दिल्ली नगर निगम

Municipal Corporation of Delhi

Online Building Plan Sanction

User Manual

To

Prepare Building Plan
For
Fresh Unauthorized Regularized Colony (URC) Development

Version 1.0

Table of Contents

1. Introduction

This document provides guidelines and instruction to the public who wish to avail Online Building Plan Sanction Service for Fresh **URC Development**

Building Plan in *.DWG format to be prepared and uploaded for the Bye-law validation and get it sanctioned by MCD

Before preparing please download the latest version of the User Manual, *.mnu, *.vlx etc

2. Intended Audience

- Architects
- Engineers
- Supervisors
- Draftsmen
- MCD Building Plan Sanction Authority

3. References

S. No	References
1	Building Bye-Law 1983
2	Master Plan of Delhi 2021

4. Definitions and Acronyms

Abbreviation/Term	Description
MCD	Municipal Corporation of Delhi
BBL	Building Bye-Law 1983
BP ID	Build Plan ID – System generated ID while applying for Building Plan Sanction
MPD	Master Plan of Delhi 2021
NA	Not Applicable
Min.	Minimum
Max.	Maximum
M	Meters
OBPS	Online Building Plan Sanction

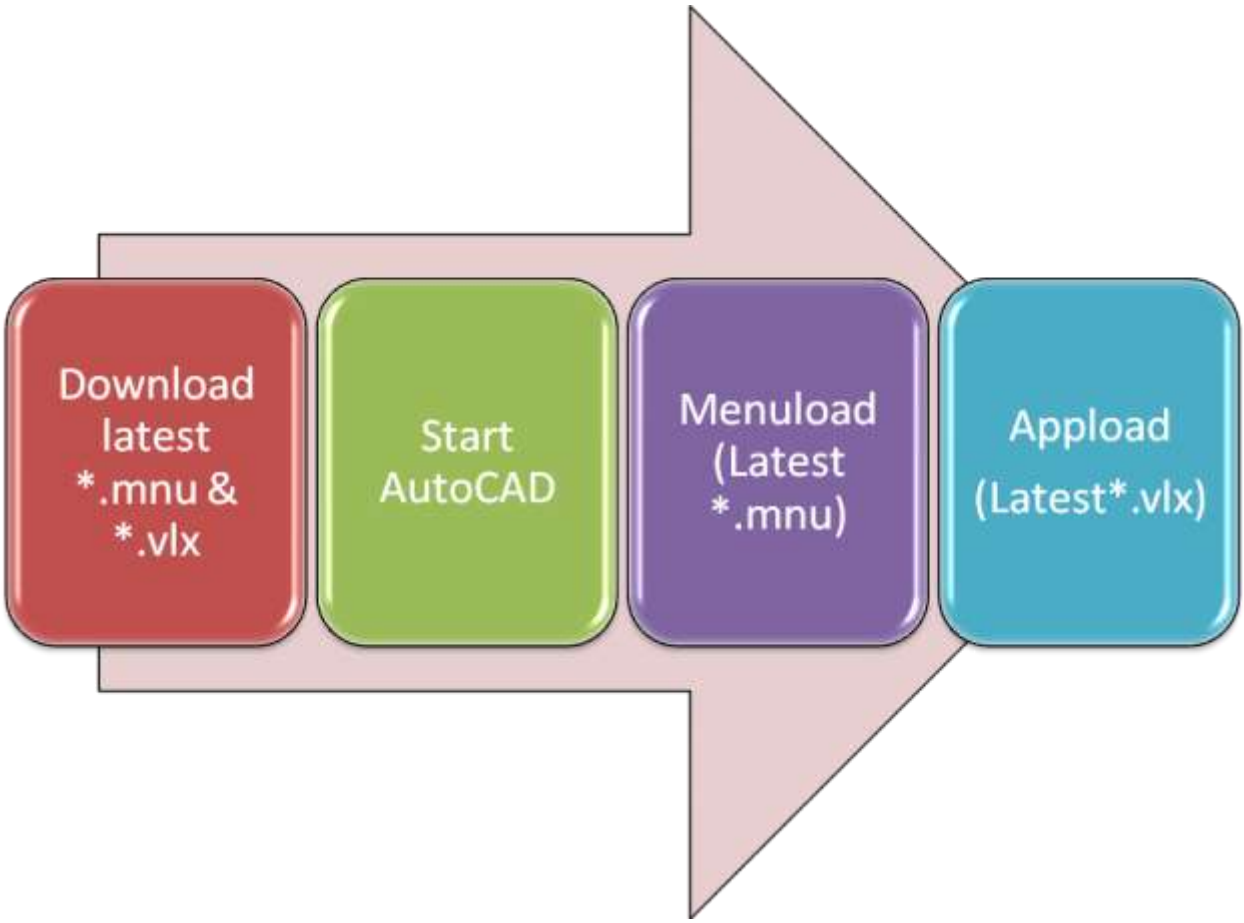
sq. m	Square Meter
NR	No restriction
FAR	Floor Area Ratio = Total covered area of all the floor x 100 / Plot Area
ECS	Equivalent Car Space

5. Prerequisite

- Registration with MCD
- Knowledge in BBL and MPD
- Building Plan / Architectural Drawing Creation experience
- AutoCAD experience

6. Building Plan Creation

6.1 Environment Preparation

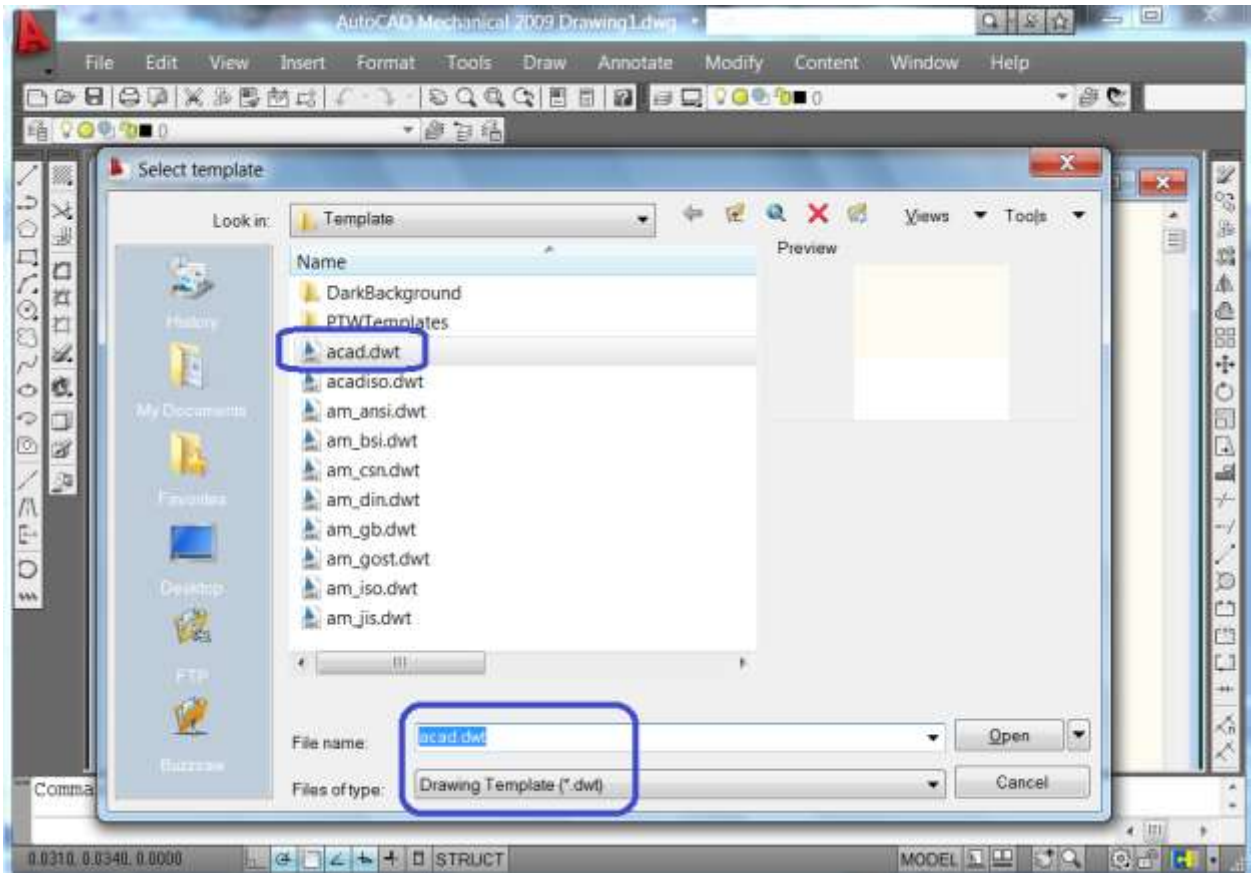


Step 1: Download latest version of the following files from the portal and save them to a local folder.

MCD-Fresh_Unauthorised Regularized Colony_Plotted_V1_00.mnu
MCD-Fresh_Unauthorised Regularized Colony _Plotted_V1_00.Vlx
Version V1.0 is given for example. Always before startup **download the latest *.mnu & *.vlx files** from the portal; may have different latest version number.

Step 2: Start AutoCAD (**AutoCAD 2004 to 2012** can be used to create the building plan)

While opening new drawing in AutoCAD, make sure **acad.dwt** is selected from template as shown in the below figure. Do not use any other template like acadiso.dwt, am_ansi.dwt etc …



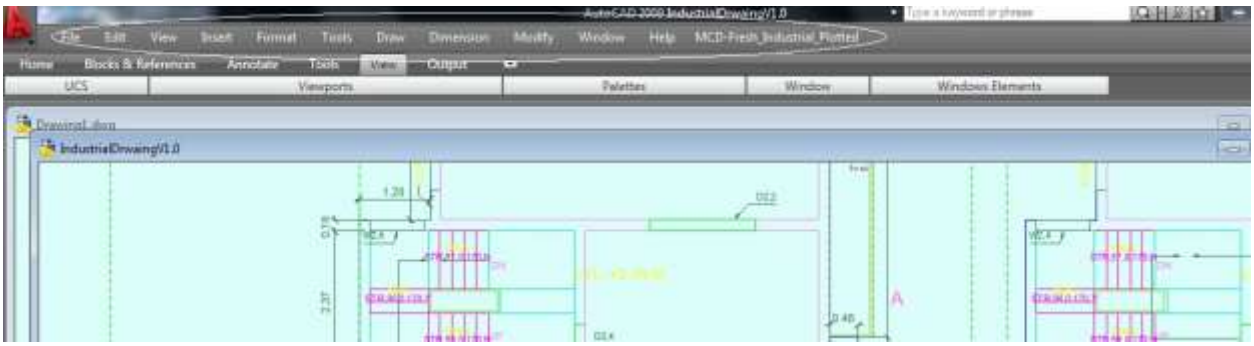
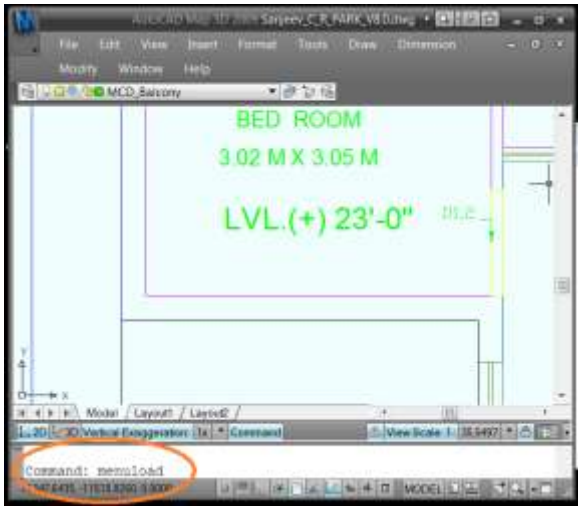


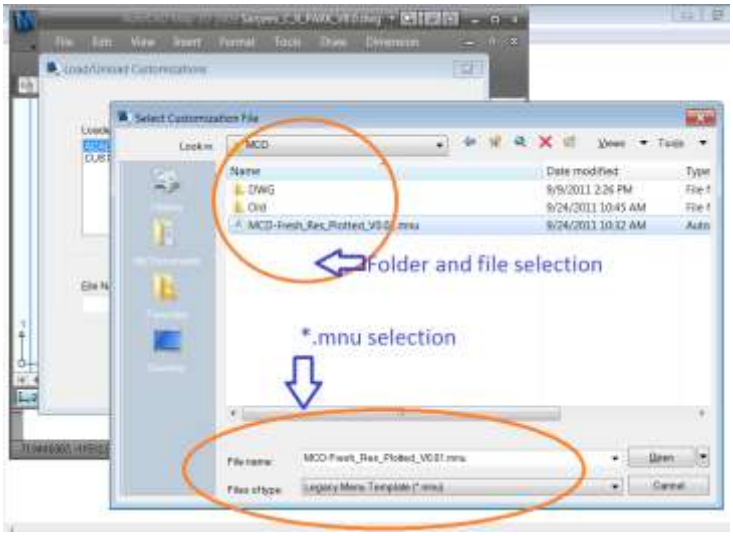
Fig: Before loading *.mnu

Step 3: Type **Menuload** in the AutoCAD command line and press **Enter** key

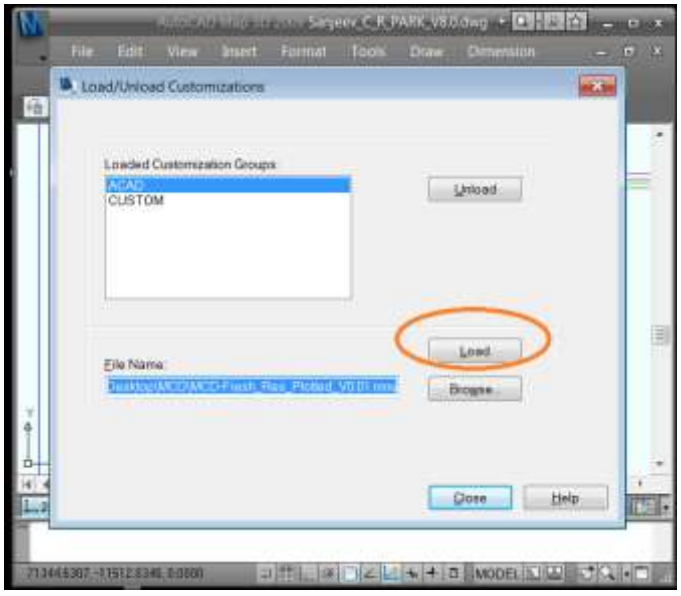


Press **Browse** button in 'Load/Unload Customization' dialog box

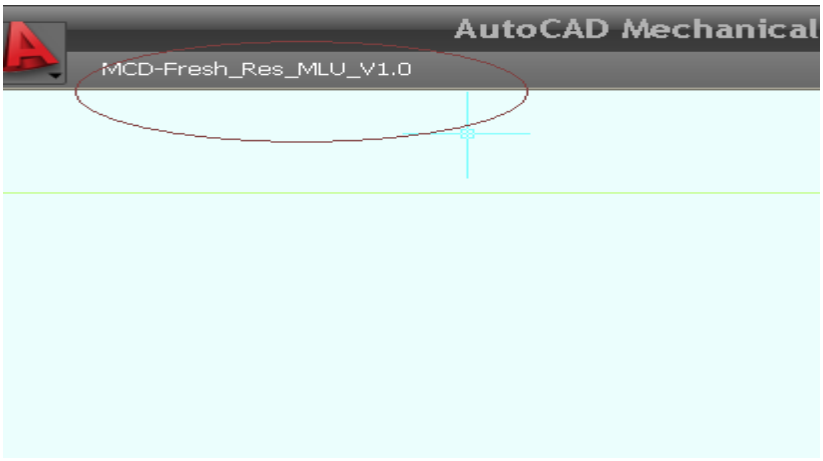
In 'Files of Type' chose ***.mnu** and select the respective ***.mnu** file and press **'Open'** button.



Press **Load** button in 'Load/Unload Customization' dialog box. Then press **Close** button.



Upon successfully loaded a new **MCD-Fresh_ Unauthorised Regularized Colony** menu will be displayed on the top.

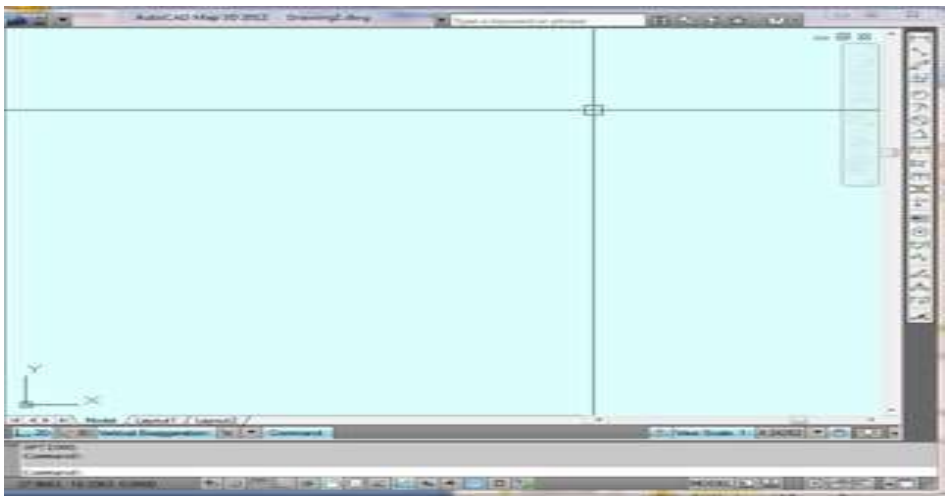


TIPS:

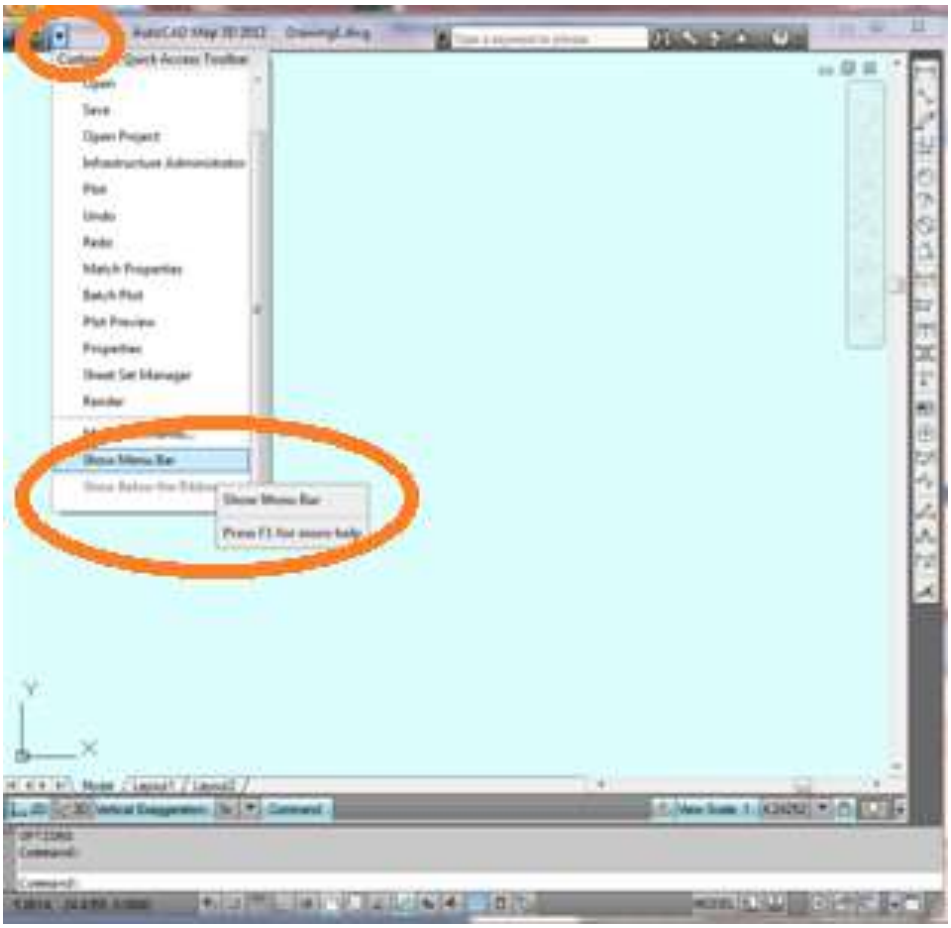
In case if you get 'Menu already loaded' message means the same version is already loaded hence need not load again. Just check whether you need to click on **Show Menu Bar** as shown below.

Show menu bar

In few AutoCAD version even after loading the *mnu file, the menu may not be visible as shown below.



In that case click on down arrow on the top left corner and select **Show Menu Bar**.

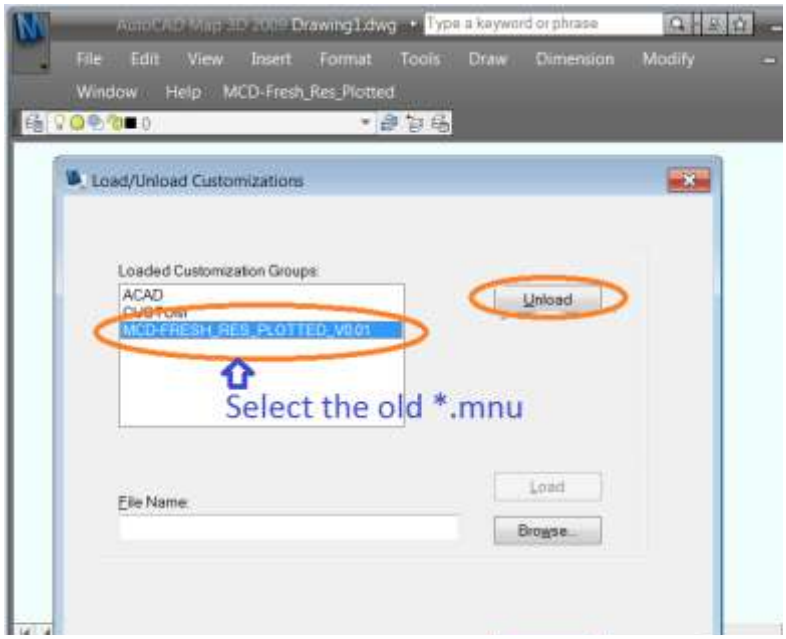


Now MCD-Fresh_ Unauthorised Regularized Colony menu will be visible.

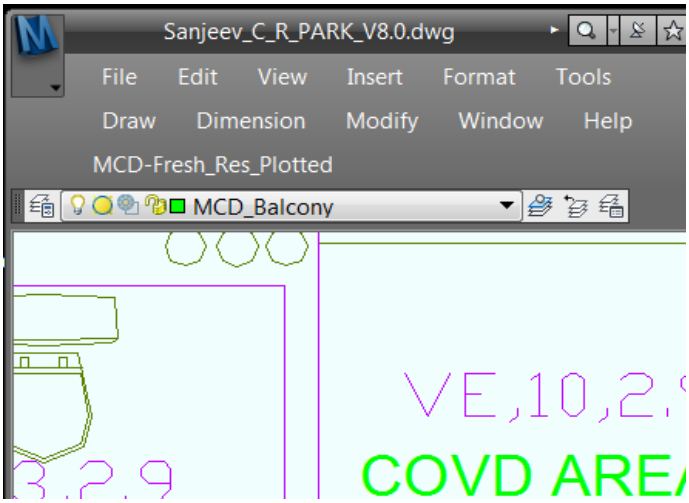
Unload Menu

If you get a latest version of *.mnu from the MCD portal, then unload the already loaded menu as follows and load the latest *.mnu again.

