

Drawing/Model Protocol Manual

ONLINE BUILDING PLAN
APPROVAL IN THE STATE OF
RAJASTHAN

Version: 2.0

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Document outline

About the drawing protocol document

Rajasthan government has planned to automate the building plan approval process by introducing AutoDCR system. AutoDCR software reads the CAD drawings and BIMDCR software reads the .IFC models submitted by architects and automatically produce the deviation report based on the control regulations prescribed by government.

The purpose of this document is to establish a set of guidelines to Architects for preparation of drawings to be submitted for taking Building Permission from authority, Uniformity in the process of drafting of the drawings to be submitted for approval is required for automation of building approval system by introducing AutoDCR/BIMDCR system.

The consultants/Architects should prepare the drawings keeping specific objects in specific layers with specific colors and text. The layers required to be generated with explanation of what is required to be drawn on which layer is described in this document. This document serves as a source of information on obtaining level of consistency in drafting and approval process focuses on both the theoretical and practical description of process flow and protocol to be used while preparing drawings for submission.

The Consultants/Architects can be prepared drawing with the help of this document. Document contains three sections.

- Creation of standard layers manually in AutoCAD
- Use of Drawing Template
- Use of PreDCR utility.
- Use of 3D pre-check utility

How to read this drawing protocol document?

This document should be read in conjunction with the building bye-laws which will be applicable for approval of a proposal. The reader of this document should have understood the applicable bye laws for scrutiny of a proposal. The reader should also be familiar with AutoCAD terminology and environment for better understanding of the system. It is more exploratory in nature than the

specifications and contains sections to explain particular aspect of planning and designing.

Approach for preparing drawing using set guidelines/protocol

AutoDCR is a unique and innovative approach to automate scrutiny of building proposals by reading CAD/BIM drawings. AutoDCR software needs preformatted drawings with some specifications. Applicant/Architect can choose any of the following 3 options to prepare his drawing in the required format.

Preparing 2D drawings for getting approvals from authority-

Option 1- Architect can refer list of layer names and respective layer colors/text provided in the section 1 of this document and prepare the layers manually using AutoCAD's layer creation commands.(Reference: Section 1 of this document).

Option 2-Architect can download 'Standard CAD drawing template' (Drawing Template.dwg) file available on <https://swcs.rajasthan.gov.in/BPAS/PreCheck.aspx> .All the layers required for preparing submission drawing will be available in this template drawing. User can prepare drawing using these pre-generated layers and text protocol defined in the protocol document. (Reference: Section 2 of this document).

Option 3- Architect can download a CAD based utility from <https://swcs.rajasthan.gov.in/BPAS/PreCheck.aspx> . Using this utility, architect can create required layers automatically in the drawing, insert required text and objects in the drawing. This utility will also check drawing integrity and highlight drafting errors present in the drawing. (Reference: Section 3 of this document).

Preparing 3D Model for getting approvals from authority-

Download Pre-check utility from <https://swcs.rajasthan.gov.in/BPAS/PreCheck.aspx>. User can use pre-check utility to prepare model in the required format. (Reference: Section 4 of this document).

Section I

Creation of standard layers manually in AutoCAD

The consultants/Architects should prepare the drawings keeping specific objects in specific layers with specific colors code and text. The layers required to create with explanation of what is required to be drawn on which layer is described in this section.

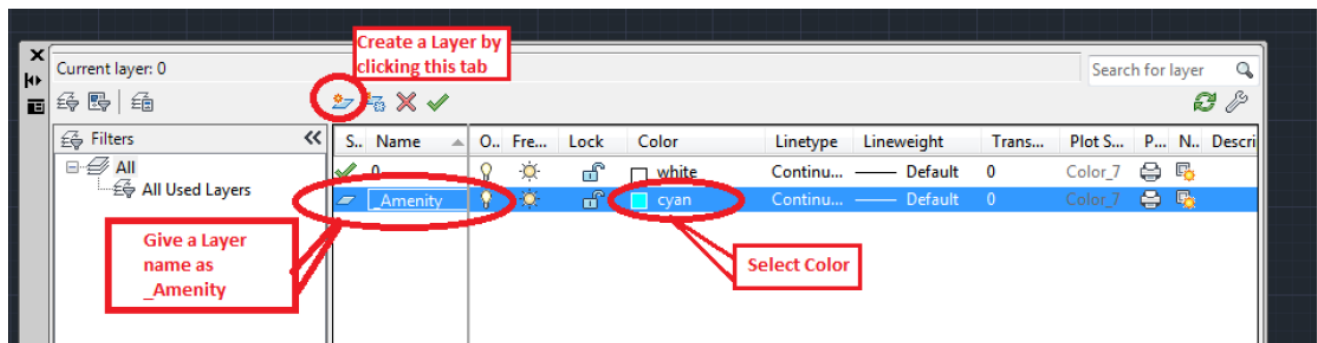
How to Refer following Table

User can prepare drawing in any Computer aided design software which file extension would be “.dwg” by using this document few steps are given below.

If user is using an AutoCAD:

Step 1: Open AutoCAD on your desktop

Step 2: open layer dialog to create layer like this

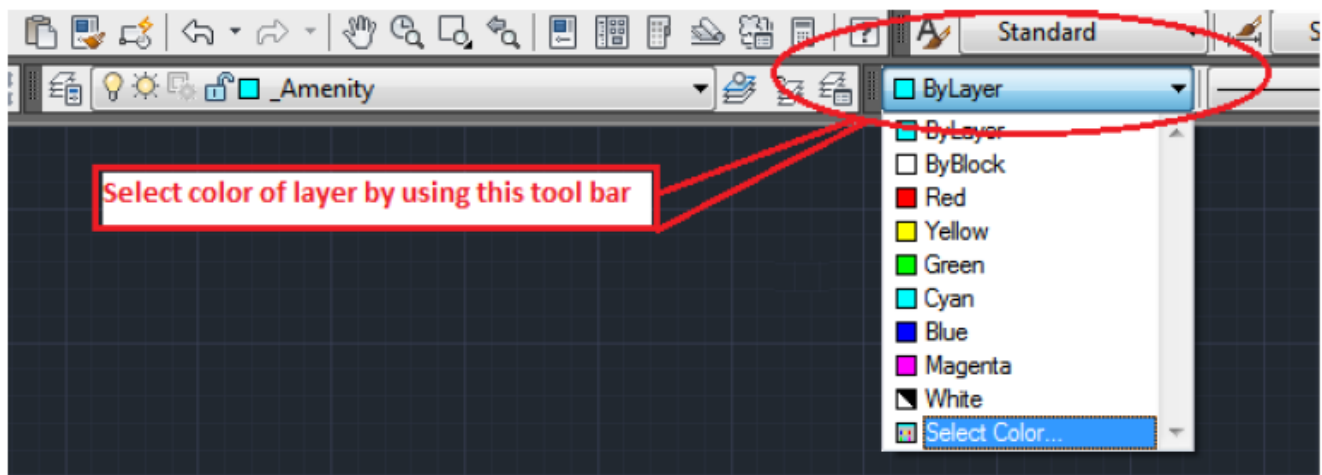


Note: In above dialog selected color would be default color code of this layer

Once create layer then need to draw in drawing



Step 3: If Color need to change any entity then go to AutoCAD tool bar and select color as mentioned in below screen.



Step 4: Type required text by referring 'Text' column from table below, Select line type mentioned in the line type table below. Refer remarks column to avoid pre-formatting errors.

Note: All entities in drawing must be closed poly lines except mentioned in remarks against respective layers.

Layer List Table

Sr. No.	Layer Name	Color/Col or index	Required text Format	Line Type	Drawing Domain	Remarks
1	_Amenity	Cyan	AMENITY	ByLayer	Inside of Plot poly line	Draw a closed polyline on this layer with its text .
2	_ArchProj	21	CHAJJA	ByLayer	Inside of Floor Polyline and overlapped with any FSI polyline	All types' projection to be drawn on same layer like chajja, Flower bed, cornice, loft, etc. Default color of this layer is "21"
		21	OTTA			
		21	STEPS			
		21	C.B.			
		21	F. B.			
		21	CANOPY/PORCH			
		21	LOFT			
		21	ARCHPROJ			
3	_Balcony	25	BALCONY	ByLayer	Inside of floor but Outside overlapped with any FSI Polyline	Balcony projection to be drawn on _balcony Layer with respective text and color. Default color of this layer is "25"
		230	(ENC) BALCONY			
4	_Building	52	A (BUILDING)	ByLayer	Outside of Plot Polyline	Provide building name with matching with its proposed work which is shown in layout.
5	_Column	29	No Text required	ByLayer	Inside of Parking Polyline	Draw a closed polyline on this layer.
6	_CarpetFSI	191	101, 102, etc.	ByLayer	Inside of Floor / FSI Polyline	Give text of units no If normal dwelling units.
		191	SPLIT 01, SPLIT 02, etc.	ByLayer	Inside of Floor / FSI Polyline	Give text of units no if it is splitted.
7	_Chowk	180	CHOWK	ByLayer	Inside of Floor / FSI Polyline	Draw a closed polyline on this layer with its text .
8	_CommFSI	150	No Text Required	ByLayer	Inside of Floor Polyline	Draw a closed polyline on this layer if commercial building/structure is proposing in drawing
		200		ByLayer		Color should be 200 if it is existing area
9	_CompoundWall	252	1.50m High Comp Wall.	ByLayer	Overlap with Plot poly line	Need to mention compound wall height in its text.
10	_Door	114	D1, D2, D3, etc.	ByLayer	Inside of Floor /FSI /Substructure Polyline	Need to provide D1, D2, D3, text to calculate no of doors and its text should be inside door poly.
11	_DeadWall	yellow	Deadwall	ByLayer	Overlap with Propwork as open poly line	Text should be kept on same layer and color.
12	_Driveway	190	12.0 M Wide Driveway	ByLayer	Inside of Parking Floor and Plot	Draw a closed polyline on this layer with mentioning its width in its text .

13	_SewageLine	10	DRAINAGE LINE	ByLayer	Inside of plot poly line	Poly line should be drawn as open polyline and 12provide its text with intersecting open polyline on same layer and color
14	_Electline	241	33 KV High Tension Line	ByLayer	Inside/interse ct with Plot	Need to mention voltage of the electric line in its text.
15	_ExStructure	Blue	Existing building1, 2, etc.	ByLayer	Inside of plot poly line	Color to be kept blue if existing structure is to be retained
		242		ByLayer		Color to be changed as 242 if existing structure is to be demolished Default color of this layer is "Blue"
16	_Elevation	44	ELEVATION	ByLayer	Inside of building polyline	Draw a closed polyline on this layer with its text .
17	_EWS	190	No Text Required	ByLayer	Inside of FSI Poly line / overlap FSI poly line	Draw a closed polyline on this layer.
18	_Floor	153	GROUND FLOOR PLAN, FIRST FLOOR PLAN, Typical-1,3,5 FLOOR PLAN, Etc.	ByLayer	Inside of building Polyline	Floor name must be matched with its section on section floor layer.
19	_SectionFloor	132	GROUND FLOOR , FIRST FLOOR, SECOND FLOOR, Etc.	ByLayer	Inside of Section Polyline	Draw each floor's section on "_SectionFloor" polyline with mentioning text inside poly line.
20	_GroundLevel	63	GL	ByLayer	Inside of Section polyline	Draw a open poly line on this layer and mention text as GL with insertion point overlapping with polyline.
21	_IndFSI	163	No Text Required	ByLayer	Inside of Floor Polyline	Draw a close polyline on this layer if Industrial use/structure is proposing in drawing
		200		ByLayer		Color should be 200 if it is existing area
22	_IntRoad	Green	6.0m Wide Int. Road	ByLayer	Inside of Plot Polyline	Draw a closed poly line on this layer and mention road width in its text. Also draw open polyline inside Internal Road with Line type as centre
23	_Lift	11	LIFT	ByLayer	Inside of Floor /FSI / Parking / Terrace Polyline	Draw a closed polyline on this layer with its text . Mention Fire word if it is fire lift like "FIRE LIFT" other wise "LIFT"

24	_LIG	190	No Text Required	ByLayer	Inside of FSI Poly line / overlap FSI poly line	Draw a closed polyline on this layer.
25	_LocationPlan	211	LOCATION PLAN	ByLayer	Outside of building and plot	Draw a closed polyline on this layer with its text .
26	_Marginline	253	No Text Required	ByLayer	Overlapped with NetPlot	Draw lines on this layer overlapping with NETPLOT poly line.
		Red			Overlapped with NETPLOT and Main Road	
		Magenta			Overlapped with NetPlot	
		Blue			Overlapped with NetPlot	
27	_MainRoad	20	12.0 M Wide Main Road	ByLayer	Outside overlapped with Plot	Draw a closed polyline on this layer with its text . Text should be start with mentioning road width. Main road poly should be overlapped with plot.
28	_Nala	65	NALA	ByLayer	Overlap/inside with Plot	Draw a closed polyline on this layer with its text .
29	_NETPLOT	145	No Text Required	ByLayer	Overlapped with Plot	Draw a closed polyline on this layer with deducting all types reservations from plot
30	_OpenSpace	Yellow	LANDSCAPPED AREA	ByLayer	Inside of Plot Polyline	Draw a closed polyline on this layer with its text.
31	_Parking	60	Parking	ByLayer	Inside of Floor & Plot Polyline	If parking/Stilt floor is present then draw a close polyline.
		62	CP	ByLayer		Draw Individual Car parking rectangle on this layer with Text "CP" and color index 62
		52	SC	ByLayer		Draw Individual Scooter parking rectangle on this layer with Text "SC" and color index 52
		53	CY	ByLayer		Draw Individual Cycle parking rectangle on this layer with Text "CY" and color index 53
		55	TV	ByLayer		Draw Individual Cycle parking rectangle on this layer with Text "CY" and color index 53
		71	VSP	ByLayer		Draw Individual Visitor Scooter rectangle on this layer with Text "VSP" and color index 71

		70	VVP	ByLayer		Draw Individual Visitor Car rectangle on this layer with Text “VVP” and color index 70
		54	AMB	ByLayer		Draw Individual Ambulance Parking rectangle on this layer with Text “AMB” and color index 54
32	_Passage	243	PASSAGE	ByLayer	Inside of Floor/ FSI	Draw a closed polyline on this layer with its text. Also draw open polyline inside Passage with Line type as centre
33	_Plot	White	PLOT	ByLayer	Outside of the building polyline	Plot should be outside overlap with MainRoad. Text should be provided on same layer.
34	_Podium	50	PODIUM	ByLayer	Inside of Plot/Floor Polyline	Draw a closed polyline on this layer with its text .
35	_PropWork	Red	A-1 (BUILDING)	ByLayer	Inside of Plot Polyline	Text must be matched with building layer’s text If building poly text is “A (BUILDING)” then its proposed work text should be “A-1 (BUILDING)”
36	_RailLine	170	RAILLINE	ByLayer	Should be intersected Plot	Poly line should be drawn as open polyline and provide its text with intersecting open polyline on same layer and color.
37	_Ramp	135	10.0 M Long and 1.0 M High Ramp	ByLayer	Inside of Floor, Plot Polyline	Draw a closed polyline on this layer with its text. Length and its height must be mentioned in its text Also draw open polyline inside Ramp with Line type as centre
38	_RefugeArea	79	REFUGE AREA	ByLayer	Inside of Floor Polyline	Draw a closed polyline on this layer with its text.
39	_ResiFSI	190	No Text Required	ByLayer	Inside of Floor Polyline	Draw a closed polyline on this layer if residential use/structure is proposing in drawing.
		200		ByLayer		Color should be 200 if it is existing area.
40	_RoadWidening	67	ROAD WIDENING	ByLayer	Inside of Plot Polyline & should be overlapped with	Draw a closed polyline on this layer with its text.

					MainRoad	
41	_Room	72	LIVING, KITCHEN, BED ROOM, etc.	ByLayer	Inside of Floor / CarperFSI Polyline	Draw a closed polyline on this layer with its text.
42	_Section	75	SECTION	ByLayer	Inside of Building and Outside Floor Polyline	Draw a closed polyline on this layer with its text.
43	_Sanitation	119	WB, SINK, etc.	ByLayer	Inside Floor	Draw a closed polyline on this layer with its text.
44	_SectionFloor	132	GROUND FLOOR, FIRST FLOOR, Etc.	Bylayer	Inside of Section/ building Polyline	Section floor name must be matched with its floor plans.
45	_SitePlan	50	SITE PLAN	ByLayer	Inside of building Polyline	Draw a closed polyline on this layer with its text.
46	_SewageLine	10	SewageLine	ByLayer	Inside of Plot Polyline	Draw a open poly line on this layer and provide text on same layer with insertion point should overlapped with polyline.
47	_SpecialUseFSI	213	No text Required	ByLayer	Inside of Floor Polyline	Draw a closed polyline on this layer, draw Special use FSI polyline for other than residential, commercial, industrial building like school, hospital etc.
		200				Color should be 200 if it is existing area.
48	_StairCase	120	STAIR CASE or FAB/SPIRAL STAIR	ByLayer	Inside of Floor / FSI/ Parking/ Terrace Polyline	Draw a closed polyline on this layer with its text.
		120	No text Required		Inside of staircase close polyline	Draw all treads as open poly line.
		161				Draw intermediate landing as open polyline and color index will be 161
		231				Draw floor landing as open polyline and color index will be 231
49	_SubStructure	32	ELECTRIC ROOM	ByLayer	Inside of Floor Or Plot Polyline	All these ancillary structure to be drawn on “_SubStructure” layer as closed polyline and default color index of this layer is “32”, if it is proposing in drawing.
		93	TRANSFORMER			
		105	WATCHMAN ROOM			
		127	SOCIETY OFFICE ROOM			
		123	SERVANT QUARTER			
		43	SANITARY BLOCK			
		91	GARAGE			
		175	EFFLUENT TREATMENT PLANT			

		122	OUT HOUSE			
		141	PUMP ROOM			
		82	SEPTIC TANK/SOAK PIT			
		176	WASTE WATER TREATMENT PLANT			
		32	LIBRARY			
		93	COMMUNITY HALL			
		32	COMMON STORE ROOM			
		32	COMMON TOILET			
		32	SOLAR POWER PLANT			
		32	DUB			
		32	ELECTRIC SUB-STATION			
		32	SEWAGE TREATMENT PLANT			
		32	RAIN WATER HARVESTING			
		32	A C PLANT ROOM			
		32	AHU			
		32	SWIMMING POOL			
		32	PUMP HOUSE			
		32	DISH ANTENNA ROOM			
		32	VIDEO ROOM			
		32	WELL			
		32	TELEPHONE INSTALLATION PLANT/STP			
		32	ENTRANCE GATE			
		32	FITNESS CENTER			
		32	SUCTION TANK			
		32	GYMNASIUM			
		32	CLUB- HOUSE			
		32	DUST BIN			
		32	MILK/TELEPHONE BOOTH			
		32	LETTER BOX			
		32	IND.CHIMNEY			
		32	PARKING SHADE			
50	_Tank	133	(O/H)TANK(1)	ByLayer	Inside of Floor, Plot & Section Polyline	Over head Water to be drawn on floor as well as in section and both polylines texts should be in this format.
			(U/G)TANK(1)			Under Ground Water to be drawn on floor as well as in section and both polylines texts should be

						in this format.
51	_Tree	green	No Text Required	ByLayer	Inside of Plot Polyline	Draw a closed poly line on Tree layer if it is available on site.
52	_Terrace	30	TERRACE	ByLayer	Inside of Floor Polyline	Draw a closed polyline on this layer with its text.
53	_Void	111	VOID	ByLayer	Inside of Floor /FSI/ Parking / Terrace Polyline	Draw a closed polyline on this layer with its text.
54	_VShaft	83	SHAFT	ByLayer	Inside of Floor /FSI/ Parking / Terrace Polyline	Draw a closed polyline on this layer with its text.
55	_WaterLine	131	WATER LINE	ByLayer	Inside of plot poly line	Poly line should be drawn as open polyline and provide its text with intersecting open polyline on same layer and color.
56	_Window	115	W1, W2, V1, V2, etc.	ByLayer	Inside of Floor /FSI / Substructure Polyline	Need to provide W1, W2, V1, V2, text to calculate no of windows and its text should be inside window poly.
57	_DownComer	190	No Text Required	ByLayer	Inside of Floor	Draw a closed polyline tentatively of Down Comer if it is proposed in building , No need to provide text on this layer.
58	_DryRiser	113	No Text Required	ByLayer		Draw a closed polyline tentatively of Dry Riser if it is proposed in building, No need to provide text on this layer.
59	_FireExtinguisher	Cyan	No Text Required	ByLayer		Draw a closed polyline tentatively of Fire Extinguisher if it is proposed in building, No need to provide text on this layer.
60	_HoseReel	30	No Text Required	ByLayer		Draw a closed polyline tentatively of Hose Reel if it is proposed in building, No need to provide text on this layer.
61	_ManualFireAlarm	60	No Text Required	ByLayer		Draw a closed polyline tentatively of Manual Fire Alarm if it is proposed in building, No need to provide text on this layer.

62	_WetRiser	150	No Text Required	ByLayer		Draw a closed polyline tentatively of Wet Riser if it is proposed in building, No need to provide text on this layer.
63	_YardHydrant	11	No Text Required	ByLayer		Draw a closed polyline tentatively of Yard Hydrant if it is proposed in building, No need to provide text on this layer.

Margin and Reference circles Blocks.

Sr. No.	Layer Name	Block Name	Block Insertion point	Remarks
1	_Resi_FSI	Common Point	Center of block	Draw a circle on “_Resi_FSI” layer and make it a block on same layer with block name "Common Point".
2	_Floor	Direction Ref Point	Center of block	Draw a circle on “_Floor” layer and make it a block on same layer with block name “Direction Ref Point”
3	_Marginline	ADCR_MARGIN	Center of block	Create Margin Block on above created “_Marginline” layer from lines which are drawn on same layer with block name “ADCR_MARGIN”.
4	_Tree	Tree	Center of block	Crate Tree block on above created “_Tree” layer with block name “_Tree”

Section 2

Use of Drawing Template

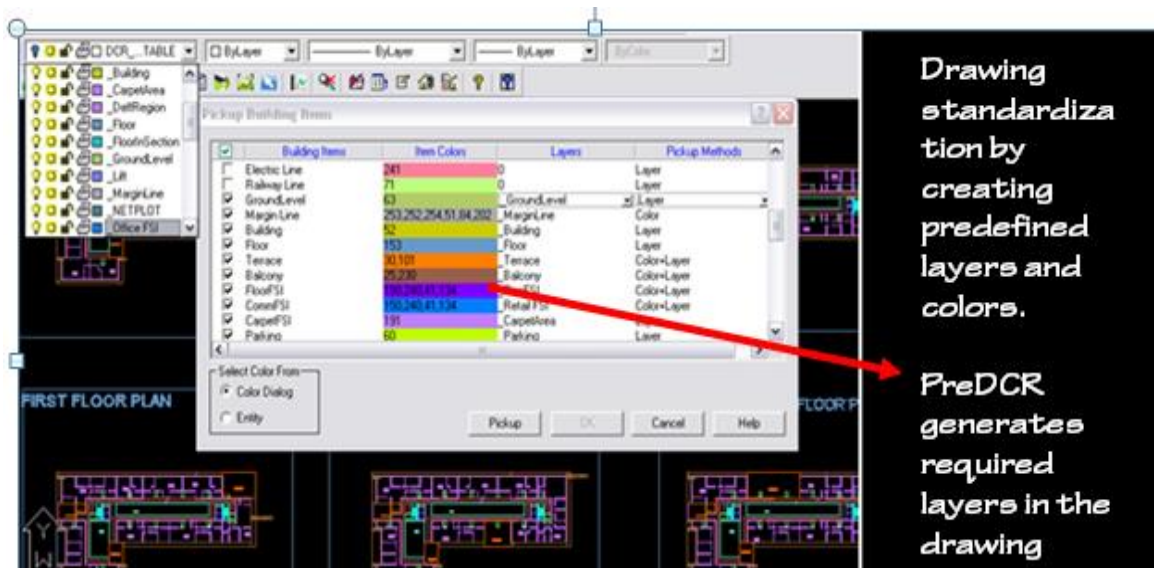
User can get download ready drawing template from following link.

Section 3

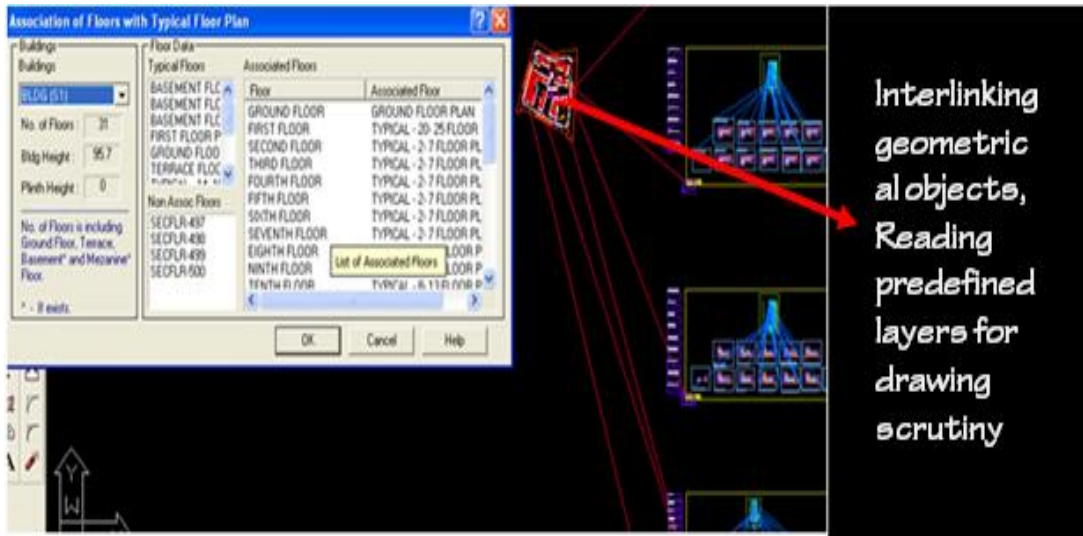
Drawing pre-formatting utility (PreDCR)

Overview

AutoDCR is a unique and innovative approach to automate scrutiny of building proposals by reading CAD drawings. AutoDCR software needs preformatted drawings with some specifications. PreDCR is a software application used to create the architectural plan as per AutoDCR software requirements. It helps in standardization of drawings and helps in reducing time required for preparing submission drawings. It works under AutoCAD as well as CAD independent environment with additional menu & toolbar.



