2D&3D ELEVATION, MODELING, PLAN OF G+1 RESIDENTIAL+COMMERCIAL BUILDING BY USING AUTOCAD IN 27'6"X60' AREA

[1]Ayush Mandrah, [2]Akshay Sable, [3] Ashish Khirekar, [4]Himanshu Mohite, [5]Mr. Mohit Verma,

[1]UG student, [2]UG student, [3]UG student, [4]UG student, [5]Professor
Department of Civil Engineering,
Annie Institute of Technology And Research Center, Chhindwara, Rajiv Gandhi Proudyogiki Vishwavidyalaya, Madhya PradeshIndia

Abstract : : In general, When we planning for designing and implementation of construction project. We need to know the elevation of building and quantities and costs of various items required to meet the project. That is, construction project manager has to anticipate the design and cost of project. A 2D section and elevation style controls the linework in an elevation, using design rules that determine how different parts of the elevation are displayed. We apply the style to one or more elevations to control their appearance. The process of calculation of quantities and costs of various items in connection with the construction project is called an "estimate". An estimate is prepared by first obtaining the quantity of the items required to complete the project and multiplied by unit cost of the items. Details of the estimate depend upon the purpose of carrying out estimate. This project is carried out to determine the cost estimation of the G+1 Commercial building. Centerline method is used to calculate the quantities of different items Of work. Centerline method has been used for getting most accurate Estimate.

IndexTerms - **Component,formatting,style,styling,insert.**

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I.　INTRODUCTION

The Auto CAD Architecture software use for 2d elevation of well planned structure, 2d modelling with excellent construction planning. 2D elevation will give us adjustment of wall, column and all elements of building that are bedrooms, hall, kitchen, toilet, bathroom, parking, etc.. In we can have realistic view of building information modelling (BIM) which gives the information about project design, its quantities, and phases when you need it. In the Auto CAD plans, every project we did will give the 2d section views, with detailing and quantities also it will provide us. Auto CAD collects information about each structural element's it will give no. of data such as cost type of family, no. of brick, no. of doors, no. of windows etc. Across all other representations of the project..
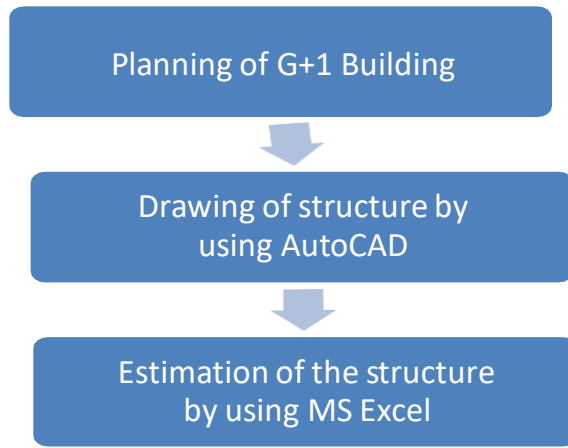
II. OBJECTIVES OF THE PAPER

- We use AutoCAD software for elevation.
- We use MS EXCEL for estimate and costing.
- We need Vastu Sastra for good direction of all elements of building

III. METHODOLOGY:

- We use AutoCAD software for elevation.
- We use MS EXCEL for estimate and costing.

We need Vastu Sastra for good direction of all elements of building

IV. PLANNING OF G+1 RESIDENTIAL + COMMERCIAL BUILDING :

Planning of building is the first step for the construction project to manage view of planning, arrangement and controlling of the performance of projects. A construction project planning is the process of the in which we plan the all key of the project which will need and workable for whole plan.