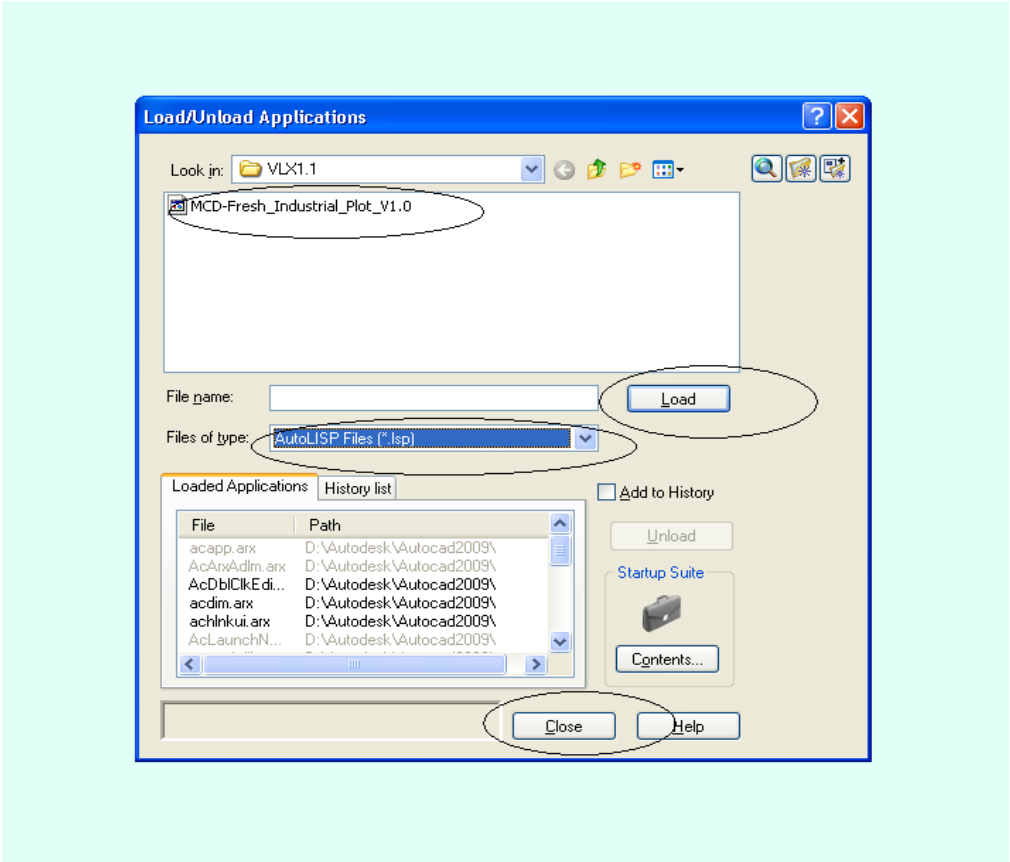
Type **Menuload** in the command line and press **Enter**
Select the old *.mnu from the 'Loaded Customization Groups'
Press **Unload** button
Press **Browse** button and select the folder and latest *.mnu file and press **Load** button.



Step 4: Type **Appload** in the AutoCAD command line and press **Enter**

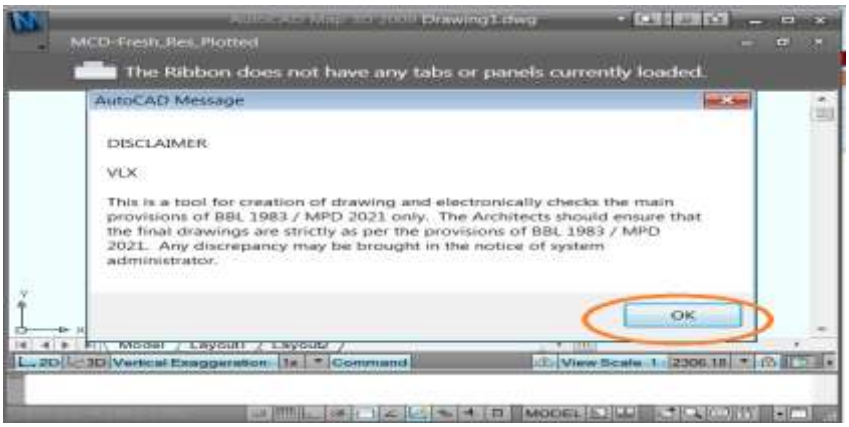


'Load/Unload Application' dialog box will open, if required in 'Files of Type' chose ***.vlx.** Navigate to the folder and select respective ***.vlx** then press **Load** button. Successfully loaded message can be seen as shown in the below image. Then press **Close** button. Remember to **load the *.vlx during each time of opening a *.DWG.**

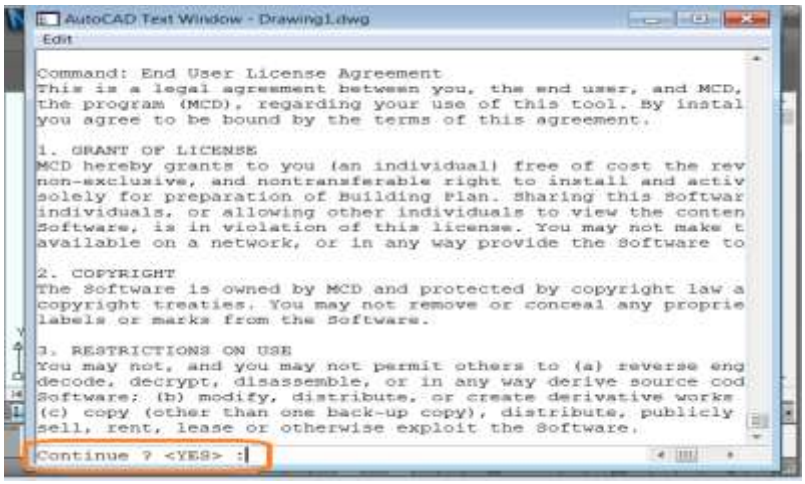


Upon successful loading of the latest *.VLX, accept the disclaimer and the license agreement as shown below.

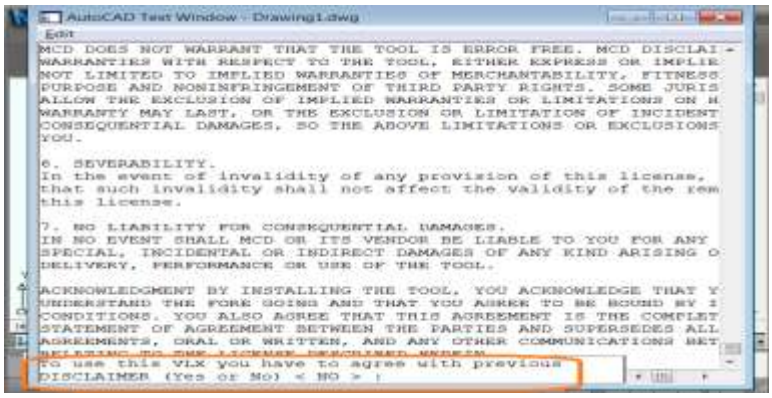
TIPS:
Each time opening the DWG *.VLX need to be loaded
In case downloaded latest *.VLX, can be re-loaded the latest *.VLX by following the above setps.
Instead of typing **Appload** you can type **AP** and press **Enter** to navigate to the Load / Unload dialog box.



Read and Press **OK** button



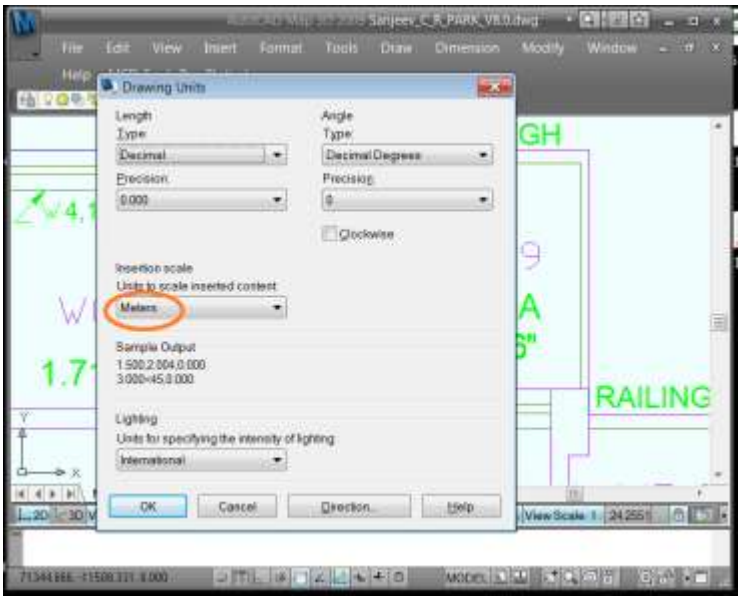
Read and press **Enter** to continue



Type **Y** and press **Enter** to use the VLX or press **Enter** those who do not want to use the VLX

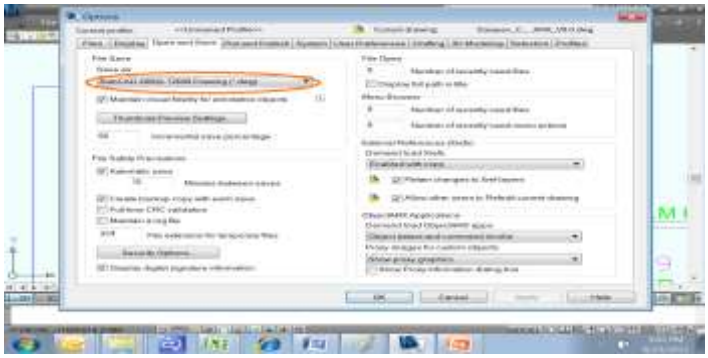
6.2 General Guideline

Even upon loading the latest *.mnu & *.vlx files, all **existing AutoCAD menus and commands will work as usual.**
The tool will take care of units; the auto set units is in **Meter. Draw the building features in 1:1 scale in Meter.**

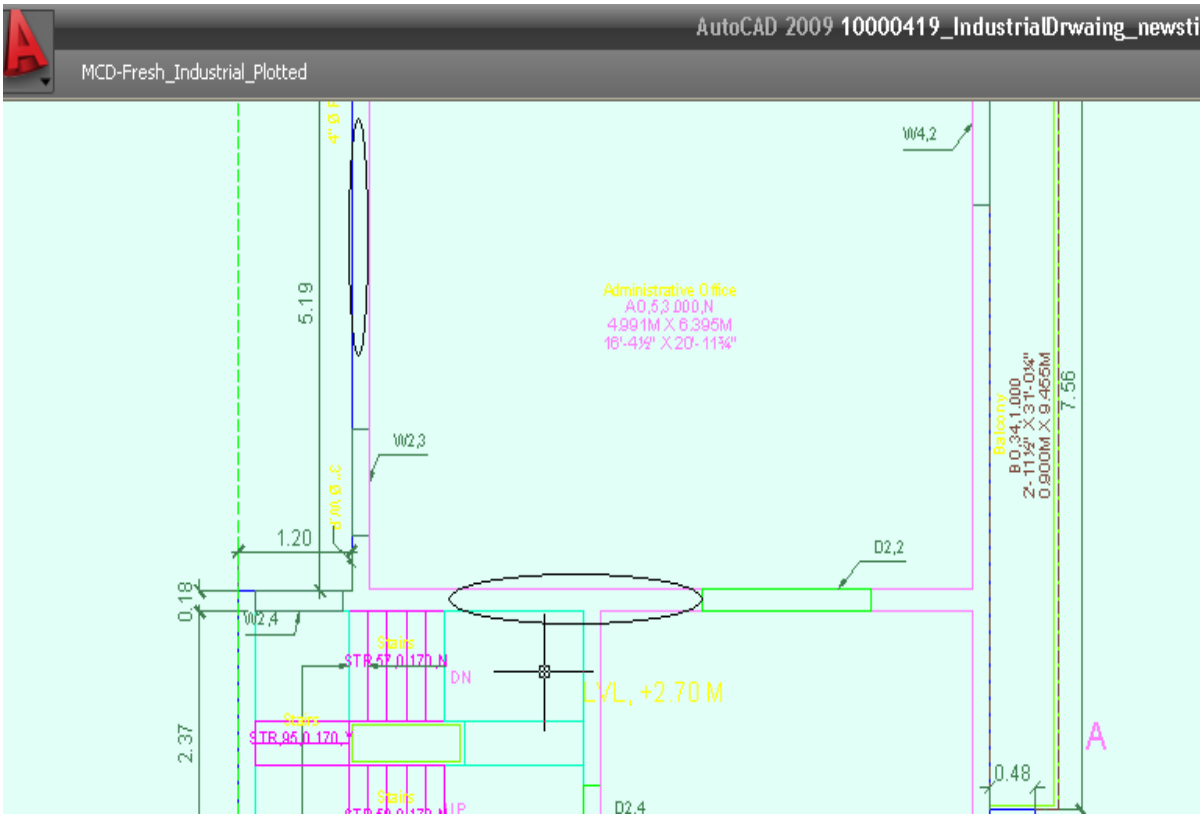


Do not change the above Drawing unit settings.

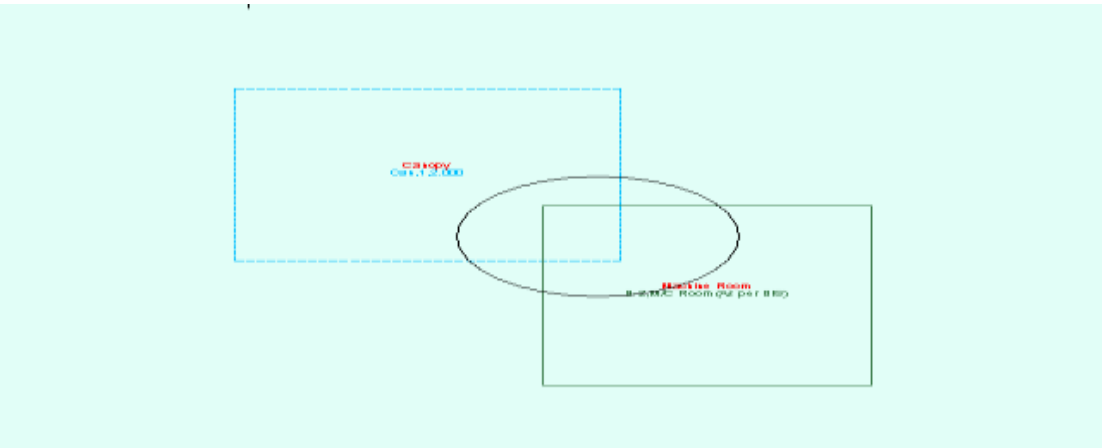
The tool will set the saving option to AutoCAD 2000. Do not change this option.



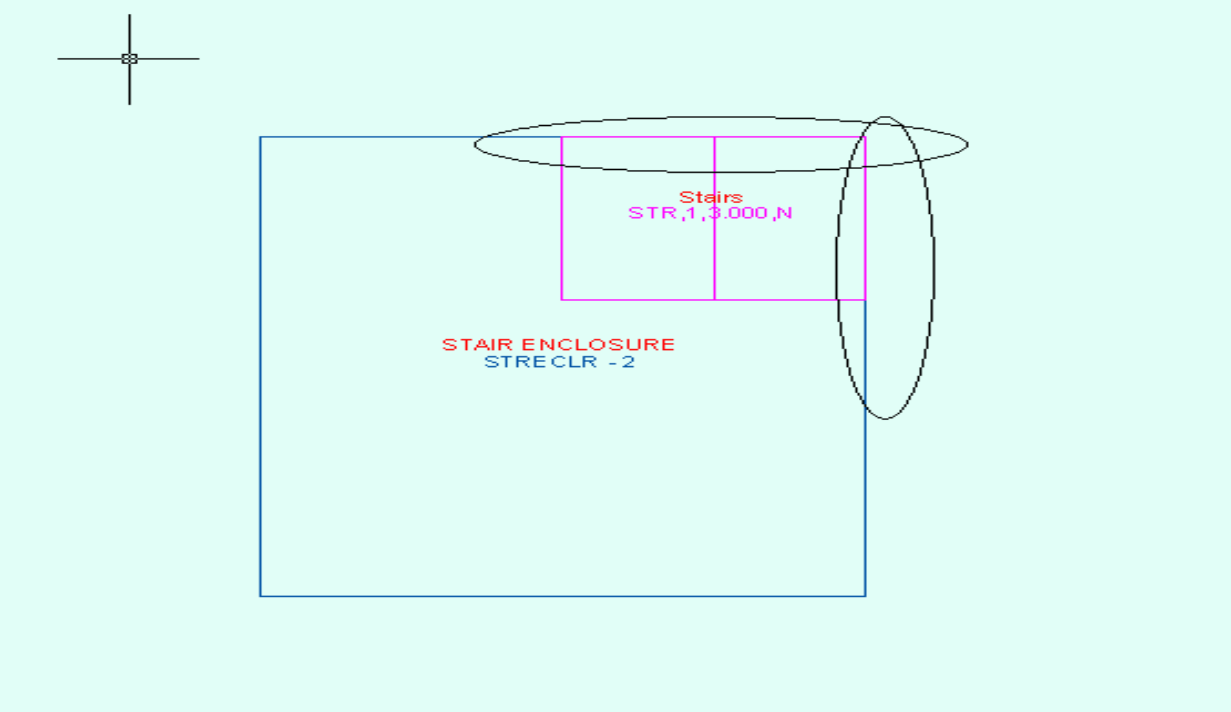
No separate wall layer is being maintained. Distance between two features shall be calculated as wall thickness. Hence before staring the next feature mark the required wall thickness and then begin from that point.



Overlap of two features is not allowed.

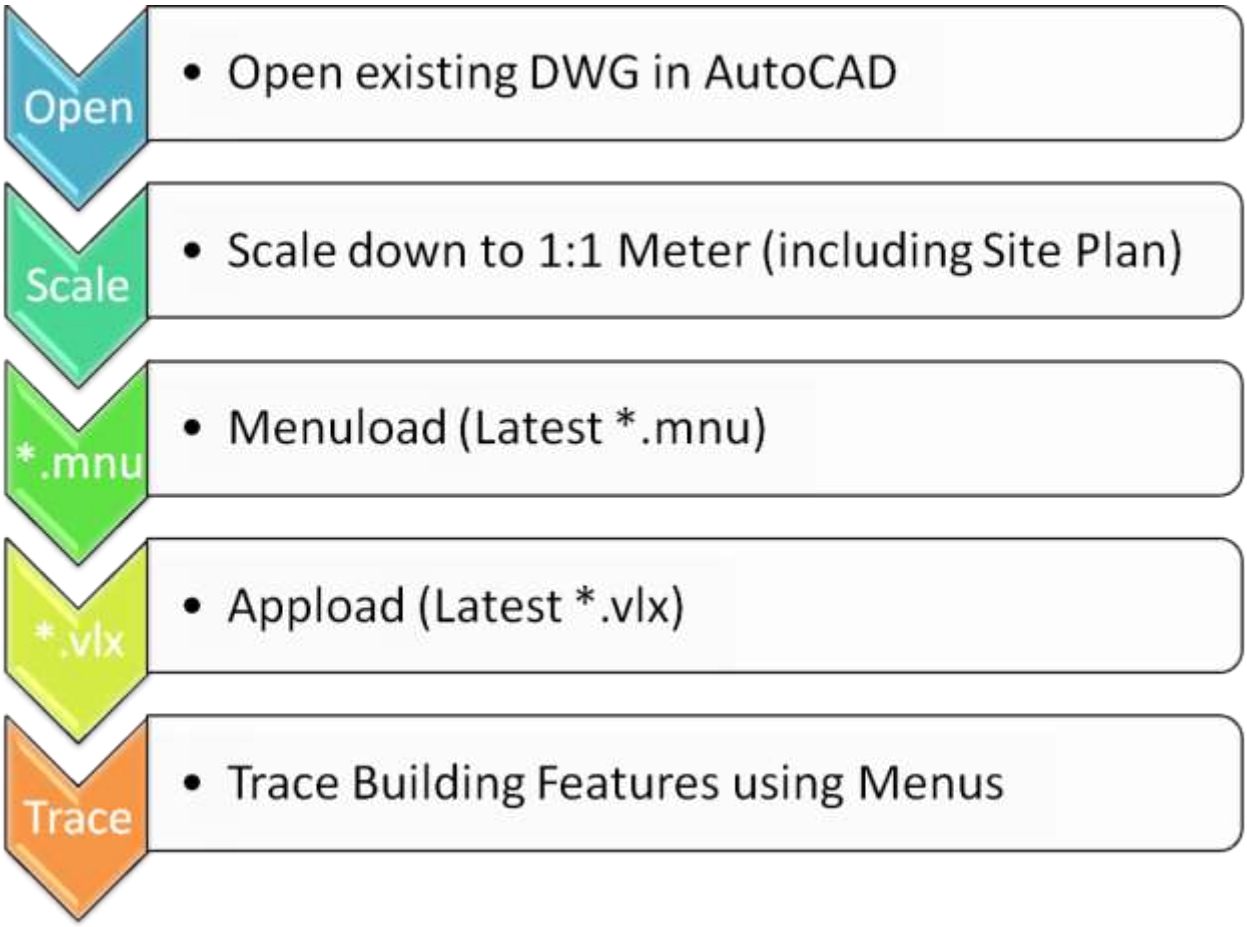


Outer edge overlap of **Enclosure for stairs** and **Stair** is allowed and should be drawn as below.



The tool is designed to represent a big URC drawing having many buildings (blocks), each building has many floors, each floor has many rooms like working hall, administrative office and the building has common features like Lift, Shaft, Corridor etc

6.2.1 Convert existing DWG building plan



Open

Open existing DWG in AutoCAD

Scale

Scale entire objects to 1:1 meter using following scale factor.

S. No.	Units of existing DWG	Scale factor	Remarks
1.	Architectural (Feet / Inches)	0.025403	
2.	Millimeters	0.001	
3.	Meters	NR	
4.	Other units	Calculate and apply	

TIPS:
Usually Site Plans are created in different scales. Accordingly scale the Site Plan to make to 1:1 in Meter
After scaling measure few features using **Dist** command and confirm whether the DWG is scaled to 1:1 in Meter

Trace

Select the required **Submenu** (from MCD-Fresh_ Unauthorised Regularized Colony) and draw the features over the existing features (Use **OSanp** for perfect snapping and dimensions).

Rectangle

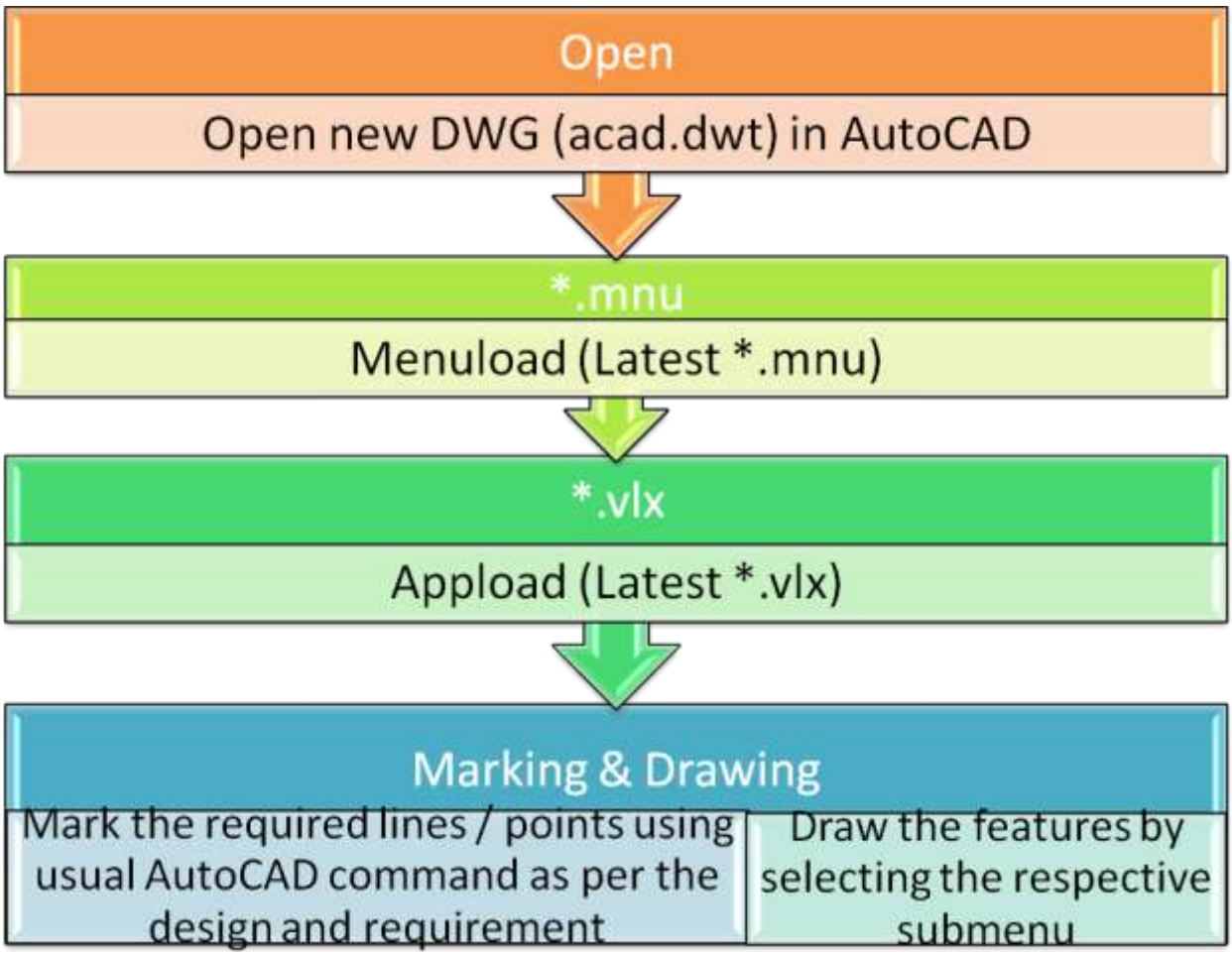
Refer to the below section **Create a new DWG building plan** and **Rectangle** option for steps to be flowed

Polyline

Refer to the below section **Create a new DWG building plan** and **Polyline** option for steps to be flowed

TIPS:
Before starting to trace refer to below section “Draw Building Plan using Menu” and understand the concepts.
Before uploading the DWG in MCD portal **delete all the layers excluding 0, Defpoint, MCD_****

6.2.2 Create a new DWG building plan



Open

Open a new DWG (**acad.dwt**) in AutoCAD.