Using PreDCR commands user can create all the required layers in one click. Once all the layers are created in the drawing user can use AutoCAD commands to draw entities on the corresponding layers with the help of PreDCR software. Short commands are provided to activate any layer in PreDCR. PreDCR also helps in correcting drafting errors in the drawing. At any time user can verify if the drawn entities are properly closed or not, if proper name text has been written inside all closed poly or not etc. PreDCR will highlight all the failed entities if any.

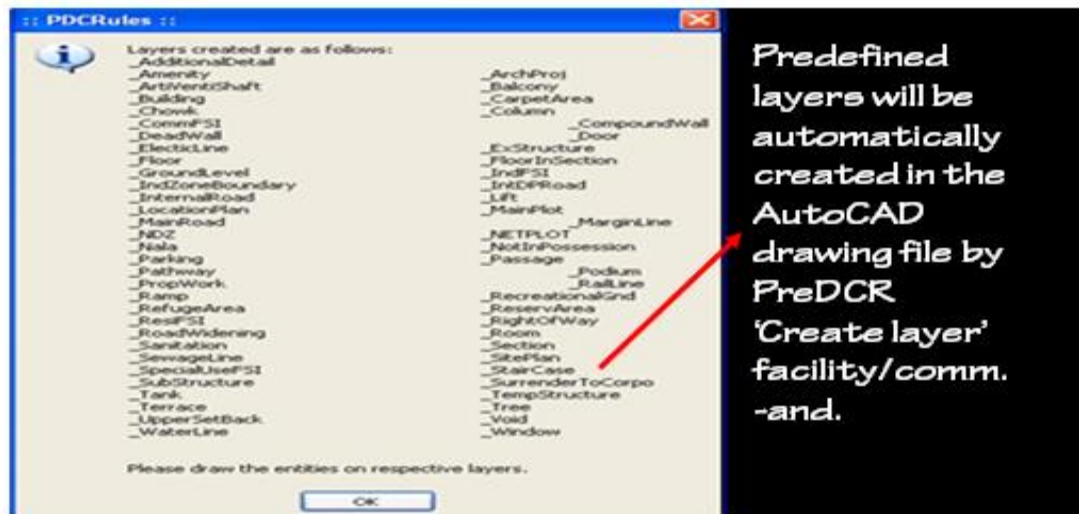


Aims & objectives

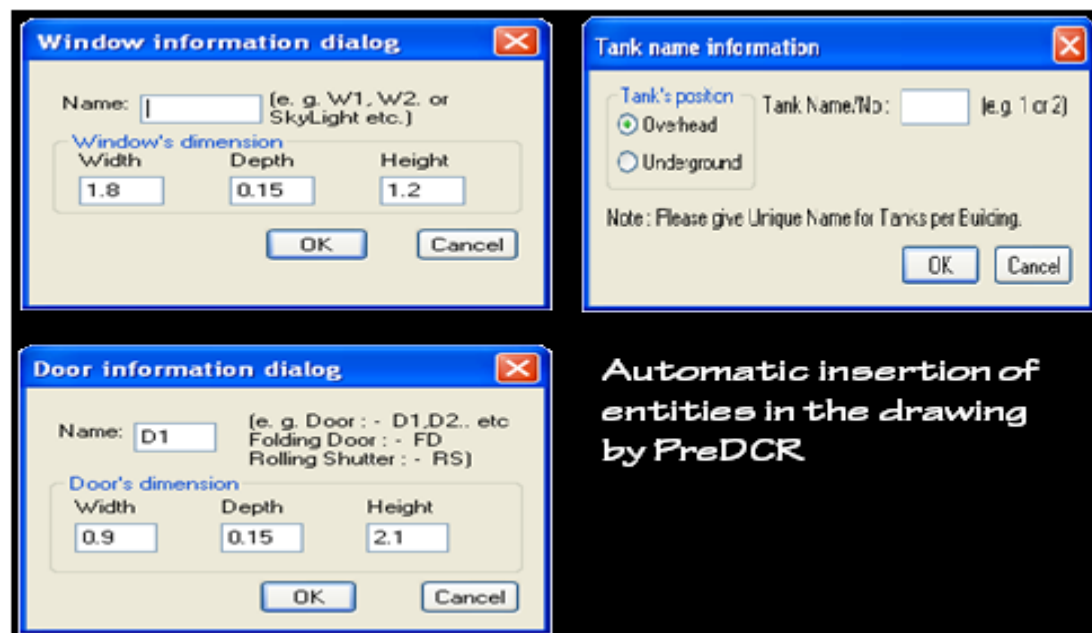
- To bring uniformity and standardization in submission drawing format.
- To create error free drawing by auto-correction of drafting errors.
- To Increase drafting speed and efficiency
- To reduce drawing data redundancy.
- To remove dimensioning and area calculation requirements from submission drawing format and auto-calculating areas in AutoDCR automatically.

Salient features

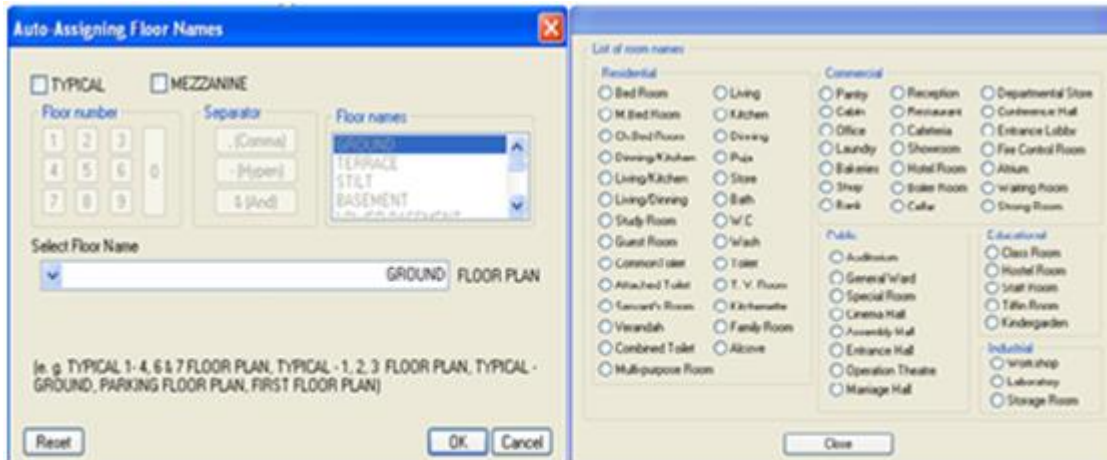
- Automatically creating required layers in the drawing



Automatically creating and inserting entities of required size in the drawing: User can define size of entity and insertion point in the drawing. PreDCR will create and insert entity in the drawing at specified location.

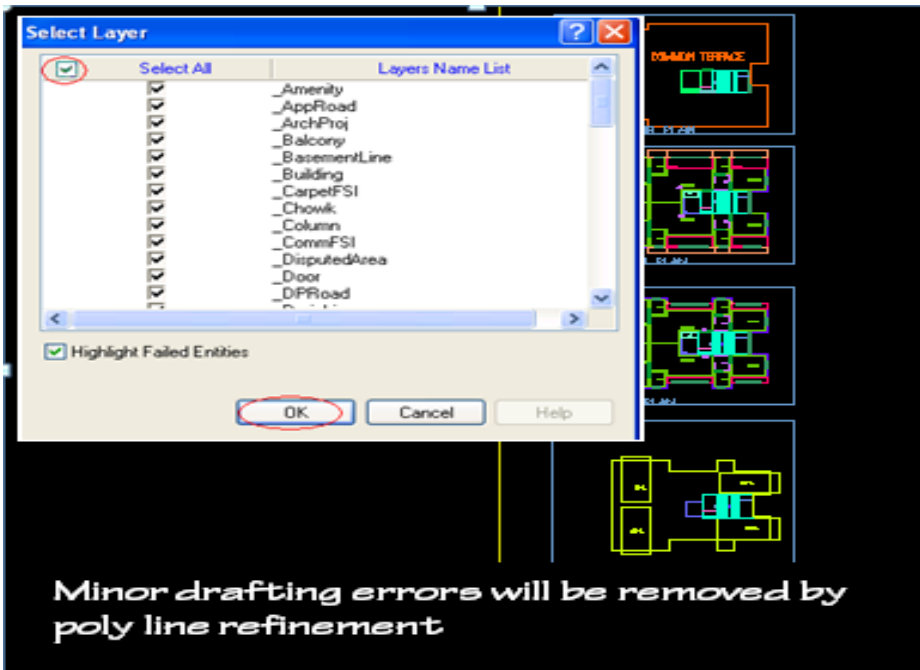


Automatic insertion of required text in the drawing.



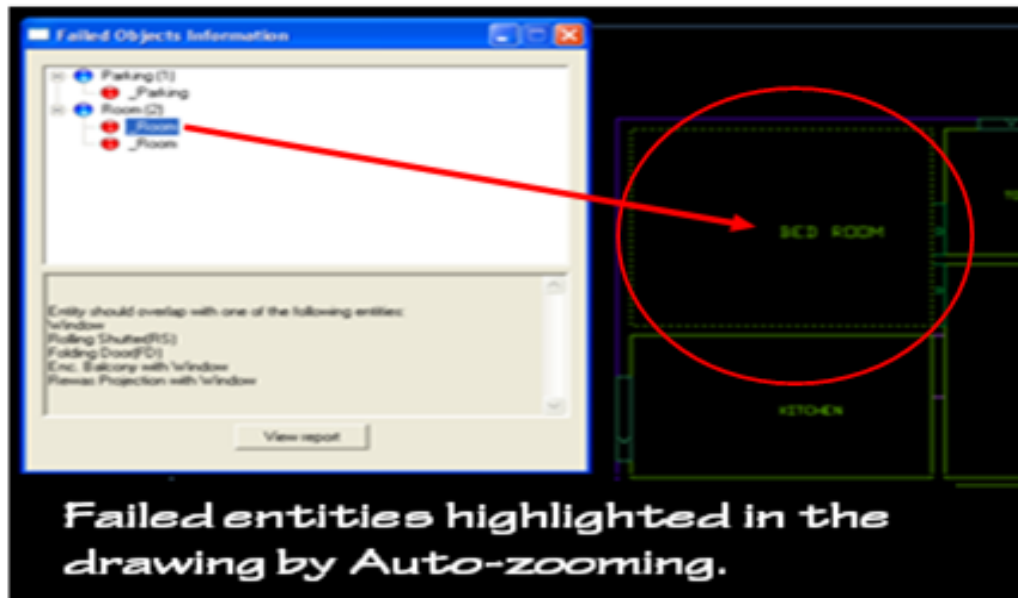
PreDCR can automatically insert text like room name, floor name etc at specified location in the drawing.

Drawing cleaning, refinements of poly lines, text and closed entity verification will be done by PreDCR to eliminate drafting errors.



Minor drafting errors will be removed by poly line refinement

PreDCR verify and will highlight failed entities in verifications with detailed explanation and Auto-zooming.

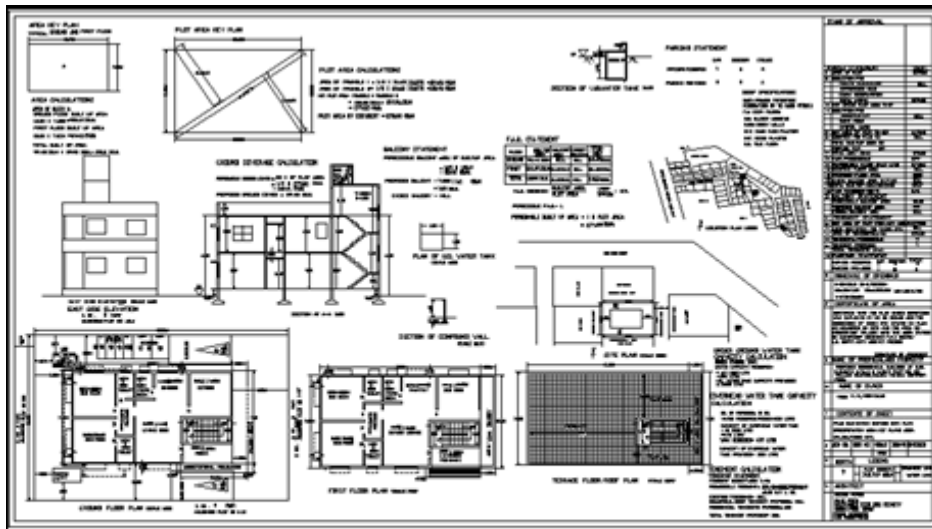


Benefits of PreDCR

- 1) Standardization of submission drawings-Brings uniformity & standardization in submission drawing format. This software will correct some minor drafting errors and also provide list of failed entities with Auto-zooming facility so that user can easily locate the failed entities in the drawing.
- 2) Operational ease and convenience-Data redundancy is eliminated from the drawing. Only minimum required entities are to be drawn in the drawing as most of the data will be auto detected by the system from existing available data.
- 3) Increased speed and efficiency-PreDCR facilitates Auto insertion of many drawing entities like parking, door windows etc of required size and number. Test auto-insertion facility saves text typing efforts. Auto-dimensioning and auto-calculation facility saves calculation efforts. Using this software user can create all the required layers at one click.
- 4) Accuracy - Accuracy in area calculations is achieved. Preparing Calculation tables, showing dimensions in the drawing is not required.

Drawing formats

1) Conventional submission drawing format



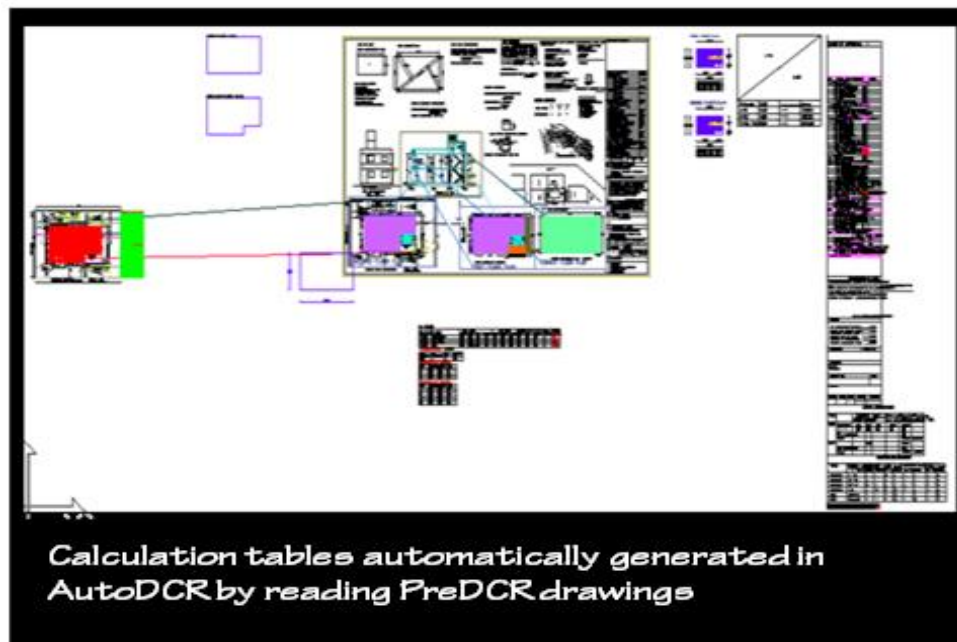
Conventional drawing submission format

2) As per PreDCR format specified by PreDCR



Drawing prepared in PreDCR format

3) After scrutiny of drawing using AutoDCR-



Protocol details

PreDCR is a software application used to create the architectural plan as per **AutoDCR** software requirements. It works under AutoCAD as well as CAD independent environment with additional menu & toolbar.

Using PreDCR commands user can create all the project wise required layers in one click. Once all the layers are created in the drawing user can use AutoCAD commands to draw layout plan.

As per AutoDCR requirement all building items like plot, proposed work should be drawn on the corresponding layers. Short commands are provided to activate any layer in PreDCR

At any time user can verify if the drawn entities are properly closed or not, if proper name text has been written inside all closed poly or not etc. PreDCR will highlight all the failed entities if any.

PreDCR can be used to modify/make and verify the existing or new architectural plan as per **AutoDCR** software requirements. Users are free to use AutoCAD commands and or PreDCR commands to achieve the main purpose which is:

Drawing the architectural plan in DWG format as per AutoDCR software requirements.

For automating the process of Development Control Regulations user/draughtsman/architect have to follow some specifications. The following are the list of specifications that the user should follow. Plot layout, detailed floor plan and building section for all the floors should be there in one AutoCAD drawing file.

All building items like proposed plot, proposed work, proposed parking etc must **be drawn using closed polyline**.

(i.e. Every entity must be closed LWPOLYLINE except Railway Line , Drain line, Water Line, Electric Line, DeadWall and Ground lvl).

Building Sub-Items **must be exactly inside of outer closed polygon as per their place in architectural plan**.

This means none of the edge or vertex of inside entity should be drawn outside its container entity.

For example Parking or Open Space poly must be exactly inside the main plot poly.

Tools are provided in **PreDCR** to verify this check.

Every Building Sub-Items should be given a specific/unique name (Text or MText entity) on the same layer & inside the entity poly. If name not found then AutoDCR will generate the name automatically. Naming Conventions should be followed properly.

e.g. Each Room should be given the concerned name Using <Assign Name> function of preDCR Living, Kitchen, Bedroom..Etc.

Floor Name: GROUND FLOOR; TYPICAL FLOOR 1,2 & 5-8; TERRACE FLOOR

Floor Items: Room Names should be given properly without using abbreviations so the software can identify perfect entity. This can be done by Assign name facility provided by the software.

User shall use only following kind of entities for Building Items: -

LWPOLYLINE / TEXT / MTEXT

If in a plan two proposed work are mirrored in that case user should provide two separate building plans for each proposed work.

Installation and Registration

System Requirements

- Pentium IV or better (or compatible processor)

- 4 GB RAM Minimum
- Windows 98/2000/XP (32bit)/Vista/Windows7 (32bit or 64bit)
- USB Port

Installation

To install PreDCR software on your computer please follow the given steps.

Step 1: Insert the supplied PreDCR CD in CD drive of the computer.

Step 2: Run the PreDCR installer by double clicking on file "*PreDCR_Installer.exe*" in the PreDCR CD.

Step 3: Follow the next steps in installer wizard to complete installation.

After successful installation, a PreDCR shortcut will be placed on your computer desktop as shown below.

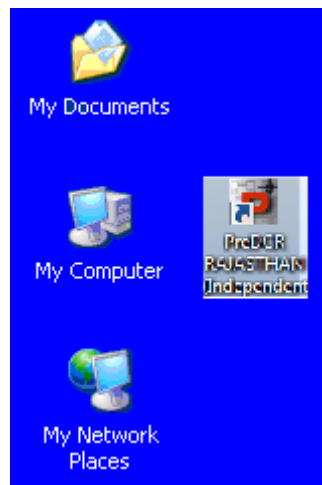


Figure 1: PreDCR shortcut on desktop

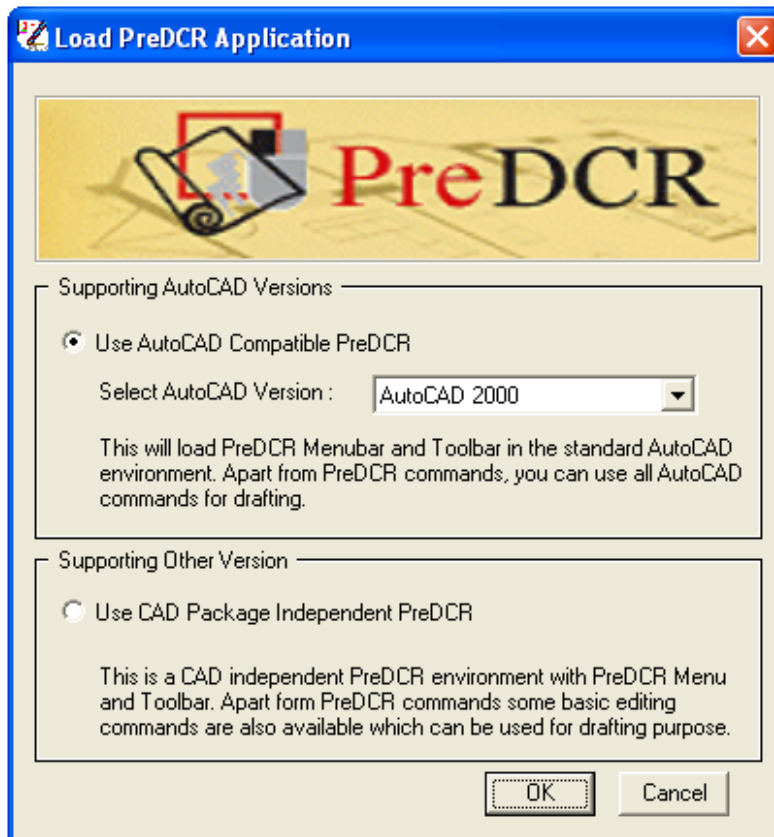
1. Option for CAD Package Independent PreDCR Environment:

- Description:-

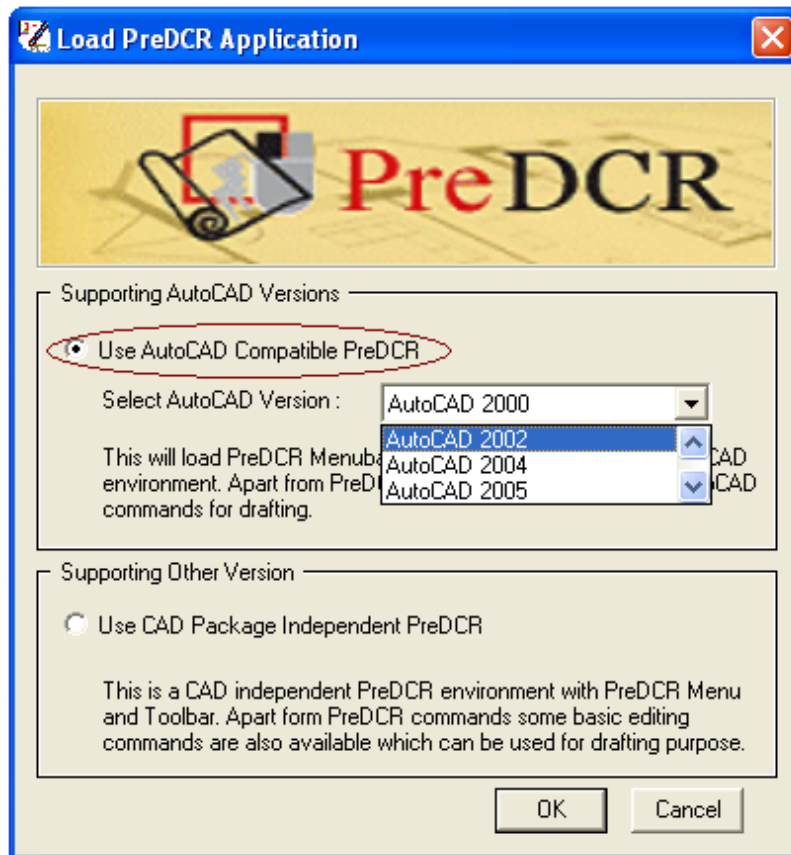
This is a special feature provided in this latest version of PreDCR. Now user can use the PreDCR without any CAD package installed on their machines. This feature provides a CAD environment with all PreDCR command and options required. Apart from PreDCR commands some basic commands are also available for users for drafting purpose.

- Steps:-

- Open the PreDCR software by clicking on PreDCR icon on your desktop. Following dialog will appear.