3.
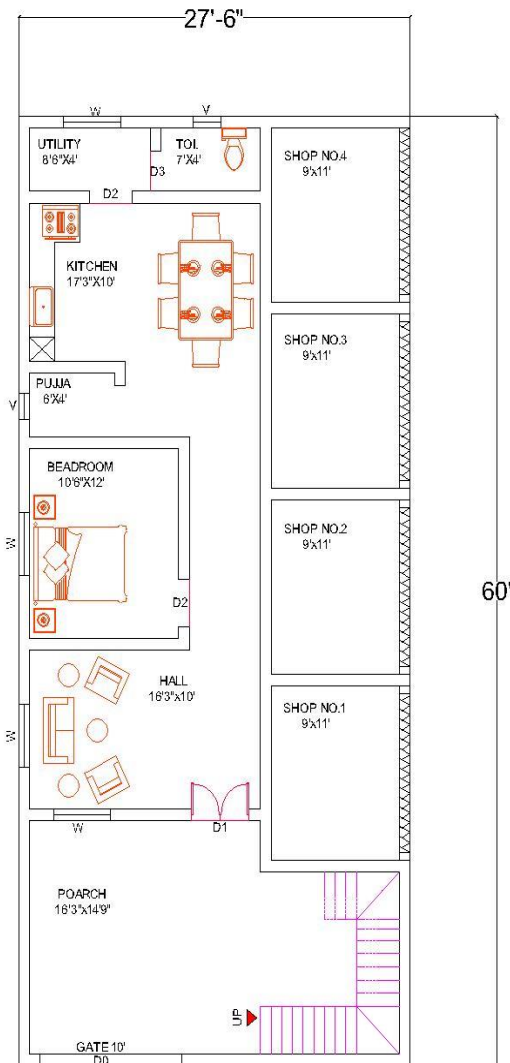


GROUND FLOOR PLAN
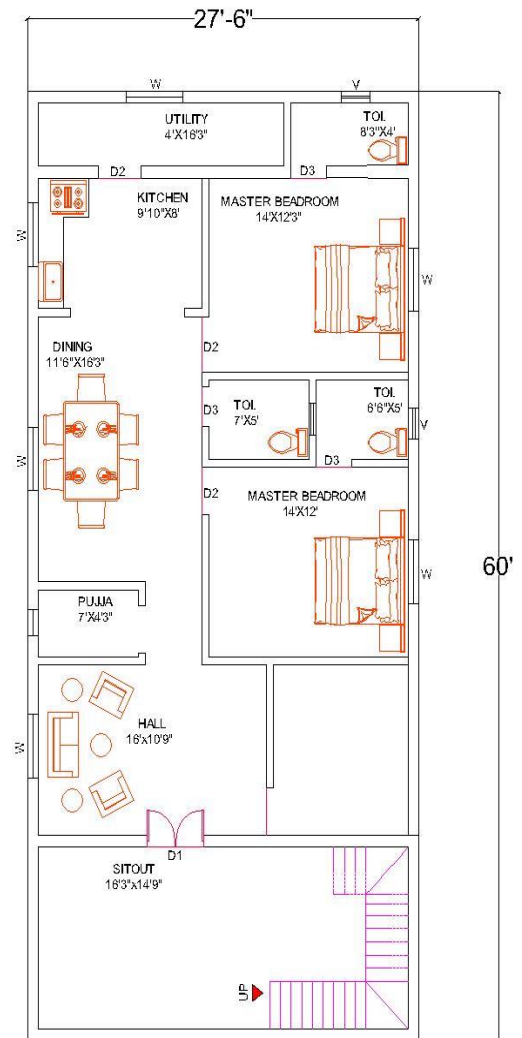
FIRST FLOOR PLAN

V. DRAWING OF STRUCTURE BY USING AutoCAD:

AutoCAD is a designing software which runs in computer. AutoCAD software has developed by the Autodesk company. AutoCAD allows us to draw, design and edit digital 2D elevations designs quickly, easily and accurate as compare to hand drawings. We designed our project ground floor consists of Parking, Hall, Kitchen, Staircase, Bath Room. First floor consists of 2 Bedrooms with toilet & Bathrooms and balcony. Front elevation plan consists of parking gate, ground floor windows, first floor slide windows, and chajja. These are some images of our 2D elevation plan that is easily and with full detailed defined…