Marking & Drawing

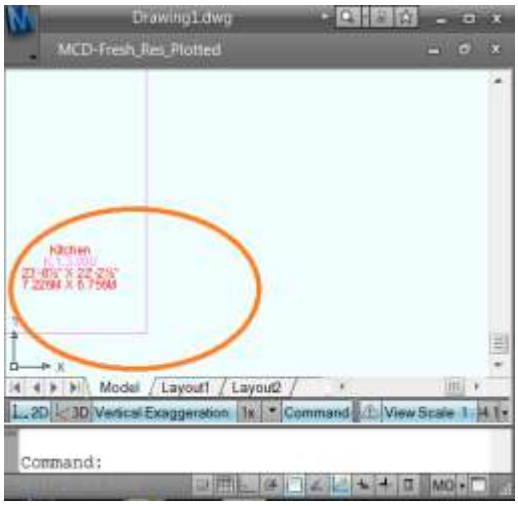
Usual AutoCAD commands like offset, line, pline, point etc can be used to create skeleton (create in required layers) of the building as per the design and requirements. Then draw the features by selecting the respective submenus from MCD-Fresh_ Unauthorized Regularized Colony (Use **Osnap** for perfect snapping and dimensions).

Most of the menu provide two options (Rectangle & Polyline) to draw the building features.

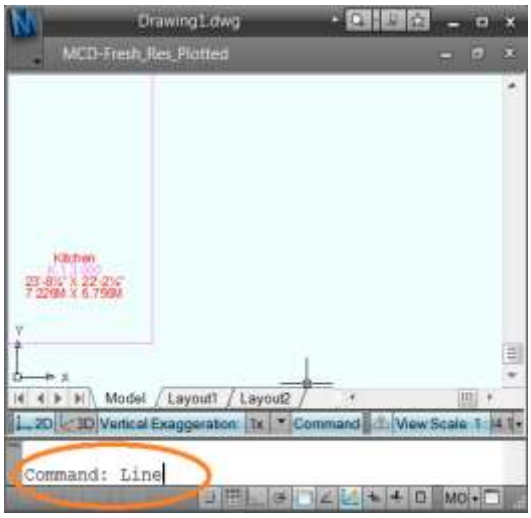
Rectangle

Rectangle option can be used in case the feature's shape is square or rectangle and we know the length and width of the same.

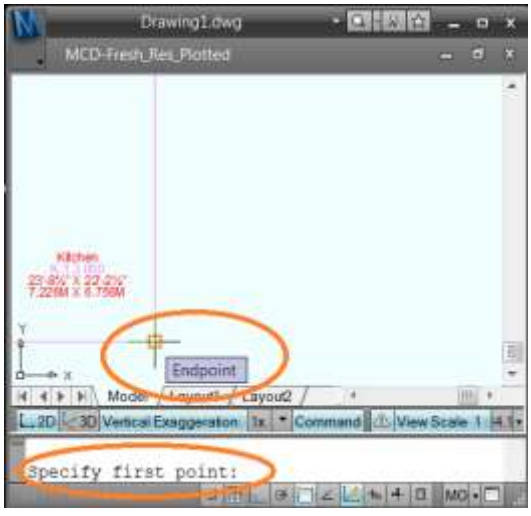
Let us draw **Working Hall** having 3.25 M x 4.15 M near the Kitchen. Assume Kitchen is already drawn using the menu.



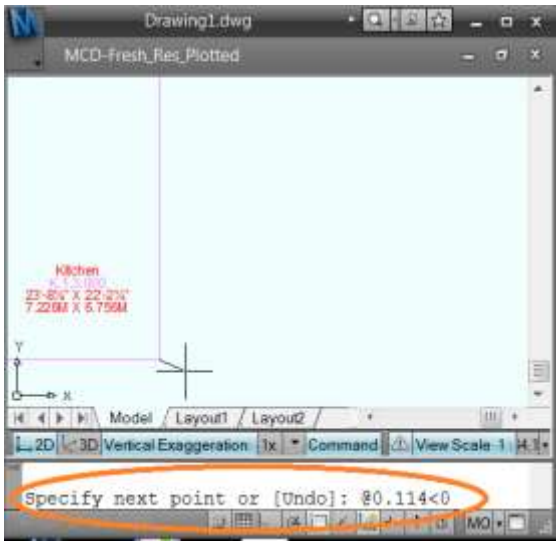
S1 - Start



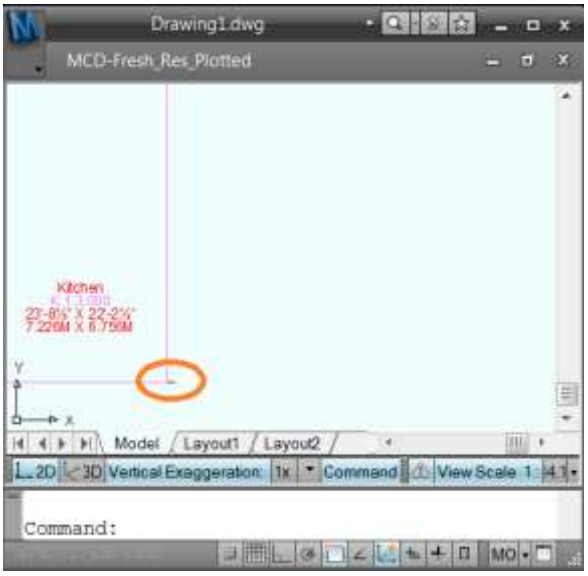
S2 – Use AutoCAD **Line** command to mark wall thickness of 0.114 M



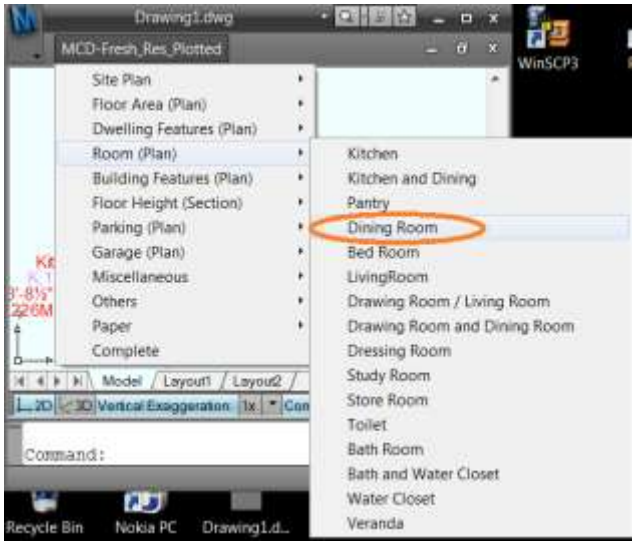
S3 – Corner of the Kitchen is start point of line



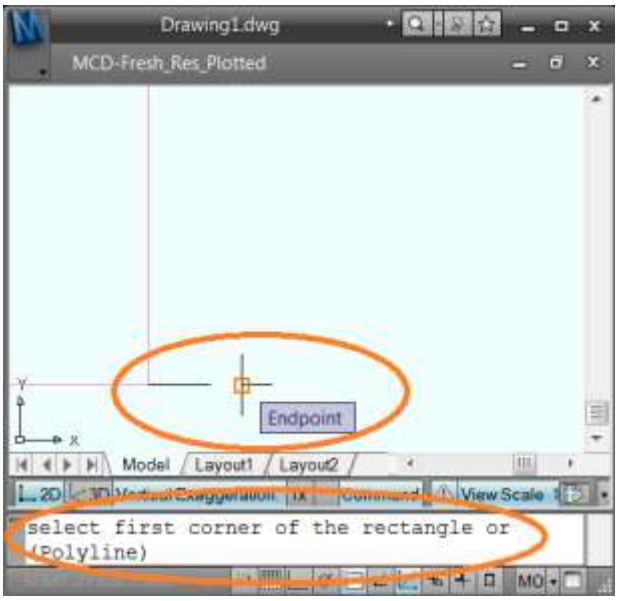
S4 – Wall thickness of 0.114 M is entered as end point of the line by typing **@0.114<0** (0 to draw horizontally)



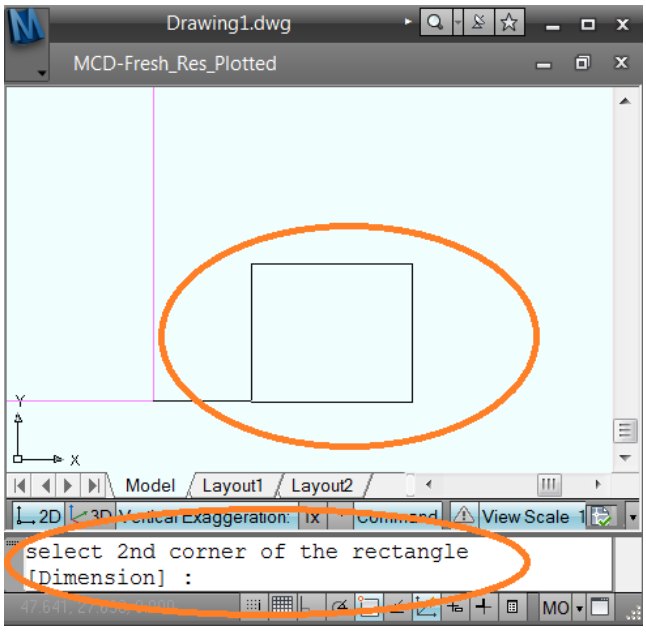
S5 – Terminate the line command by press **Enter** Again. Drawn 0.114 M line.



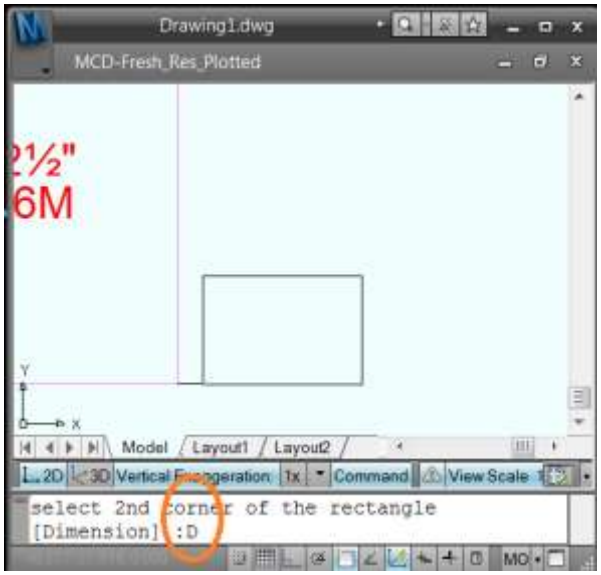
S6 – Select Dining Room from the menu as shown



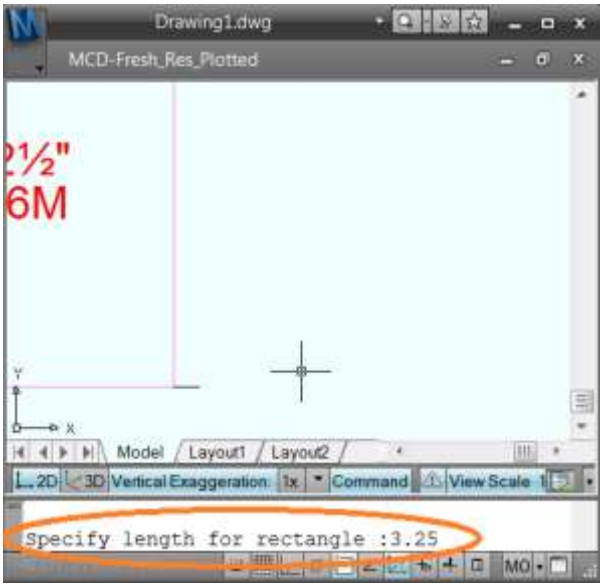
S7 – Expecting start point of rectangle; click at end of the 0.114 line



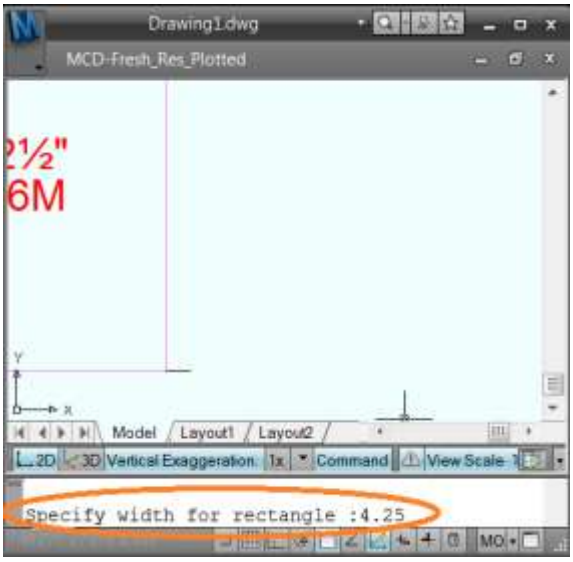
S8 – Can select second point if we have already marked the diagonal point or we can go for Dimension



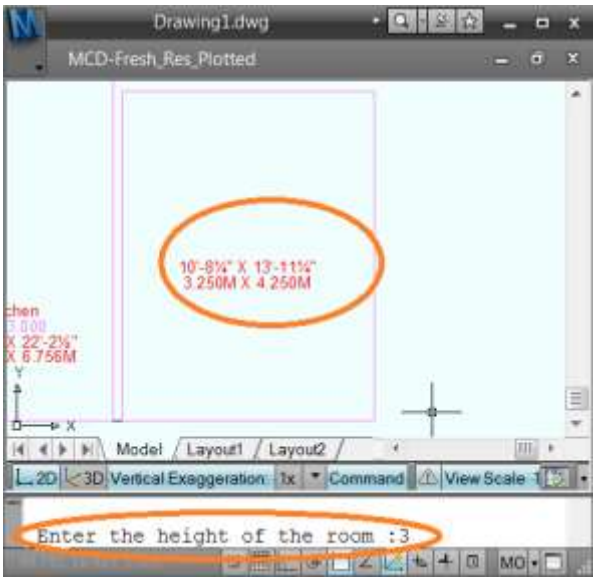
S9 – Type **D** and press **Enter**



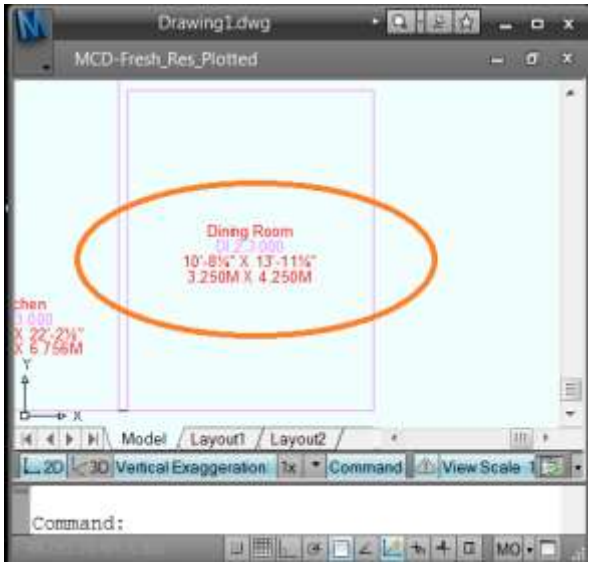
S10 – Enter length **3.25**



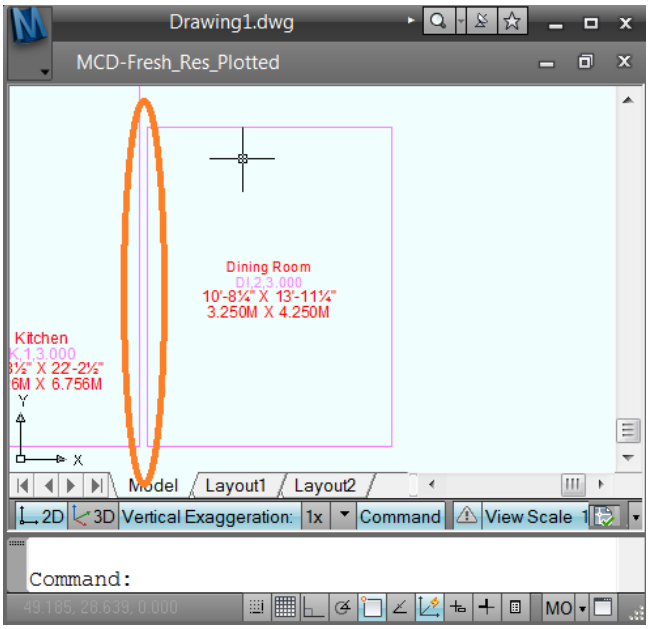
S11 – Enter width **4.25**



S12 – Enter height **3**



S13 – Dining room has been drawn

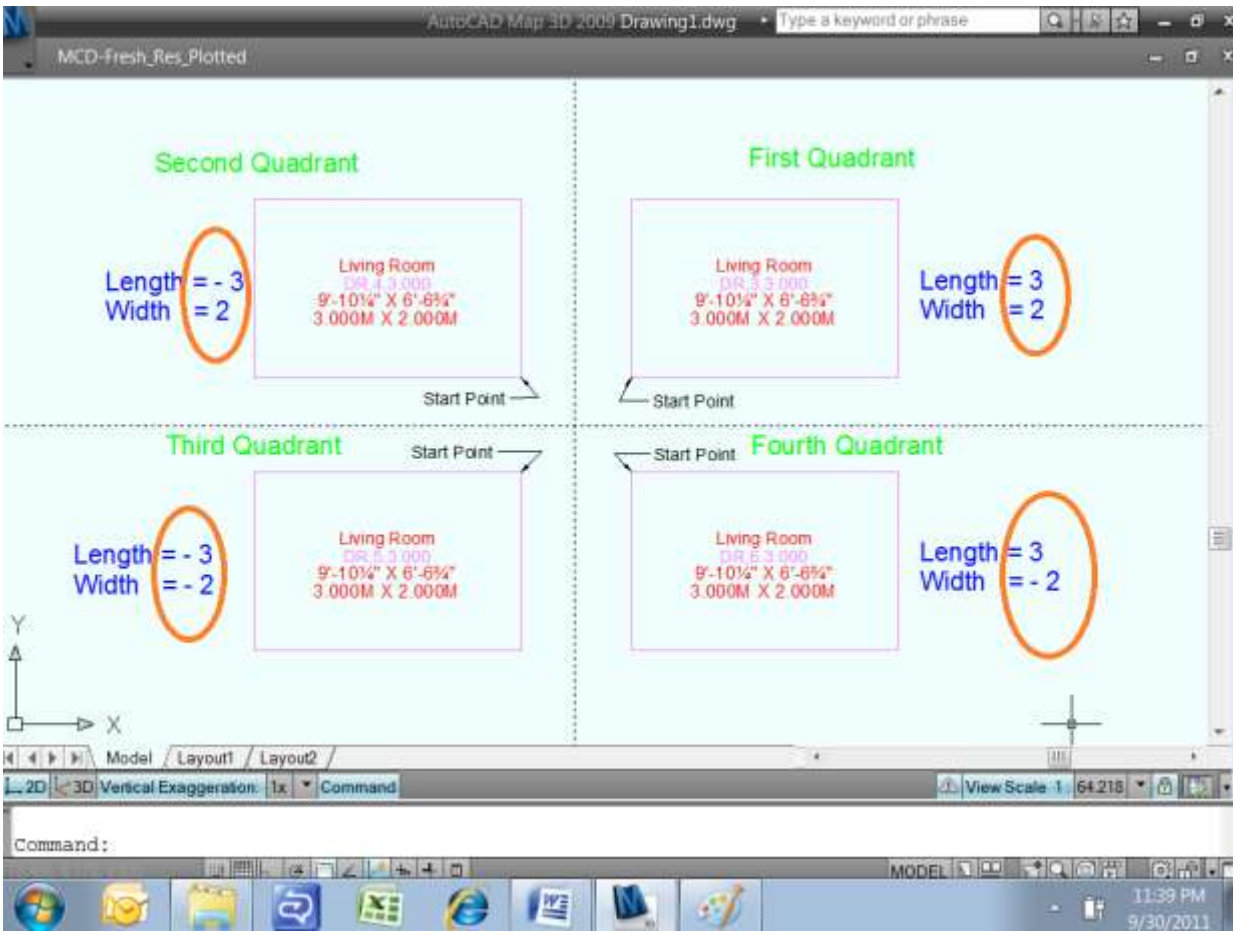


S14 – Erase the 0.114 line which was drawn to mark The wall thickness

C

TIPS:

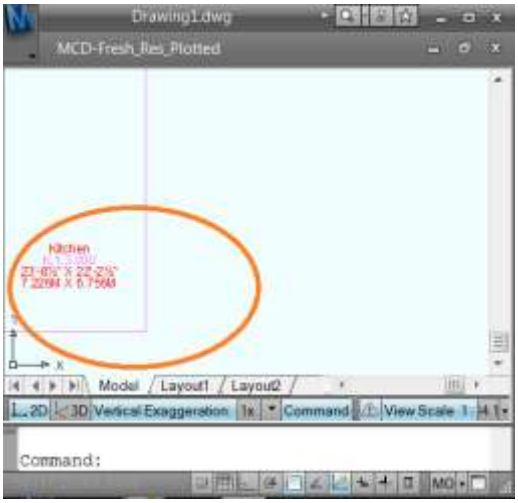
In case of selecting Rectangle and Dimension then based on the start point of the rectangle and the required position of the rectangle (as like in the quadrant) the **Length and Width** need be entered with **negative or positive value** as follows.



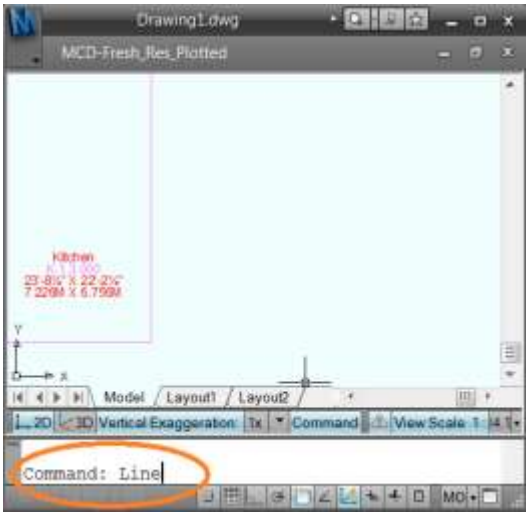
Polyline

Polyline option can be used in case the room shape is irregular (including curved shape).