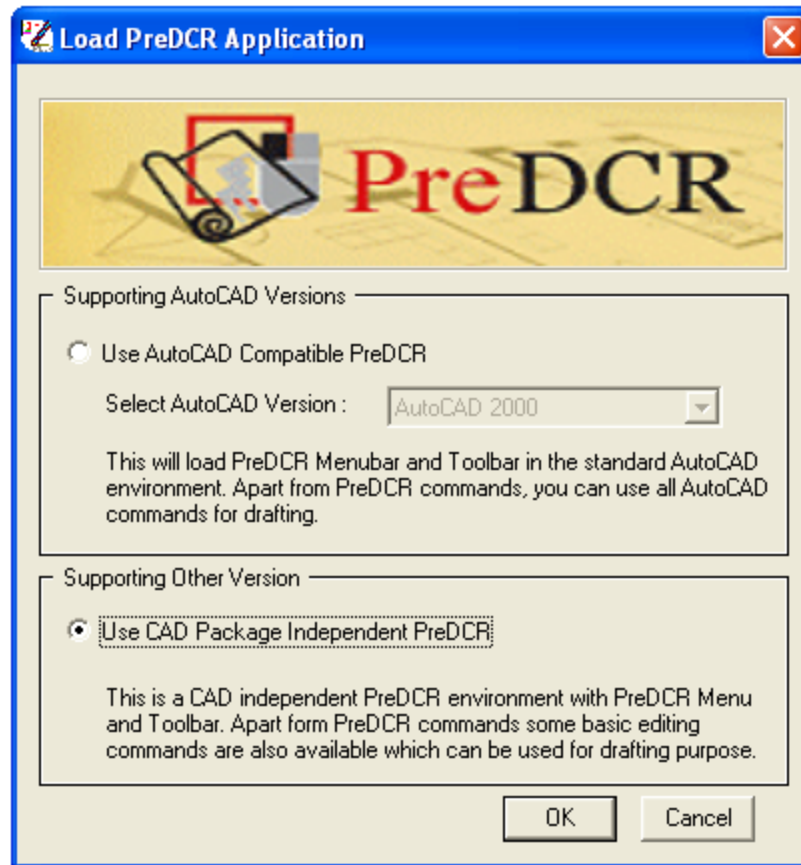


- If you want to use AutoCAD based PreDCR then select the '**Use AutoCAD Compatible PreDCR**' option and select the required AutoCAD version from the list. Click on OK button to proceed.

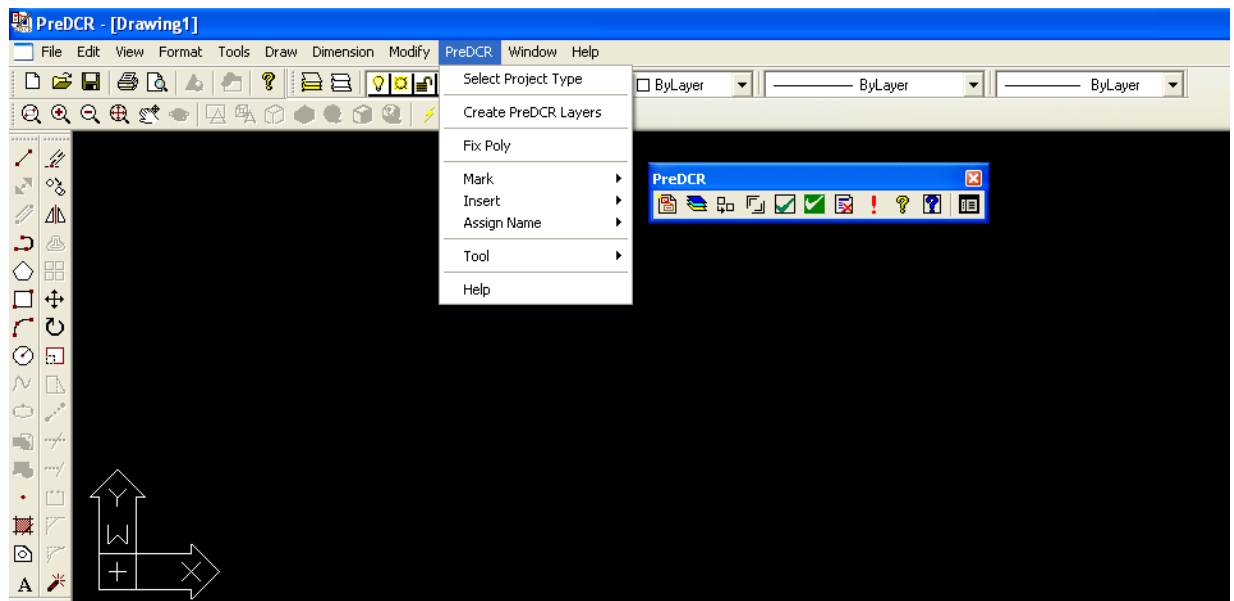


This will automatically open the selected AutoCAD version and the PreDCR Menu and Toolbar will get added in the AutoCAD environment.

- If you don't want to open the PreDCR in AutoCAD and want to use the CAD interface of PreDCR then select the '**Use CAD Package Independent PreDCR**' option from the dialog. Click on OK button to continue.



This will open a CAD interface with PreDCR Menu and Toolbar. Basic CAD commands are also available in this environment which can be used for drafting purpose.



2. Layer Mapping:

- Description:-

A user friendly interface is provided for users to map his Architectural layers in drawing with the standard PreDCR layers. User will have to only map the layers in the dialog and PreDCR will automatically create the mapped layer entities in drawing on standard PreDCR layers.

- Limitations:-

This will only map the Architect's layers to PreDCR layers. This will not modify all the entities drawn on Architect's layer as per PreDCR requirements. User has to provide those entities in the PreDCR required format. (i.e. in the polyline format)

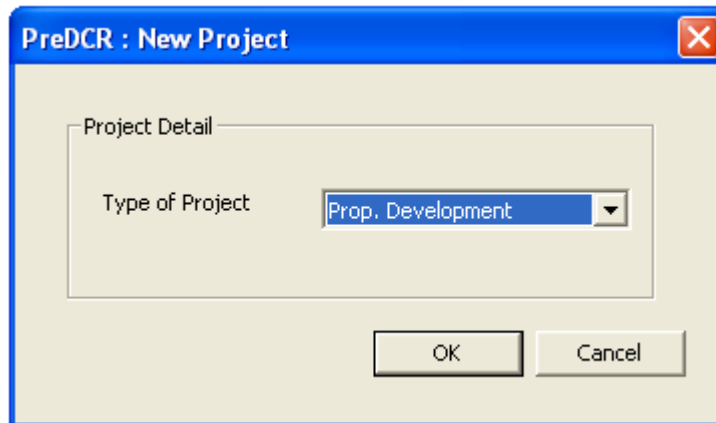
- Steps:-

- Open the drawing in PreDCR environment.
- Click on the 'Select Project Type' button to select the type of proposal.

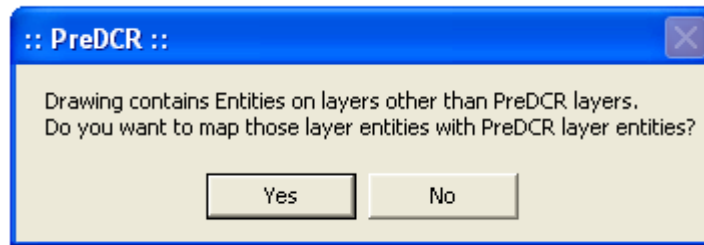


One dialog will appear:

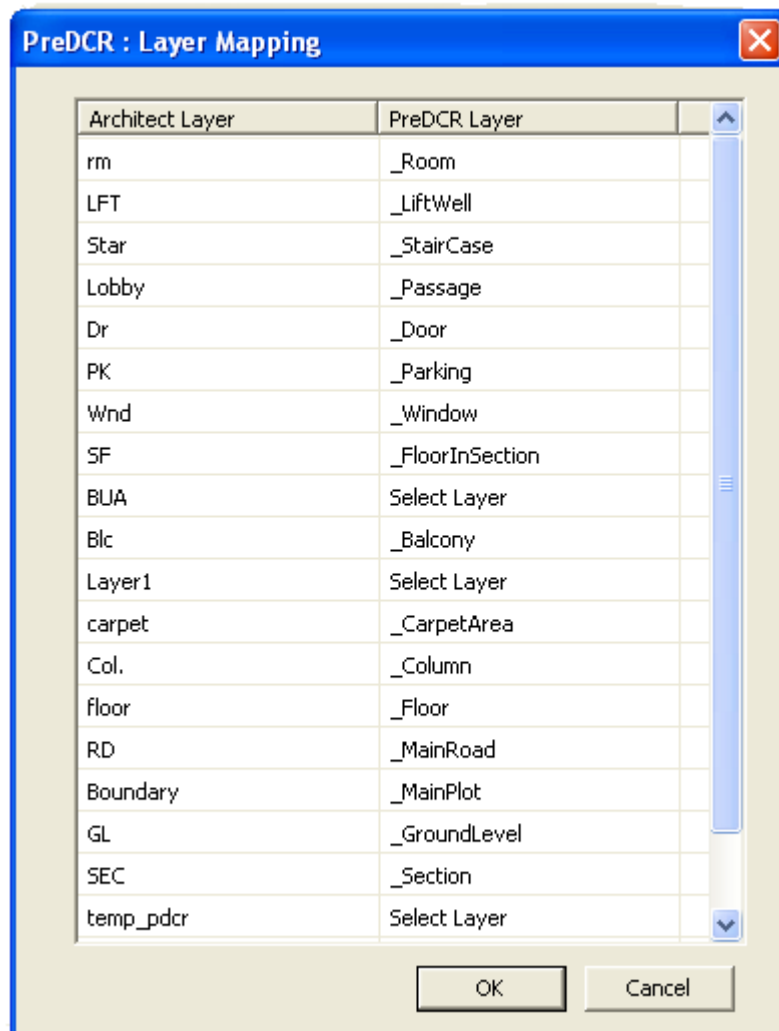
- Select the Type of Project for the open drawing. Click on OK button.



- If the drawing contains Layers other than PreDCR layers, then PreDCR will prompt you to use Layer mapping tool.

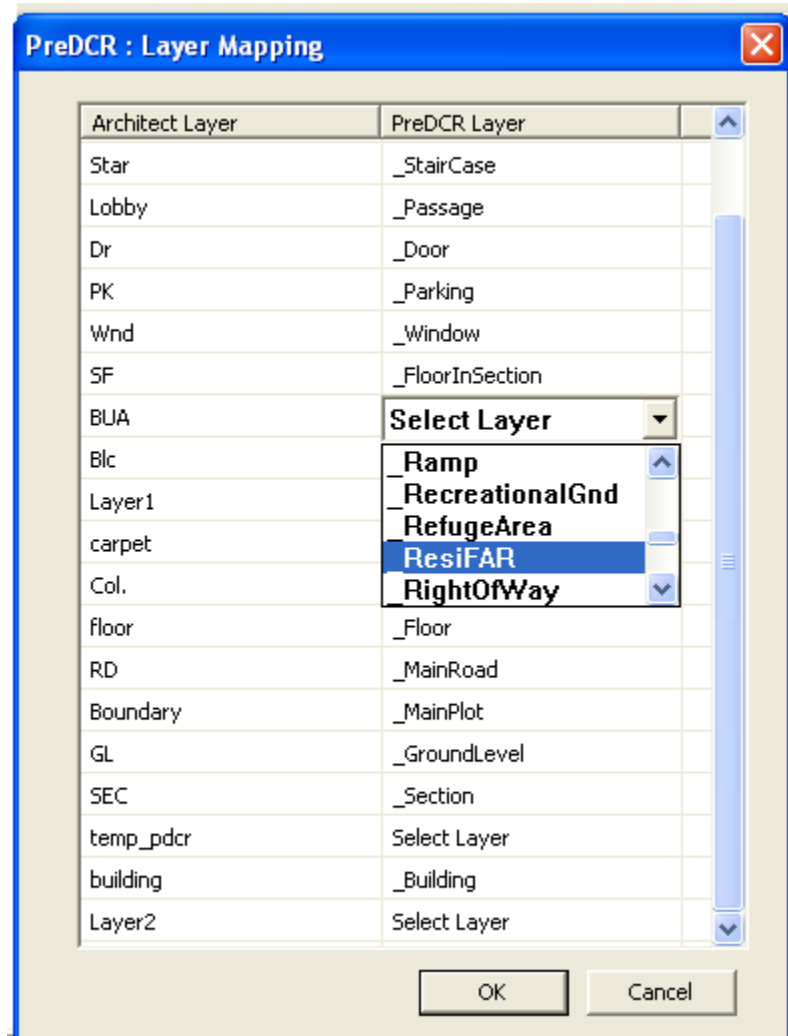


- Click on **Yes** button if you want to map your layers with standard PreDCR layers.
- After Clicking on **Yes** button, one dialog will appear. PreDCR will automatically map some of the layer names with standard PreDCR layer names.



- This dialog contains the list of Layers other than PreDCR layers in drawing.

- User can select the corresponding PreDCR layer for his custom layers in the combo list.



- After mapping all your Architect layers with standard PreDCR layers click on **OK** button.
- PreDCR will automatically create standard PreDCR layers and all the mapped custom layer entities will get shifted to corresponding PreDCR layers (which are mapped by user).
- User can see the all the project specific PreDCR layers by using the '**Layer List**' button on PreDCR toolbar.



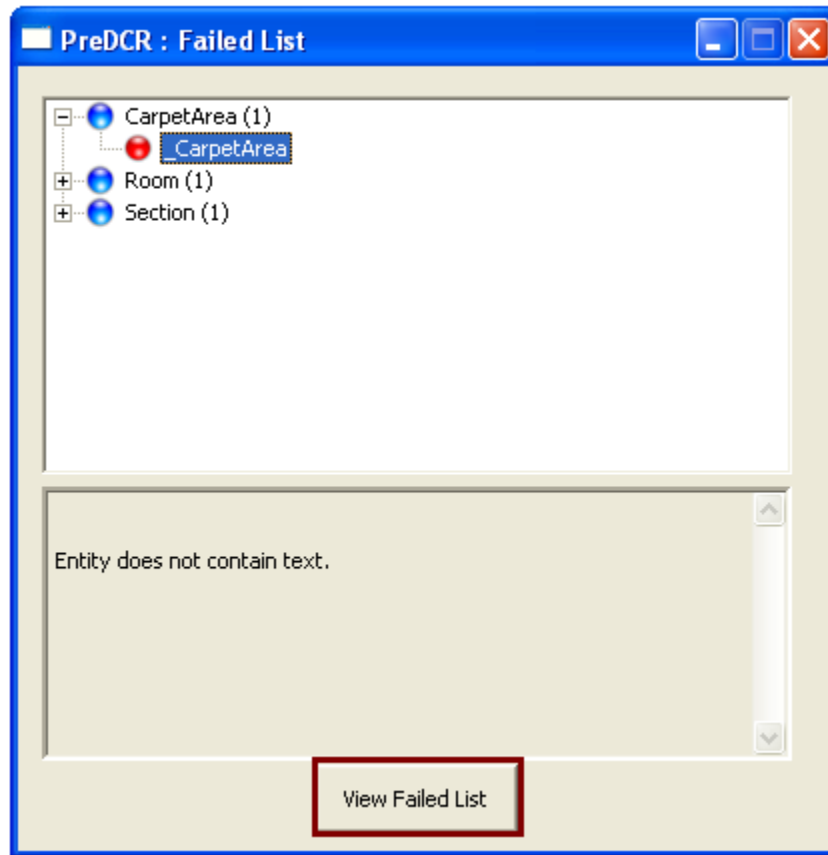
- After mapping done, use '**Refinement of Drawing**' button on PreDCR toolbar for clean up of drawing.



Refinement of Drawing

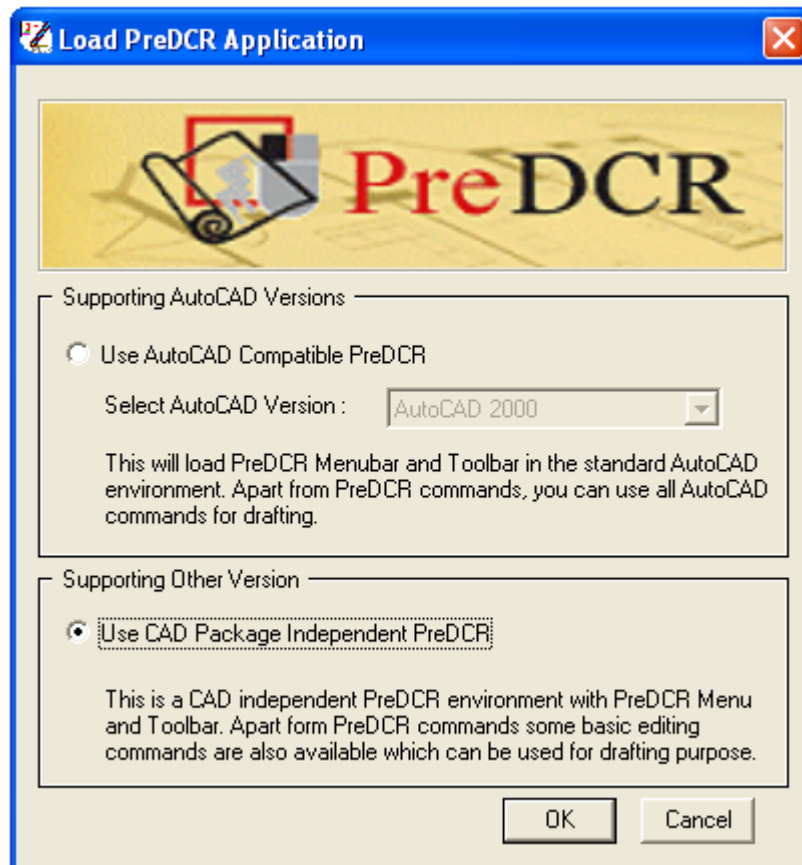
3. Verifying Failed Entities:

- Description:-
In the failed list dialog, we have provided on button to view the list of all failed entities with their Entity Reference. This button will invoke another dialog which will contain the list of all failed entities. User can see the failed entity in drawing by just clicking on the particular item in the list. User can make the changes in drawing for that failed entity and can again verify that entity using this '**Verify Again**' option provided on this dialog. The status of that entity will change accordingly. In this way user can modify those failed entities one by one and at the same time can check its status. So no need to verify the complete drawing or layers to check the status of failed entities after corrections.
- Steps:-
 - After completion of verification failed dialog is invoked (if any fail entity found in drawing).

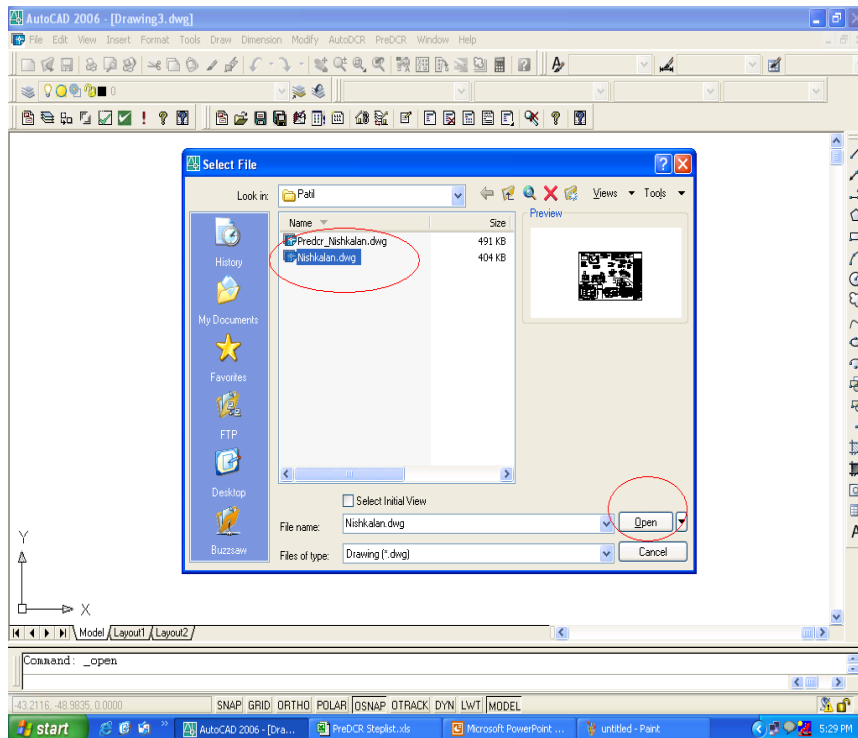


Methodology

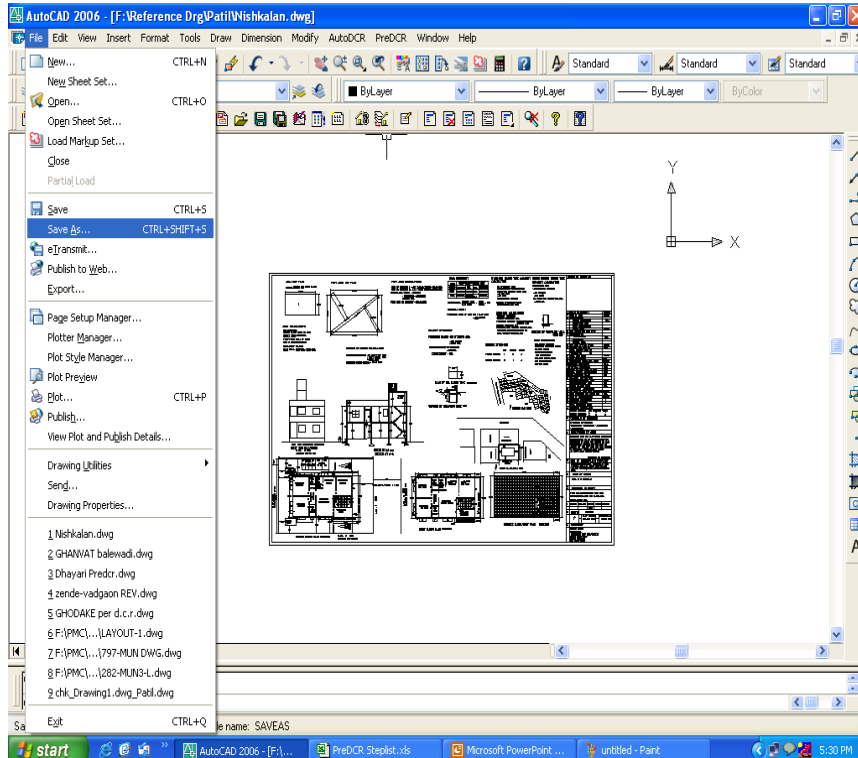
- 1) Open the PreDCR software for clicking on PreDCR menu on your desktop & select the Use CAD Package PreDCR option & then click on "OK" button.



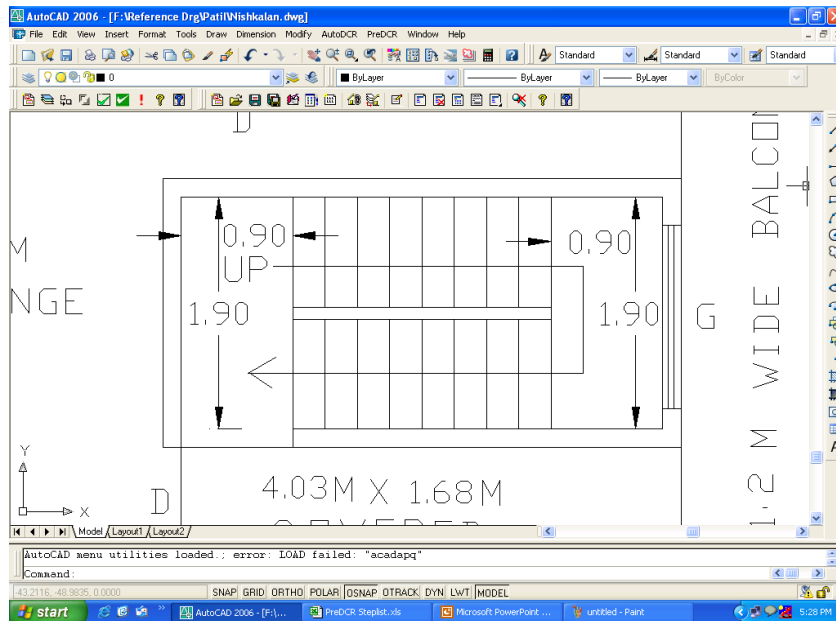
2) First open submission drg which is now converting in PreDCR format.



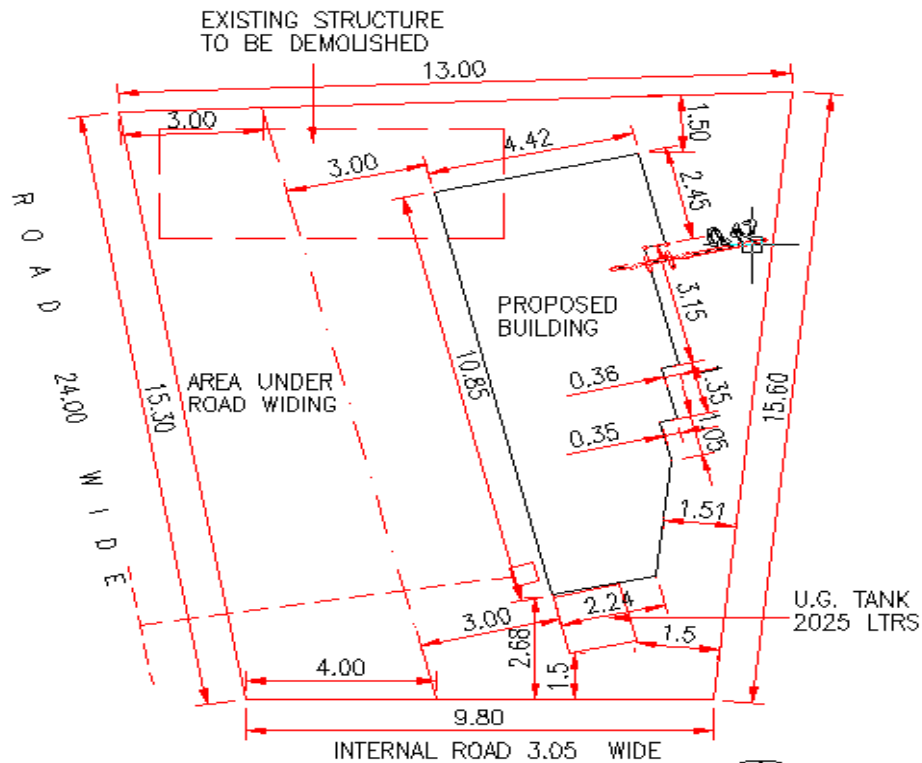
3) Save as your drg with give some name.



