing.
- Garden & Fountain Water Pipe Sizing
- Hot Water Estimation, Heater Capacity Selection
- Water Treatment Plant
- Sewerage Treatment Plant
- Manhole Designing
- Drainage Water Pipe Designing
- Equipment Selection & its Accessories
- Pump Room Designing
- Bill of Quantity, Estimation & Costing of a Project
- Shop Drawings
- Schematic, Section, Isometric, Schedule Drawings



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## **FIRE FIGHTING DESIGNING**

### **FIRE FIGHTING**

- Fire Fighting Designing & Calculations**
- Automated Sprinkler Designing**
- Sprinkler Pipe Designing**
- Fire Hose Reel & Cabinet Designing**
- Fire Hydrant Pipe Designing**
- Fire Extinguisher Co2, ABC, Chemical Powder Designing**
- Fire Water Sump Capacity**
- Over Head Tank Capacity**
- Hydraulic Calculations for Fire Pump Selection**
- FM200 Designing**
- Fire Equipment Designing & Selection**
- Bill of Quantity, Estimation & Costing of a Project**
- Shop Drawings**
- Schematic, Section, Isometric, Schedule Drawings**



## CO-ORDINATION SERVICES

**CO-ORDINATION  
SERVICES**

**MEP Co-Ordination Shop Drawings  
Schematic, Section, Isometric, Schedule Drawings**

## BUILDERS WORKS

**BUILDERS WORKS**

**Wall Openings & Filling  
Slab Openings & Filling  
Shaft Openings & Filling  
Equipment Foundation For Equipments Installations  
Pipe & Duct Supports Foundations**



## REVIT MEP - BIM DESIGNING

### REVIT MEP – BIM

- Designing & Drafting of Mechanical Air & Piping System
- Designing & Drafting of Electrical System
- Designing & Drafting of Plumbing System
- Designing & Drafting of Fire Protection System
- Working with Annotations & Dimensions
- Detailing Shop Drawings & Co-ordination
- Creating Documentation Views

## GREEN BUILDING ENERGY SIMULATION

### GREEN BUILDING ENERGY SIMULATION GREEN BUILDING ENERGY SIMULATION

- Environmental Simulation Solutions using eQUEST
- Importing the drawings in Energy Simulation Software, Creating the ASHRAE Baseline model.
- Creating the AS IS model and comparing it with Baseline Model Energy Consumption, Working on various Energy Consumption Measures (ECM), Selecting the ECMs on the basis of Life Cycle Costs.
- Analyze simulation results and Propose ECMs and ranking ECMs on life cycle cost basis.
- Preparation of final proposed case, Documentation and Filling Templates for LEED.