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Subject Civil Engg Drawing And Graphics

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Question # 1

What is the importance of various types of drawings in Building Construction?

Drawings plays an important role in the construction field to convey the ideologies and perspective of the designer to the layman at site. Different types of drawings e.g Architect drawings, Electrical Drawing, Plumbing Drawings, Structural Drawings, HVAC Drawings etc needed to build a buildings.

Architectural Drawings:-

These drawings provide basic idea of the building in design

form with multi-dimensional virtual presentation.

Structural Drawings:-

These drawings are based on final architectural drawings which mainly show internal details of building. These may include RCC, Flooring details, Roofs details etc.

Plumbing Drawings:-

These drawings are for Public health showing water supply system and sewerage system of building e.g GI, RCC etc.

Electrical Drawing:-

These drawings show how the wiring is placed in building elements and indicating the

position of fittings, switches, light, fans etc

HVAC Drawing:-

These Drawings are developed for building with centrally Air-Conditioning system.

Finishing Drawing:-

Finishing Drawings represents the finish type of every Component of the building.

Importance of These drawings in building Construction:-

The Importance lies in the proper and smooth execution of Construction process on site. If insufficient information is

impacted by these drawings, it might lead to a hampered design execution. Before assigning the blueprints on site, each Construction drawing must be checked and verified by the concerned architect and various other technical people involved in Construction site in development of respective drawings to prevent further mishaps and delays on the Construction Site.

Question # 2

How Structural Drawings help in Construction of multi-storey buildings?

Structural Drawings are used in multi-storey buildings as structural elements of Steel multi-storey buildings, such as Columns, main and Secondary beams or Concrete Slabs, Bar number and types, Bend shape, Lap length, Joint detail. For these elements Various cross section types, both pure steel or composite steel

reinforced concrete, are shown and alternative options, presenting the advantages and characteristics of each one. Information is included in respect to the serviceability requirements, the behavior under fire conditions and the methods of Construction. It follows the presentation of the various Structural systems that ensure the overall lateral Stability of the buildings, such as moment resisting frames (MRF), Concentric (CBF) or eccentric (EBF) bracing systems, shear walls of different types or Combinations of the above, in association with

diaphragm action of floor slabs and the rigidity of the connections and joints (simple, rigid or semi-rigid joints). This enables the designer to obtain sufficient information to select, for each specific case of a building, the appropriate Structural configuration for overall Structure, for its parts, such as form and cross-section type of the individual Structural elements and the connections and joints.

Question #3

What are the various Components of Plumbing drawings? Briefly describe each component?

Plumbing Drawings:-

These Drawings show water Supply and sewage systems of any building, including the placement of pipe lines e.g (GI, RCC, UPVC & PVC etc).

A complete plumbing system provides an adequate supply of water and remove waste water properly.

Components:-

There are three various components of plumbing system

i) Waste Supply System.
ii) Waste Water and Waste removal System.
iii) Plumbing fixtures.

i) Waste Water And Waste removal system:-

Waste water and other wastes are carried to the sanitary sewer or septic tank through the waste removal system. These pipes are isolated from the water supply and must be sized for sufficient capacity, have the proper slope and venting and have provisions for cleanout. Typically it is practical to drain as many of the fixture as possible into single main drain. The drainage system is not under pressure and depends on gravity to carry the waste into the sewer.

ii) Water Supply System:-

• Water Supply:-

Water Supply is a provision to deliver water to consumer with appropriate quality, quantity and pressure by Public utilities, commercial organizations, community endeavors or by individuals, usually via a system of pumps and pipe.

• System of Supply:-

Water supply from the mains to the building is through one of the following system depending on the pressure of the water and timings of the supply.

• Direct Supply System:-

Supply of water is directly given to various floors with required pressure for sufficient hours. This is only useful for the building which is not more than two hours.

Indirect supply System:-

Used generally when the pressure in the mains is not sufficient The water is directly to the overhead storage tank and from there the water is supplied to different floors by gravity.

iii) Plumbing fixture:-

A plumbing fixture is an exchangeable device which can be connected to a plumbing system to deliver and drain water

The most common plumbing fixtures are:

- Bathtubs.
- Bidets.
- Channel drains.
- Drinking fountains.
- Hose bib.
- Janitor sinks.
- Pipes.
- Showers.
- Kitchen sinks.
- Urinals.
- Utility Sink
- Flush toilets.