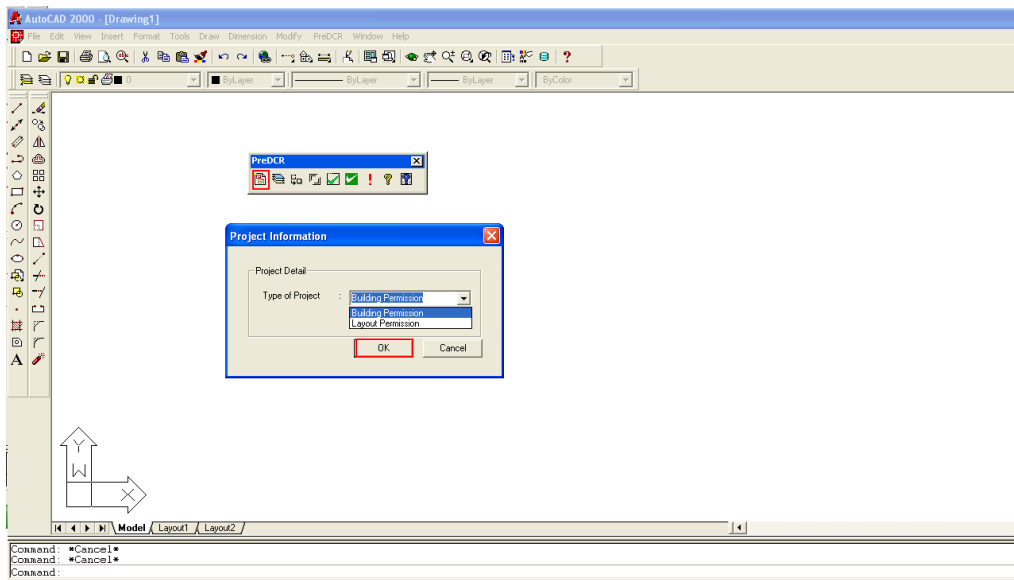
4) Check the scale by using Scale command. If drg is not in 1: 100 scale then covert into the 1:100 scale.& then make that drg in metric scale if it is in other than meter.



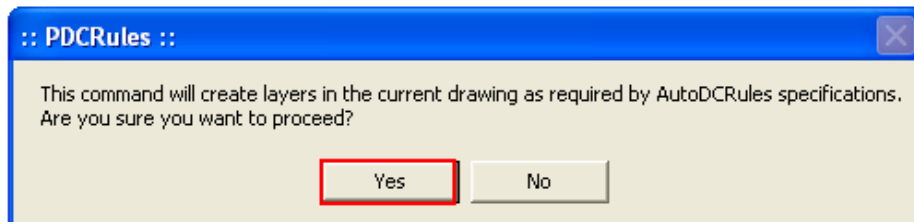
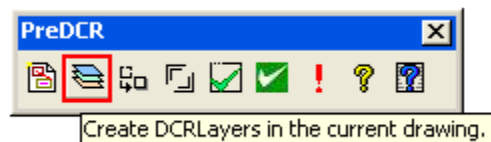
5) Also make the site plan in 1:100 scale.



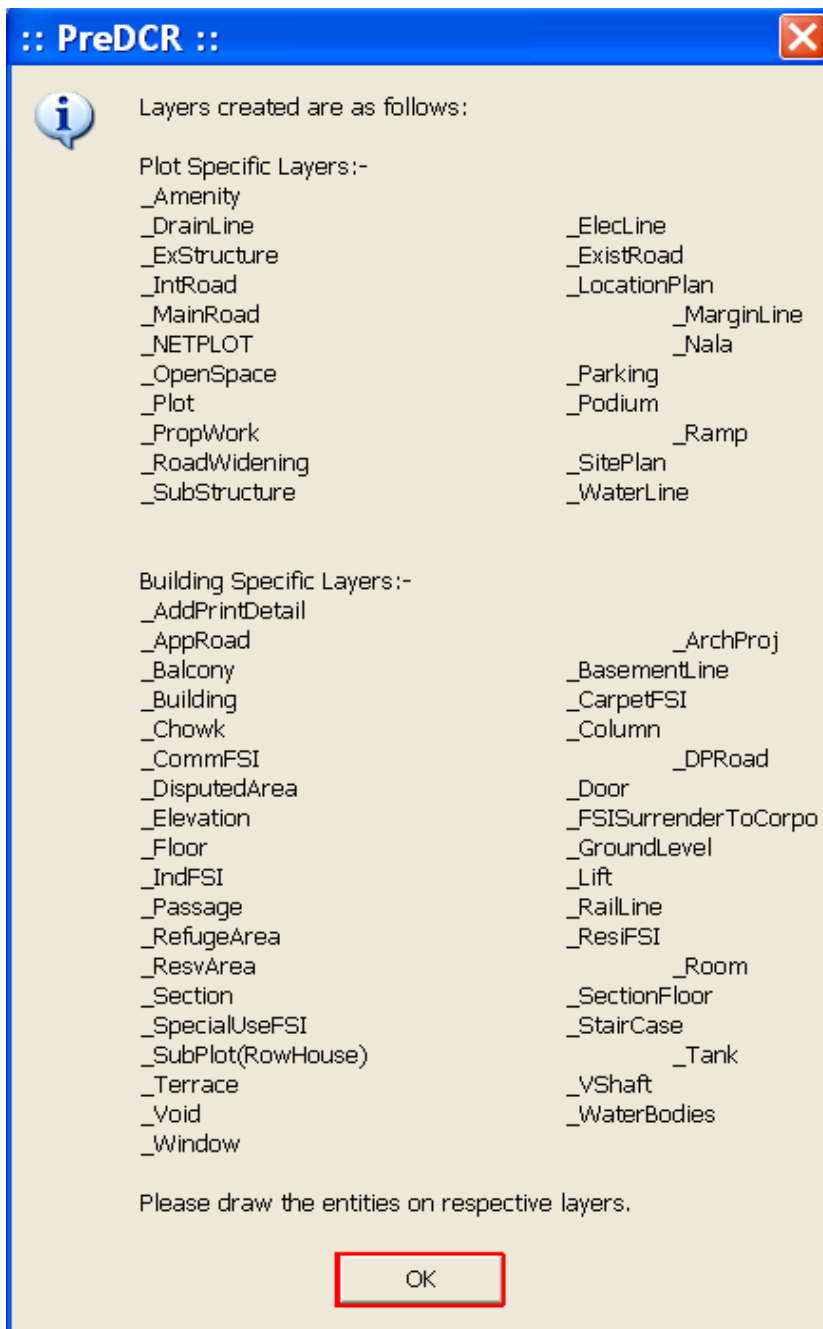
- 6) By using Predcr toolbar first select the Type of Project that is " Proposed Development" ,
"Land Division" or "Plotting Layout"
- a) If Plot is Already sanctioned & user have to take permission for the buildings only then select
"Proposed Development."
- b) If User having Proposal is Amalgamation or Subdivision then select "Land Division" option
from the list.
- c) If Proposal having a Plotting Layout then select that "Plotting Layout" option from the list.



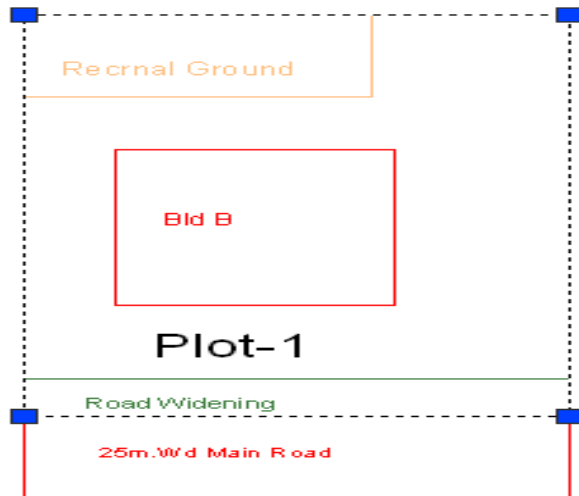
7) By using Predcr toolbar "Create a DCR layer" that is second option in Predcr toolbar.



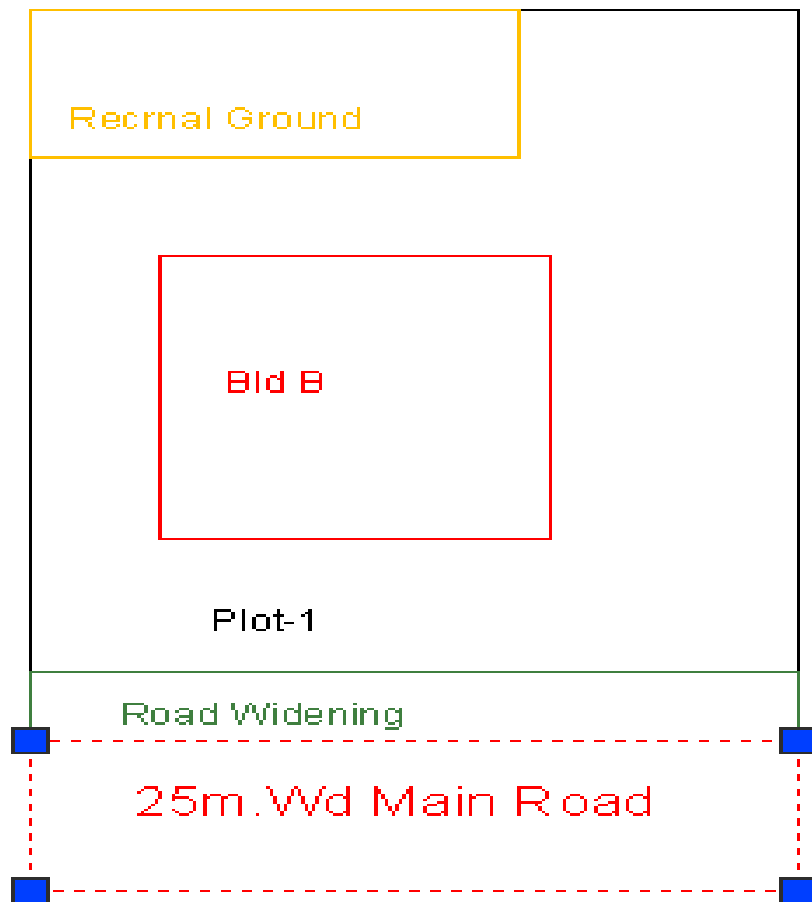
8) Then u will get the list of PreDCR toolbar , then just click on "OK" button. Now all the Layers u will get in Layer Properties managers.



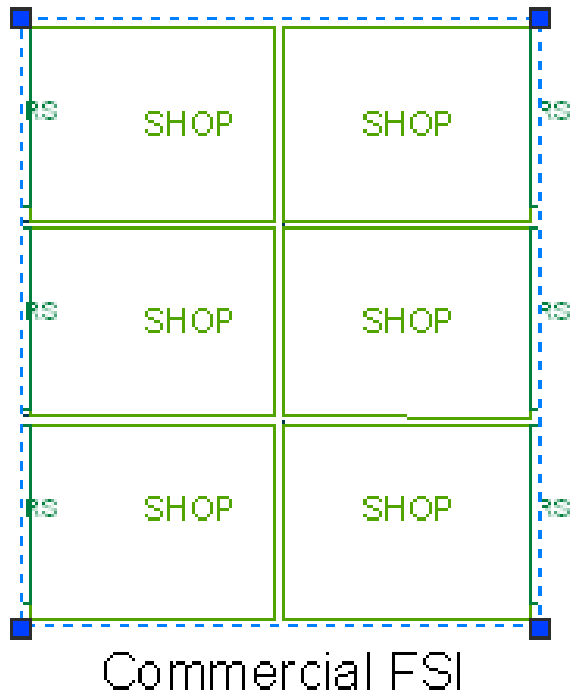
Now Select current Layer is "**_ Plot**" & Draw a closed polyline on this layer. Also give the plot name on that layer only.



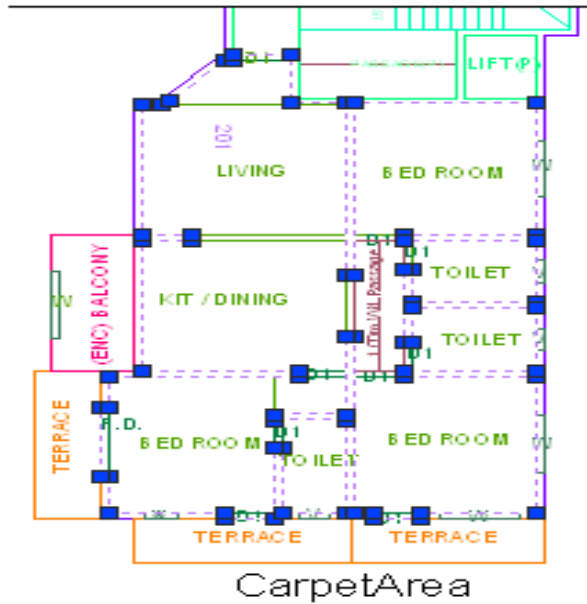
Make the current layer '**_Main Road**' & Draw a road on this layer. Give the Name of road which is starting with it's width.



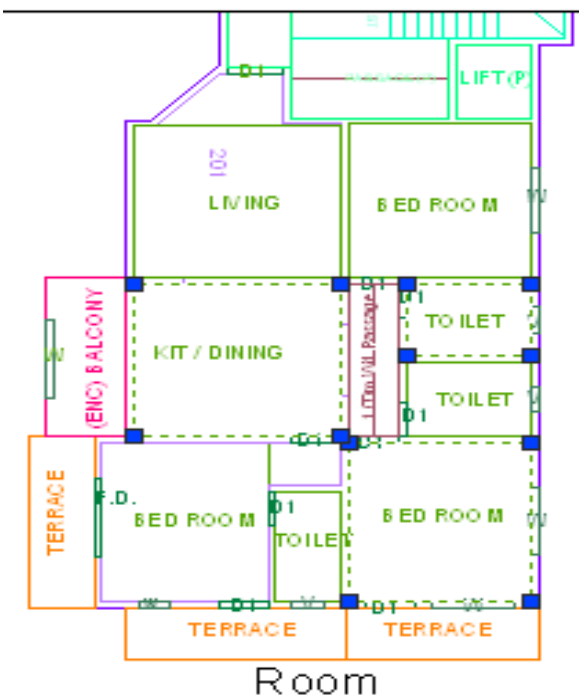
Make the current Layer "FSI" as per your project having that use you can select that use of FSI. e.g. For Residential use - Select "**_ResiFSI**" poly, For Commercial use select "**CommFSI**" poly. & Draw a area key plan line on this layer. No need to give any name on this Layer



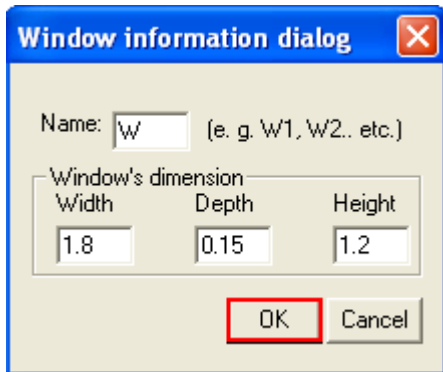
Make the current Layer "**_Carpet FSI**" and draw a closed poly on this Layer which having floor area excluding wall area. Also give the name on this Layer. If carpet is splitted no of places but having only one tenement then use the Splitted tenement option from Predcr Mark menu bar.



Make the current Layer "**_Room**" and draw a closed poly on this layer. If room having rectangle shape then u can use rectangle also. Assign the room name for using the assigned name option from Predcr menu bar.



: Insert the **doors & windows** by using insert option from Predcr menubar.



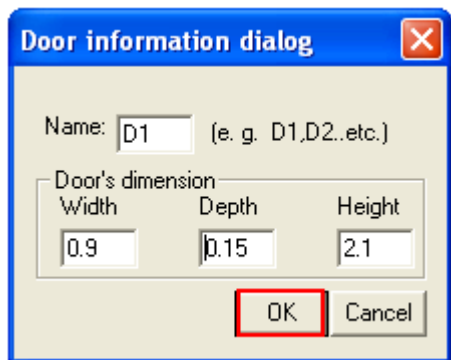
Window information dialog

Name: W (e. g. W1, W2.. etc.)

Window's dimension

Width	Depth	Height
1.8	0.15	1.2

OK Cancel



Door information dialog

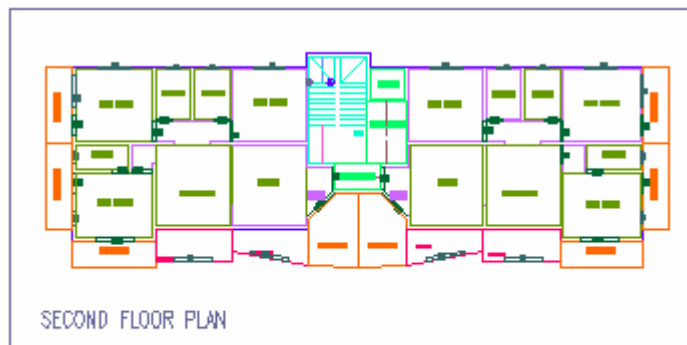
Name: D1 (e. g. D1,D2..etc.)

Door's dimension

Width	Depth	Height
0.9	0.15	2.1

OK Cancel

15) Make the current layer "**_Floor**" and draw a boundary outside of each & every floor.



Floor

16) Make the current layer "**_Tank**" and draw U/G & O/H tank in plan as well as in section also. Assigned this tank name by using Assigned name option from Predcr menubar.

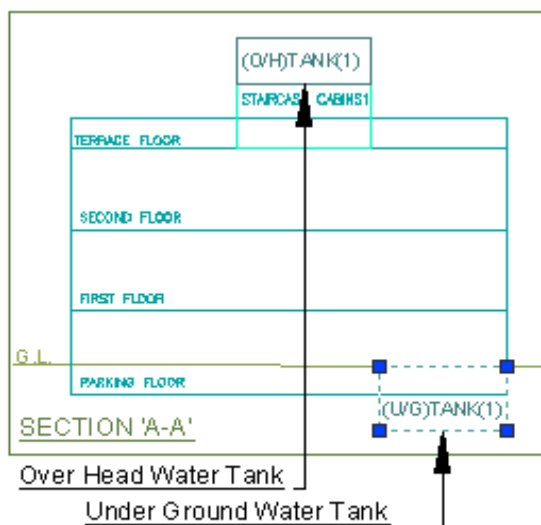
Tank name information

Tank's position
☒ Overhead
☐ Underground

Tank Name/No : (e.g. 1 or 2)

Note : Please give Unique Name for Tanks per Building.

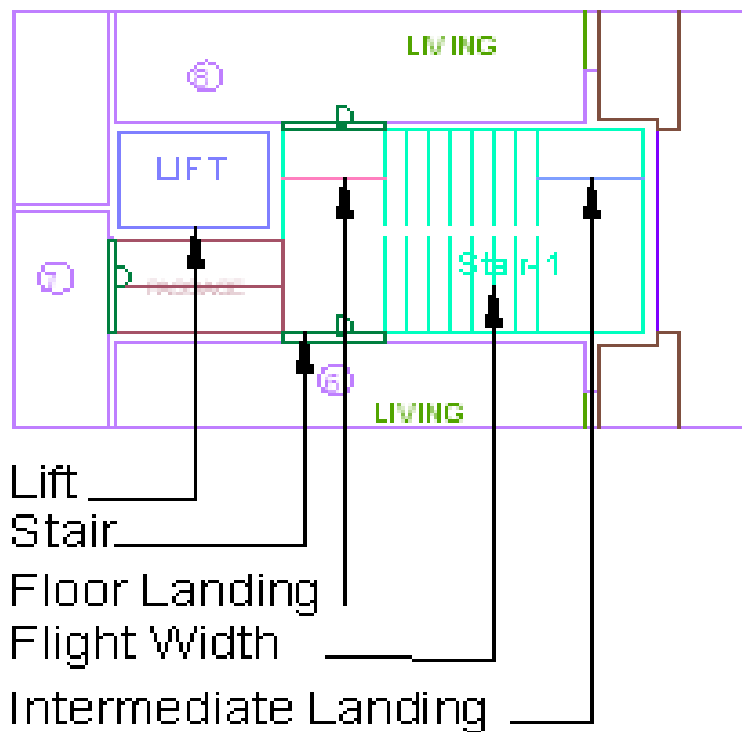
OK Cancel



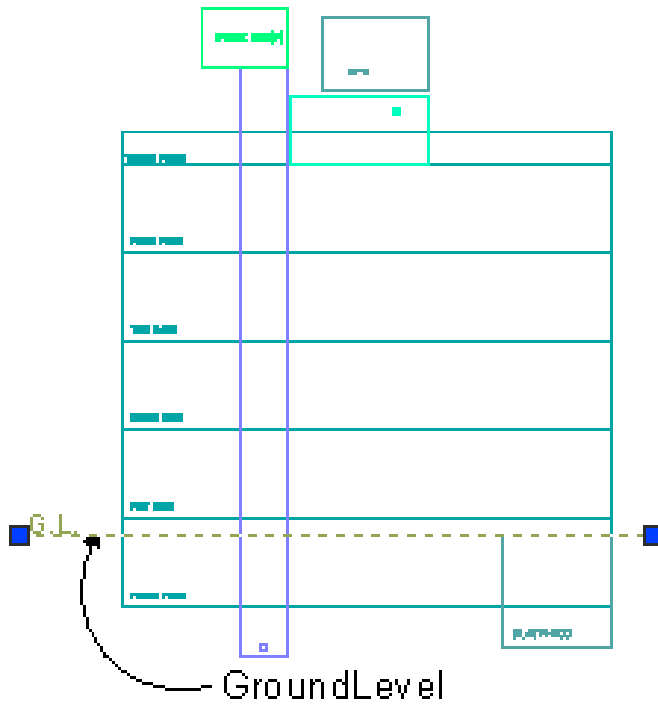
Water Tank

17) Make the current layer "**_Staircase**" and draw all the riser on this layer which is a open polyline. Also draw two extra line on this layer which is showing a floor landing and intermediate landing. Then mark this landing for using staircase landing option from Predcr menu. Also mark the staircase which having type. For spiral and fabricated staircase no need to draw riser & landing marking.

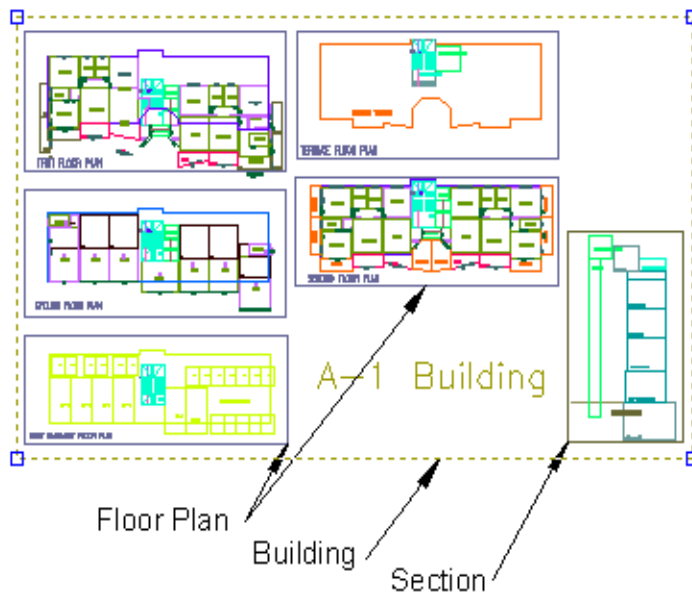
Stair Case



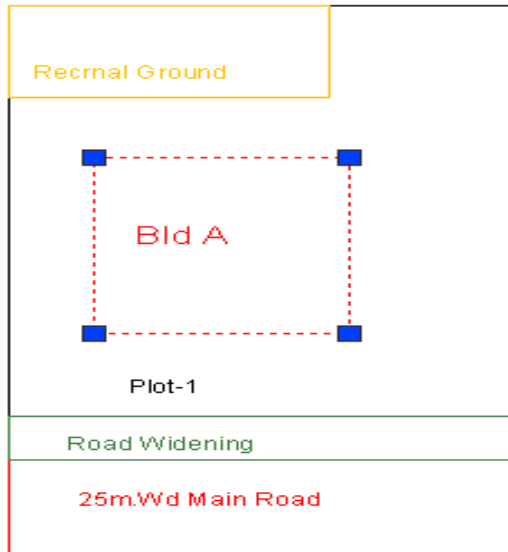
18) Make the current layer is "**_Ground Level**" and draw a open polyline on this layer which is place below the plinth level.



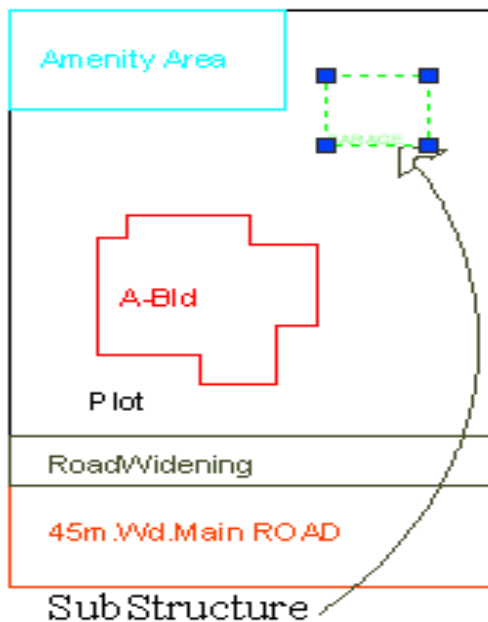
Make the current layer is "**_Building**" and draw a boundary on this layer which is having a group of all the floors with section



Make the current layer is "**_ProposedWork**" and draw a total coverage on this layer. Assigned this proposed work by using "Predcr->Assigned name -> Building & proposed work from Predcr menu.