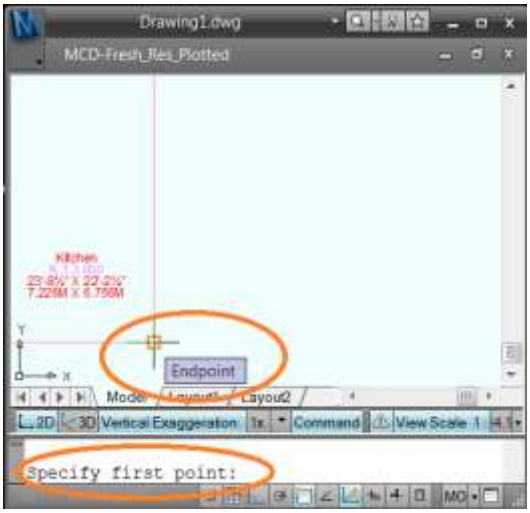
Let us draw a 'L' shaped Store room near the Kitchen. Assume Kitchen is already drawn using the menu.



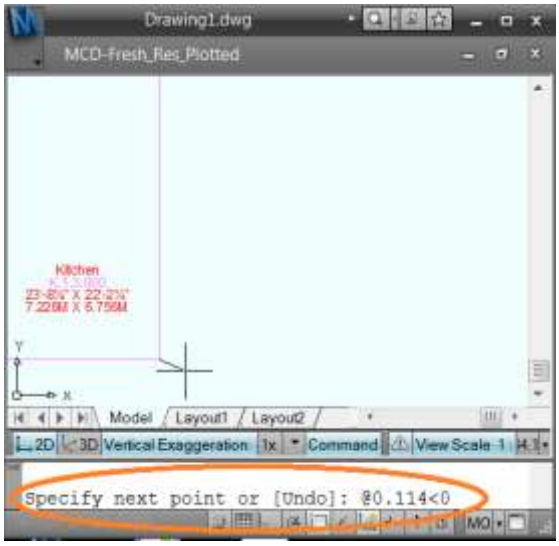
S1 - Start



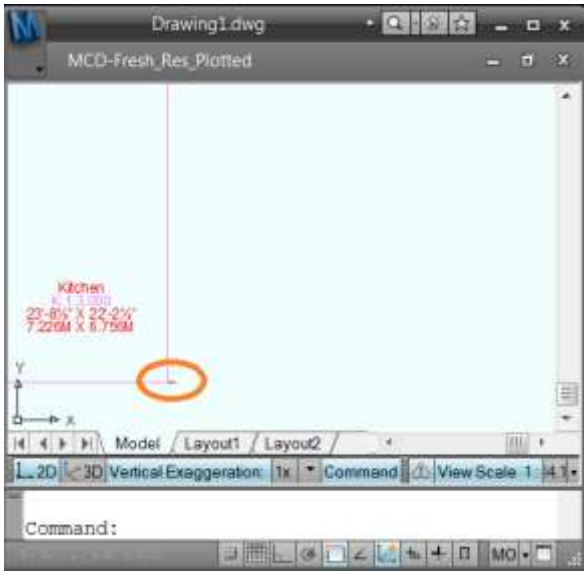
S2 – Use AutoCAD **Line** command to mark wall thickness of 0.114 M



S3 – Corner of the Kitchen is start point of line

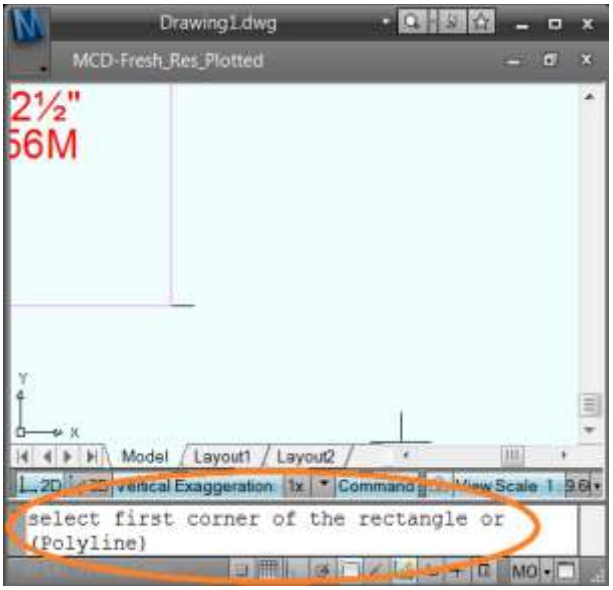


S4 – Wall thickness of 0.114 M is entered as end point of the line by typing **@0.114<0** (0 to draw horizontally)

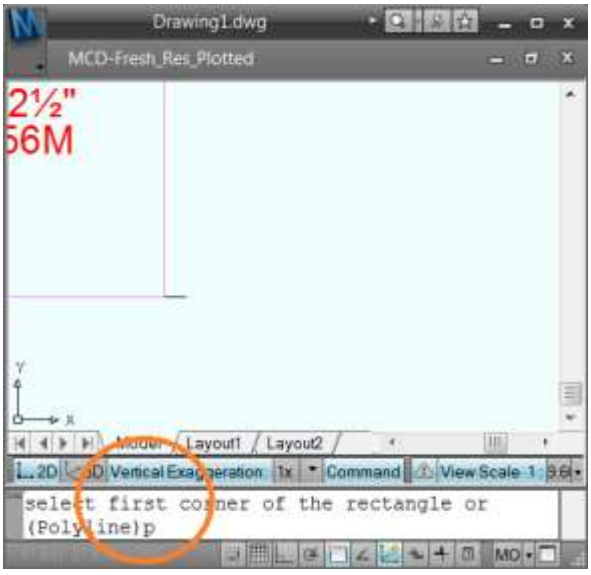


S5 – Terminate the line command by press **Enter** Again. Drawn 0.114 M line.

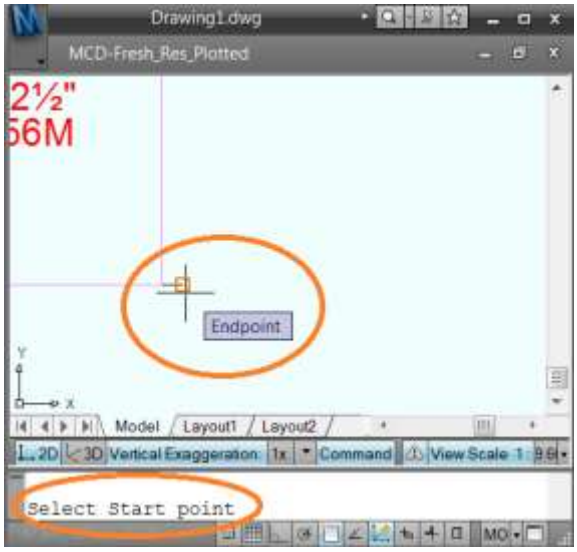
S6 – Select **Store Room** from the menu



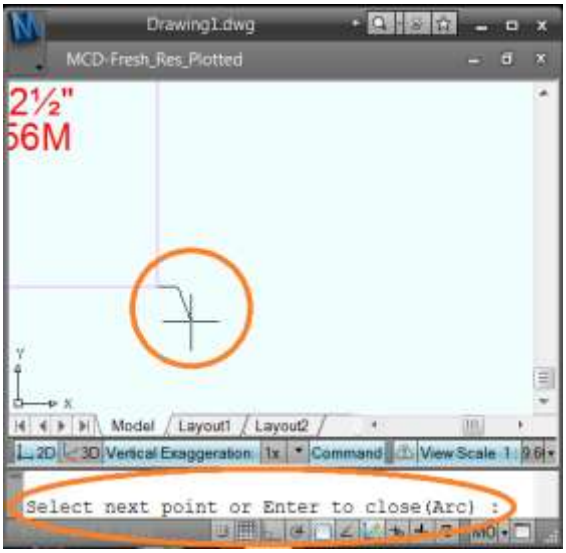
S7 – Giving option to select start point of Rectangle or Polyline



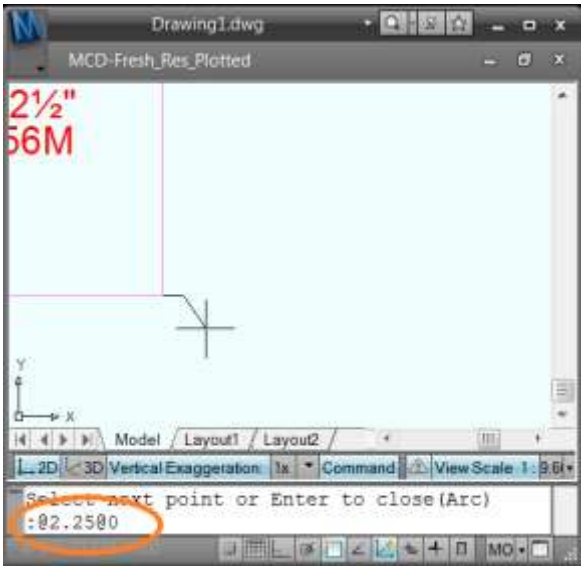
S8 – Type **P** and press **Enter** to select Polyline option



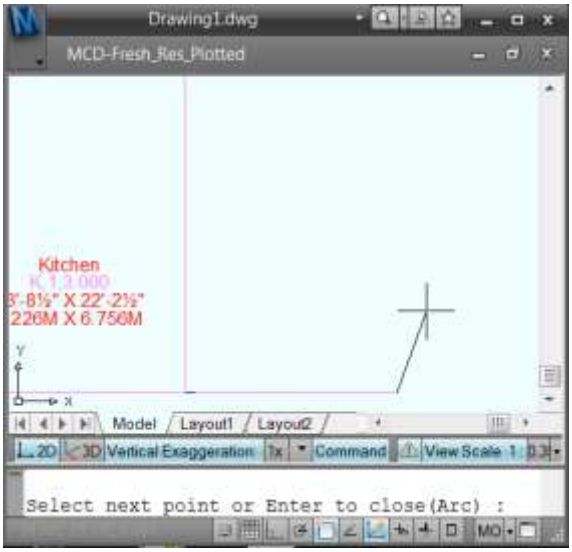
S9 – Click end point of 0.114 M line to specify start point of the store room



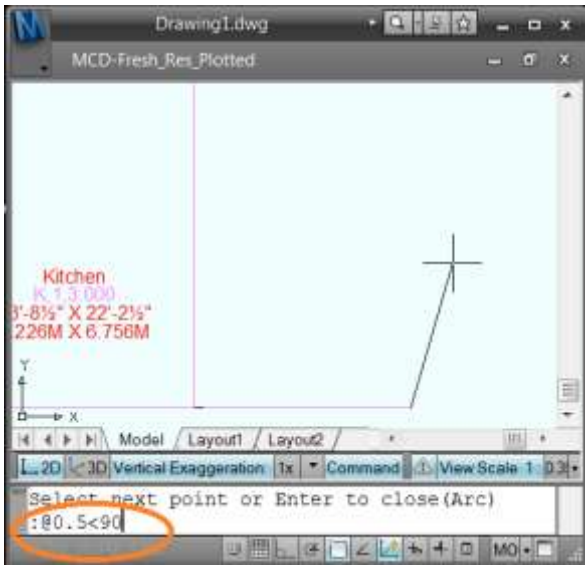
S10 – Expecting next point to be selected



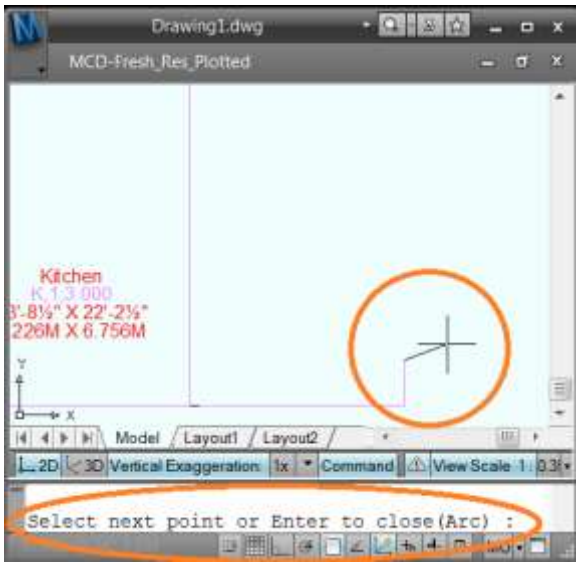
S11 – Type **@2.25<0** to draw a line horizontally Left to right and press **Enter**



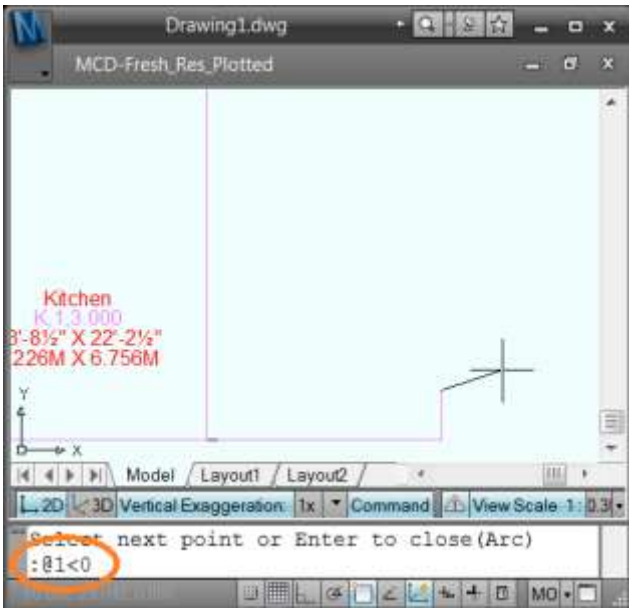
S12 – After drawing 2.25 M line expecting next point to be selected



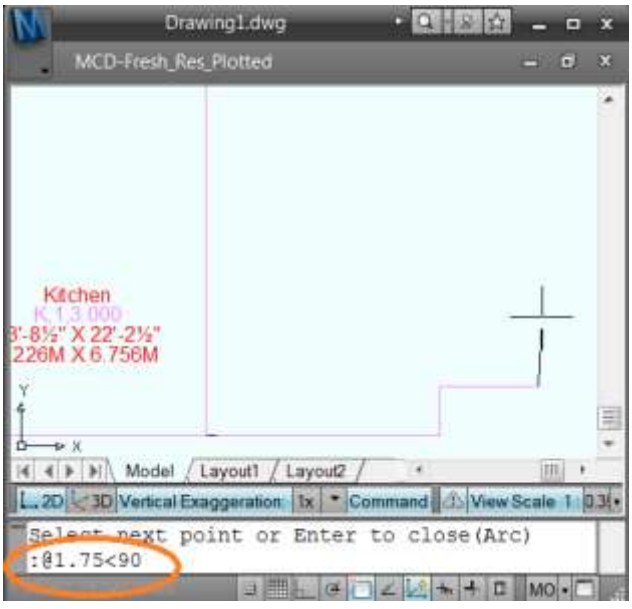
S13 - Type **@0.5<90** to draw a line vertically Bottom to top and press **Enter**



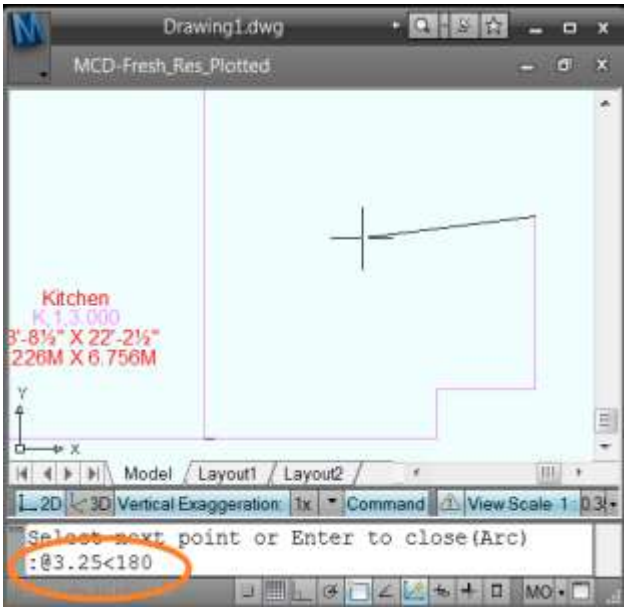
S14 – Expecting next point



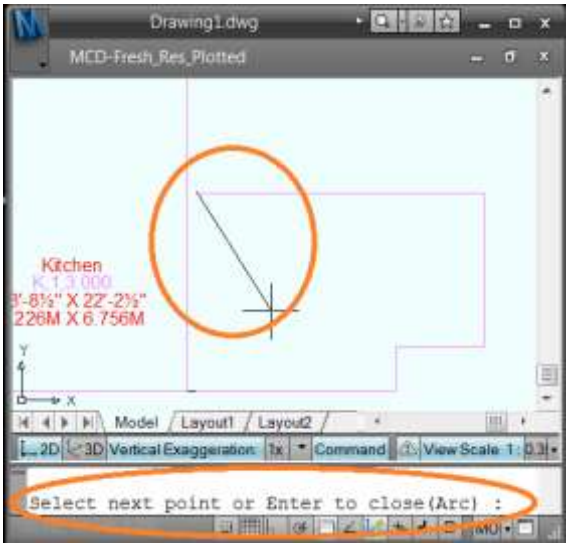
S15 - Type **@1<0** to draw a line horizontally left to right and press **Enter**



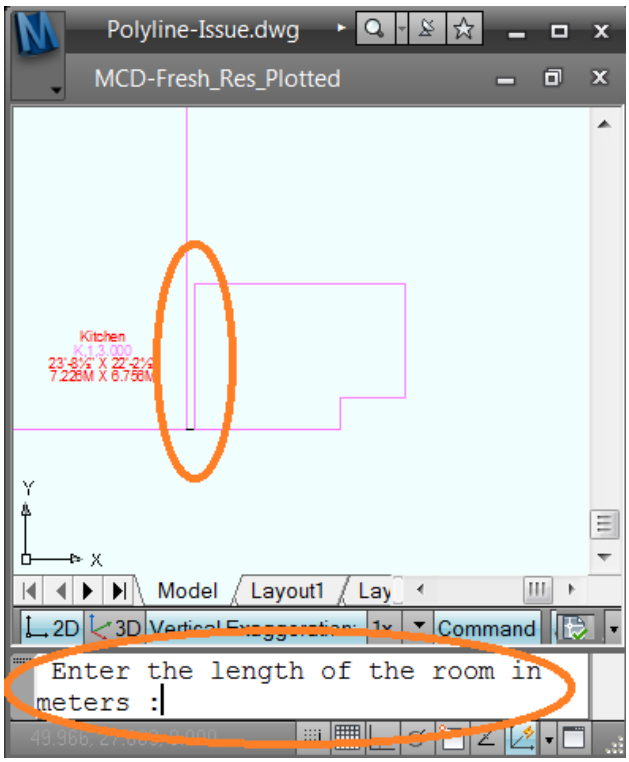
S16 - Type **@1.75<90** to draw a line vertically Bottom to top and press **Enter**



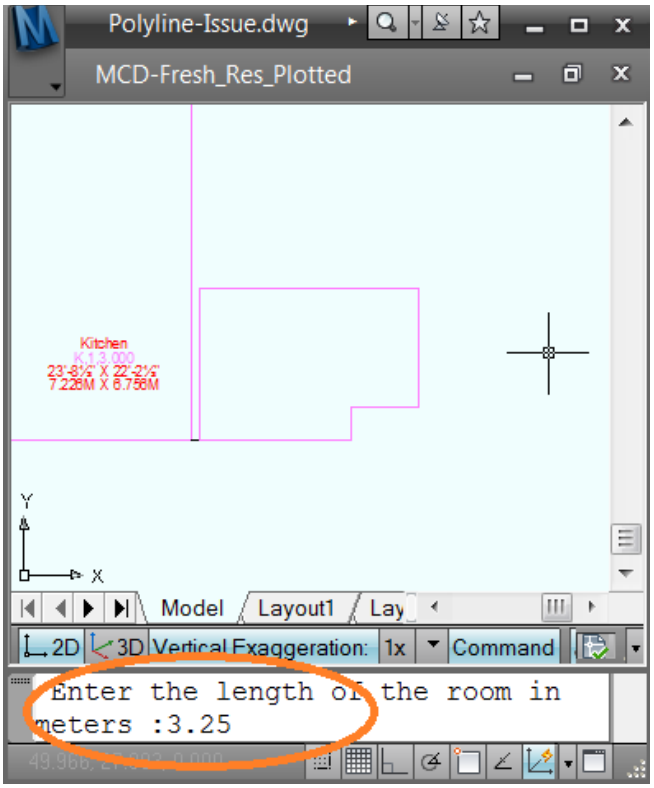
S13 - Type **@3.25<180** to draw a horizontal line right to left and press **Enter**



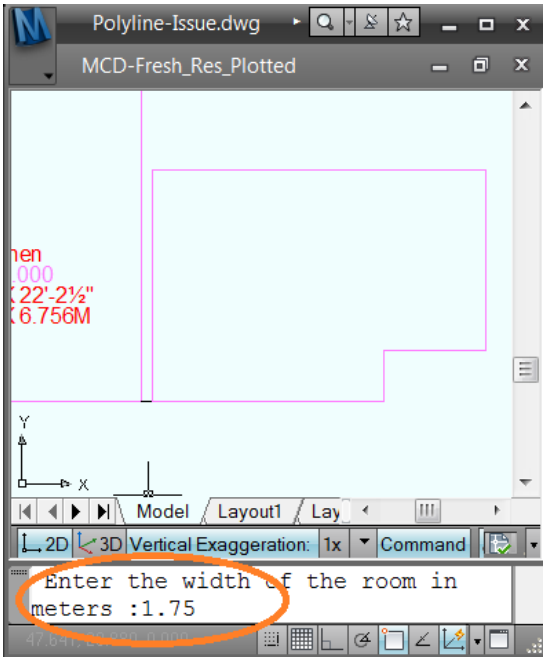
S14 – Expecting next point for line; press **Enter** to snap with the strat point of the Polyline



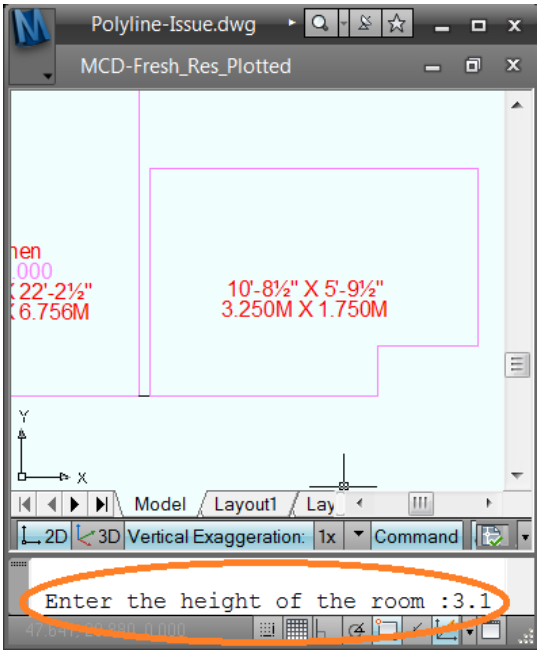
S15 – Closed polygon created and expeting dimesions



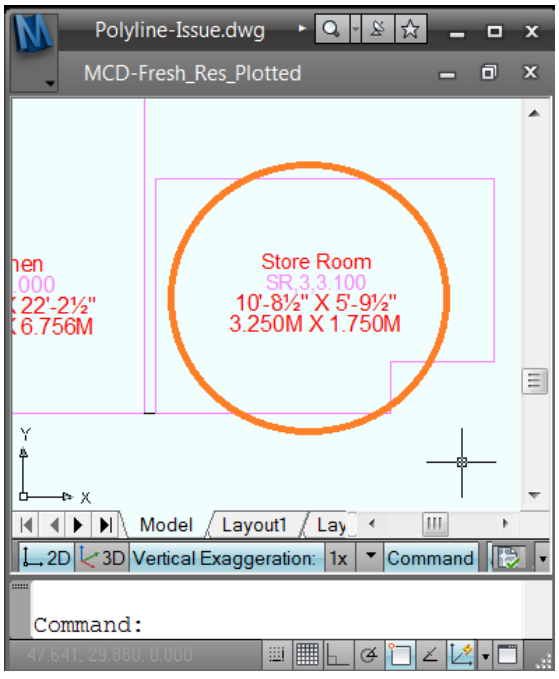
S16 – Enter length of the room (3.25)



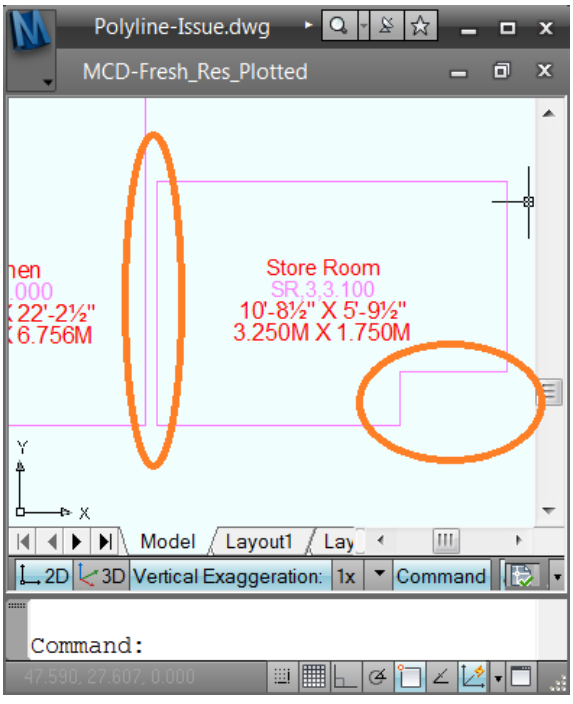
S17 - Enter width of the room (1.75)



S18 – Enter clear height of the room (3.1)



S19 – Store room is created.