Elevation plan details
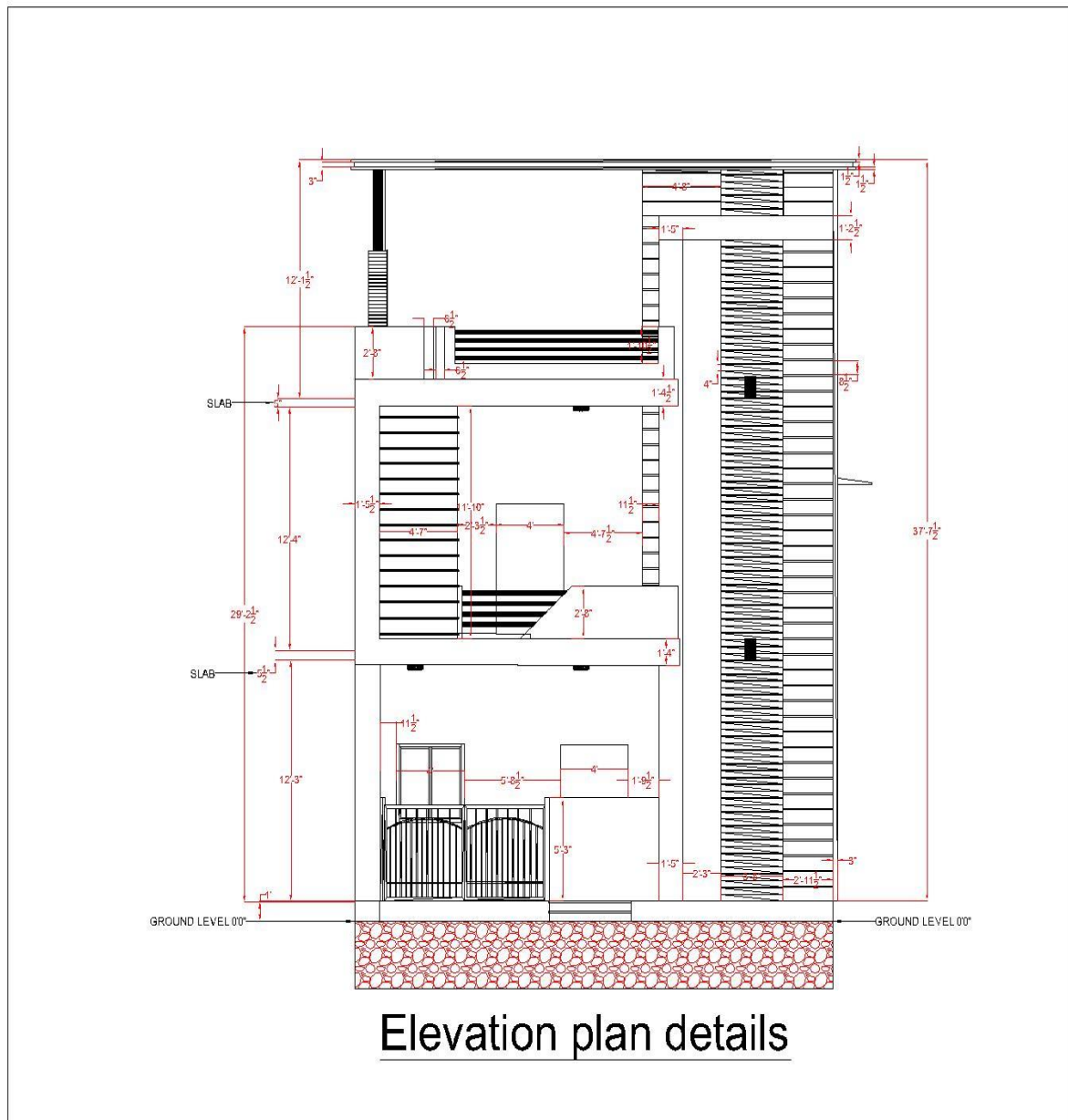
VI. BEAM COLUMN PLAN:

The plan of any building structure which contains column size & position is called a column layout plan . The column layout plan is very important for a Structure because without column layout it's impossible to locate the actual location of the structure. The role of structure designer is to provide the stability to the structure with maintaining a good view. In our plan we provided columns size 9"*12" and & 12"*16" inches. Beams are used to support the weight of floors, ceilings and roofs of a building and to transfer the load to a vertical load bearing element of the structure. We provided beams those size are 9"*9" inches