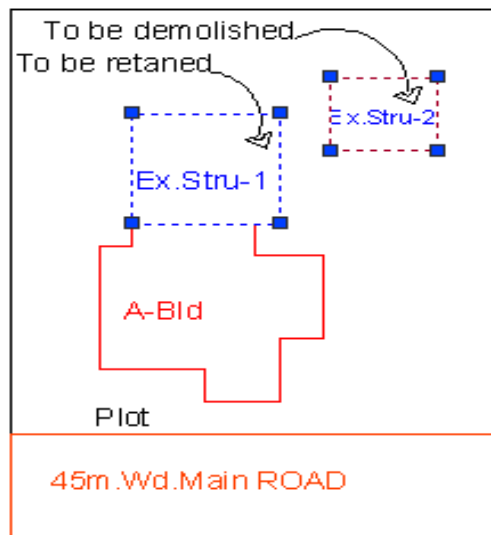


If project having any Substructure then draw a closed polyline on "**_Substructure**" layer. Also mark this substructure by using "Predcr-> Mark-> Substructure from Predcr menubar.



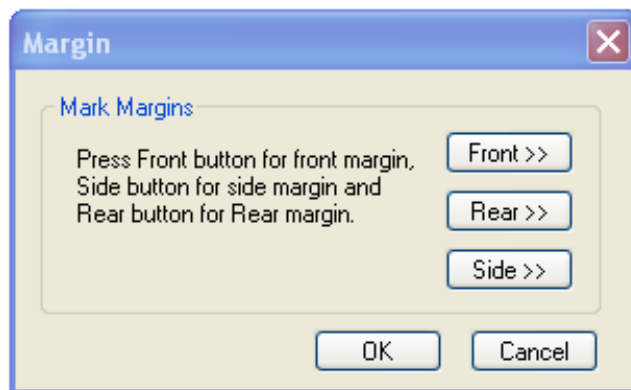
If project having any Existing structure then draw a closed polyline on "**_Exstructure**" layer. Also

mark this Exstructure by using " Predcr-> Mark-> Exstructure from Predcr menubar.



Existing Structure

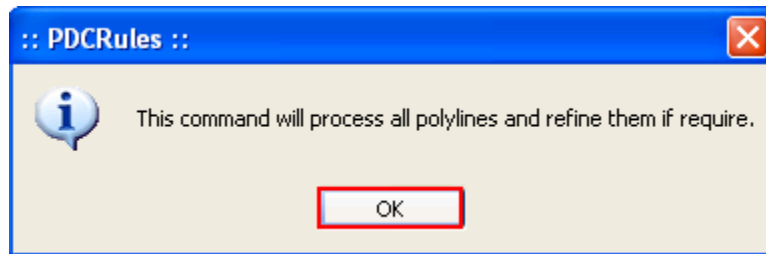
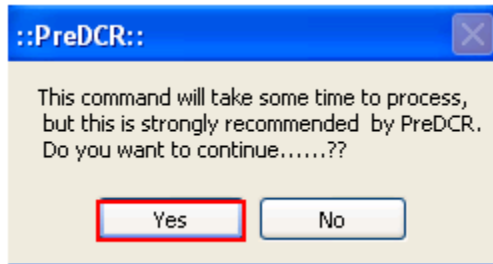
Mark the margins by using Mark-> margin from Predcr menubar



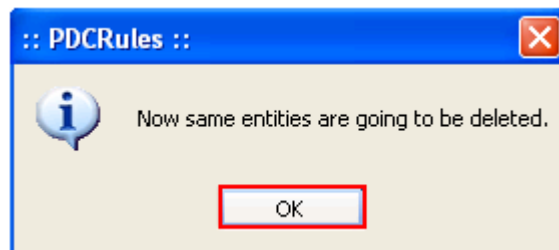
After converting all the Layers use the "**Fix poly**" option from Predcr menubar.



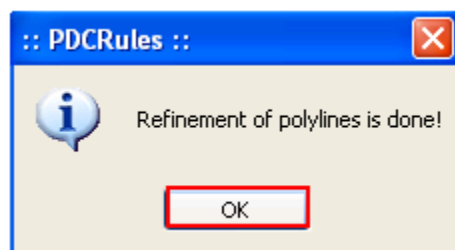
Refinement of Drawing



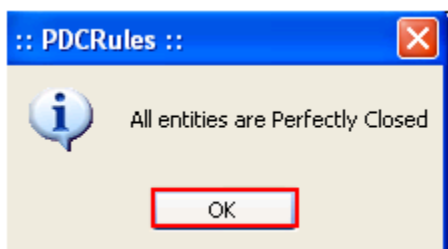
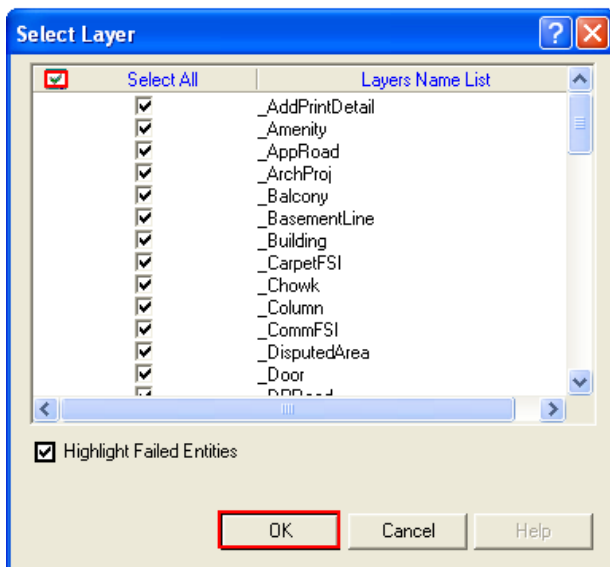
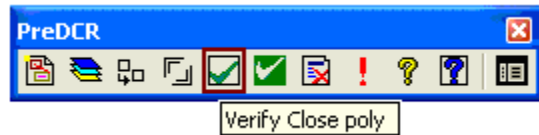
just click on "OK"



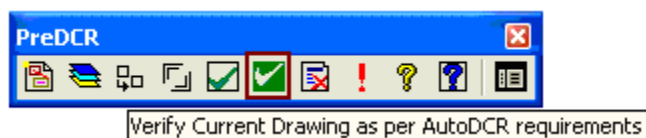
just click on "OK"

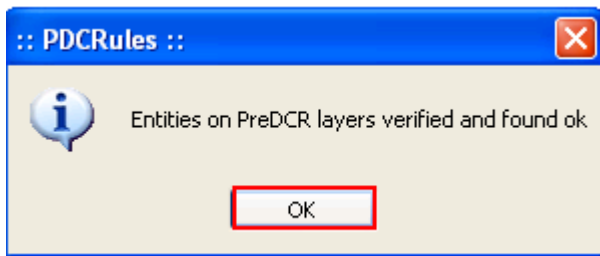
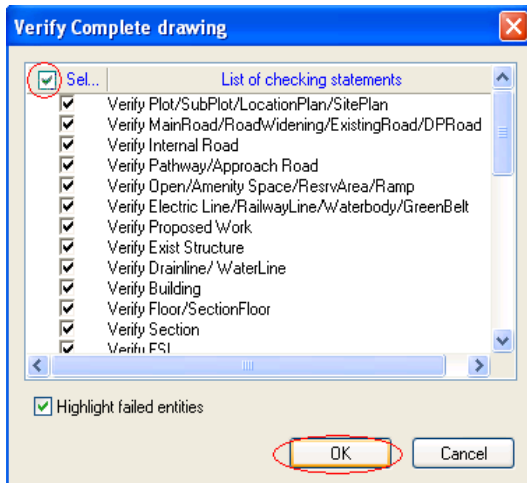


When u will get these message "Refinement of Polyline is done" then select the "**Verify Closed poly**" option from Predcr menu.

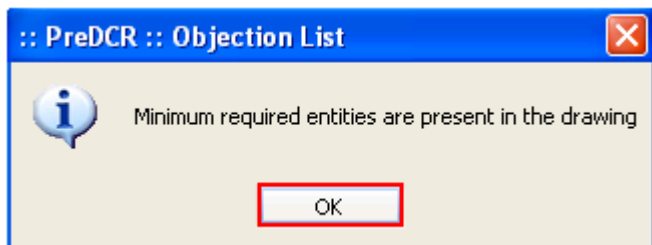


: When u will get these message "Entities on Predcr Layers are verified and found o.k." then only u can submit a softcopy of your drg to the Corporation.





27) Also check the "**Objection list**" which user are missing to convert in Predcr layer.



PreDCR Layer Information

_Amalgamation layer:

Description :

- Draw a continuous poly around the plots you want to amalgamate.

Amalgamation contains more than one plot amalgamated together.

All entities having amalgamation as their container entity should be uniquely present in each amalgamation.

i.e. suppose there is a road widening in the Plot then the poly of road widening should be different for each amalgamation. (For amalgamation, draw plot 1, plot 2, plot 3 on plot layer and amalgamated plot AmalPlot 1, on amalgamation layer overlapping plot

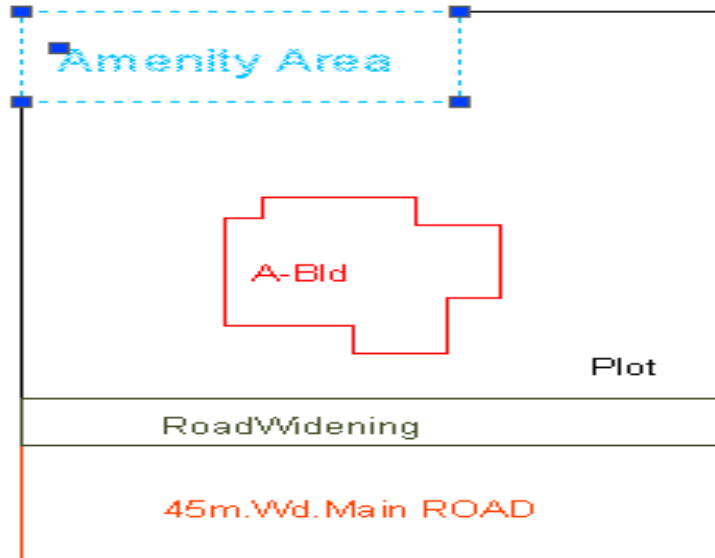
Verification :

It Should overlap with _MainPlot/plot.

Shortcut Command :

- AMLG

How to draw :



_ArchProj

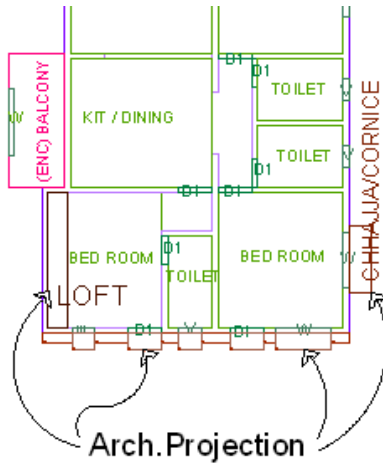
Description :

- This layer is used to represent various Architectural Projections in your Plan. Draw a closed Polyline for Architectural Projections. And mark it using **Mark->Projection** from PreDCR menu, according to requirements. Canopy/porch will come in plot & other projections will come with floor plans.

Shortcut Command:

- AP.

How to draw : -



_VShaft

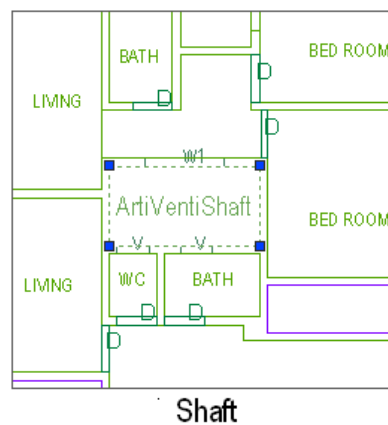
Description :

- Draw Ventilation shaft/duct area as a closed Polyline with Text. Inside FSI Area on **_VShaft** Layer. Only those shafts from which ventilation for habitable room is not taken should be drawn on this layer.

Shortcut Command:

- AVS.

How to draw : -



Balkony

Description :

- Draw a balcony as a closed polyline which is a horizontal projection including parapet to serve as a sitting out place. Name of balcony must be inside and on _Balkony layer.

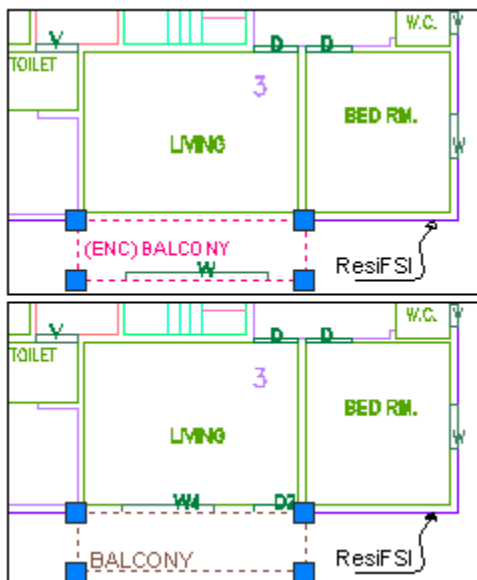
Balkony can be present in :

Plot: It must overlap with PWork (if not enclosed)
Floor: It must overlap ResiFSI.

Shortcut Command :

- BL

How to draw : -



BasementLine

Description :

- Draw a open polyline on this layer to represent various water bodies.

Shortcut Command :

- .BAS

_Building

Description :

- Building is used to group all floor plans of the same building. Draw a closed poly enclosing all the floor plans and section of the same building on _Building layer. Note: As written above, dimension or area of this building poly has no meaning in AutoDCR. This is just an logical group of all floors of the same building. If the building plan of multiple PWorks or wings are same then building name shall be as given in table below.

Building names can be.

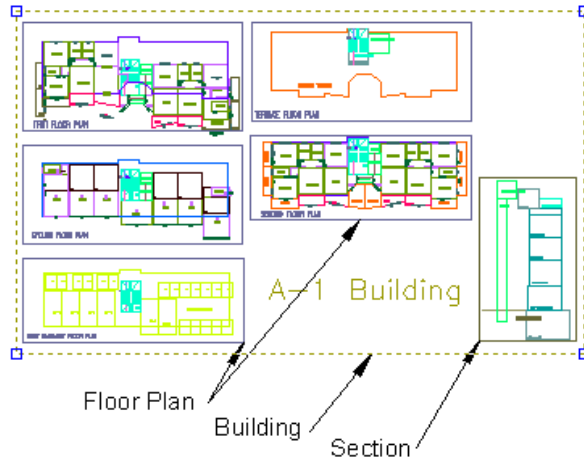
1	"A(Monarch)"	PWork "A" has building plan "Monarch".
2	"A,B(Monarch)" or "A&B(Monarch)"	Wings A, B have same building plan "Monarch".
3	"A-C(Monarch)"	Wings A,B,C have same building plan "Monarch".
4	"A1-A3(Monarch)"	Wings A1, A2,A3 have same building plan "Monarch".

Shortcut Command :

- BLD

How to draw :

- What Building poly will have? Building poly will enclose all the floor plans in that building along.



_CarpetFSI

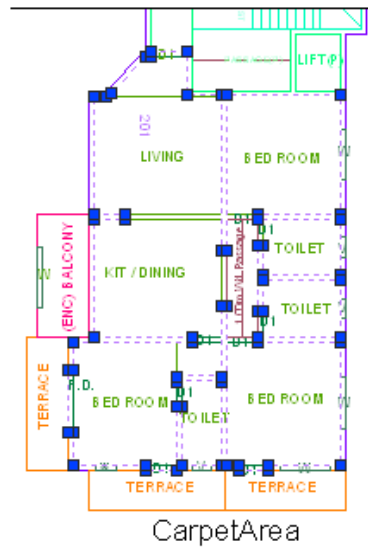
Description :

- Draw carpet area as a closed polyline which is a net usable floor area within a building excluding that covered by the walls or any other areas specifically exempted from floor space index computation in these regulation.

Shortcut command :

- CPT.

How to draw : -



_Chowk

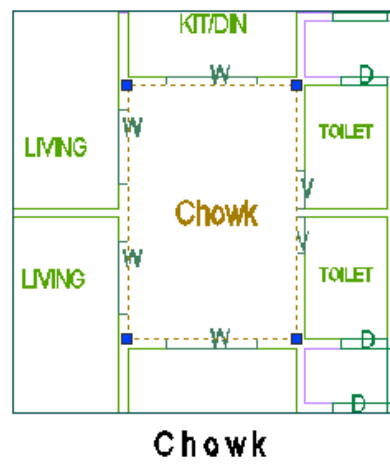
Description :

- Draw a chowk as a closed polyline which is an enclosed space permanently open to the sky within a building at any level. From chowk we take ventilation for habitual rooms.

Shortcut Command :

- CWK.

How to draw :



_Column

Description :

- Column shall be drawn as closed polyline on this layer.

Shortcut Command :

COL

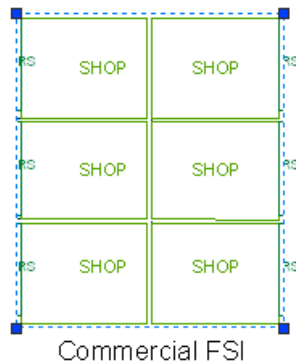
_CommFSI

Description: Commercial FSI :

- Draw a CommFSI as a closed polyline which is the area covered by a building on all the floors.
This FSI polyline mainly used for commercial use bldg.

Shortcut Command :

- CMFS. How to draw : -



_CompoundWall

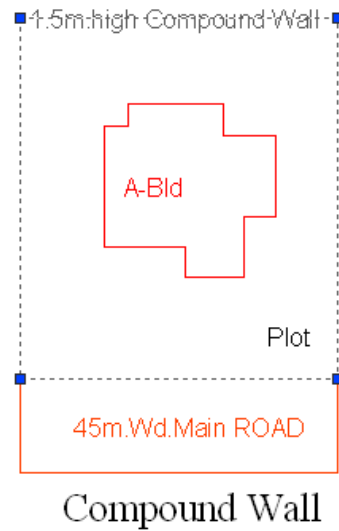
Description :

- Open polyline of compound wall to be drawn on proposed compound wall with text started with compound wall height. E.g. 1.5m. high Compound Wall

Shortcut Command :

- CW.

How to draw : -



_DPRoad

Description :

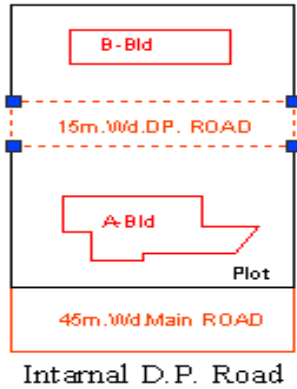
- Draw existing or proposed D. P. (Development Plan) road or T. P. (Town Planning) Road when inside/intersected with plot. While giving name start text with road -width.

E.g. 15m wide D.P. Road.

Shortcut Command :

- R3.

How to draw : -



_SewageLine

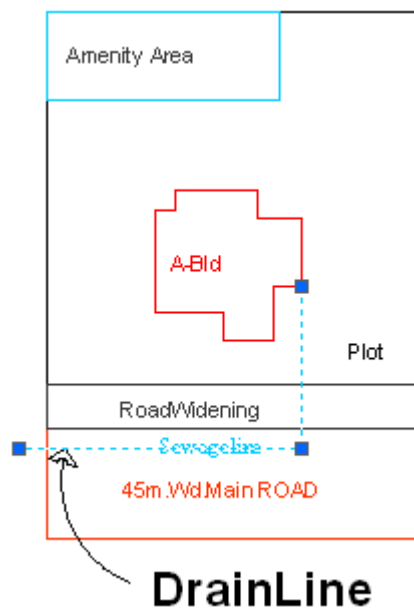
Description: -

- Drain Line shall be drawn as an open polyline on this layer and provide text.

Shortcut Command :

- L5.

How to draw : -



_Door

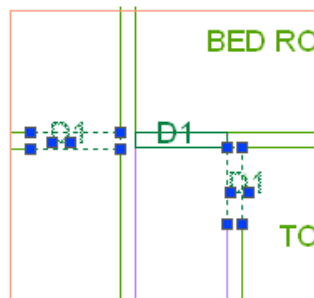
Description :

- Door is a closed Polyline Which is drawn on “_Door” layer. Also you can insert a particular size poly for Door using **Insert->Door** from PreDCR menu.

Shortcut Command :

- DR.

How to draw : -



Door

_ElecLine

Description : -

Electric line will be present in the layout plan and shall pass through plot entity as a non closed polyline.

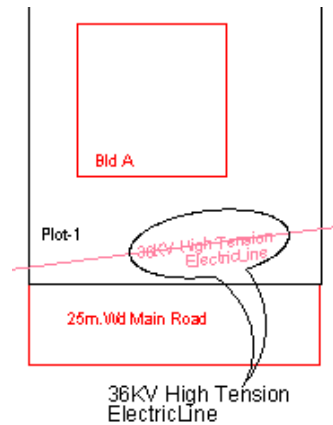
Name electric line shall start with its voltage capacity and text insertion point shall lie on its polyline.

For e.g. 33 KV High Tension Line

Shortcut Command :

- L1.

How to draw : -



_Elevation

Description :

- Draw a elevation as a closed polyline which is a only outer line elevation for printing

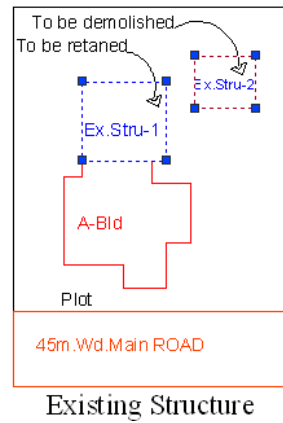
_ExStructure

Description : - Draw a Exstructure as a closed polyline which is a building or structure existing authorized before the commencement of these regulation. And mark it using **Mark -> Existing structure** as 'To be demolished' or 'To be retained'.

Shortcut Command :

- EX.

How to draw :-



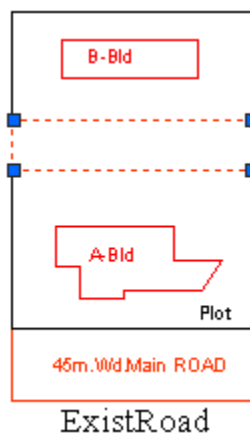
ExistRoad

Description: - Draw existing or proposed D. P. (Development Plan) road or T. P. (Town Planning) Road when inside/intersected with plot. While giving name start text with road -width.

eg. 15m wide Road.

Shortcut Command : - R3.

How to draw :-



Floor

Discription:

Draw a Floor as a closed polyline to the boundary of the lower surface in a story on which one normally walk in a building and including mezzanine floor also. The floor at ground level with a direct access to a street or open space shall be called the ground floor, the floor above it shall be termed as Floor 1 with the next higher floor being termed as Floor 2 and so on upward. For giving the name of each floor use the assign named option from the PreDCR menu. Also draw each floor separately. While giving name to the typical floor then use a Typical option from **Assigned name -> Floor name** option from PreDCR menu bar.

Shortcut Command :

- FLR

Reference Circle : - All Floor poly must contain a circle with its center on common point for whole building on layer "_ResiFSI". Usually it can be placed inside either Common Lift or stair/Inner Chowk as their locations are common for all floors.

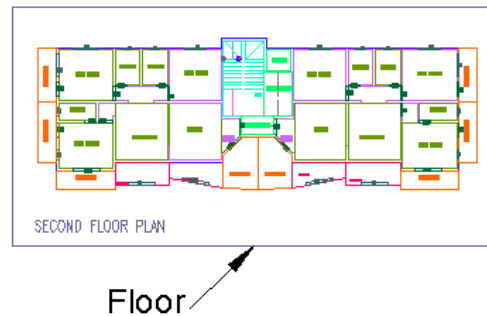
Floor Name : - Floor name will be taken from text inside floor poly and on same layer.

A floor plan is automatically associated/linked by AutoDCR software with one or more floor section poly in Section plan. This is done by matching name of Floor Plan and SectionFloor so both must be same.

Typical Floor	Non-Typical
"TYPICAL" X "FLOOR PLAN"X: Floor numbers in specific format (, or & or -)	X "FLOOR PLAN" X: Direct Floor's Name
e.g.: TYPICAL 1,2 FLOOR PLAN	e.g. GROUND FLOOR PLAN

TYPICAL 1-4 FLOOR PLAN	FIRST FLOOR PLAN
TYPICAL 2&3 FLOOR PLAN	SECOND FLOOR PLAN

How to draw :-



_GroundLevel

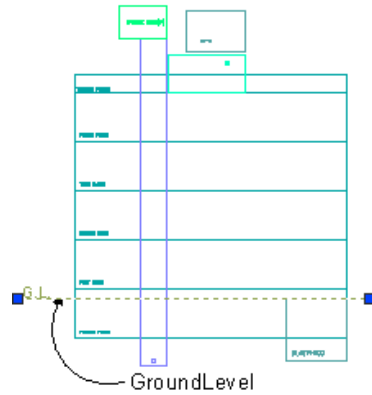
Description :

- Draw the Ground level line as open polyline in section .It is used for checking a total building height from this line.