S20 – Erase the line (0.114) that was drawn to mark the wall thickness

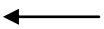
TIPS:

In case of polyline (irregular shape room) user need to enter length and width of the biggest rectangle which can be fitted inside the irregular shaped room.

Use @2.25<0 to draw polyline. In this example 2.25 is length of the polyline to be drawn and 0 is angle at which it has to draw.

@2.25<0 draw horizontal line left to right

@2.25<90 draw vertical line bottom to top

@2.25<180 draw horizontal line right to left 

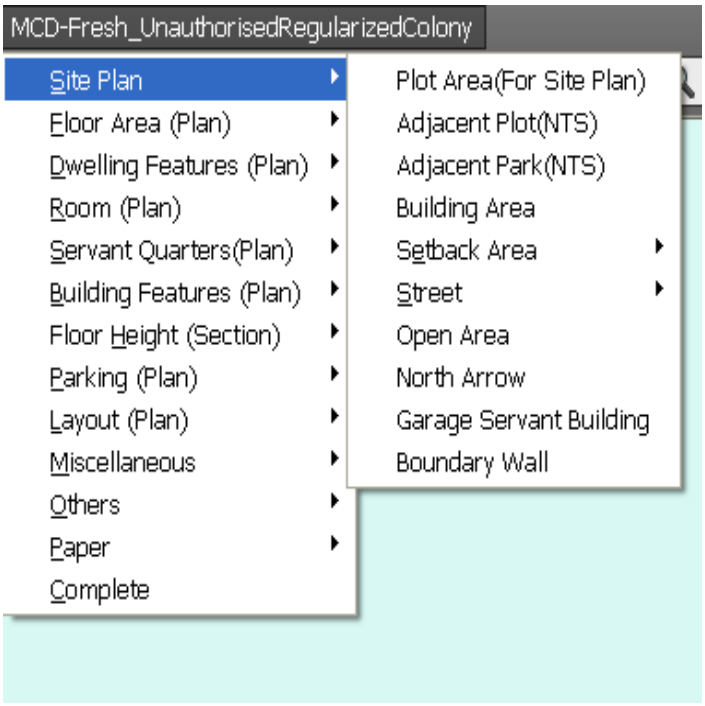
@2.25<270 draw vertical line top to bottom

@2.25<45 draw inclined line at 45^0 bottom to top 

6.2.3 URC Site Plan

Draw in 1:1 scale in Meter. Following features can be captured based on the requirement.

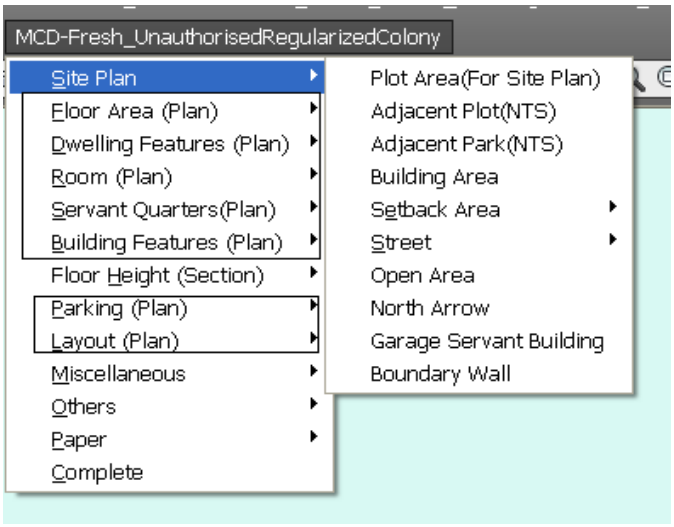
- Plot Area(For Site Plan)
- Adjacent Plot(NTS)
- Adjacent Park(NTS)
- Building Area
- Setback Area
- Street
- Open Area
- Green Land
- North Arrow



6.2.4 Plan

Draw in 1:1 scale in Meter. Plans of Basement, Stilt, Ground floor and upper floors can be drawn with the help of following menus.

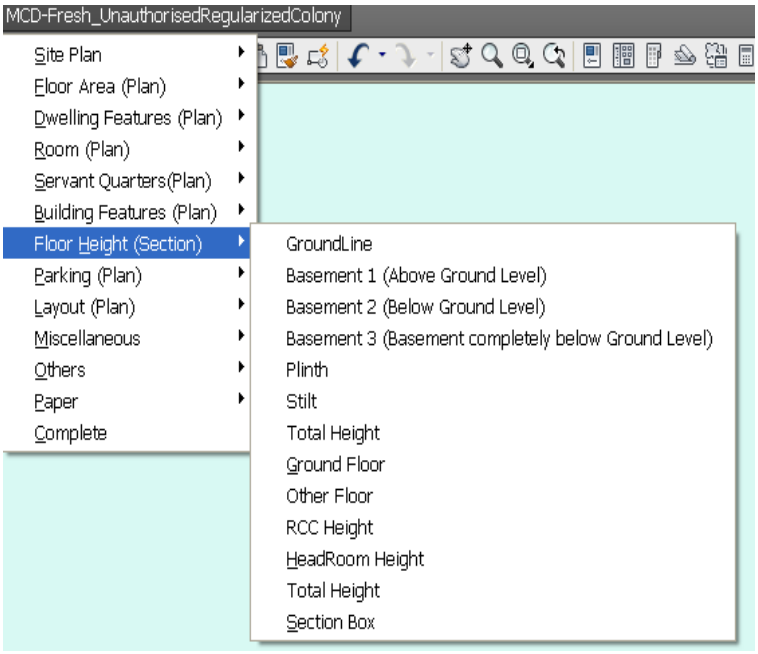
- Floor Area
- Layout
- Building Features
- Parking
- Stair



6.2.5 Section

Draw in 1:1 scale in Meter. Sectional view is used to determine the Building Height. Following sectional view features can be drawn in this view.

- Groundline
- Basement
- Plinth
- Stilt
- Ground Floor
- Other Floors
- RCC Height
- Headroom Height
- Total Height
- Section Box



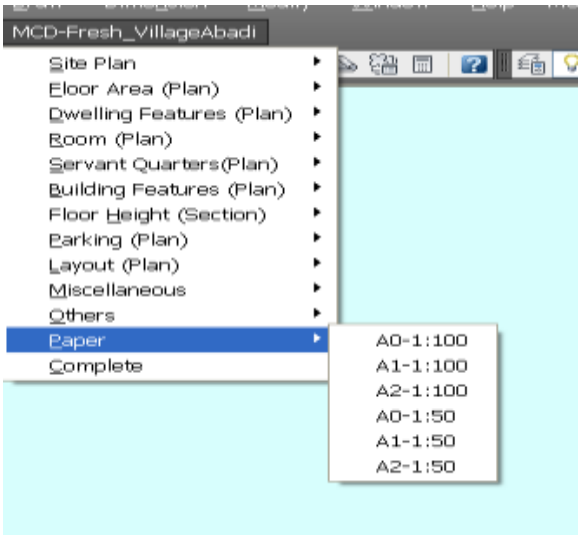
Use **Line1** to **Line6** of **Miscellaneous** to represent other sectional features like wall, door, widow, balcony, parapet wall, room, stair etc.
Sectional line in the Plan can be drawn using **Line1** to **Line6.**
Each Sectional view should be enclosed with **Section Box.**

6.2.6 Elevation

Use **Line1** to **Line6** of **Miscellaneous** to represent elevation features.
Each Elevation view should be enclosed with **Elevation Box.**

6.2.7 Paper Size

All the drawn entities should be enclosed with suitable paper size with appropriate scale.



- ✓ As many paper size as required can be used based on the requirement.
- ✓ Do not stretch the paper size.
- ✓ While fitting the entities inside the paper size, take due care to move the polygon (outer box) and corresponding text together without stretching or changing its integrity.

6.2.8 Complete

Upon completion of the drawing before final save, press **Complete** button.

6.2.9 Mandate Features

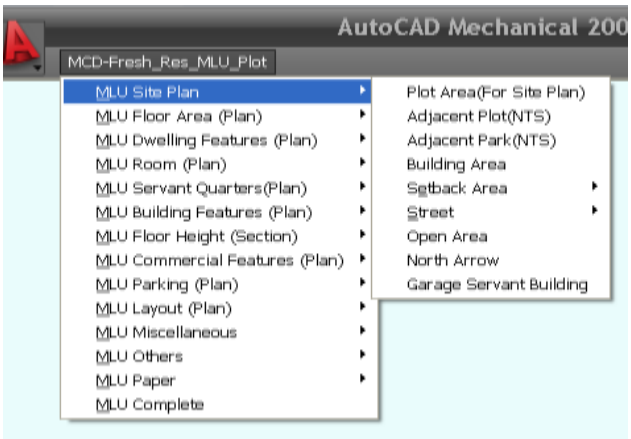
The tool is designed to prepare building plan of a plot having many buildings; each building has many floors; each floor has many rooms and building has common features like lift, shaft, passage,mumti etc…

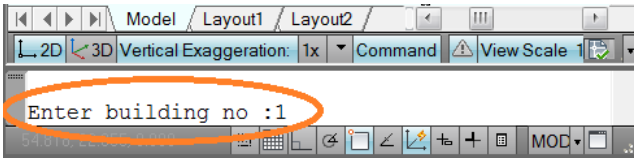
Hence following features are mandate in each building plan

- ✓ Plot Area
- ✓ Covered Area (One for each building should be drawn and minimum one is mandate)
- ✓ Floor Area (At least Ground Floor should be drawn)
- ✓ Rooms (Male and Female watercloset and working hall are mandatory),Urinal
- ✓ Other features based on the requirement

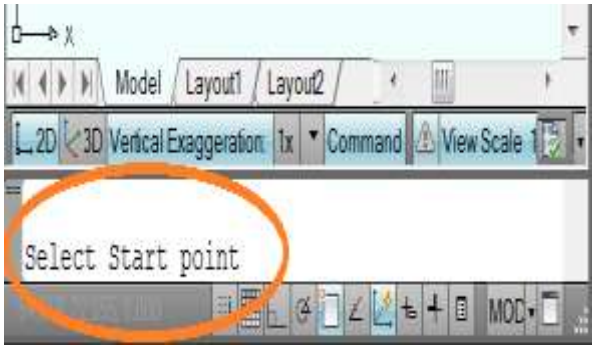
6.2.10 Drawing Curved features

Curved features can be drawn by selecting Polyline option in most of the menus.

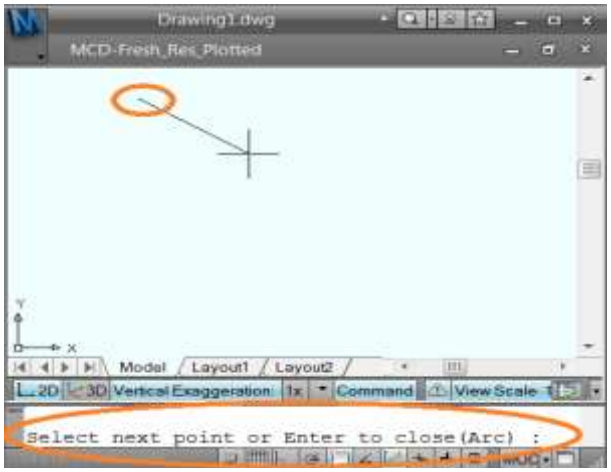


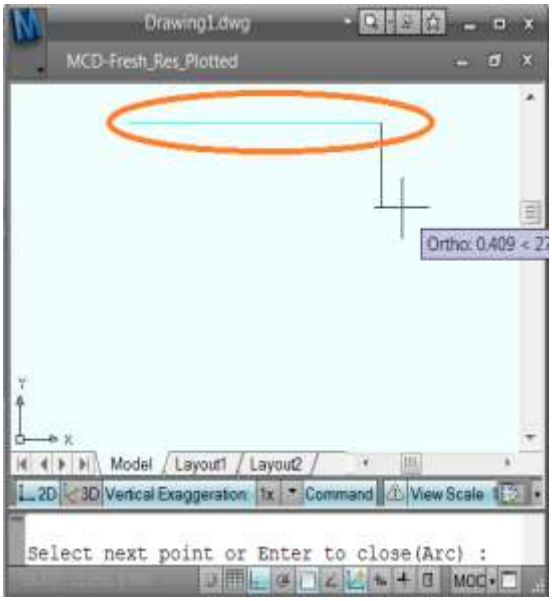


S2 – Enter building number

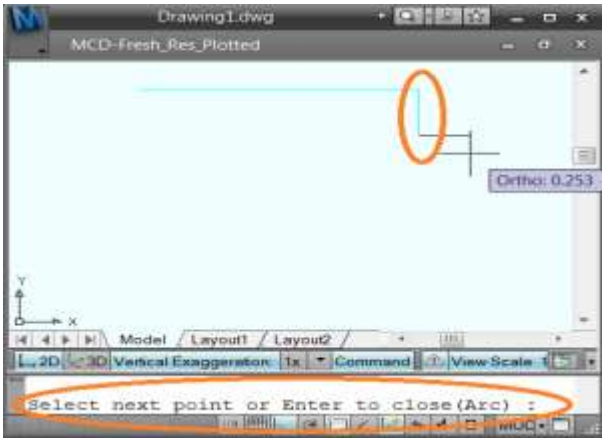


S4 – Pick start point of the building

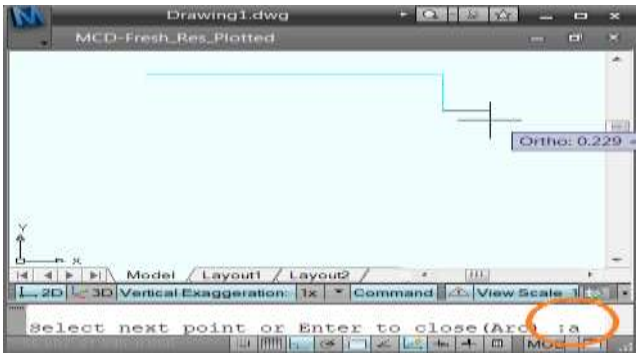




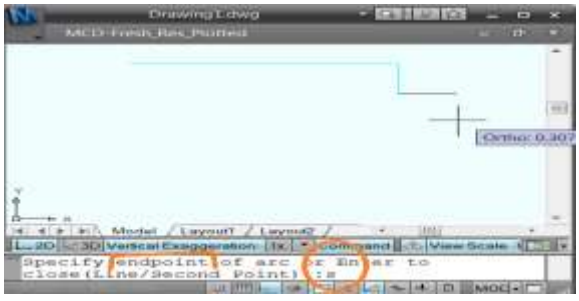
S6 – Pick next point



S7 – Pick next point

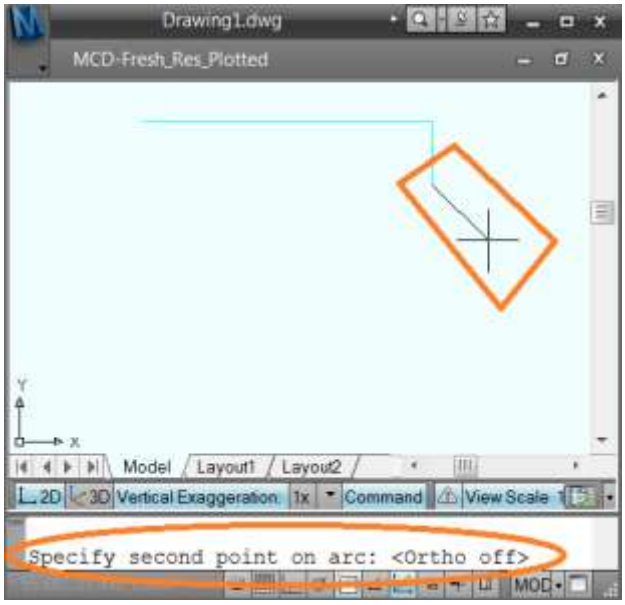


S8 – Type **A** and press **Enter** to switch from line to arc

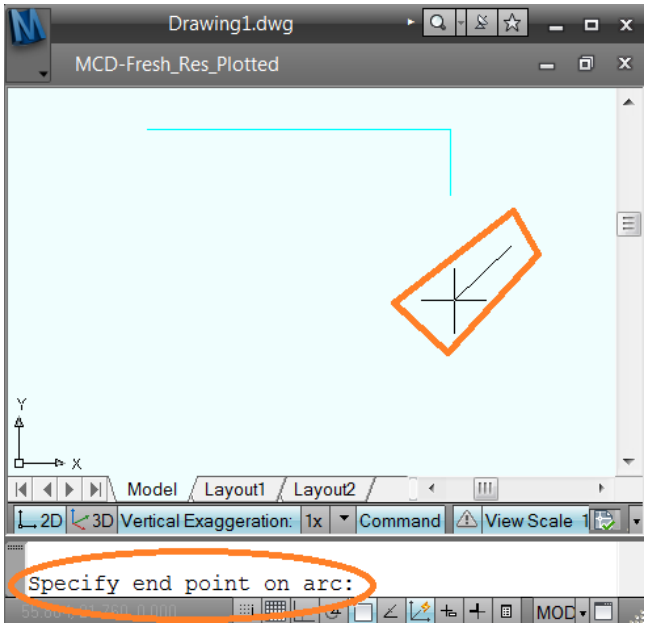


S9 – Type **S** to select option of picking second point of the arc

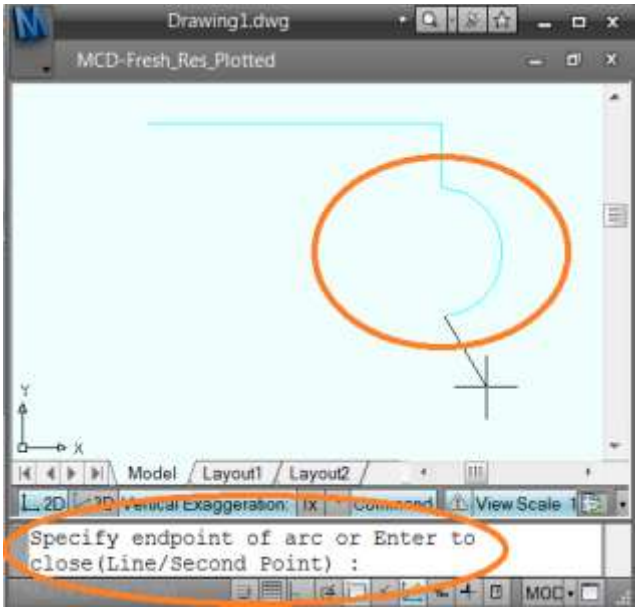
In case you want to pick end of the arc in this stage directly pick the end point (typing S is not Required)



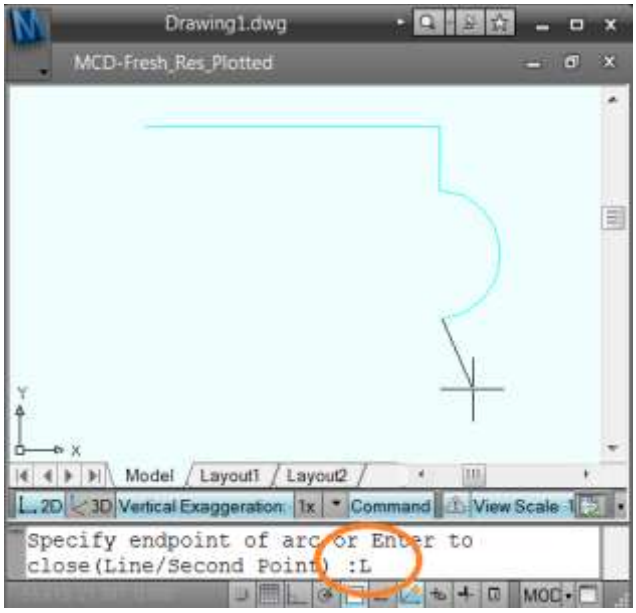
S10 – Pick second point of the arc



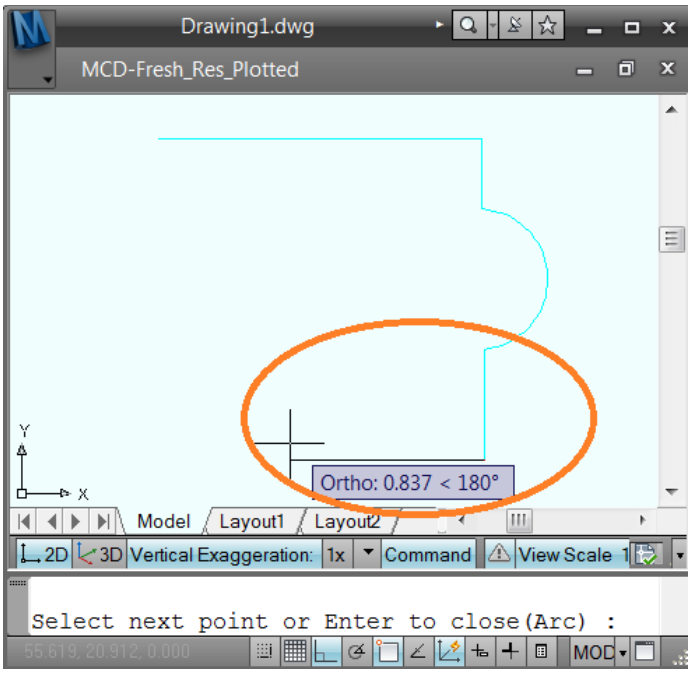
S11 – Pick the end point of the arc



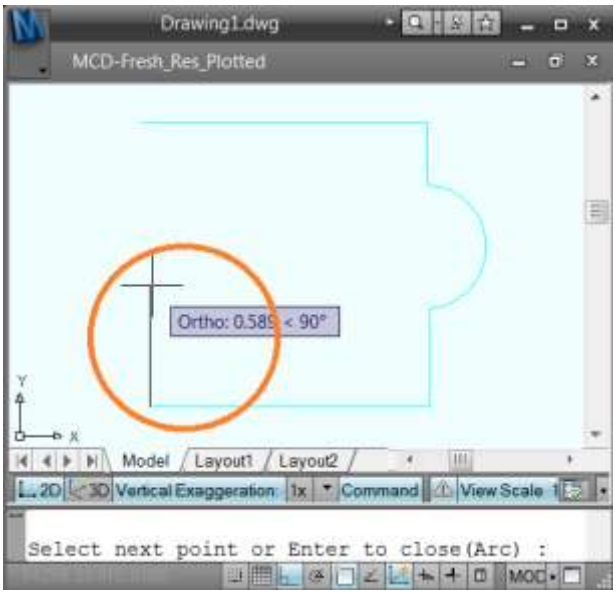
S12 – Can continue for another arc by picking end point Of the arc or by typing S to have option of second and end point of the arc



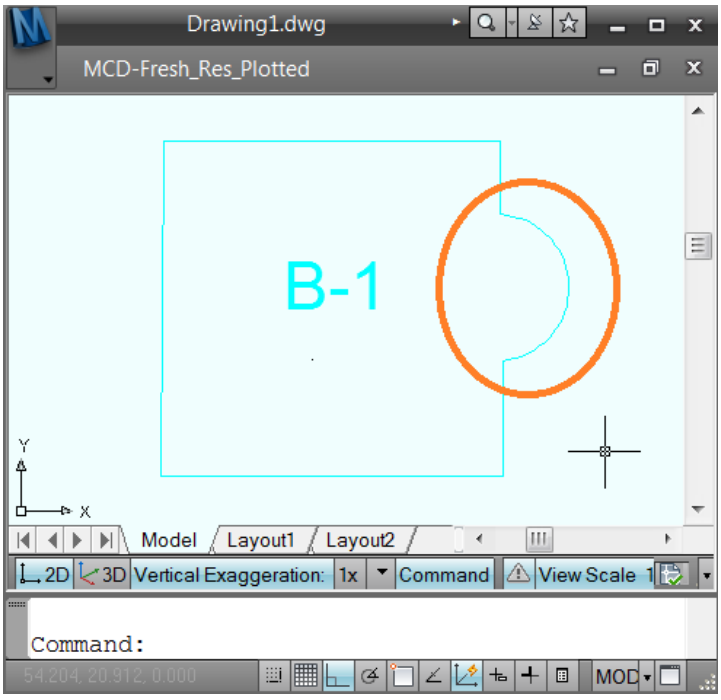
S13 – Type **L** to switch to line option



S14 – Pick end of line segment



S15 – Pick end of line segment and press **Enter** to close the polyline



S16 – Curved feature has been created

TIPS:
In the polyline type A and press Enter to switch between line to arc.
In the polyline type L and press Enter to switch between arc to line.
There is no limit in switching between line and arc and vice versa.