COLUMN'S

1. COLUMN 9"X12" (C1) ■
2. COLUMN 12"X16" (C2) ■
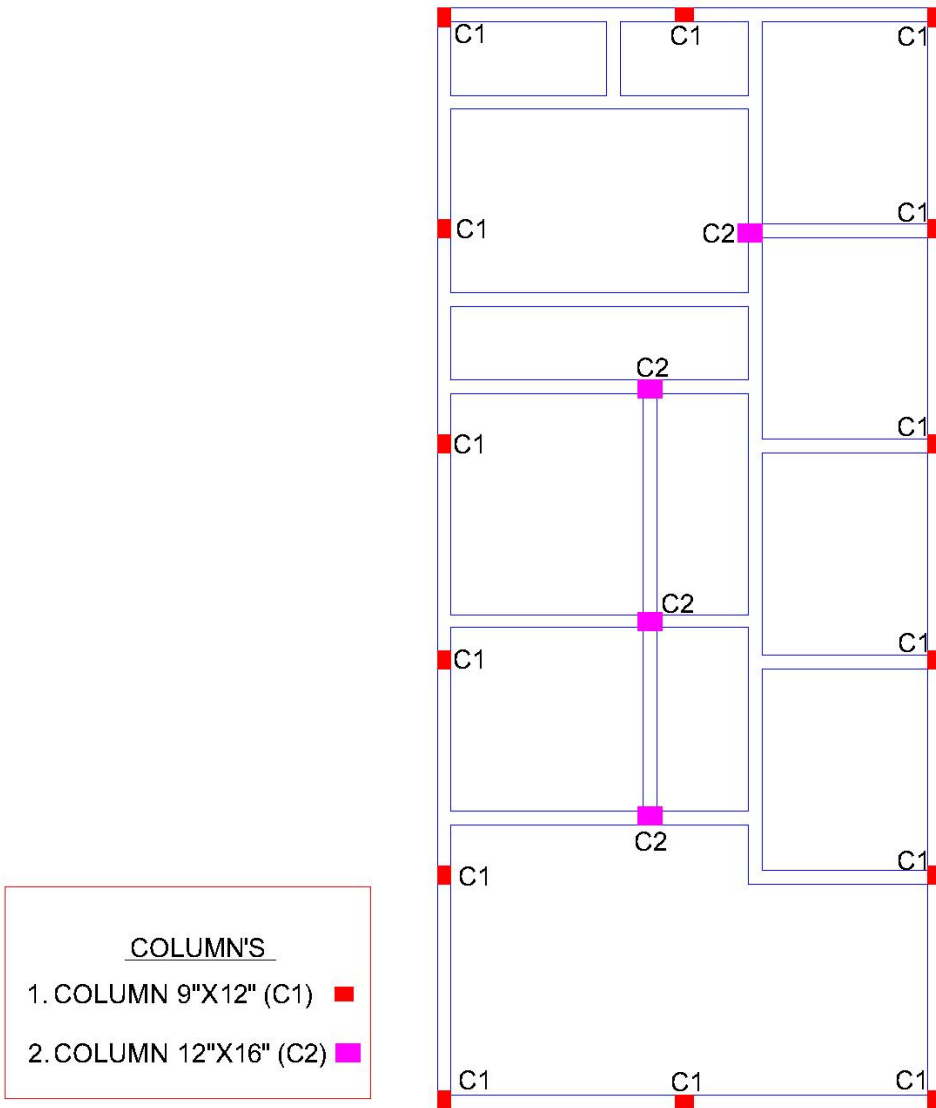
BEAM COLUMN PLAN

VII. CENTER LINE PLAN

CENTERLINE PLAN
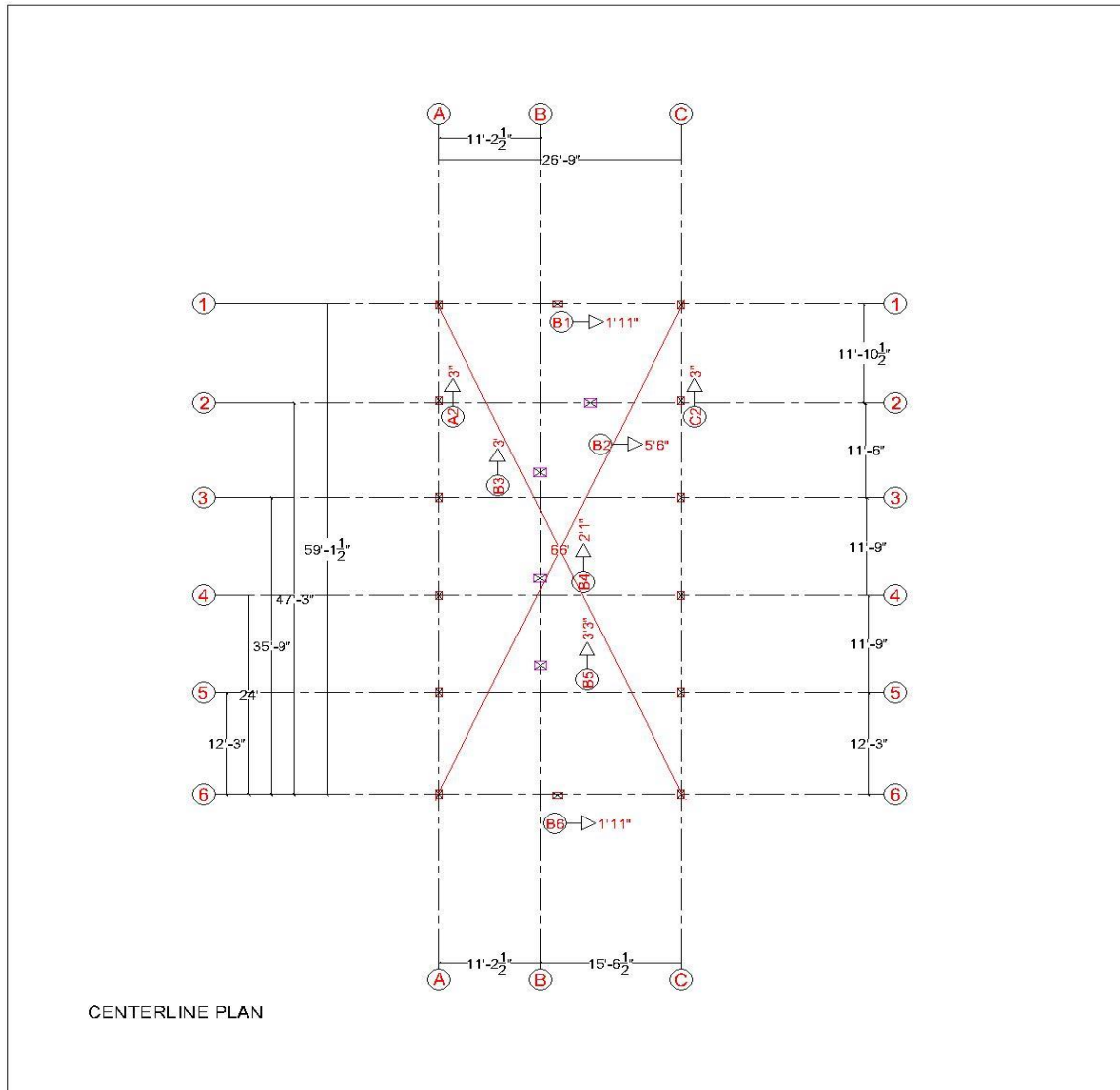
VIII. DETAILD BUILDING STRUCTURES :