Shortcut Command :

- GL.

How to draw : -



IndFSI

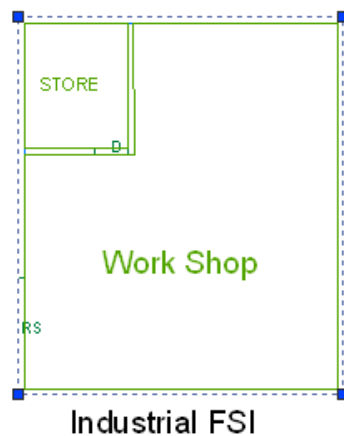
Description :

- Draw a IndFSI as a closed polyline (area key plan line in the submission drg) which is the area covered by all the floors. Industrial building means building or part thereof wherein products or material are fabricated , assembled or processed such as assembly plants, laboratories , power plans, refineries, gas plants, mills, dairies and factories. This polyline should be excluding balcony & terraces area.

Shortcut Command :

- IFSI.

How to draw : -



_IntRoad

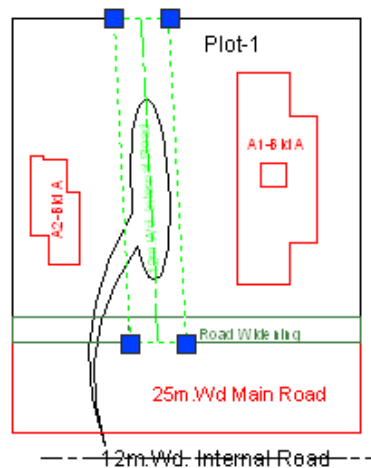
Description :

- Draw internal road with text specifying its width as shown in figure. And draw a center line. And type of layer of the center line must be center line (Type of the Layer).

Shortcut Command :

- R2.

How to draw : -



_Lift

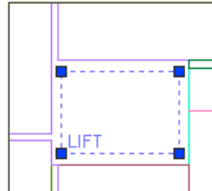
Description :

- Draw a Lift as a closed polyline which is a mechanically guided car, platform or transport for persons and materials between two or more levels in a vertical or substantially vertical direction. If fire lift are provided then use the marking of "Fire lift" option from **Mark -> Lift -> Fire Lift** . Fire Lift means a special lift designed for the use of fire service personnel in the event of fire or other emergency.

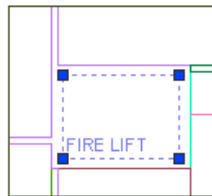
Shortcut Command :

- LFT.

How to draw :



Lift



Fire Lift

_LocationPlan

Description :

- Location plan if any to be drawn on this layer. This is only for reference. No verifications are done by AutoDCR for this layer so not compulsory.

Shortcut Command :

- LCP.

_MainRoad

Description :

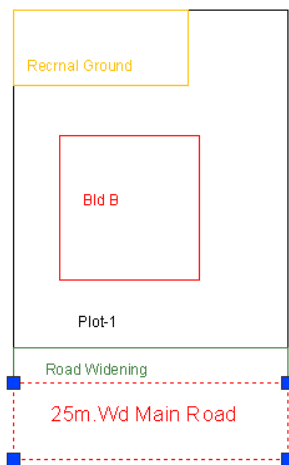
- Draw a MainRoad as a closed polyline which is abutting the plot. On the site that road is any type of road.such as any highway, street , lane, etc. over which the public have a right of passage or access

or have passed and had access uninterruptedly for a specified period, whether existing or proposed in any scheme. Road name start with its width only.

Shortcut Command :

- R1

How to draw : -



_MarginLine

Description :

- No need to draw Margin Line, Just use **Mark Margin** tool for it. This layer is not provided for users. AutoDCR uses '_MarginLine' layer for its own internal use.

_Nala

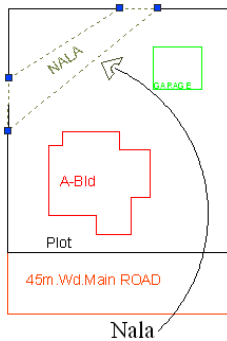
Description :

Draw Nala polygon on this layer.

Shortcut Command :

- R4.

How to draw : -



_NETPLOT

Description :

- No need to draw NETPLOT. This layer is not provided for users. AutoDCR uses '_NETPLOT' layer for its own internal use.

_OpenSpace

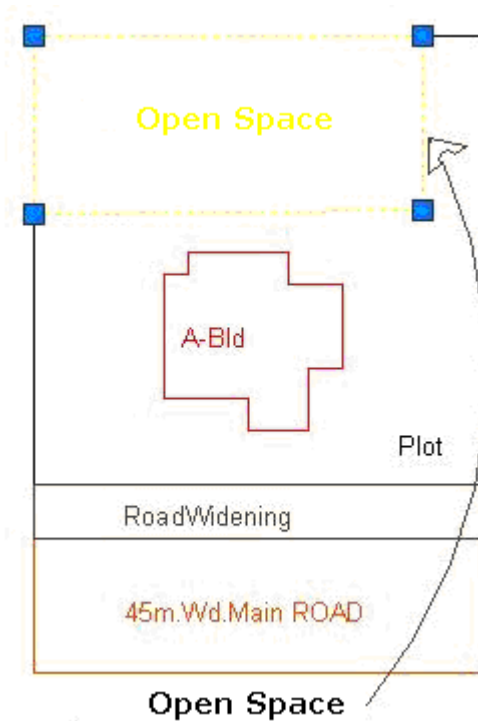
Description :

Draw Open space as closed polyline reserved as recreational space on this layer. With text on same layer.

Shortcut Command:

- OPS.

How to draw : -



Parking

Description :

- Draw a parking poly as a closed polyline which is an enclosed covered or open area sufficient in size to park vehicles. This closed polyline shall contain a text on same _Parking layer. This text is treated as name of parking. Insert the parking by using a **Insert-> Parking** option.

Shortcut Command :

- PK.

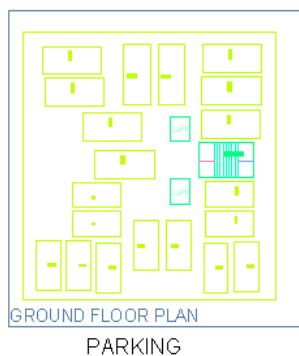
Parking Name :

- This closed polyline shall contain a text on same _Parking layer. This text is treated as name of parking.

On this layer, you can group and insert any number of parking

Parking	Name
Car	CP
Scooter	SC
Cycle	CY
Visitor's Parking (Car)	VVP
Visitor's Parking (Scooter)	VSP
Transportation vehicle	TV
Ambulance	AMB

How to draw : -



_Passage

Description :

- A closed polyline on *_Passage* represents a passage. It is a common passage or circulation space including a common entrance hall. This closed polyline contain a text. This text must be on "*_Passage*" layer. This text is treated as name of closed polyline.

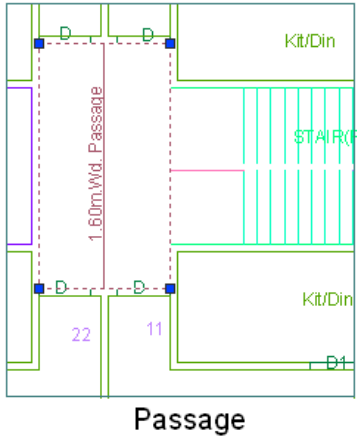
Centre Line :

- All *Passage* poly must contain an Open Polyline inside that closed poly representing centre line on "***Passage***" Layer. But line type of center line must be 'Center line'.

Shortcut Command :

- PAS

How to draw : -



Plot

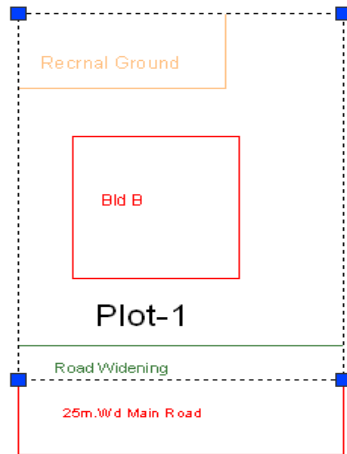
Description:

- Draw a Plot poly as a closed polyline which is a parcel or piece of land enclosed by definite boundaries. A Plot will contain all Proposed Works (buildings, wings), open space, Internal Roads, Parking etc. The overall Plot Entity represent a Plan, AutoDCR refers it as 'Layout Plan'. The overall Plot Entity represent a Plan, AutoDCR refer it as "**Layout Plan**".

Shortcut Command:

PLT

How to draw :-



_Podium

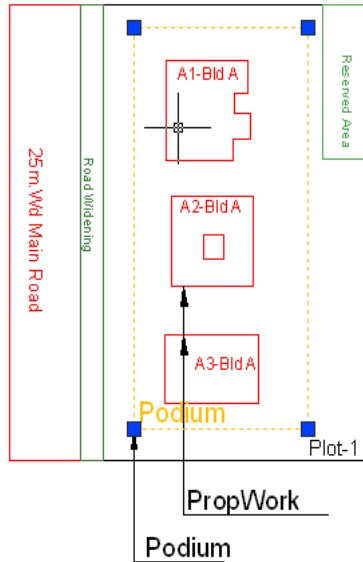
Description :

- Podium shall be drawn on '_Podium' layer as a closed polyline. Podium should be inside plot covering proposed works if any.

Shortcut Command:

POD.

How to draw :-



PropWork

Description :

- Proposed Work is a building profile/outline and shall be drawn inside plot. all detail Building plans (inside building polyline) of all PWork(inside plot polyline) is associated/linked automatically by Auto-DCR by matching its name.

So for proper association it is required to follow specific standard as given.

XY (Z)

X is Wing name.

Y is wing number.

Z is Building name.

For example if there are four wings A1,A2 & B1,B2 in building named "Monarch" then proposed work names shall be -

A1 (Monarch), A2 (Monarch)

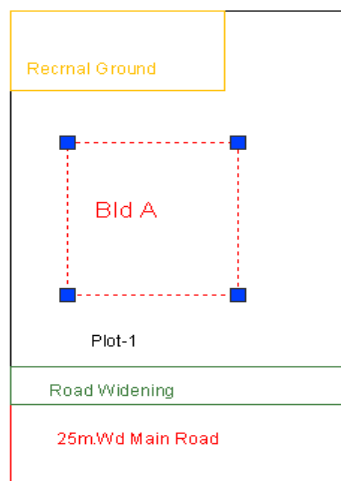
B1 (Monarch), B2 (Monarch)

Reference Circle: All PWork poly must contain two circles (of any size) with its center on common point for whole building. First on layer of any FSI and second on Layer “_Floor”. These reference circles to be inserted from **PreDCR -> insert-->Direction ref circles** at the same location in all the floors as well as pwork in plot. Usually they can be placed inside either Common Lift or Stair/Inner Chowk (because generally their location is same on all floors). Reference circles are used by the software for overlapping all floor plans.

Shortcut Command:

PW.

How to draw :-



_RailLine

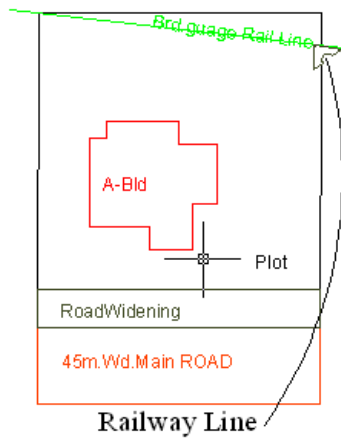
Description :

- Railway line shall be drawn as a non closed polyline with some text indicating gauge of rail line over it.

Shortcut Command :

- L2.

How to draw : -



Ramp

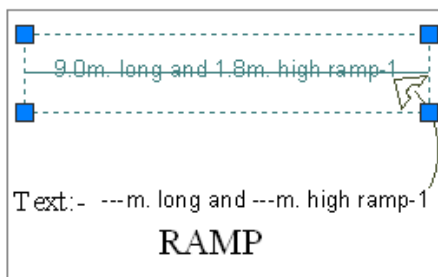
Description :

- Draw a Ramp poly as a closed polyline in floor plans and/or plot and section. Naming convention for ramp is "---m. long and ---m. high ramp-1". give unique name to each ramp.

Shortcut Command :

- RP.

How to draw : -



RefugeArea

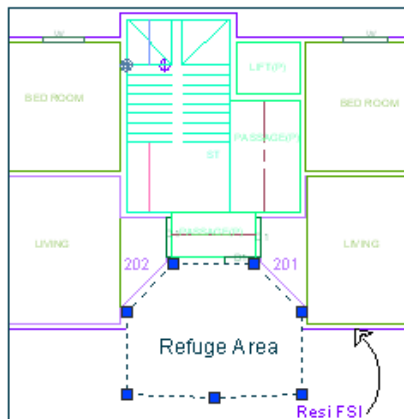
Description :

- Refuge area to be drawn in plan as a closed polyline with text on this layer. Overlapped with FSI layer but outside the FSI poly.

Shortcut Command :

- RFG.

How to draw :



Refuge Area

_ReservArea

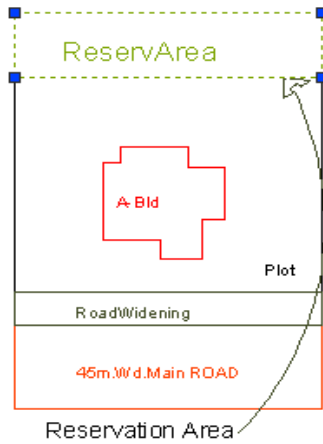
Description :

- Reserved area (Reservation area in Development plan) shall be drawn on this layer if present in proposal. This can be any area reserved for/by Authority for future.

Shortcut Command :

- RSA.

How to draw :-



ResiFSI

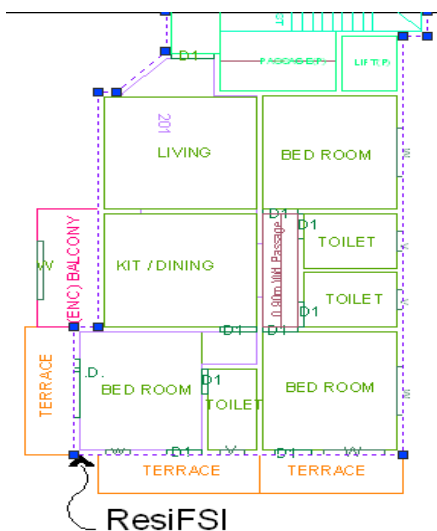
Description :

- Draw a ResiFSI as a closed polyline which is the area covered by a building on all the floors. This FSI polyline only used for residential use building or floor. ResiFSI poly must be inside Floor poly.

Shortcut Command :

- MFS

How to draw : -



_RoadWidening

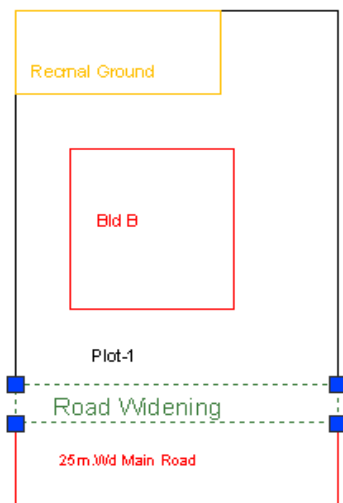
Description :

- Draw a road widening polyline as a closed polyline which the plot area is going to the road, that area should be drawn on this layer. It should be inside the plot polyline.

Shortcut Command :

- R5.

How to draw : -



_Room

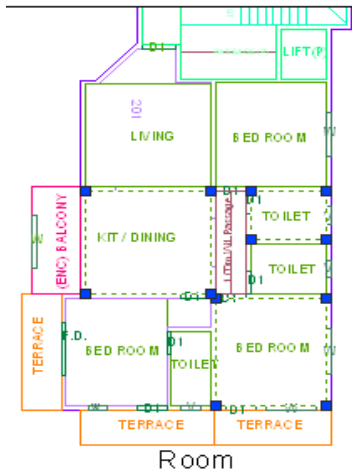
Description :

- A closed polyline on _Room layer represents a room. This closed polyline contain a text. This text must be on _Room layer. Room to be marked by assigning them names using **Assign Name-> room** option from PreDCR menu.

Shortcut Command :

- RU.

How to draw : -



_Sanitation

Description :

Draw any sanitation entities on this layer. (E.g. Water closet , Kitchen sink etc..) Mark those entities by using **PreDCR -> Insert -> Sanitation**.

Shortcut Command :

- SND.

_Section

Description :

- Draw a Section polyline as a closed poly of section boundary which contain all floors with stair cabin, Lift machine room, water tanks etc. as shown in the figure. Also write the name as "Section" in this section poly.

In this closed poly of section draw sections of all floors with stair cabin, inner Chowk, Lift machine room, Ventilation shaft, water tanks etc. as shown in the figure.

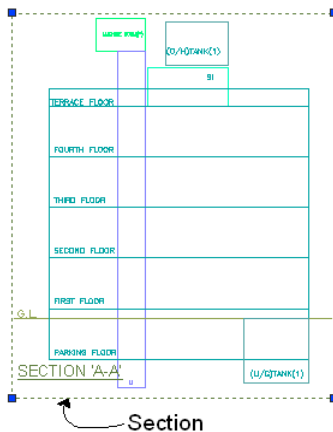
Also write the name as "Section" in this section poly.

This section poly will present inside the building poly.

Shortcut Command :

- SEC.

How to draw : -



SitePlan

Description :

Site plan if any to be drawn on this layer. This is only for reference. No verifications are done by AutoDCR for this layer. so not compulsory.

Shortcut Command: - STP

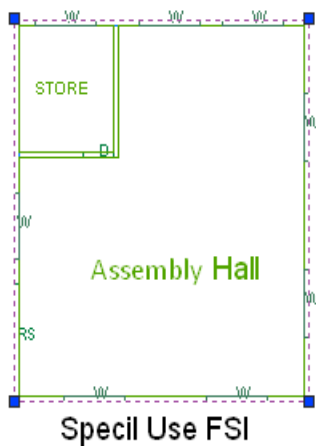
_SpecialUseFSI

Description :

FSI play for all other building uses like educational, institutional etc. except ResiFSI, CommFSI & IndFSI use should be drawn on this layer.

Shortcut Command: - SUF.

How to draw:



_StairCase

Description :

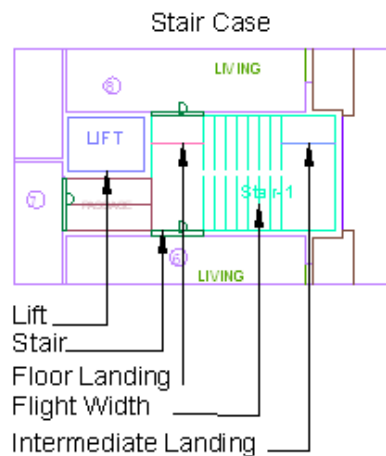
- **StairCase:** On this layer, Each StairCase poly shall have three lines for Flight Width, Intermediate Landing and Floor Landing on same layer. Mark these open polyline by using **Mark-> Staircase** option from PreDCR menu. Also draw in plan all the treads on this layer which is a open polyline.

This closed polyline contains a text. This text must be on _Stair layer. This text is treated as name of closed polyline. On this layer, Each StairCase poly shall have three lines for Flight Width, Intermediate Landing and Floor Landing on same layer This can be mark by tool **Mark > StairCase > intermediate landing** etc.

Shortcut Command :

- STR.

How to draw : -



SubDivision

Description :

- In Subdivision one plot is divided into more than one Subdivisions.

All entities having subdivision as their container entity should be uniquely present in all Subdivisions of a Plot i.e. suppose there is a road widening in the Plot then the poly of road widening should be different for each Subdivision(subdivided plot).

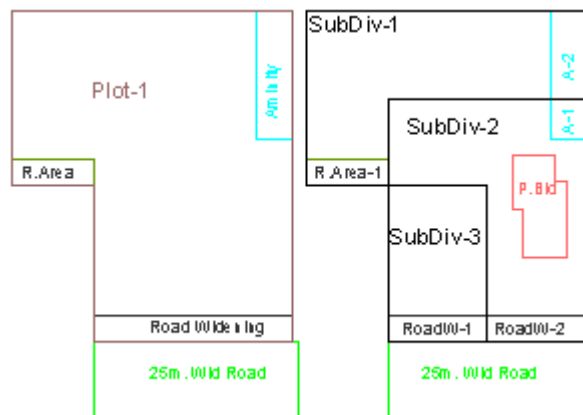
Ex. Here Plot 1 is divided into three Subdivisions. And also the Road Widening is divided into RoadW 1 and RoadW 2 for each Subdivision.

(for subdivision, draw plot 1 on plot layer and subdivided plots like SubDiv 1, SubDiv 2 & SubDiv 3 on sub-division layer overlapping plot 1.)

Shortcut Command :

- SBD

How to draw : -



_SubStructure

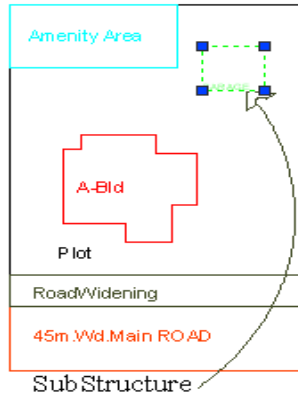
Description :

- Draw various substructures on "_SubStructure" layer as a closed polyline. And mark it according to the requirement as **Mark -> Substructure -> Society Office**, from PreDCR menu. Sub-structures can be drawn inside plot or in floor plans.

Shortcut Command :

- SSTR.

How to draw : -



_Tank

Description :

- A closed polyline on _Tank layer represents a water tank. Under Ground tank can be drawn in Floor or Layout plan. If it is drawn in Floor plan then it should be at bottom of GROUND FLOOR. Overhead tank can be drawn in TERRACE FLOOR. Tank should be drawn as per internal size or dimensions. Both the tank also draw in section also.

Tank Name: - This closed polyline contain a text and must be in given format. This can also be done by tool Assign Name>Tank

Tank Name+ Type +Capacity

Tank Type	Text
Overhead water tank	(O/H)
Underground water tank	(U/G)

For e.g.

TANK-1 (O/H)

TANK-2 (U/G)

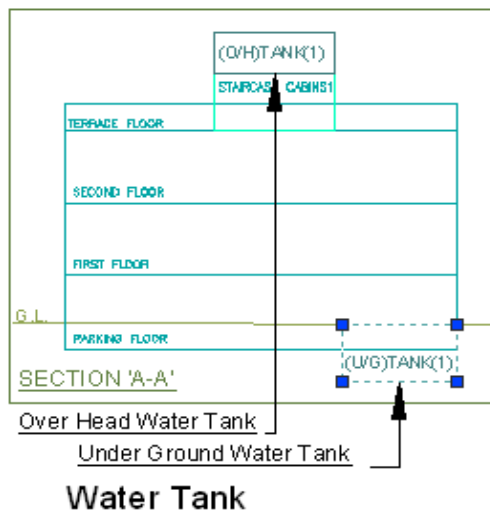
Under Ground tank can be drawn in Floor or Layout plan. If it is drawn in Floor plan then it should be at bottom of GROUND FLOOR.

Overhead tank can be drawn in TERRACE FLOOR. Usually it is drawn on StairCase poly in TERRACE FLOOR.

Shortcut Command :

- TNK.

How to draw : -



Terrace

Description:

- Draw a Terrace as a closed polyline on _Terrace layer which is including parapet wall.

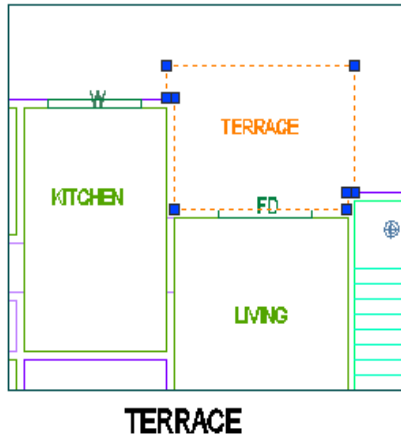
Terrace can be present in:

Plot: It must overlap with PWork
Floor: It must be outside the ResiFSI.

Shortcut Command :

- TER.

How to draw : -



_Void

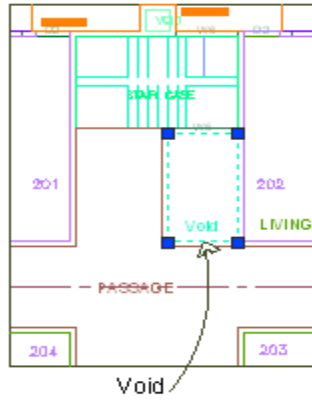
Description :

- If the space is not Chowk then it can be void. All ducts (where ventilation is not taken) and double height rooms can be drawn in void layer.

Shortcut Command :

- VD.

How to draw : -



_WaterLine

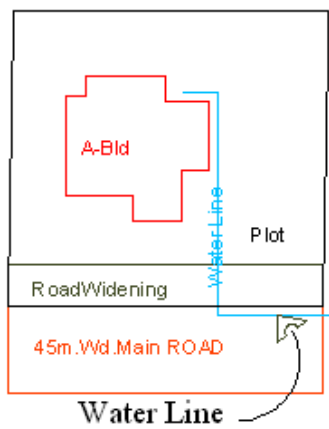
Description :

- Draw a Water line as a open polyline to show Water supply.

Shortcut Command :

- WL.