6.2.11 Key plan/ Layout plan / Part Layout Plan

Key plan / Layout plan / Part Layout Plan should be drawn in the drawing in suitable scale using the menu provide.

TIPS:
Need not to draw in 1:1 scale in Meter

6.2.12 Name plate / Certificates / Area chart / Parking chart

Name plate, Certificates like water harvesting, structural stability etc, area chart and parking chart are need to be shown in the building plan DWG. Tool will automatically calculate and populate in the final plot PDF.

6.2.13 Others

If any of already set (by tool) layer color and background color are same the drawn feature will not be visible, hence change the background color as follows

1. Type **Options** in the command line and press **Enter**
2. Click on **Display** tab
3. Click **Colors…** button
4. Click on **Color** button on top right side of the 'Drawing Windows Color' dialog box
5. Change the color which is not already used by the layers

If you want to load usual AutoCAD menu please load from the following path based on your AutoCAD version
C:\Users**\<User Name>**AppData\Roaming\Autodesk\AutoCAD Map 3D 2012\R18.2\enu\Support
Either or all of the below menus can be loaded.

- custom.cuix / custom.mun / custom.cui
- acad.cuix / acad.mnu / acad.cui

The tool will place text inside the rectangle / polyline drawn. The text should not be moved outside of the respective rectangle / polyline.

While drawing few features like room, door, window etc. an auto sequential number is generated by the tool to represent the feature in the report. **If there is any gap is introduced in the sequential number due to deletion of the feature will not affect the building plan.** Hence need not bother about the auto number generated by the tool.

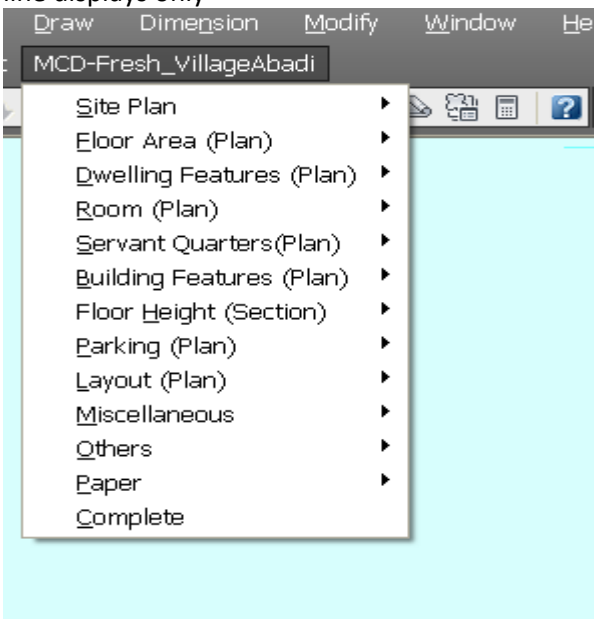
Press **Enter** to close the feature (in the Polyline option) without picking the start point again.

Press **Enter** to terminate the command which draws line or arc like boundary wall, parapet wall etc.

Wherever Height, Length, Width is required, enter in **Meter**

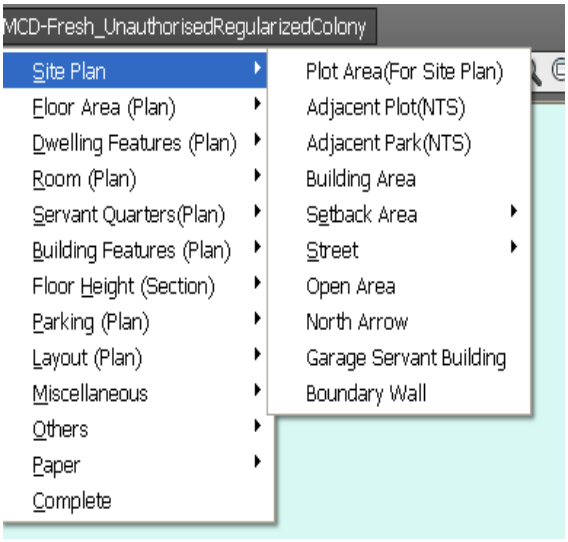
6.3 Draw Building Plan using Menu

By clicking on the **MCD-Fresh_Unauthorised Regularized Colony** menu**,** we can view and navigate submenus. Upon clicking on the submenu as like AutoCAD the tool expects few input from the user and the same is displayed in the command line. Provide correct input one after another till the command line displays only



Command:
Before starting to prepare building plan go through and practice "Convert existing DWG building plan", "Create a new DWG building plan" and "Drawing Curved features" sections.

6.3.1 Site Plan



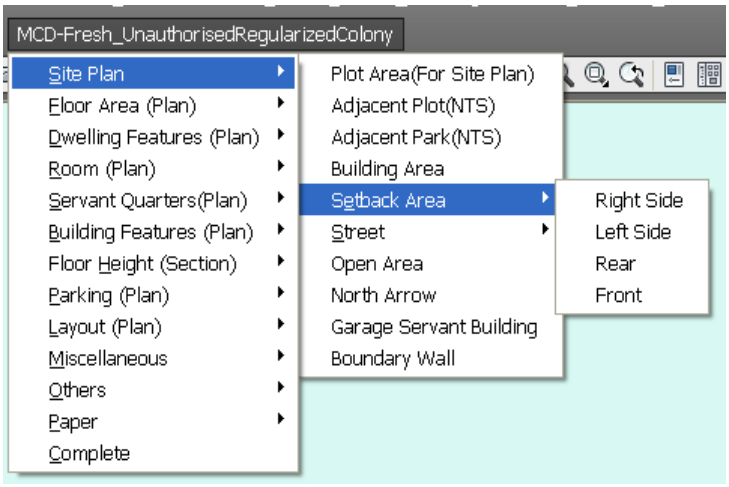
Site plan should be drawn in 1:1 scale in Meter.
Should be used to draw only plan views.

Select Site Plan → Plot Area (For Site Plan)
Either Rectangle or Polyline option can be used based on the shape of the plot.
It is a mandate feature in a building plan.

Select Site Plan → Adjacent Plot (NTS)
Either Rectangle or Polyline option can be used based on the shape of the plot.
Adjacent plot will ask **plot number.**
Adjacent Plot area need not be in scale 1:1 (Not to scale)

Select Site Plan → Adjacent Park (NTS)
Either Rectangle or Polyline option can be used based on the shape of the park.
Adjacent Park will ask **Park Name** to enter.
Adjacent Plot area need not be in scale 1:1 (Not to scale)

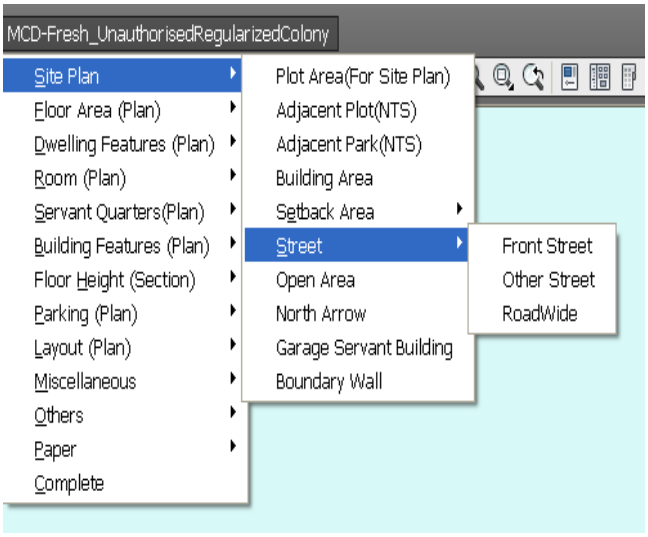
Select Site Plan → Building Area
Either Rectangle or Polyline option can be used based on the shape of the Building.
Building Area will ask for **building number**.



Select Site Plan → Setback Area
Four types of setback area are provided, based on our requirement we need select any One of the setback areas.

-Right Side: Right side setback area.
-Left Side: Left side setback area.
-Rear: Rear side setback area.
-Front: Front side setback area.

Either Rectangle or Polyline option can be used based on the shape of the setback.
Enter **width** of the setback.



Select Site Plan → Street → Front Street
Either Rectangle or Polyline option can be used based on the shape of the street.
Enter **width** of the street.
Enter **street name**. (In case the front street does not have name just press **Enter**)

It is a mandate feature in a building plan.

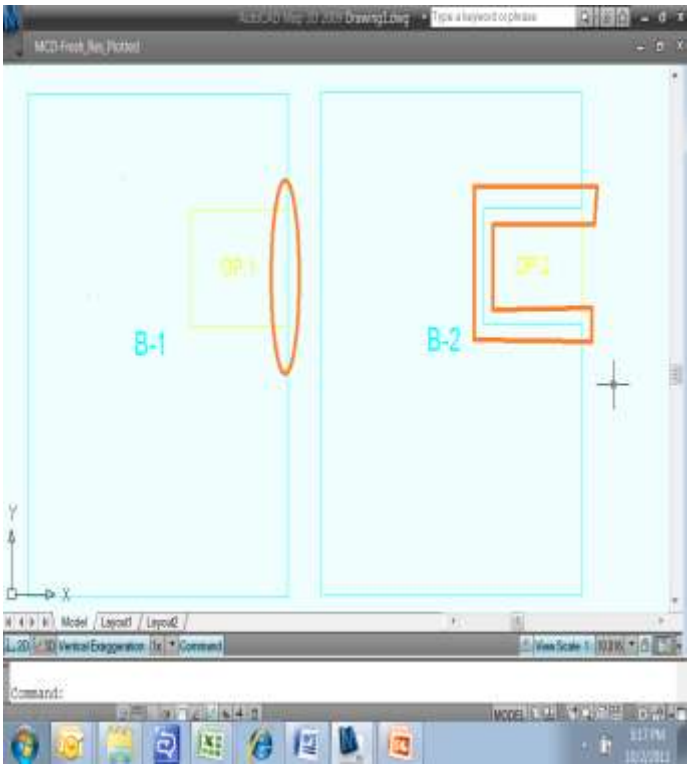
Select Site Plan → Other Street
Either Rectangle or Polyline option can be used based on the shape of the street.
Enter **width** of the street.
Enter **street name** for other street. (In case the front street does not have name just press **Enter**)
It is a mandate feature in a building plan.

Select Site Plan → Road Widening
Either Rectangle or Polyline option can be used based on the shape of the road widening area.
Enter **width** .

Important Note

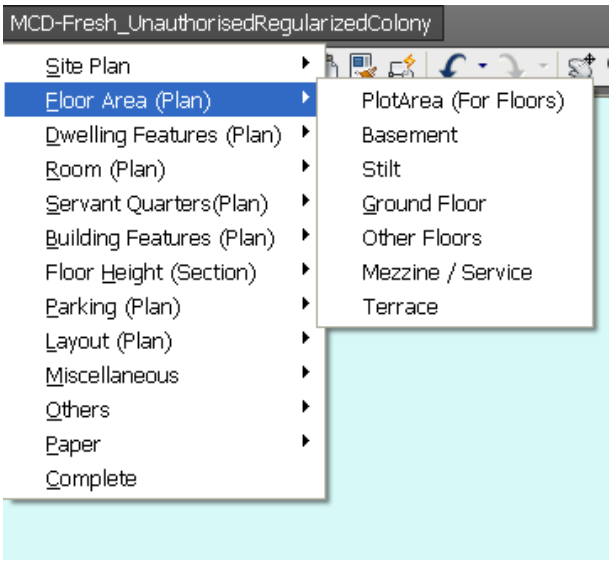
Road Widening area if given before sanction of the plan the FAR will be calculated on the Gross plot area.
If Road widening area is not given before the sanction of the plan then the required road widening area will be deduced from the plot area and FAR will be calculated on the Net plot area

Select Site Plan →Open Area
Either Rectangle or Polyline option can be used based on the shape of the open area.
Open area can be enclosed / excluded by the covered area as shown in the below figure. While calculating the coverage area, system will deduce the area of open area in both the cases.



Select Site Plan → Northarrow
Pick a point to place North Arrow
Use AutoCAD Rotate command to re-orient as required
One North Arrow is mandate for site plan.

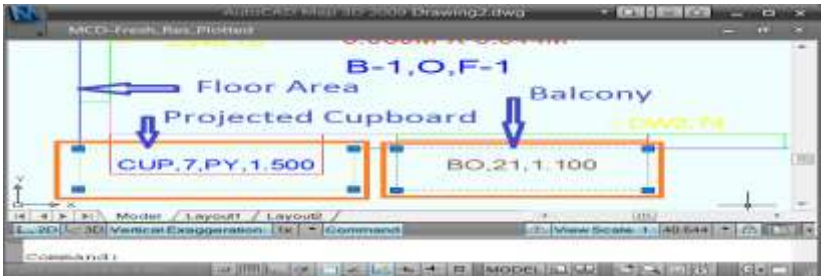
6.3.2 Floor Area (Plan)



Draw in 1:1 scale in Meter. Coverage area would be calculated from this.
Should be used to draw only plan views.

Open area, Shaft and Interior court yard can be enclosed / excluded by the floor area. While calculating the coverage area, system will deduce the area of open area, shaft etc in both the cases.

Each Floor Area should be drawn inside Plot Area (For Floors) and with reference to Plot boundary.
Area which has relaxation from coverage area like balcony, weather shade, cupboard (projected) need to be excluded from the floor area as shown in the figure.



Select Floor Area (Plan) → Plot Area (For Floors)
Pick a point to place the Plot area {which was already drawn using Plot Area (For Site Plan)}
Only one Plot Area (For Site Plan) should be present in the drawing.
MLU Floor areas can be drawn inside Plot Area (For Floors)
Floor area should be inside Plot Area (For Floors).
All plot areas should identical.

Select Floor Area (Plan) → Basement
Either Rectangle or Polyline option can be used based on the shape of the basement.
Enter building number for which the basement is being drawn.

Select Floor Area (Plan) → Stilt
Either Rectangle or Polyline option can be used based on the shape of the stilt.
Enter building number for which the stilt is being drawn.

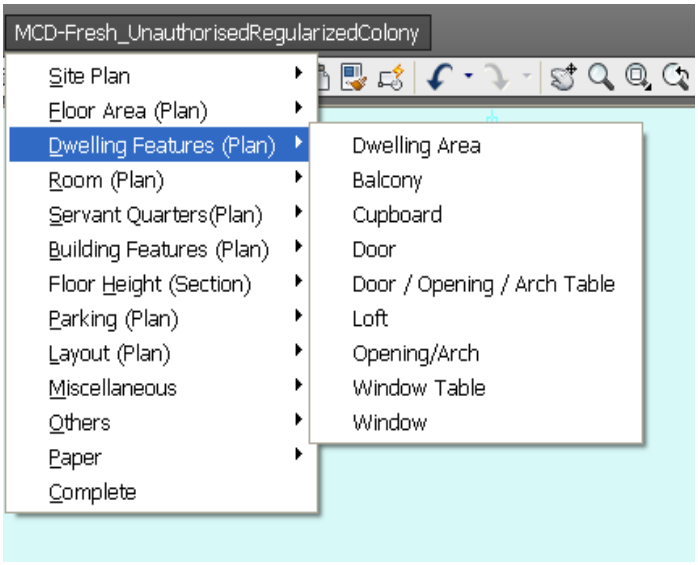
Select Floor Area (Plan) → Ground Floor
Either Rectangle or Polyline option can be used based on the shape of the ground floor.
Enter building number for which the ground floor is being drawn.

Select Floor Area (Plan) → Other Floors
Either Rectangle or Polyline option can be used based on the shape of the other floor.
Enter building number for which the floor is being drawn.
Enter the floor number for which the floor is being drawn. First floor number should be 1 and second floor number should be 2 and so on.

Select Floor Area (Plan) → Mezzine / Service Floor
Either Rectangle or Polyline option can be used based on the shape of the Mezzine / Service floor.
Enter building number for which the Mezzine / Service floor is being drawn.

Select Floor Area (Plan) → Terrace
Either Rectangle or Polyline option can be used based on the shape of the terrace.
Enter building number for which the terrace is being drawn.

6.3.3 Dwelling Features Plan



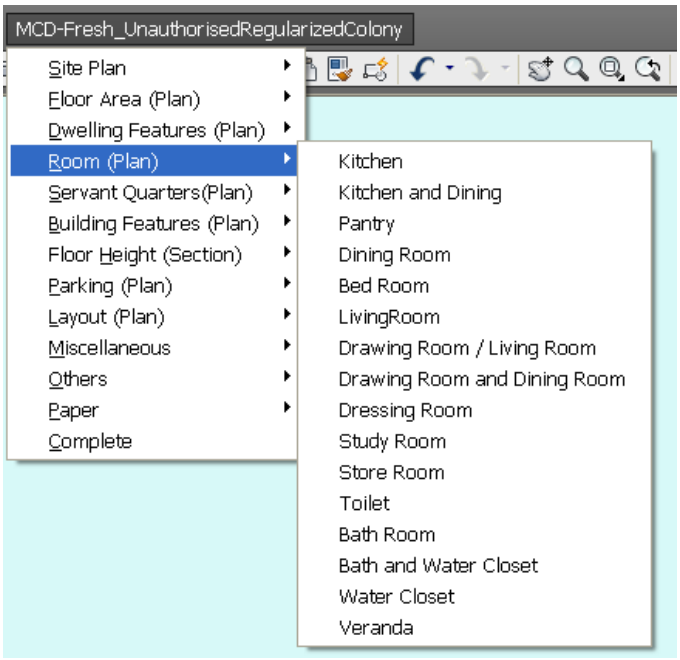
Draw in 1:1 scale in Meter.
Should be used to draw only plan views.
Height difference between floor finish and ceiling bottom need to be given as Room height

Select Plan → Dwelling area
Either Rectangle or Polyline option can be used based on the shape of the dwelling area.

The above procedure can be adopted to draw following Dwelling features

- Balcony
- Cupboard
- Door
- Door/Opening arch/arch table
- Loft
- Opening arch
- Window table

6.3.4 Room (Plan)



Draw in 1:1 scale in Meter.
Should be used to draw only plan views.

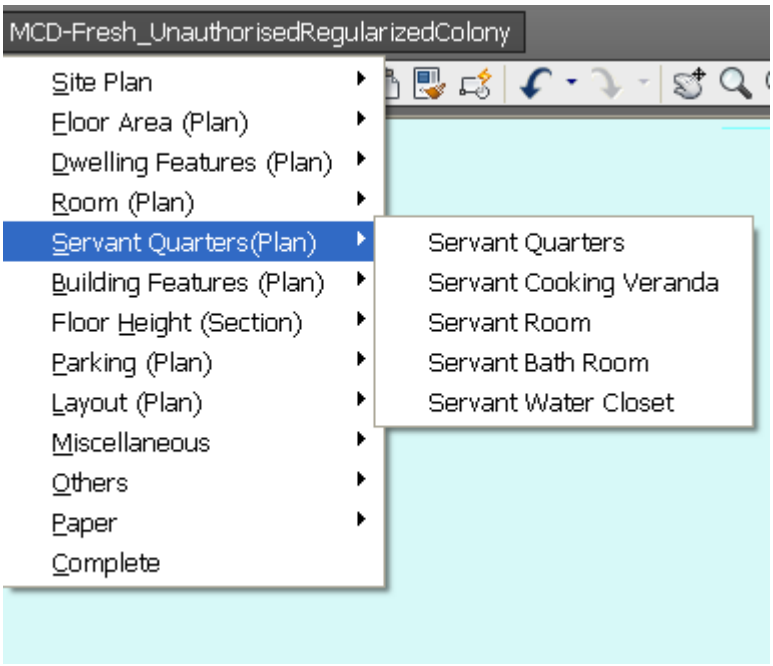
Select Room (Plan) → Kitchen
Either Rectangle or Polyline option can be used based on the shape of the Kitchen.

Select Room (Plan) → Kitchen and Dining
Either Rectangle or Polyline option can be used based on the shape of the corridor.

The above procedure can be adopted to draw following room features

- Pantry
- Bed Room
- Living Room
- Drawing room/Dining room
- Dressing room
- Study Room
- Store Room
- Toilet
- BathRoom
- Watercloset
- Bath and watercloset
- Veranda

6.3.5 Servant Quarters (Plan)



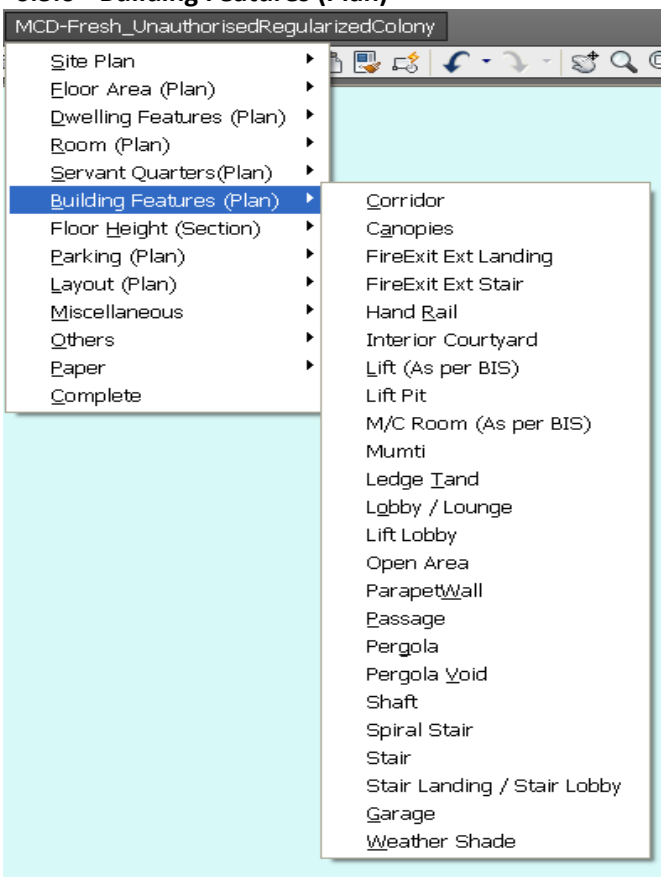
Draw in 1:1 scale in Meter.
Should be used to draw only plan views.

Select Servant Quarters (Plan) → Servant Quarters
Either Rectangle or Polyline option can be used based on the shape of the Kitchen.