In detailed plan structure we provided all details of parts of the building with their specific sizes, like porch, hall, kitchen, staircase, bathrooms, bedrooms, balcony, etc…

In this plan the plot area's width is 27'6" feet and the length is 60 feet, the total built area is 1656 sq.ft. .3Bedrooms, 4 Bathrooms 3 commercial shopes Kitchen, U shaped Staircase, Balcony etc…

❖ Size of the Porch16'3"x14'9" is 8'*13'6" ft.

❖ Size of the Hall is 16'3"*10' ft.

❖ Size of the Kitchen is 17'3"*10'6 ft.

❖   Ground floor's common Bathroom size is 10'*4'7" ft.

❖   Staircase size with distribution as riser – 6 inch, tread – 8 inch, landing – 3 * 3 feet

❖   Size of the Master Bedroom is 9'10" x 10'5" ft.

❖   Size of the 2nd Bedroom is 8'3" x 12'5" ft.

❖   Size of Master Bedroom's Bathroom is 6'3" x 3'7"ft.

❖   Size of 2nd Bedroom's Bathroom is 4' x 8' ft.

❖   Size of Balcony is 18'6*3' ft.

GROUND FLOOR PLAN   FIRST FLOOR PLAN

IX. 3D ELEVATION FRONT VEIW

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X. 3D ELEVATION ISOMETRIC VEIW

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XI. ESTIMATION OF THE STRUCTURE BY USING MS EXCEL :

Estimation is a determination of the construction costs for any given project. Estimation by the help of excel is a simple and easy process to calculate accurately all items and costs. It also saves time to calculation as compared to other methods. By the help of the excel we calculated all the total quantities of all different works in building construction. The costing also done by the help of excel, The costs we applied in our plan is taken from the mp schedule of rates.

XII. LISTED ITEMS USED FOR ESTIMATION:

- ❖ Excavation
- ❖ P.C.C. in foundation
- ❖ Flooring, Brickwork
- ❖ Plaster
- ❖ etc…

XIII. FUTURE SCOPE:

We plan a building in less area which is 27'6"*60' sq.ft. (1656 sq.ft.), planned with full of facilities like parking, hall, kitchen, bedrooms, bath & toilets, balcony, etc… In future the lacking of land will increase and also land will more costly. To view this future land related problems it is important to plan the design and construction of the building in less and small areas.

REFERENCES :
1. Indian Standard Code IS 456 [2000].
2. Indian Standard Code IS 800 [2007].
3. Indian Standard Code IS 874 Part 1 & Part 2