How to draw : -



_Window

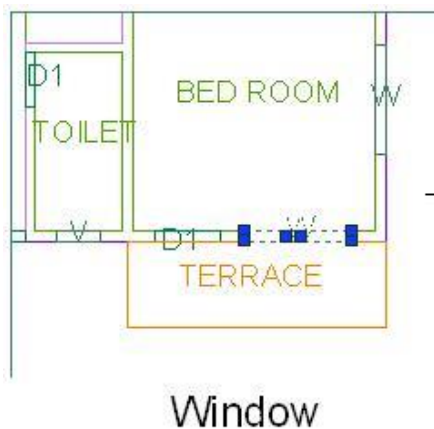
Description :

- Window is a closed Polyline Which is drawn on "_Window" layer. Also you can insert a particular size poly for Window using **Insert->Window** from PreDCR menu.

Shortcut Command :

- WND.

How to draw : -



_DownComer

Description :

- Draw a fire fighting installation Down Comer on this layer as closed poly tentatively in drawing.

_DryRiser

Description :

- Draw a fire fighting installation Dry Riser on this layer as closed poly tentatively in drawing.

_FireExtinguisher

Description :

- Draw a fire fighting installation FireExtinguisher on this layer as closed poly tentatively in drawing.

_HoseReel

Description :

- Draw a fire fighting installation HoseReel on this layer as closed poly tentatively in drawing.

_ManualFireAlarm

Description :

- Draw a fire fighting installation ManualFireAlarm on this layer as closed poly tentatively in drawing.

_WetRiser

Description :

- Draw a fire fighting installation WetRiser on this layer as closed poly tentatively in drawing.

_YardHydrant

Description :

- Draw a fire fighting installation YardHydrant on this layer as closed poly tentatively in drawing.

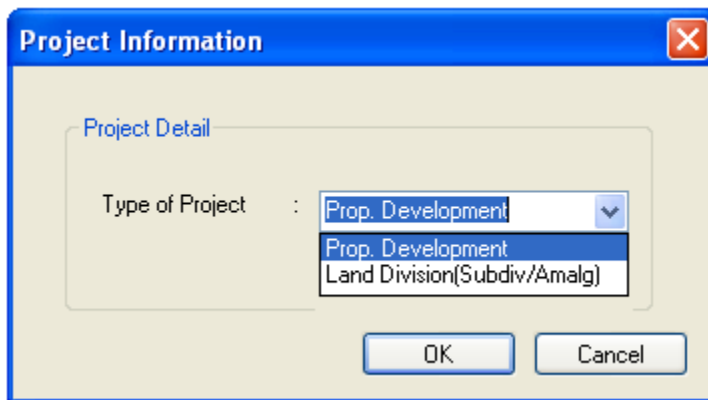
Commands

Create New Project (PDCRNWP):

This command will Create New project for current drawing.

Here you have to select Type of Project as
Proposed Development.

Note: It is always compulsory to add your drawing to new Project.



Create AutoDCR Layers (PDCRCL):

This command will create layers required for AutoDCR and as per the Project Type you have selected.

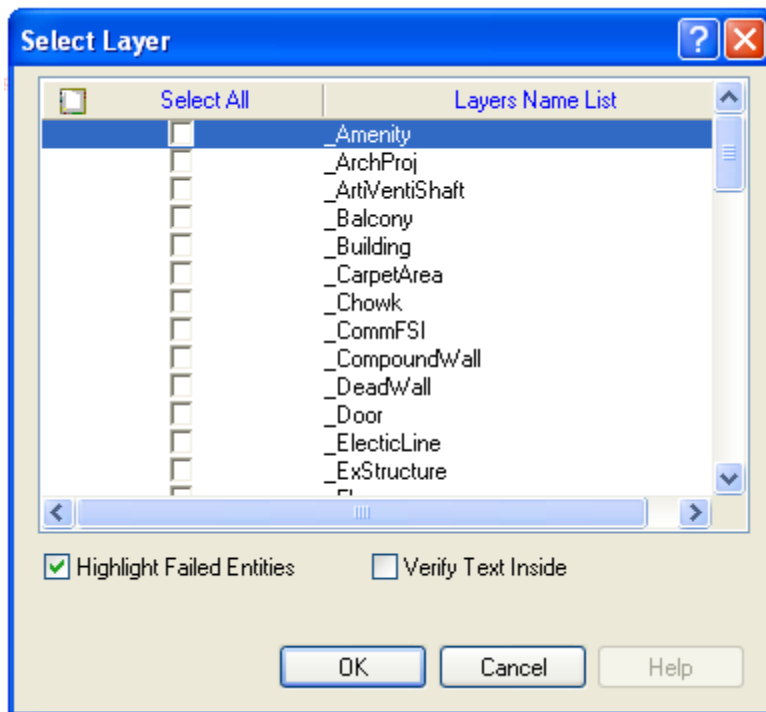
Fix Poly (PDCRPE):

Use this command once on the final drawing which will process all the polyline on the PreDCR layer and remove extra vertices found on polyline. This command can be used before verifying the drawing using Verify commands.

Verify Drawing:

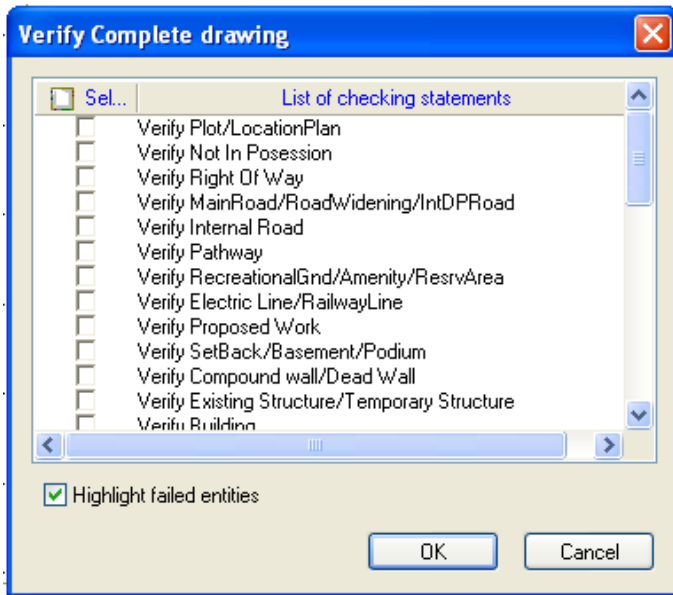
This command will verify the current drawing as required by DCR specifications.

a) Verify Close Entities (PDCRVD): Verify that LWPOLYLINE entities on the selected layers are closed and contain one text .



b) Verify All drawing (PDCRVT): Use this command to verify the layout and building level objects in the current drawing plan.

Major checks are as follows:



In the "Verify All Drawing Dialog" you can select the layout or building objects to be checked. Then to view the result press OK button. PreDCR will start checking all corresponding objects in the currently open drawing and then display the status as OK or list of failed objects in the dialog as shown in Figure. Failed Object Information.

Check if these entities are drawn as closed LWPOLYLINE.

Name text is given to all objects.

Entities are placed exactly inside their parent objects (container).

Naming conventions are followed properly.

c) Objection List (PDCROLST): This command gives the list of all minimum required entities which are not there in your drawing. If all required entities found then it gives a message that "minimum required entities are present in drawing".

Markings

Marking adds some extra meaning in entity. Following commands are provided to mark different entities as per requirement.

Mark-> Stair Case-> Fab /Spiral Staircase (PDCRSCFAB): Mark line inside staircase as a Fabricated or spiral staircase.

Mark->Stair Case-> Mark Intermediate Landing (PDCRMIL): Mark line inside staircase as

intermediate Landing.

Mark->Stair Case Landing->Flight Width (PDCRMFW): Mark line inside staircase as Flight Width.

Mark->Stair Case Landing->Floor Landing (PDCRMFL): Mark line inside staircase as Floor Landing.

Mark-> Lift-> (PDCRSCES): mark Lift as a Lift

Mark->Passage->: Mark passage as a Common Passage

Mark->FSI-> Existing FSI (PDCRCONES): Mark Residential or Commercial FSI as Existing FSI.

Mark->FSI->Normal (Default) (PDCRUMFSI): Mark Residential or Commercial FSI as Normal FSI.

Mark->FSI Surrender to Rajsthan -> Hospital (PDCRMSPLTT): mark-> Hospital

Mark->FSI Surrender to Rajsthan -> Parking Area (PDCRMSPLTT): mark-> parking area

Mark->Carpet Area->Splitted Tenement (PDCRMSPLTT): Mark Carpet Area as Splitted tenement.

Mark->Carpet Area-> Normal (Default) (PDCRUMFSI): Mark Residential or Commercial Carpet Area as Normal Carpet Area.

Mark->Projection-- >

Mark->Projection->Otta/Steps (PDCRMVPROJ): Mark Projection as Garbage shaft.

Mark->Projection->F.Bed (PDCRMBPROJ): Mark Projection as Flower Bed

Mark->Projection->Chhajja/Cornice/Whether shade (PDCRMCJPROJ): Mark Projection as Chhajja/Cornice/Whether shade.

Mark->Projection->Canopy (PDCRMCBPROJ): Mark Projection as Canopy.

Mark->Projection->Loft (PDCRMLPROJ): Mark Projection as Loft in floor plan as well as in section.

Mark->Projection->Porch (PDCRMCPROJ): Mark Projection as Canopy.

Mark->Projection->Archi. Projection Normal (Default) (PDCRUMPROJ): Mark Projection as Normal Architectural projection.

Mark->Existing Structure ->To Be Retained (PDCRMREXWD): Mark Existing structure as to be Retained .

Mark->Existing Structure-> To be demolish (Default) (PDCRMRMREXWC): Mark Existing structure as to be Demolish.

Mark->SubStructure-> ELECTRIC ROOM (PDCRMER): Mark Sub Structure as a ELECTRIC ROOM.

Mark->SubStructure->Transformer-> (PDCRMTRAN): Mark Sub Structure as a Transformer

Mark->SubStructure->WATCHMAN ROOM (PDCRMWMC): Mark Sub Structure as a WATCHMAN ROOM.

Mark->SubStructure->SOCIETY OFFICE ROOM (PDCRMOR): Mark Sub Structure as a Society office.

Mark->SubStructure->Servant Quarter (PDCRMSQ): Mark Sub Structure as a servant quarter.

Mark->SubStructure->Sanitary Block (PDCRMSB): Mark Sub Structure as a sanitary block.

Mark->SubStructure -> Garage (PDCRMGRJ): Mark Sub Structure as a garage when garage is covered

Mark->SubStructure ->Effluent Treatment Plant (PDCRMETP): Mark Sub Structure as a Effluent Treatment Plant.

Mark->SubStructure ->Out House (PDCRMSPT): Mark Sub Structure as a Out House.

Mark->SubStructure ->Pump House (PDCRMPR): Mark Sub Structure as a Pump House

Mark->SubStructure ->Septik Tank / Soak pit (PDCRMSPT): Mark Sub Structure as a Septik Tank.

Mark->SubStructure -> WASTE WATER TREATMENT PLANT: Mark Sub Structure as a WASTE WATER TREATMENT PLANT.

Mark->SubStructure -> LIBRARY: Mark Sub Structure as a LIBRARY.

Mark->SubStructure -> COMMUNITY HALL: Mark Sub Structure as a COMMUNITY HALL.

Mark->SubStructure -> COMMON STORE ROOM: Mark Sub Structure as a COMMON STORE ROOM.

Mark->SubStructure -> COMMON TOILET: Mark Sub Structure as a COMMON TOILET.

Mark->SubStructure -> SOLAR POWER PLANT: Mark Sub Structure as a SOLAR POWER PLANT.

Mark->SubStructure -> DUB: Mark Sub Structure as a DUB.

Mark->SubStructure -> ELECTRIC SUB-STATION: Mark Sub Structure as a ELECTRIC SUB-STATION.

Mark->SubStructure -> SEWAGE TREATMENT PLANT: Mark Sub Structure as a SEWAGE TREATMENT PLANT.

Mark->SubStructure -> RAIN WATER HARVESTING: Mark Sub Structure as a RAIN WATER HARVESTING.

Mark->SubStructure -> A C PLANT ROOM: Mark Sub Structure as a A C PLANT ROOM.

Mark->SubStructure -> AHU: Mark Sub Structure as a AHU.

Mark->SubStructure -> SWIMMING POOL: Mark Sub Structure as a SWIMMING POOL.

Mark->SubStructure -> PUMP HOUSE: Mark Sub Structure as a PUMP HOUSE.

Mark->SubStructure -> DISH ANTENNA ROOM: Mark Sub Structure as a DISH ANTENNA ROOM.

Mark->SubStructure -> VIDEO ROOM: Mark Sub Structure as a VIDEO ROOM.

Mark->SubStructure -> WELL: Mark Sub Structure as a WELL.

Mark->SubStructure -> TELEPHONE INSTALLATION PLANT/STP: Mark Sub Structure as a TELEPHONE INSTALLATION PLANT/STP.

Mark->SubStructure -> ENTRANCE GATE: Mark Sub Structure as a ENTRANCE GATE.

Mark->SubStructure -> FITNESS CENTER: Mark Sub Structure as a FITNESS CENTER.

Mark->SubStructure -> SUCTION TANK: Mark Sub Structure as a SUCTION TANK.

Mark->SubStructure -> GYMNASIUM: Mark Sub Structure as a GYMNASIUM.

Mark->SubStructure -> CLUB- HOUSE: Mark Sub Structure as a CLUB- HOUSE.

Mark->SubStructure -> DUST BIN: Mark Sub Structure as a DUST BIN.

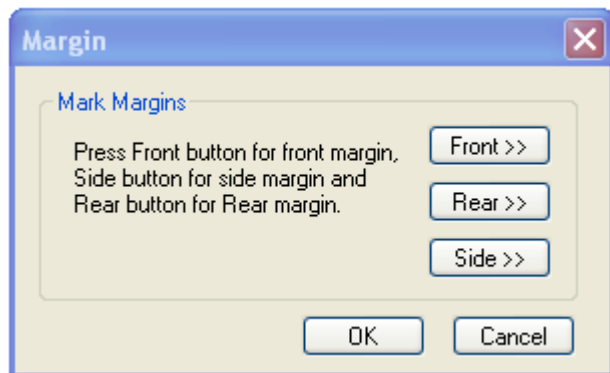
Mark->SubStructure -> MILK/TELEPHONE BOOTH: Mark Sub Structure as a MILK/TELEPHONE BOOTH.

Mark->SubStructure -> LETTER BOX: Mark Sub Structure as a LETTER BOX.

Mark->SubStructure -> IND.CHIMNEY: Mark Sub Structure as a IND.CHIMNEY.

Mark->SubStructure -> PARKING SHADE: Mark Sub Structure as a PARKING SHADE.

Mark->Margin (PDCRMGRN): Use this command to define or mark the front, sides and rear margins of the plot. .



Insert entities

Insert->Parking-> Car ((PDCRICP) -> Use this command to insert car-parking poly of . at selected point.

Insert-> Parking-> Scooter (PDCRISP) ->Use this command to insert Scooter parking poly at selected point.

Insert-> Parking-> Cycle (PDCRICY) ->Use this command to insert Cycle parking poly at selected point.

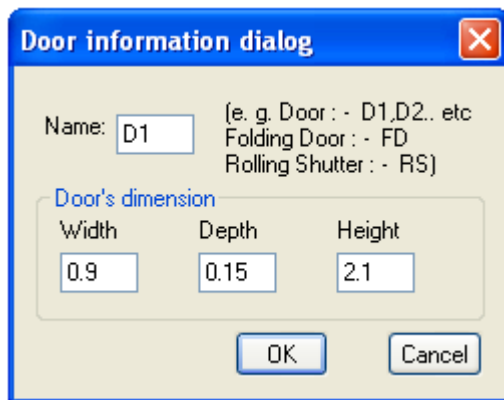
Insert->Parking-> Loading unloading (PDCRITV) ->Use this command to insert parking Loading unloading poly at selected point.

Insert->Parking->Visitors Parking->Car (PDCRIVP) -> Use this command to insert visitor car parking poly at selected point

Insert->Parking->Visitors Parking->Scooter (PDCRIVSP) -> Use this command to insert visitor Scooter parking poly at selected point

Insert->Parking->Ambulance-> Use this command to insert Ambulance parking poly at selected point

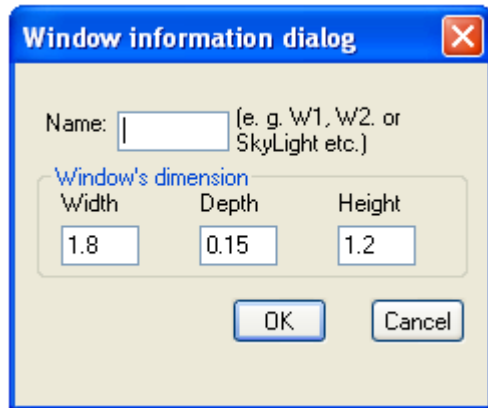
Insert->Door (PDCRIDRNAM): Use this command to insert door poly at selected point and with specified size given by user. As soon as you use this command the following Dialog appears.



The image shows a 'Door information dialog' box with a blue title bar and a close button. It contains a 'Name' field with 'D1' entered, and a list of examples: '(e. g. Door : - D1,D2.. etc', 'Folding Door : - FD', and 'Rolling Shutter : - RS)'. Below this is a section titled 'Door's dimension' with three input fields: 'Width' (0.9), 'Depth' (0.15), and 'Height' (2.1). At the bottom are 'OK' and 'Cancel' buttons.

Door information dialog			
Name:	D1		
(e. g. Door : - D1,D2.. etc Folding Door : - FD Rolling Shutter : - RS)			
Door's dimension			
Width	Depth	Height	
0.9	0.15	2.1	
OK		Cancel	

Insert->Window (PDCRIWNDNAM): Use this command to insert window poly at selected point and with specified size given by user.



Insert-> Text (PDCRIWC): Use this command to insert sanitation text at selected point. Ex. Water closet , Urinal , Wash basin etc. which is mark on then insert text by using sanitation text marking from insert menu.

Insert->Direction Reference Circle (PDCRIWC): Use this command to insert direction reference circle. Insert this circles in all the floor plans as well as in proposed work at the same & common place (e.g. Lift or Stair) of all the floors.

Insert -> Tree: Use this to insert Tree. Insert Trees showing location of Trees in your plot.

Insert->North Direction: Use this to insert North Direction. Insert North Direction indicating the sides of your plot. You have to rotate this as per North Side.

Assign Name

- There are few naming conventions required by AutoDCR, for which PreDCR provides the following tools:

Assign Name->Building and proposed works (PDCRBLDPWNL): Use this command to give name for building poly and its associated proposed works.

Building & PropWork Name [X]

(Please enter unique name for building and wing names)

WING Name : (e.g. A or B)

BUILDING's Name : (e.g. Monarch)

OK Cancel

Assign Name->Tank (PDCRTNKNAM): Use this command to give name for Tank poly and its corresponding tanks.

Tank name information [X]

Tank's position
☒ Overhead
☐ Underground

Tank Name/No : (e.g. 1 or 2)

Note : Please give Unique Name for Tanks per Building.

OK Cancel

Fill in the dialog and select the tank poly drawn in plan and the same drawn in section

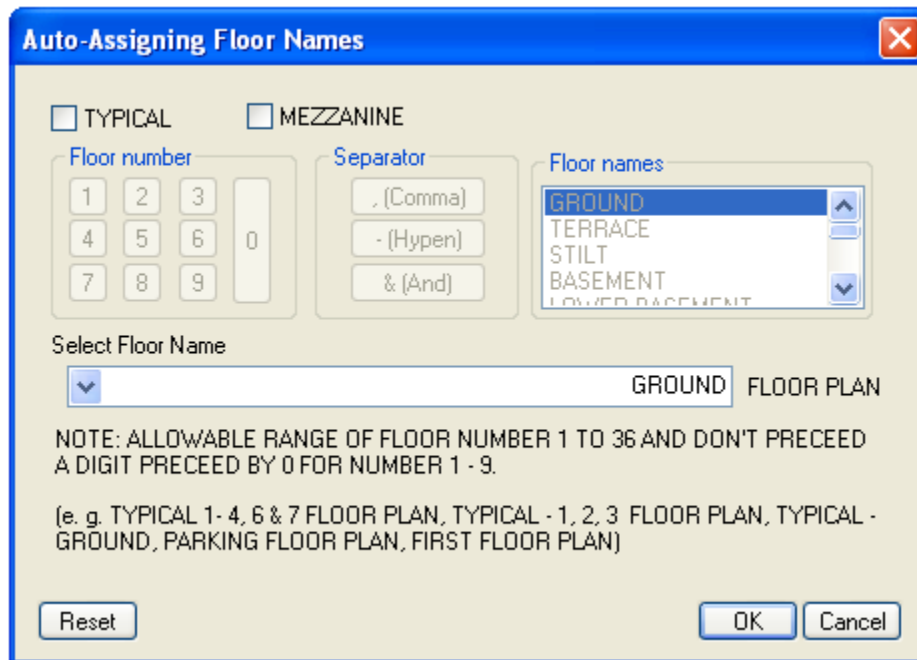
Assign Name->Room (PDCRASRUN): Use this command to give different names for Room poly.

List of room names

Residential		Commercial	
<input type="radio"/> Bed Room	<input type="radio"/> Living	<input type="radio"/> Pantry	<input type="radio"/> Reception
<input type="radio"/> M.Bed Room	<input type="radio"/> Kitchen	<input type="radio"/> Cabin	<input type="radio"/> Restaurant
<input type="radio"/> Ch.Bed Room	<input type="radio"/> Dining	<input type="radio"/> Office	<input type="radio"/> Cafeteria
<input type="radio"/> Dining/Kitchen	<input type="radio"/> Puja	<input type="radio"/> Laundry	<input type="radio"/> Showroom
<input type="radio"/> Living/Kitchen	<input type="radio"/> Store	<input type="radio"/> Bakeries	<input type="radio"/> Hotel Room
<input type="radio"/> Living/Dining	<input type="radio"/> Bath	<input type="radio"/> Shop	<input type="radio"/> Boiler Room
<input type="radio"/> Study Room	<input type="radio"/> W.C	<input type="radio"/> Bank	<input type="radio"/> Cellar
<input type="radio"/> Guest Room	<input type="radio"/> Wash		
<input type="radio"/> CommonToilet	<input type="radio"/> Toilet	Public	Educational
<input type="radio"/> Attached Toilet	<input type="radio"/> T. V. Room	<input type="radio"/> Auditorium	<input type="radio"/> Class Room
<input type="radio"/> Servant's Room	<input type="radio"/> Kitchenette	<input type="radio"/> General Ward	<input type="radio"/> Hostel Room
<input type="radio"/> Verandah	<input type="radio"/> Family Room	<input type="radio"/> Special Room	<input type="radio"/> Staff Room
<input type="radio"/> Combined Toilet	<input type="radio"/> Alcove	<input type="radio"/> Cinema Hall	<input type="radio"/> Tiffin Room
<input type="radio"/> Multi-purpose Room		<input type="radio"/> Assembly Hall	<input type="radio"/> Kindergarden
		<input type="radio"/> Entrance Hall	
		<input type="radio"/> Operation Theatre	Industrial
		<input type="radio"/> Marriage Hall	<input type="radio"/> Workshop
			<input type="radio"/> Laboratory
			<input type="radio"/> Storage Room

Close

Assign Name->Floor Name (PDCRASFLRNAM): Use this command for assigning name to a floor poly and it's corresponding floor in section poly in section.



The dialog box titled "Auto-Assigning Floor Names" features a blue title bar with a close button. It contains two checkboxes at the top: "TYPICAL" and "MEZZANINE". Below these are three main sections: "Floor number" with a 3x3 grid of buttons (1-9 and 0), "Separator" with three buttons labeled ", (Comma)", "- (Hyphen)", and "& (And)", and "Floor names" with a list box containing "GROUND", "TERRACE", "STILT", "BASEMENT", and "LOWER BASEMENT". A "Select Floor Name" section includes a dropdown menu currently showing "GROUND" and the text "FLOOR PLAN". A note specifies the allowable range of floor numbers (1 to 36) and provides examples of naming conventions. At the bottom are "Reset", "OK", and "Cancel" buttons.

Auto-Assigning Floor Names

☐ TYPICAL ☐ MEZZANINE

Floor number

1 2 3
4 5 6 0
7 8 9

Separator

, (Comma)
- (Hyphen)
& (And)

Floor names

GROUND
TERRACE
STILT
BASEMENT
LOWER BASEMENT

Select Floor Name

GROUND FLOOR PLAN

NOTE: ALLOWABLE RANGE OF FLOOR NUMBER 1 TO 36 AND DON'T PRECEED A DIGIT PRECEED BY 0 FOR NUMBER 1 - 9.

(e. g. TYPICAL 1- 4, 6 & 7 FLOOR PLAN, TYPICAL - 1, 2, 3 FLOOR PLAN, TYPICAL - GROUND, PARKING FLOOR PLAN, FIRST FLOOR PLAN)

Reset OK Cancel

Tools

All/Remover Tool Tip (PDCRTOOLTIP):

This command will activate the tool tips for PreDCR layers.

Show Only DCR Layers:

All PreDCR layers (PDCRSPL):

This command will turn off all the layers in the drawing except PreDCR layers.

Building level layer (PDCRSBL):

This command will turn on all the building plan level layers in the drawing.

Layout level layer (PDCRSLL): This command will turn on all the Layout plan level layers in the drawing.

Show Only DCR Layers (PDCRSDL):

This command will turn off all the layers in the drawing except DCR layers.