The above procedure can be adopted to draw following room features

- Servant Cooking veranda
- Servant room
- Servant bathroom
- Servant water closet

6.3.6 Building Features (Plan)



Draw in 1:1 scale in Meter.
Should be used to draw only plan views.

Select Building Features (Plan) → Hand Rail
Enter Hand rail **height**
Pick series of points as required (Curved boundary can be drawn by typing **A** to select **Arc** and can be switched back to **line** by typing **L** in the command line)
Press **Enter** to terminate the polyline
Pick on the drawn polyline to select start point of the leader
Pick second point of the leader
Text will be placed by the tool to represent the Hand Rail

Select Building Features (Plan) → Interior Courtyard
Either Rectangle or Polyline option can be used based on the shape of the interior courtyard.
Enter Building Number
Enter Interior courtyard number (Should be identical in all the floor plans)
Enter height of the court yard from road center line

Select Building Features (Plan) → Lift (As per BIS)

Enter Lift number (Should be identical in all the floor plans)
Either Rectangle or Polyline option can be used based on the shape of the lift.

Select Building Features (Plan) → Lift Pit
Enter Lift pit number
Either Rectangle or Polyline option can be used based on the shape of the lift pit.

Select Building Features (Plan) → Mumti
Either Rectangle or Polyline option can be used based on the shape of the Mumti.
Enter Building Number

Select Building Features (Plan) → Lobby / Lounge
Either Rectangle or Polyline option can be used based on the shape of the Lobby / Lounge

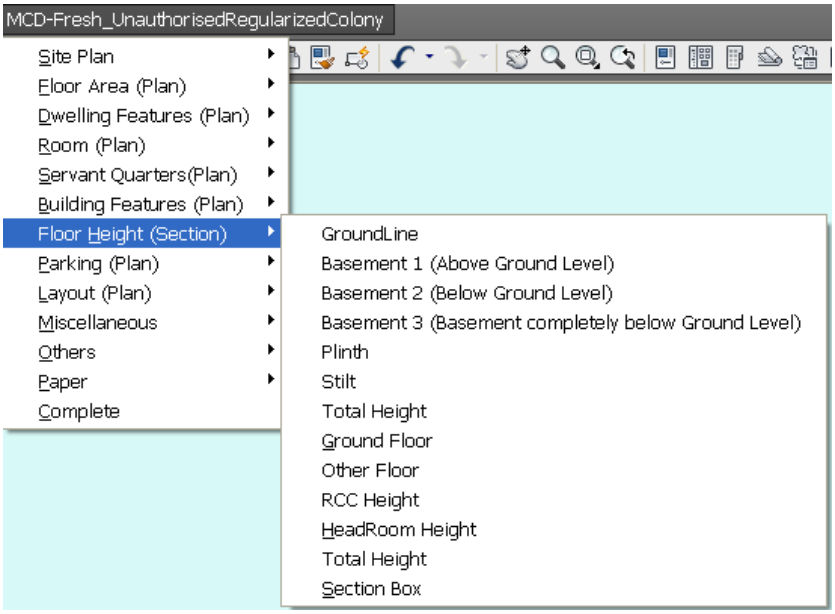
Select Building Features (Plan) → Lift Lobby
Either Rectangle or Polyline option can be used based on the shape of the Lift Lobby.

Select Building Features (Plan) → Parapet Wall
Pick series of points as required (Curved boundary can be drawn by typing **A** to select **Arc** and can be switched back to **line** by typing **L** in the command line)
Press **Enter** to terminate the Polyline
Pick on the drawn Polyline to select start point of the leader
Pick second point of the leader
Enter **Parapet wall height**
Text will be placed by the tool to represent the parapet wall

Select Building Features (Plan) → Shaft
Either Rectangle or Polyline option can be used based on the shape of the shaft.
Enter building number
Enter shaft number (Should be identical in all the floor plans)

Select Building Features (Plan) → Weather Shade
Enter height which is measured from finished floor
Either Rectangle or Polyline option can be used based on the shape of the weather shade.

6.3.7 Floor Height (Section)



Draw in 1:1 scale in Meter.
Should be used to draw only sectional views.
Height difference between floor finish and ceiling bottom need to be represented in the floor height.
RCC Height can be used to represent RCC thickness + floor finish

Select Floor Height (Section) → GroundLine
To represent average ground level this menu can be used.
Pick serious of point to draw the line

Select Floor Height (Section) → Basement 1 (Above Ground Level)
To represent basement portion which is above ground level (with ventilators) this menu can be used
Enter building number for which this basement is being drawn
Either Rectangle or Polyline option can be used based on the shape of the basement (Use polyline in case of sunken slab)
Select the longest vertical line to mark the height and pick a point where the dimension needs to be placed

Select Floor Height (Section) → Basement 2 (Below Ground Level)
To represent basement portion which is below ground level (without ventilators) this menu can be used
Enter building number for which this basement is being drawn
Either Rectangle or Polyline option can be used based on the shape of the basement
Select the longest vertical line to mark the height and pick a point where the dimension needs to be placed

TIPS:

B1 & B2 go together, hence both B1 & B2 should present or both should not be there in the DWG

Select Floor Height (Section) → Basement 3 (Basement completely below Ground Level)
To represent basement which is completely below ground level (without ventilators) this menu can be used
Enter building number for which this basement is being drawn
Either Rectangle or Polyline option can be used based on the shape of the basement (Use polyline in case of sunken slab)
Select the longest vertical line to mark the height and pick a point where the dimension needs to be placed

Select Floor Height (Section) → Plinth
Enter building number for which this plinth is being drawn
Either Rectangle or Polyline option can be used based on the shape of the plinth (Use polyline in case of sunken slab)
Select the longest vertical line to mark the height and pick a point where the dimension needs to be placed

Select Floor Height (Section) → Stilt
Enter building number for which this stilt is being drawn
Either Rectangle or Polyline option can be used based on the shape of the stilt (Use polyline in case of sunken slab)
Select the longest vertical line to mark the height and pick a point where the dimension needs to be placed

Select Floor Height (Section) → Ground Floor
Enter building number for which this ground floor is being drawn
Either Rectangle or Polyline option can be used based on the shape of the ground floor (Use polyline in case of sunken slab)
Select the longest vertical line to mark the height and pick a point where the dimension needs to be placed

Select Floor Height (Section) → Other Floor
Enter building number for which this floor is being drawn
Enter floor number for which this floor is being drawn
Either Rectangle or Polyline option can be used based on the shape of the ground floor (Use polyline in case of sunken slab)
Select the longest vertical line to mark the height and pick a point where the dimension needs to be placed
Repeat this command to draw all the floors from first to topmost floor

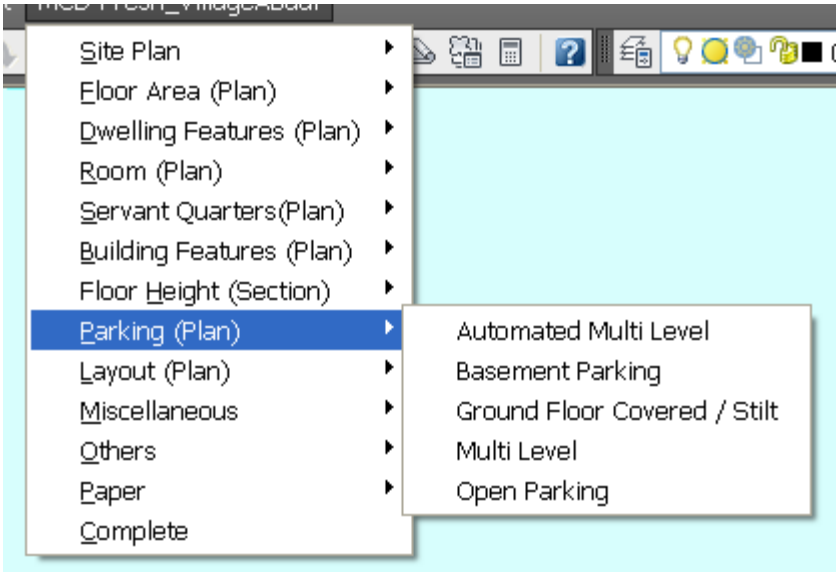
Select Floor Height (Section) → RCC Height
Either Rectangle or Polyline option can be used based on the shape of the RCC (Use polyline in case of sunken slab)
Select the longest vertical line to mark the height and pick a point where the dimension needs to be placed

Select Floor Height (Section) →Headroom Height
Pick start point (top of landing)
Pick end point (bottom of just above landing)
Select the vertical line to mark the height and pick a point where the dimension needs to be placed

Select Floor Height (Section) →Total Height
Pick start point (Bottom most point of Stilt / Ground floor / B1)
Pick end point (Top most of top most RCC)
Select the vertical line to mark the height and pick a point where the dimension needs to be placed

Select Floor Height (Section) →Section Box
Each sectional view should be enclosed by the section box
Pick start point of the rectangle
Pick end point of the rectangle
Enter name of the section (Ex: Section AA)
Move the text appropriately

6.3.8 Parking (Plan)

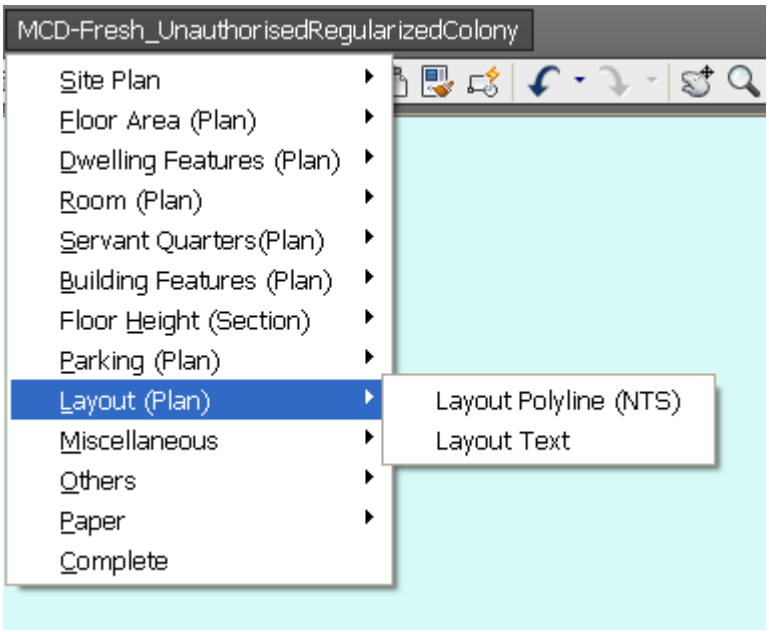


Draw in 1:1 scale in Meter.
Should be used to draw only plan views.
Tool will generate the parking chart, hence Architect need not populate in the drawing
Select Parking (Plan) → Basement Parking
Either Rectangle or Polyline option can be used based on the shape of the automated multi level parking

Above method can be used to draw following parking feature

- ❖ Ground Floor Covered / stilt
- ❖ Multi Level
- ❖ Open Parking

6.3.9 Layout (Plan)

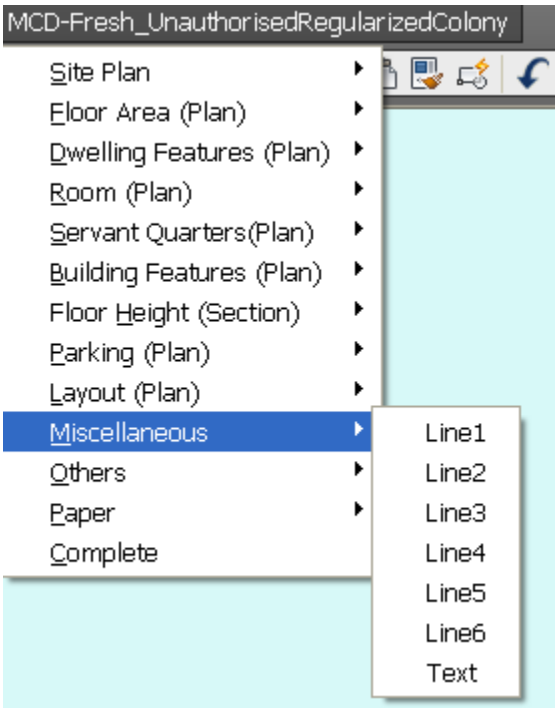


Draw in 1:1 scale in Meter.
Should be used to draw only layout views.
Tool will generate the Layout,

Select Layout (Plan) → Layout Polyline (NTS)
Polyline option can be used based on the shape of the Layout
Layout Polyline need not be in scale 1:1 (Not to scale)

Select Layout (Plan) → Layout Text
Pick start point the text.
Enter rotation angle.
Enter the required text.
To terminate press **Enter** twice.
Layout Polyline need not be in scale 1:1 (Not to scale)

6.3.10 Miscellaneous



Draw in 1:1 scale in Meter.
Can be used in plan, site plan, section, elevation etc.
In case there is no command available to draw any of the features (may be required for MCD's approval / Owner of the building) please use the following commands. For example there is no room command available to draw in the section or elevation, in this scenario use Line1 to Line6 to graphically represent the feature and Text command can be used to mark type of room.

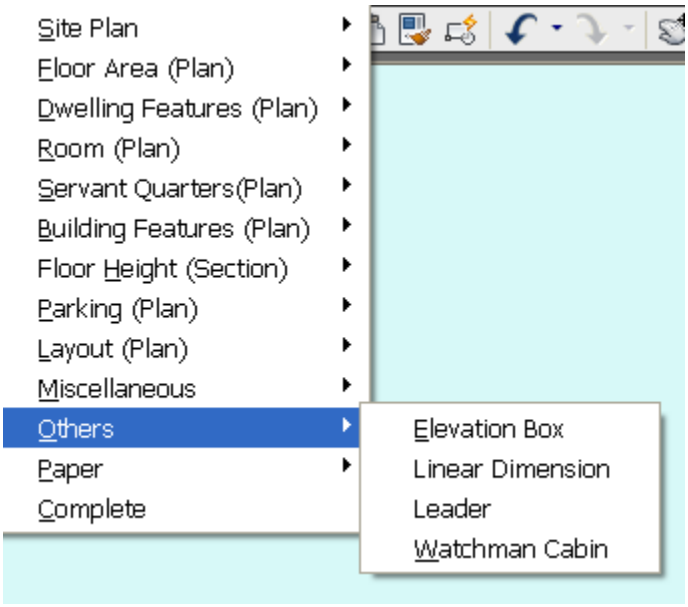
Line1
Line2
Line3
Line4
Line5
Line6
Text

Select Miscellaneous → Line1
Pick series of points as required (Curved boundary can be drawn by typing **A** to select **Arc** and can be switched back to **line** by typing **L** in the command line)
Press **Enter** to terminate the polyline
The same steps can be followed to use Line2 to Line6

Select Miscellaneous → Text
Pick start point the text
Enter rotation angle
Enter the required text
To terminate press **Enter** twice

TIPS:
If text height needs to be changed modify the same by double clicking and enter the required value in Text → Height field
Various line type / line weight can be set for Line1 to Line6 to differentiate in the plotting.
Type Layer press Enter and change line type or line weight can be changed as required

6.3.11 Others



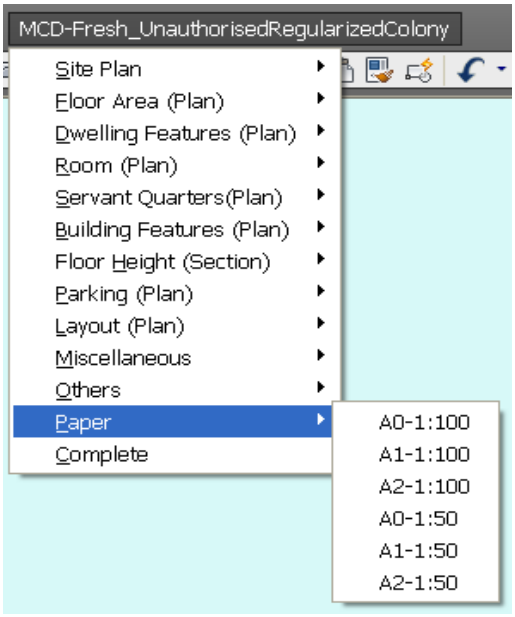
Select Others → Elevation Box
Select first corner of the box
Select second corner of the box
Enter elevation name
Move the name appropriately
Each elevation view should be enclosed inside the Elevation box

TIPS:
Line1 to Line6 can be used to draw elevation view

Select Others → Linear Dimension
Pick start point of the object from where the dimension to be measured
Pick end point of the object up to where the dimension to be measured
Wherever dimension is required use this command

Select Others → Leader
Pick start point the leader
Pick as many points as required
Enter to terminate the leader
Type the required Annotation
Press **Enter** to terminate Annotation
Press **Enter** to terminate the command

6.3.12 Paper



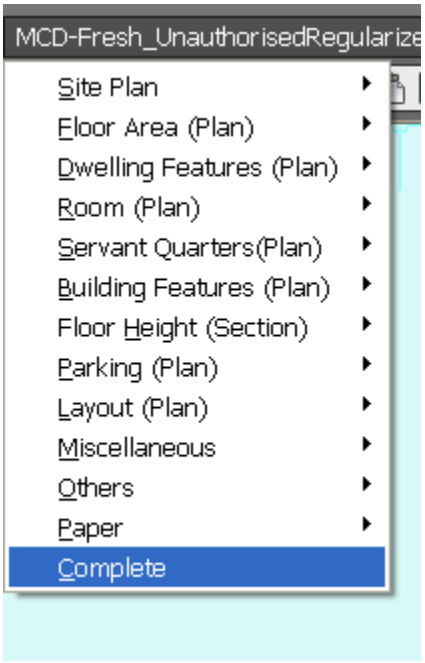
This command can be used to enclose the drawn features with required paper size boundary. Based on the plot area either 1:50 or 1:100 scale can be selected.
Select Paper → A0-1:100
In case the plot area is more than 250 sq. mt. use this 1:100 scale paper size.
Pick the insertion point; a 6 sided polygon will be inserted by the tool

Move the drawn objects inside the polygon. (While moving ensure all the layers are unlocked and take care both polygon and their related text are moved together without changing their integrity)
This six sided polygon can be moved, but should not be stretched / modified
As many polygons (different paper sizes A0 / A1 / A2) as required can be used for a single building plan.
No objects can be kept outside of the paper boundary.

Same steps can be applied to be below commands too.
A1-1:100
A2-1:100
A0-1:50
A1-1:50
A2-1:50

6.3.13 Complete

Select Complete.
Before final save of the DWG press Complete button.



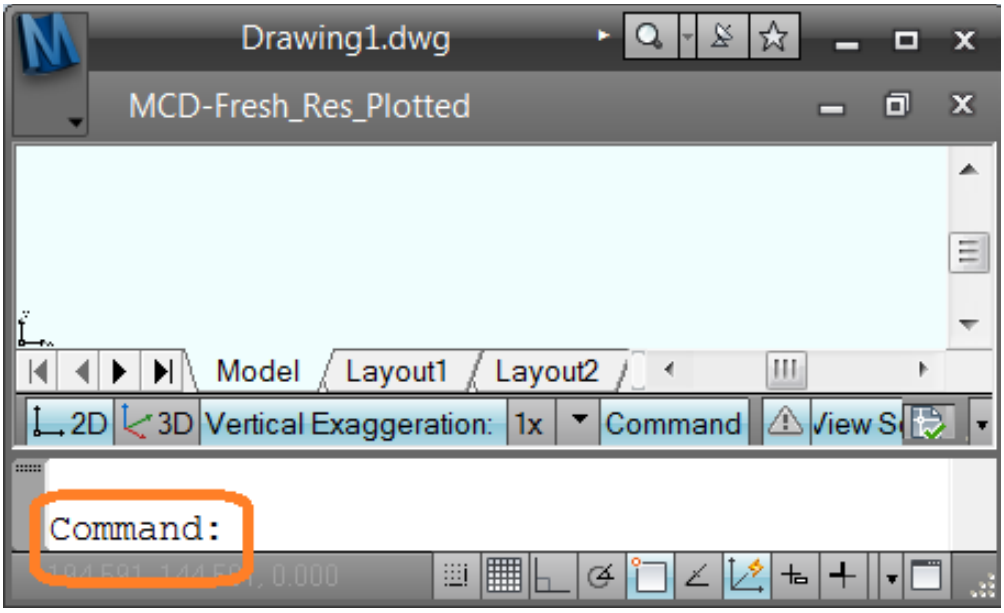
TIPS:
While preparing the building plan save frequently to avoid losing your work, before final save press **Complete** button and then **Save**.

6.4 Dos

1. Use Model space to draw
2. Should not use other than specified layers
3. Elevation use only MCD_Line1 to 6 inside MCD_102_Elevation box ..
4. While using *.VLX, if the respective text is out of the rectangle / polygon, need to be moved inside – if required can be scaled

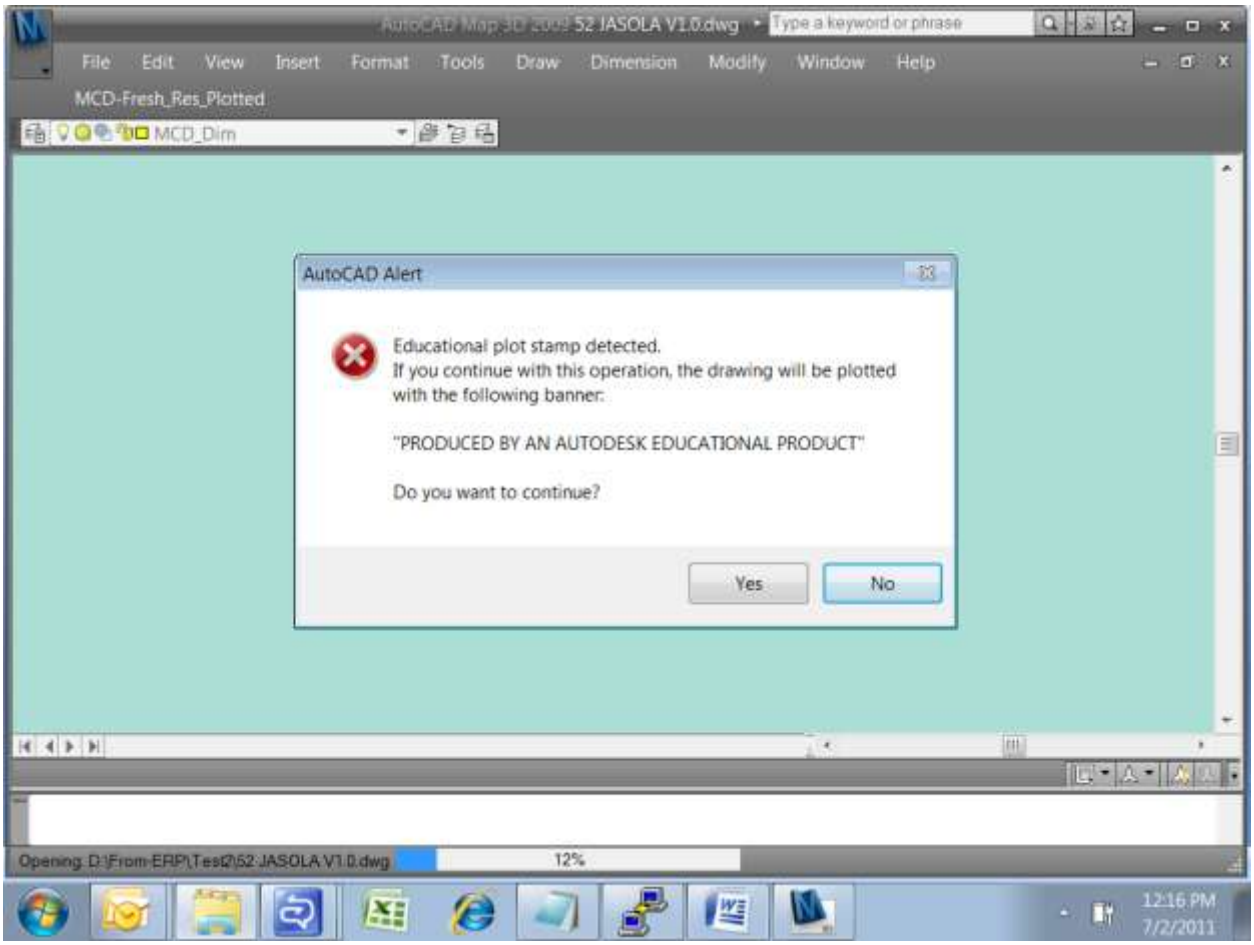
6.5 Don't

1. Do not press **Esc / Ctrl + C** during the command is being executed (i.e. till the tool displays **Command:** - Till such time carefully read the command line and provide appropriate input)



7. [redacted] s to avoid the

5. Deleting / modifying relevant text for the feature (Ex: KD,2,3)
6. Related text not present in the respective layer
7. Related text not inside the PLINE
8. Using Educational version of AutoCAD to prepare building plan



TIPS: To remove Education stamp

Step 1: Open the file in AutoCAD

Step 2: Save as AutoCAD 2000 / LT 2000 DXF (*dxf) – provide path to save

Step 3: Open new drawing (use acad.dwt template) from non educational version of AutoCAD

Step 4: Type DXFIN in command line and select the DXF created in step 2 and then save as *.DWG

8. Guideline to correct the Validation error

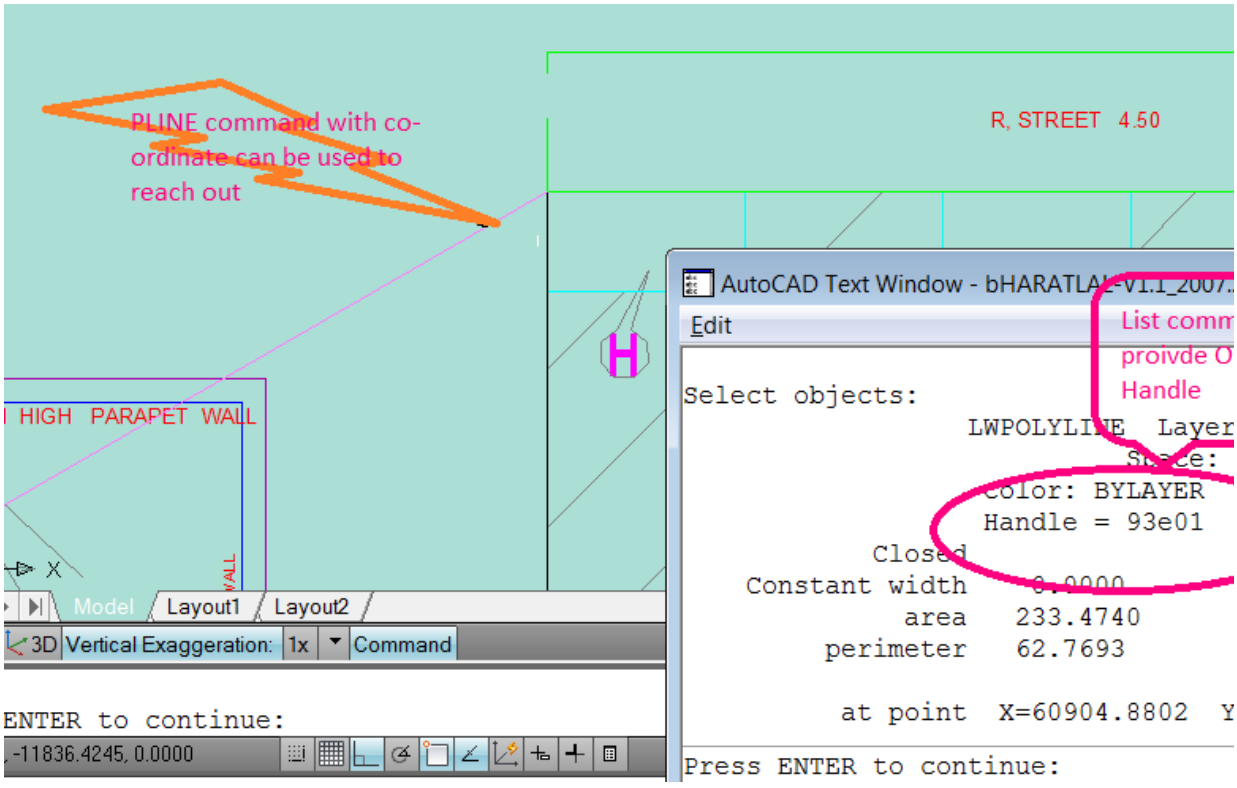
TIPS:
Here Text means the code used to represent the feature (Ex: DI,2,3.000, B-2,O,F-3 etc.)
Polygon means single line having multiple vertices to form a required shape of the feature (Ex: room, floor area etc.)

Error Type 1:

No description text found in polygon Object handle 93C79 at (60859.6954812057,-11850.6778406472,0)

To find out the object type 'PLINE / LINE' and enter the co-ordinate (**60859.6954812057,-11850.6778406472**); that would be the start point the PLINE and then click anywhere on the screen (alternatively use scroll button of the mouse to zoom to the start point of the PLINE), and you can zoom to the start point of the PLINE to reach the object. If there are many features present at that co-ordinate list each features one by one to find the Object handle **93C79.** Below figure will provide more clarity.

Alternative (abbreviation of find handle) type **FH** and press **Enter** and type **93C79** then press **Enter,** tool will draw a red color circle at the start point the feature and zoom to that location.



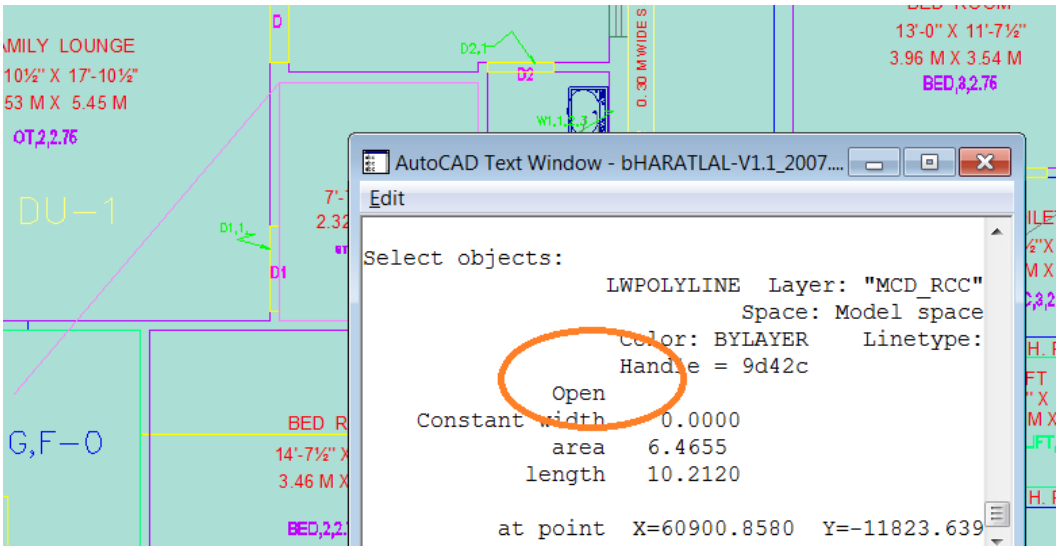
Below possible mistake could have created the error:

1. Missing relevant text for the feature (Ex: KD,2,3)
2. Related text not present in the respective layer
3. Related text not inside the PLINE

Error Type 2:

Open polygon found in MCD_Canopies At (112706.83204895,-35820.7800805769,0)

To find the object use PLINE and co-ordinate. List command will confirm the PLINE is open as below figure.

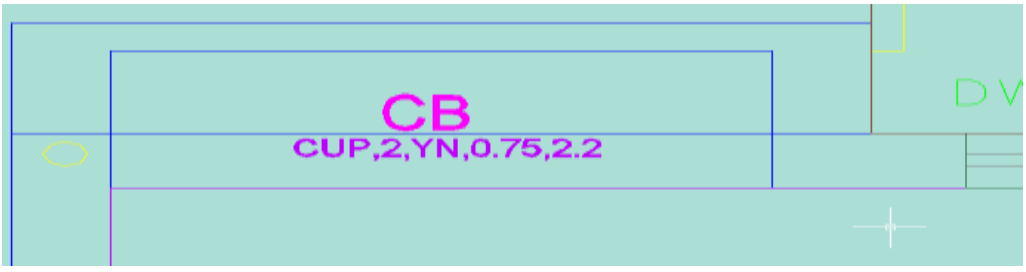


Type ‘PEDIT’ command and select the object and type ‘C’ to correct the mistake.

Alternatively erase the polyline and corresponding text and redraw with the help of menu.

Error Type 3:

MCD_Cupboard not having expected syntax for Object handle 9B1AB at (60884.9875723905,-11852.773984551,0) (Ex:CUP,1,PN,1.5)



Syntax of the text is not as required. Please erase the polyline and corresponding text and redraw with the help of menu.

Error Type 4:

Text does not have corresponding polygon - (71336.8624401434,-11509.5434415597,0)

Zoom to the feature using the co-ordinate as explained in **Error Type 1**

Below possible mistake could have created the error:

1. Polygon might have deleted
2. Polygon might have open error as like **Error Type 2**
3. Text might have been moved outside of the polygon
4. There could have more than one text inside the polygon

Alternatively erase the test and corresponding polyline (if found) and redraw with the help of menu.

Error Type 5:

MCD_102_ROOM is outside of the MCD_102_Floor_Area - Object Handle :9A23 - (71302.228479689,-11494.5065364262,0)

Zoom to the feature using the co-ordinate as explained in **Error Type 1**
Analyze which and where polygon / part of polygon is outside the floor area. Correct by stretching / moving vertices etc.

TIPS:
The error need not be at the mentioned co-ordinate, can be anywhere along the polygon's perimeter

Error Type 6:

Drawing can not open, Please upload valid dwg

Below possible mistake could have created the error:

1. The drawing would not have drawn using AutoCAD 2004 to 2012
2. The drawing would have drawn using AutoCAD educational version
3. While open new drawing (before start up the drawing) would not have selected **acad.dwt**

Draw using proper AutoCAD version and resubmit

Error Type 6:

Mtext is not allowed in Mcd_Dim1 - (58530.2248305979,580.597717228828,0)

AutoCAD Mtext is not allowed in that specific layer.

Other Errors:

S. No.	Error Message	Possible Mistake
1.	No -MCD_Boundary code found to polygon Object handle 334B - (58610.2389367934,596.89578193664,0)	Relevant text placed by tool would have been deleted / moved / modified
2.	Line is not allowed in MCD_Stair - (26.8158445248272,34.2273456312266,0)	Line was drawn in specific MCD layer – not allowed
3.	Object out side the paper polygon, Handle : 21EE	Few object might have been placed outside paper polygon – move them inside appropriately
4.	MCD_Setback_Area Object Handle :8AA8 overlaped with MCD_Setback_Area Object Handle :8AA6 - (71429.4571296521,-11501.4020108369,0)	Two polygons were drawn in such a way that they are overlapping each other (will give error even it is a very small overlap - check all along the perimeter of the polygons)
5.	MCD_Building_Area Object Handle :1AB1 overlaped with MCD_Setback_Area Object Handle :8AA8 - (71414.3169009809,-11478.9323884147,0)	Two polygons were drawn in such a way that they are overlapping each other (will give error even it is a very small overlap - check all along the perimeter of the polygons)
6.	More than one description text found in polygon Object handle 8AA8 - (71429.4571296521,-11501.4020108369,0)	Two relevant texts were inside the polygon
7.	The 'MCD_Building_Area' should be exist.	Mandate feature is missing
8.	Sectional views are not enclosed by Section box	Sectional view should have enclosed with Section box
9.	Extra Floor area found in plan view at :(2485.58478275698,511.790437834266,0)	In sectional view corresponding floor is missing – need to create the floor in section or delete the floor plan
10.	No Window table and Door Table found	Window table is missing
11.	The mandatory layer MCD_Street not found	Mandate feature is missing
12.	ZValue not allowed in mtext - (58585.2916626477,594.522576754466,-4.73532645018253E-22)	Feature / text might have drawn / modified in such a way that it has Z value – always Z value should be zero
13.	Invalid layer(WALL) found in dwg, Please remove	Feature / object present in non MCD

		layers
14.	Corresponding Building number(1) not found in Building Area - (58533.1754386406,584.086540668749,0)	Building number mismatch between Site plan building and plan floor area / sectional floor
15.	Corresponding Floor area not found in plan view for :B-1,B,F-0	In sectional view corresponding floor is missing – need to create the floor in section or delete the floor plan
16.	No dimension found to floor height object handle AF4D8 - (58574.2291724889,611.437674196982,0	Dimension is missing in the section
17.	Both B1 and B2 basements should exist - (58555.3219419304,622.261693274972)	Both B1 & B2 should coexist – one is not allowed
18.	Window/Door number not exist in tables - (58585.5678518972,583.395792427787,1.5920948543468E-21)	Corresponding door / window number is missing the door / window table
19.	Irregular polygon present Object Handle :AEF51 - (58623.7279297934,593.047227436727,0)	While drawing polygon, vertex over vertex were placed – please erase polygon and corresponding text and redraw
20.	No Window/Door number found for object handle 347D - (58553.7367898517,571.973395864703,0)	Door / window is missing plan present in door table. In case Door polygon / Arrow / Door code (text) missing or the leader is exploded, this error message will be shown.
21.	Lift should not be present in terrace and basement :	Lift was drawn in terrace or Basement – Please remove
22.	Mumti and MC room should be only on the terrace : handle 123A - (615.2389367934,96.89578193664,0)	Either Mumti or Machine room present outside of the terrace – move them into terrace
23.	There should be atleast one parking area in garage : handle 123A - (615.2389367934,96.89578193664,0)	No Parking area in garage -At least one parking should exist in garage – draw parking area in garage
24.	There should be no door or opening arch in lift pit : handle 123A - (615.2389367934,96.89578193664,0)	Existing of door or opening arch in lift pit - Please remove
25.	There should be no lift pit outside basement: handle 123A - (615.2389367934,96.89578193664,0)	Lift pit is placed in other floors – move it to basement
26.	There should be no lift in basement : handle 123A - (615.2389367934,96.89578193664,0)	Lift present in Basement – Please remove
27.	There should be no servant area in the terrace/stlit : handle 123A - (615.2389367934,96.89578193664,0)	Servant area present in the terrace/stlit – Please remove
28.	There should be atleast one spiral staircase in the servant quarters : handle 123A - (615.2389367934,96.89578193664,0)	At least one spiral staircase should exist for servant quarters – draw spiral staircase
29.	There should be atleast one bath or watercloset in the servant quarters : handle 123A - (615.2389367934,96.89578193664,0)	At least one bath or watercloset should exist in servant quarters – draw bath or watercloset in servant quarters
30.	There should be no door connecting lift lobby and staircase Handle: handle 123A - (615.2389367934,96.89578193664,0)	Door / Opening present between lift lobby and staircase lobby – remove it

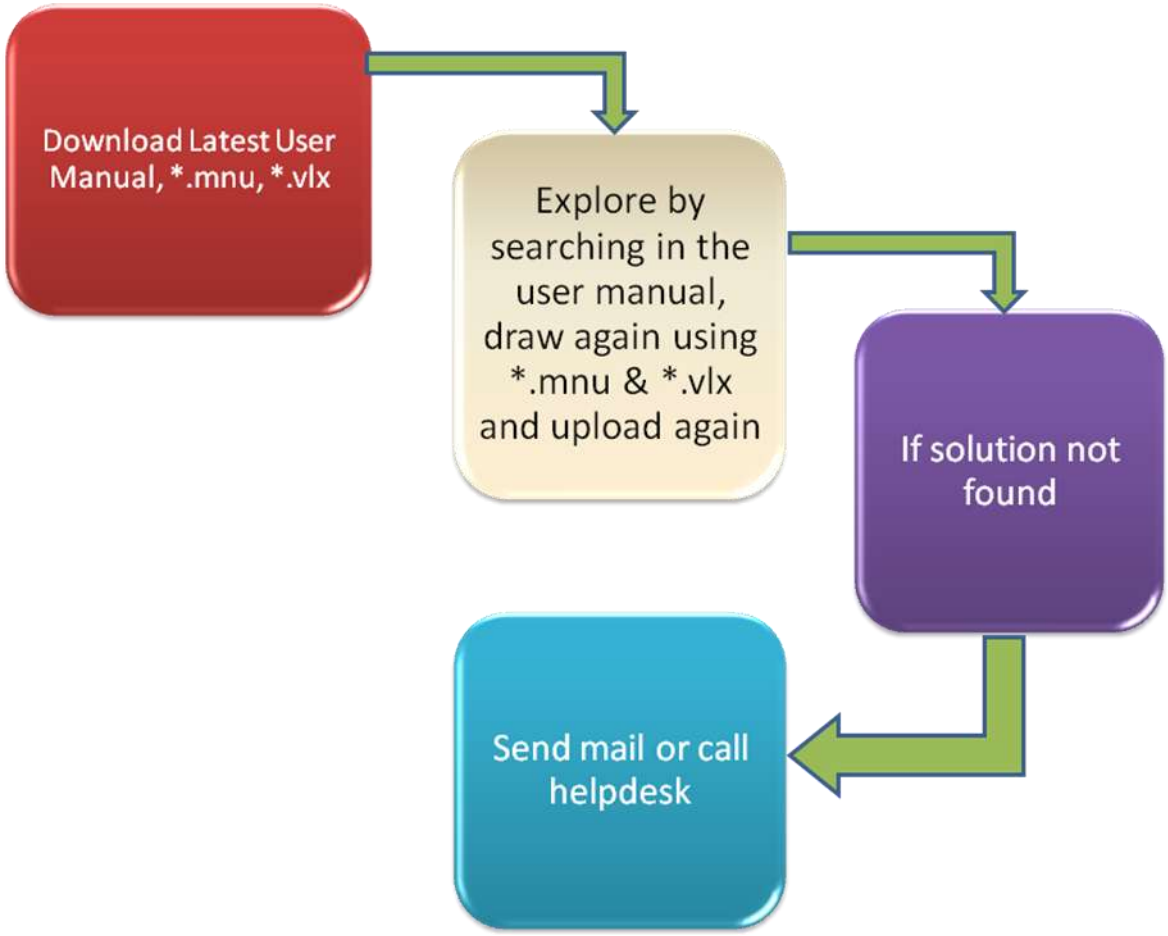
31.	Setback should cover entire side: handle 123A - (615.2389367934,96.89578193664,0)	Setback was not drawn as per the bye-law requirement
32.	Setback having more than 4 sides are not allowed: handle 123A - (615.2389367934,96.89578193664,0)	Setback having more than 4 sides – make sure Setback have 4 sides
33.	The Basement is not equal or less than the ground floor: : handle 123A - (615.2389367934,96.89578193664,0)	The Basement is not equal or grater than the ground floor
34.	There should be atleast one door/opening arch in each : room	No door exist in room –
35.	The Basement should 2M from adjoining properties: handle 123A - (615.2389367934,96.89578193664,0)	Distance between Basement and adjoining properties is less than 2 M
36.	MCD_101_Plot_Area_Floor is not identical with Plot area : handle 123A - (615.2389367934,96.89578193664,0)	MCD_101_Plot_Area_Floor was modifed – not allowed
37.	There should be no floor area without plot area: handle 123A - (615.2389367934,96.89578193664,0)	Floor area should be drawn inside MCD_101_Plot_Area_Floor
38.	There is no adjacent plot or park or street : 615.2389367934,96.89578193664,0)	Adjoining properties is missing
39.	Cupboard should be inside the floor area: handle 123A - (615.2389367934,96.89578193664,0)	Cupboard is placed outside of the floor area – move it to inside of the floor area
40.	Duplex found in only one floor : handle 123A - (615.2389367934,96.89578193664,0)	Duplex present only one floor
41.	Triplex found in only in 2 floors: handle 123A - (615.2389367934,96.89578193664,0)	Triplex present only 2 floors
42.	Paper Size polygon should be exist in the dwg : (615.2389367934,96.89578193664,0)	Paper size polygon is missing in the DWG - Paper Size polygon should be exist in the dwg
43.	Paper size polygon modifed: handle 123A - (615.2389367934,96.89578193664,0)	Paper size polygon has been modified.
44.	Paper scale should be 1:100 only for above 250 SQMT plot area: handle 123A - (615.2389367934,96.89578193664,0)	Not selected appropriate scale
45.	Paper scale should be 1:50 only for below 250 SQMT plot area : handle 123A - (615.2389367934,96.89578193664,0)	Not selected appropriate scale
46.	Stilt should not have Dwellings and rooms : (615.2389367934,96.89578193664,0)	Dwelling or room was drawn in stilt – Remove it.
47.	Landing width is not equal to its stair : (615.2389367934,96.89578193664,0)	Landing width and stair are not equal
48.	Dimension overlapping with another dimension : (615.2389367934,96.89578193664,0)	Two Dimensions were drawn in such a way that they are overlapping each other
49.	In dimension layer unwanted object found: handle 123A - (615.2389367934,96.89578193664,0)	Not relevant objects / features present – Remove the same
50.	Empty section box is not allowed (615.2389367934,96.89578193664,0)	Missing the section view
51.	Coexistence of Basement, Plinth, Ground floors are not allowed -	Coexistence of Basement, Plinth, Ground floors
52.	RCC does not exist for floor object: handle 123A - (615.2389367934,96.89578193664,0)	RCC is missing for the floor
53.	Atleast one ground floor should exist in the plan	Ground floor is missing
54.	Building no(4) not used in floor area	Site plan building do not have corresponding plan – mismatch of building

		number could be a reason
55.	Corresponding Building number(4) not found in Building Area	Corresponding building for plan is missing in site plan – mismatch of building number could be a reason
56.	MCD_Room is outside of the MCD_Dwelling 615.2389367934,96.89578193664,0)	Room is outside of the area – move it to inside
57.	MCD_Plot is not exist : 615.2389367934,96.89578193664,0)	Plot area is missing
58.	MCD_Kitchen is overlayed MCD_bed : 615.2389367934,96.89578193664,0)	Two rooms were drawn in such a way that they are overlapping each other (will give error even it is a very small overlap - check all along the perimeter of the rooms)
59.	The 'MCD_Plot_Area' should be only one	More than one Plot area has been drawn – only one is allowed (Plot Area is different from Plot Area Floor)
60.	MCD_Plot_Area' should be exist	Plot Area is missing
61.	The 'MCD_Building_Area' should be exist	MCD_Building_Area is missing
62.	MCD_Dwelling_Area' should be exist	MCD_Dwelling_Area is missing
63.	The 'MCD_Street' should be exist.	MCD_Street is missing. Please draw the MCD_Street'
64.	The 'MCD_Street' should be only one	More than one 'MCD_Street' has been drawn using Exiting Front command.
65.	Only WC and DRE can have 7 Feet wall redraw the room	7 feet height wall has been drawn other than WC & Dressing room.
66.	Invalid layer MCD_poly found in dwg, Please remove	Invalid layer was found. Please Remove invalid layer.
67.	The mandatory layer 'MCD_Plot_Area' not found	Missing mandate feature
68.	not having expected syntax for Object handle (58610.2389367934,596.89578193664,0)	Text placed by the tool was modified – delete text and polygon and redraw.
69.	'MCD_Building_Area' is outside of the "'MCD_Plot_Area " - Object Handle 334B - (58610.2389367934,596.89578193664,0)	'MCD_Building_Area' is outside of rhe MCD_Plot_Area. Please make sure 'MCD_Building_Area' is inside MCD_Plot_Area
70.	No 'MCD_Building_Area' exist in MCD_Plot_Area	Existing of 'MCD_Building_Area' is not in MCD_Plot_Area. Please make sure 'MCD_Building_Area' is inside MCD_Plot_Area
71.	Drawing cannot open, Please upload valid dwg	Drawing was drawn using Educational version of AutoCAD or some other SW – need to draw using AutoCAD 2004 – 2009

MCD will introduce new validation checks and incorporate the same as and when required, would be self explanatory and above sample errors can be referred back to understand better.

Bye-law report is self explanatory one.

9. Feedback / Help Line



We have put our best effort to make this tool user friendly and we are improving on continues basis. We welcome your feedback to enhance further.

Assumption:

AutoCAD know person having though understanding of the instruction provided in the user manual has explored to the best of his ability before approaching feedback / help line.

Mail: buildingplan-helpdesk@mcd.gov.in

Phone: 011 23227411 / 13 / 14