Show Other Layers (PDCRSOL):

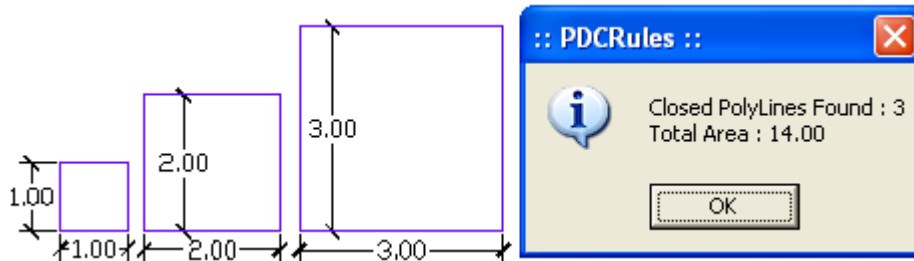
This command will turn off all the DCR and PreDCR layers in the drawing.

Show all layers (PDCRSAL);

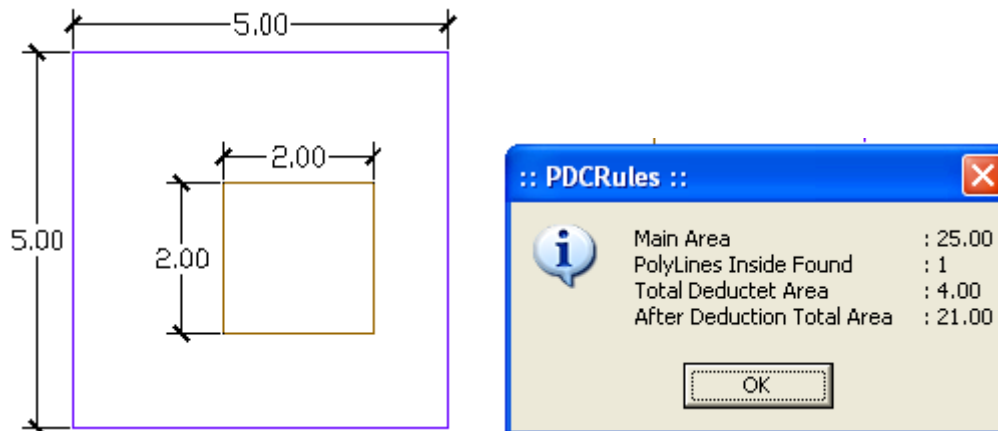
This command will turn on all layers in the drawing.

Calculate Total Area (PDCRCTA):

This command will compute the total area of all selected closed polygons.

**Calculate Deducted Area (PDCRCDA):**

This command will compute the area of closed polygon after deducting closed polygons found inside.

**Get All Inside Poly (PDCRFIP):**

This command will highlight all polygons, which found exactly inside selected polygon under test.

Get All Overlapping Poly (PDCRGOP):

This command will highlight all polygons, which are overlapping with selected polygon under test.

Get All Intersecting Poly (PDCRGIP):

This command will highlight all polygons, which are intersecting with selected polygon under test.

Find Open Entities (PDCRFNDO): Highlight open entities on PreDCR layers.

Find Closed Entities (PDCRFNDC): Highlight closed entities on PreDCR layer.

Shortest distance (PDCRFSD):

This command will find the shortest distance between two entities.

Spelling check (_spell): This tool is used for spelling checking.

Find Object (PDCRFOB): This command zoom & highlight object of a given handle.

Set Default ACAD Version (PDCRSDA):

PREDCR SHORT-CUT COMMANDS

Layer name	Description	Naming Convention	Short command
_Amalgamation	Draw a continuous poly around the plots you want to amalgamate. Amalgamation contains more than one plot amalgamated together. All entities having amalgamation as their container entity should be uniquely present in each amalgamation. I.e. suppose there is a road widening in the Plot then the poly of road widening should be		AMLG

	different for each amalgamation. (For amalgamation, draw plot 1, plot 2, plot 3 on plot layer and amalgamated plot AmalPlot 1, on amalgamation layer overlapping plot 1.)		
_Amenity	Draw Amenity space as a closed polyline which is reserve for utilities, services and conveniences.		AMN
_ArchProj	This layer is used to represent various Architectural Projections in your Plan. Draw a closed Polyline for Architectural Projections. And mark it using Mark->Projection from PreDCR menu, according to requirements. Canopy/porch will come in plot & other projections will come with floor plans.	Mark -> Projections -> Chajja	AP
_Balcony	Draw a balcony as a closed polyline which is a horizontal projection including parapet to serve as a sitting out place. Name of balcony must be inside and on _Balcony layer.	Mark> Balcony > Enclosed Balcony or Unmark (default)	BL
_Building	Building is used to group all floor plans of the same building. Draw a closed poly enclosing all the floor plans and section of the same	Naming Convention will be provided by	BLD

	building on _Building layer. Note: As written above, dimension or area of this building poly has no meaning in AutoDCR. This is just an logical group of all floors of the same building. If the building plans of multiple PWorks or wings are same then building name shall be as given aside.	Tool>Assign Name A (Bldg.Name) inside Bldg.Poly & A-1 (Bldg.Name) inside Pwork Poly	
_CarpetFSI	Draw carpet area as a closed polyline which is a net usable floor area within a building excluding that covered by the walls or any other areas specifically exempted from floor space index computation in these regulations.	If Carpet is Splitted – Tenement. Mark-> CarpetArea-> normal (default)	CPT
_Chowk	Draw a chowk as a closed polyline which is an enclosed space permanently open to the sky within a building at any level. From chowk we take ventilation for habitual rooms		CWK
_CommFSI	Draw a CommFSI as a closed polyline which is the area covered by a building on all the floors. This FSI polyline mainly used for commercial use bldg.	No need to give name on this layer.	CMFS

_CompoundWall	Closed polyline of compound wall to be drawn on this layer overlapping plot.	1.5m high compound wall	CW
_DPRoad	Description: - Draw a DP Road as a closed poly line with Text. (eg : any DP road passing from inside of the plot)(Note: Road width must be written at the starting of Text).		R7
_Door	Door is a closed Polyline Which is drawn on “_Door” layer. Also you can insert a particular size poly for Door using Insert->Door from PreDCR menu.	Insert-> Door	DR
_SewageLine	Sewage Line shall be drawn as a open polyline on this layer.		L5
_Electline	Electric line will be present in the layout plan and shall pass through plot entity as a non closed polyline. Name electric line shall start with its voltage capacity and text insertion point shall lie on its polyline.	33 KV High Tension Line	L1
_ExStructure	Draw a Exstructure as a closed polyline which is a building or structure existing authorized before the commencement of these regulation. And mark it using Mark	Mark-> Existing Structure-> To be Demolished OR To be Retained	ES

	-> Existing structure as 'To be demolished' or 'To be retained'.		
_Floor	<p>Floor poly should be drawn as a closed Polyline with Text on same Layer. This is just a logical Group of all floor Entities.</p> <p>Floor Name: Floor Plan will be automatically link with Section by matching the Floor Name. Hence all names to be given using <Assign Name> function</p>	<p>Naming Convention will be provided by Tool>Assign Name>Floor name</p> <p>Name of floor should be in given format: TYPICAL-1,4 FLOOR PLAN TYPICAL-1-5 FLOOR PLAN TYPICAL-2&3 FLOOR PLAN Ground Floor Plan</p>	FLR
_GroundLevel	<p>The Ground level line should be drawn as an open polyline in the section poly.</p> <p>Prop.Ht. will be considered from GroundLvl Polyline</p>	No need to give name on this layer.	GL
_IndFSI	Draw a closed FSI Polyline, which is used as a Industrial Purpose.	No need to give name on this layer.	IFSI
_IntRoad	Draw each Internal Road as a closed Polyline with Centre Line (Ltype-CentreLine) & single text	7.50 m wd. Internal Road	R2

	inside it.		
_Lift	<p>Draw a Lift as a closed polyline which is a mechanically guided car, platform or transport for persons and materials between two or more levels in a vertical or substantially vertical direction</p> <p>Fire Lift means a special lift designed for the use of fire service personnel in the event of fire or other emergency.</p>	<p>Naming Convention will be provided by Tool<Mark>Lift</p>	LFT
_Locationplan	<p>Location plans if any to be drawn on this layer. This is only for reference. No verifications are done by AutoDCR for this layer so not compulsory.</p>		LCP
_Marginline	<p>Margin Polyline will be created by PreDCR by using Tool "Mark>Margins"</p> <p>(User need not do anything on this layer.)</p>		L3
_MainRoad	<p>Draw Main Road as a closed Poly with Text, which should be abutting with the Plot closed Poly.</p> <p>(Note: Road width must be written at the starting of Text)</p>	<p>24.00 m wd. Main Road</p>	R1

_Nala	Draw centre Line of Nala as an open Polyline on this layer. Name of the poly should contain width of the Nala		R4
_NetPlot	No need to draw NETPLOT. This layer is not provided for PreDCR users..	No need to give text on this layer.	NPLT
_OpenSpace	Draw Open space as closed polyline reserved as recreational space on this layer. With text on same layer.		OPS
_Parking	Draw a closed Polyline for Parking on “_Parking” Layer. You can also use Insert function to insert desired Parking Poly in your drawing.	Insert-> Parking->Car- / Scooter/ cycle / /Loading/unloading space/ Visitor Parking	PK
_Passage	Draw a closed polyline on “_Passage” Layer to represent passage with Centre Line (Ltype-CentreLine) & single text inside it. (Note: If Premium for Passage is going to be Paid, Passage should be marked by using Tool "Mark "	Mark > Passage	PAS
_Plot	Draw a Plot poly as a closed polyline which is a parcel or piece of land enclosed by definite boundaries.A Plot will contain all		PLT

	Proposed Works (buildings, wings), open space, Internal Roads, Parking etc. The overall Plot Entity represent a Plan, AutoDCR refer it as "Layout Plan".		
_Podium	Draw a closed polyline on “_Podium“ to represent Podium. It should be shown in the layout and not in floor plans		POD
_PropWork	PWork is a building profile and shall be drawn inside plot. Draw a closed polyline for Proposed Work on “_PropWork” Layer.	Tools > Assign Name > Building and PropWork.	PW
_PropAccessRoad	Draw the road which is proposed as right of way by the user on this layer. It is similar to internal road except that the margins required will be same as front margins.		R8
_RailLine	Railway line shall be drawn in the layout plan as a Open Poly & Text which insertion point lies on the Polyline. (Note: Railway Gauge must be written at a starting of Text)	_ Meter Gauge Railway Line	L2
_Ramp	Draw a Ramp as a closed polyline		SECR

	with Centreline (L-type-Centre) & Text inside it in Plan.	10.0m long 1.5m high Ramp	
_RefugeArea	A closed polyline with Text around the refuge area should be drawn on same Layer. Refuge area should be outside overlapped with FSI (ResiFSI, CommFSI) poly.		RFG
_ResiFSI	Draw a ResiFSI as a closed polyline which is the area covered by a building on all the floors. This FSI polyline only used for residential use bldg or floor.	No need to give text on this layer.	MFS
_ReservArea	If there in any Reservation Area in Plot, it should be drawn as a closed Polyline with Text inside same Layer.		RSA
_Road Widening	Road Acquisition/Road Widening area shall be drawn as a closed Polyline with Text on same layer inside Plot Entity. Margin will be generated & checked from Roadwidening Poly by AutoDCR software.		R5
_Room	A closed polyline for each room with its text inside should be drawn on this layer. Text should be given using <Assign Name> function	Assign Name > Room	RU

_Section	<p>Section poly should be drawn as a closed Polyline with Text on same Layer. It is used to group all Sectional detail like SectionFloor, Plinth, Stair cabin , Tank etc.</p> <p>(This is just a logical Group of Sectional Entity).</p> <p>(Note: Area or size of Floor doesn't have any meaning in AutoDCR)</p>		SEC
_SectionFloor	<p>Draw a SectionFloor as a closed polyline which is the height of that floor (slab top to slab top) This poly only used for checking floor height.</p> <p>For assigning the name of SectionFloor use Assigned name option from PreDCR tool menu.</p> <p>Name of each section floor will be same as of floor in plan.</p> <p>For one typical floor plan multiple floor section will be there.</p> <p>For e.g. for one typical floor plan for 1-3 floors there will three sections shall be drawn with name "First Floor Plan", "Second Floor Plan" and "Third Floor Plan" respectively.</p>		SECF
_SitePlan	<p>The encapsulating poly around the Site/Key Plan with the Text & Scale inside it.</p>		STP

_StairCase	<p>Total Staircase area should be drawn as a closed polyline with text inside it.</p> <p>This Main Stair Poly should contain Intermediate Landing, Floor Landing & Each Tread as an open polyline.</p> <p>Intermediate & Floor Landing Poly can be Marked by PreDCR Tool "Mark>Staircase>Int. or Floor Landing"</p> <p>(Note: If Premium for Staircase is going to be Paid, Staircase should be marked by using Tool "Mark>Staircase>Free from FSI"</p>	<p>Mark-> Stair Case-> Fire Escape Staircase OR Fab/Spiral Stair</p> <p>Mark-> Staircase Intermediate Landing-> Flight Width > Floor Landing</p>	STR
_SpecialUseFSI	<p>A closed poly represents a other than Residential , commercial or Industrial use FSI or Floor FSI.</p> <p>It will cover whole area which is considered in FSI Area per Floor.</p>		SUF
_SubDivision	<p>In Subdivision one plot is divided into more than one Subdivisions.</p> <p>All entities having subdivision as their container entity should be uniquely present in all Subdivisions of a Plot i.e. suppose there is a road widening in the Plot then the poly of road widening should be different for each Subdivision (subdivided plot).</p>		SBD

_SubStructure	SubStructures which are allowed in Margins or Layout & Free from FSI should be drawn as a closed polyline with text inside it.	Name of the SubStructure can be assigned from Mark>SubStructure tool.	SSTR
_Tank	Tank clear size should be drawn as a closed Polyline with Text on this Layer in Floor Plan or Plot as well as Section with same Text. (Note: It should be in proper Naming convention which is Provide by Predcr by using Tool	Assign Name>Tank	TNK
_Terrace	Closed polylines around the terraces to be drawn on this layer. If the terrace is used commonly by all tenements mark it as Common Terrace else it will be treated as Individual by default.		TER
_VShaft	Draw Ventilation shaft/duct area as a closed Polyline with Text. Inside FSI Area on _VShaft Layer. Only those shafts from which ventilation for habitable room is not taken should be drawn on this layer.		AVS
_Void	If the space is not Chowk then it can be void. All ducts (where ventilation is not taken) and double height rooms can be drawn in void layer.		VD
_Waterline	Draw a open polyline on “_Waterline” to represent water		L4

	lines.		
_Window	Draw a closed polyline on _Window” Layer to represent window. You can also use Insert tool to insert window poly for particular size.	Insert > window	WND

Specifications to be followed-

The drawing entities should be drawn on Automatic layers created by using PreDCR.

Plot layout, detailed floor plan and building section for all the floors should be there in one AutoCAD drawing file.

All building items like proposed plot, proposed work, proposed parking etc must be drawn using closed polyline.

(i.e. Every entity must be closed LWPOLYLINE except Railway Line , Drain line, Water Line, Electric Line, Dead Wall and Ground level.).

Building Sub-Items must be exactly inside of outer closed polygon as per their place in architectural plan.

This means none of the edge or vertex of inside entity should be drawn outside its container entity. For example Parking or Open Space poly must be exactly inside the main plot poly. Tools are provided in PreDCR to verify this check.

Every Building Sub-Items should be given a specific/unique name (Text or MText entity) on the same layer & inside the entity poly. As far as possible, this name should be unique. If name not found then AutoDCR will generate the name automatically. Naming Conventions should be followed properly.

e.g. Each Room should be given the concerned name Using <Assign Name> function of PreDCR Living, Kitchen, Bedroom. Etc. Floor Name: GROUND FLOOR; TYPICAL FLOOR 1,2 & 5-8; TERRACE FLOOR. Floor Items: Room Names should be given properly without using abbreviations so the software can identify perfect entity. This can be done by Assign name facility provided by the software.

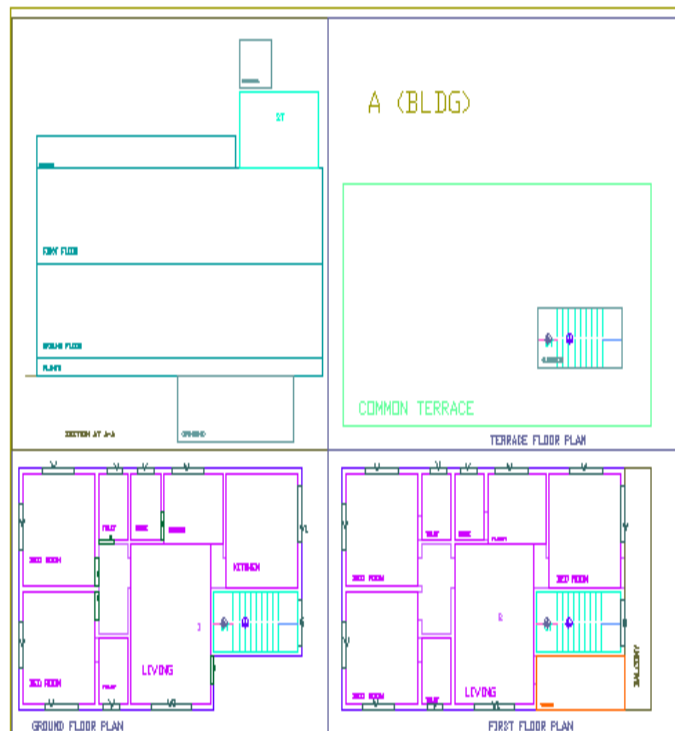
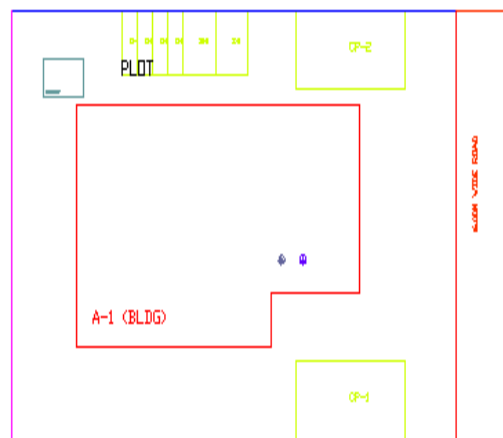
User shall use only following kind of entities for Building Items :-

LWPOLYLINE / TEXT / MTEXT

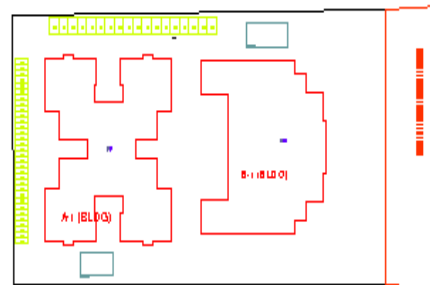
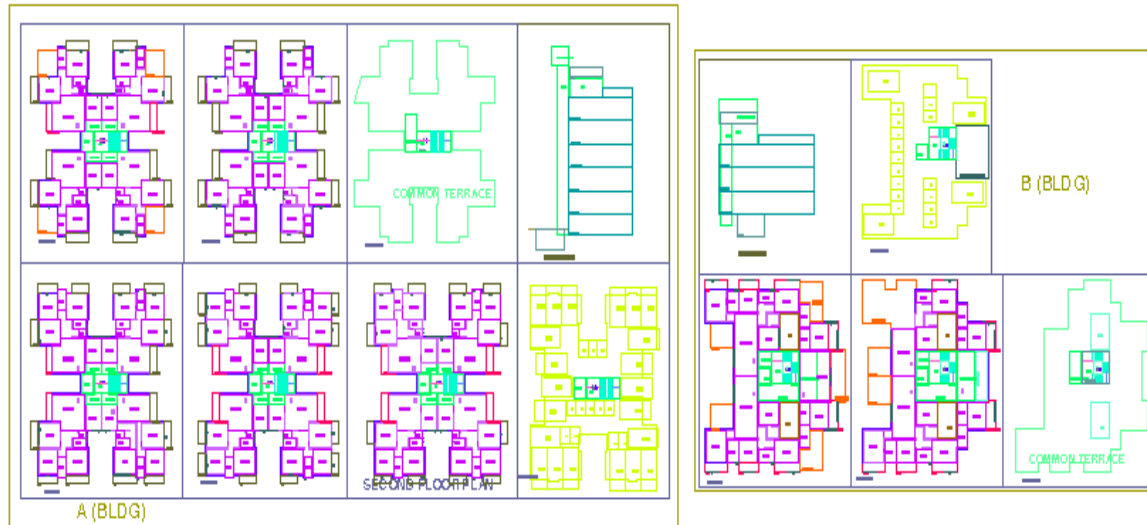
If in a plan two proposed work are mirrored in that case user should provide two separate building plan for each proposed work.

Sample cases

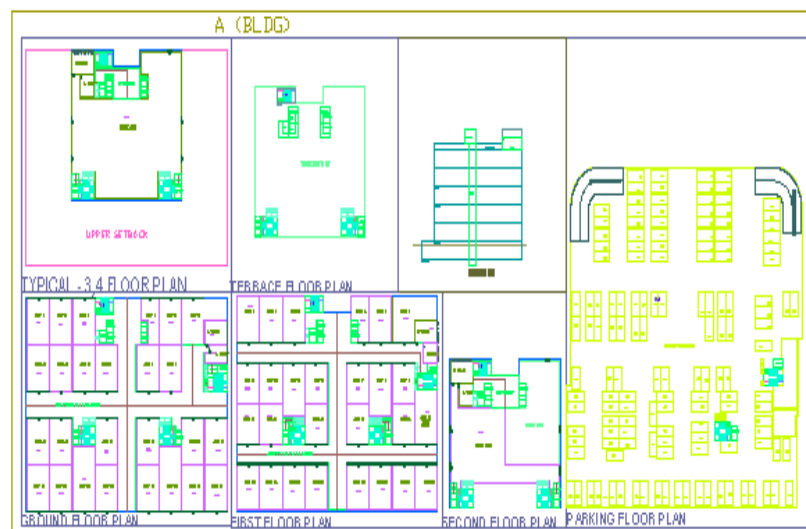
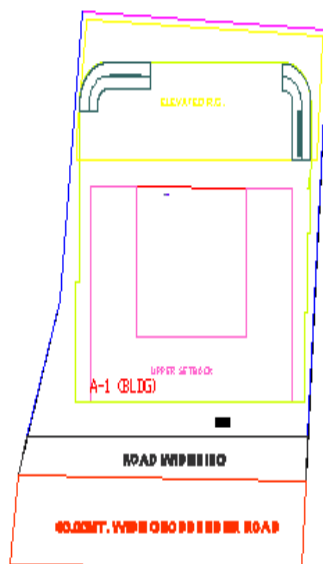
Residential Bldg (Row house)



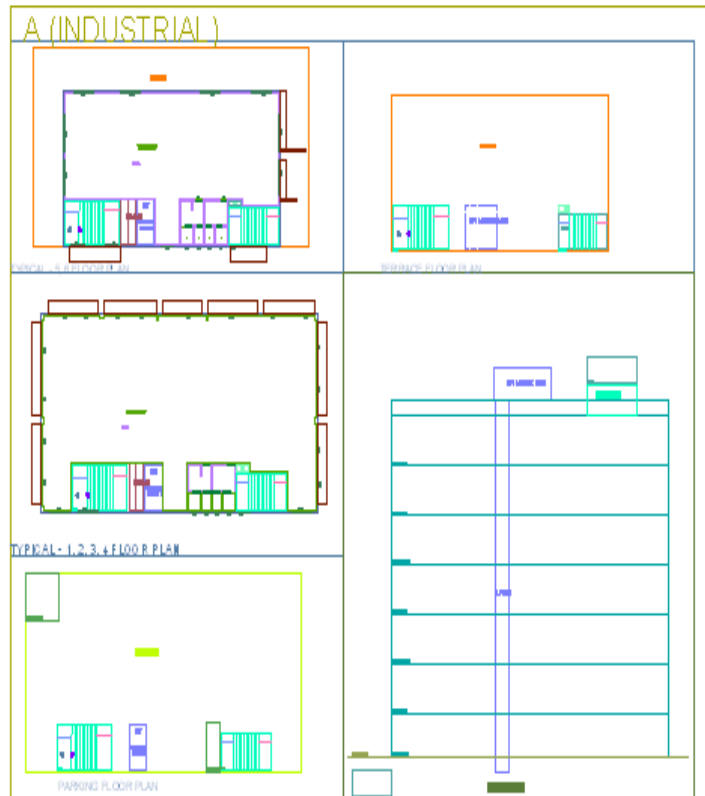
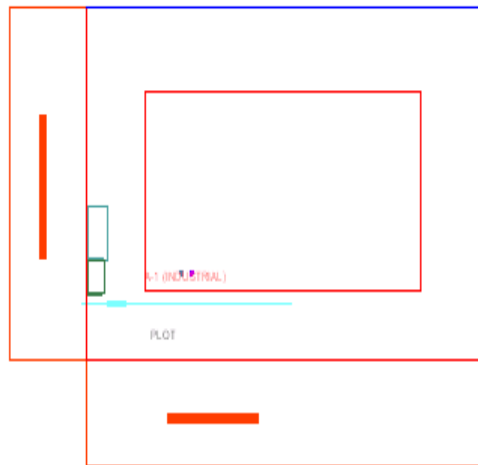
Residential bldg. (Single Detached with two buildings)



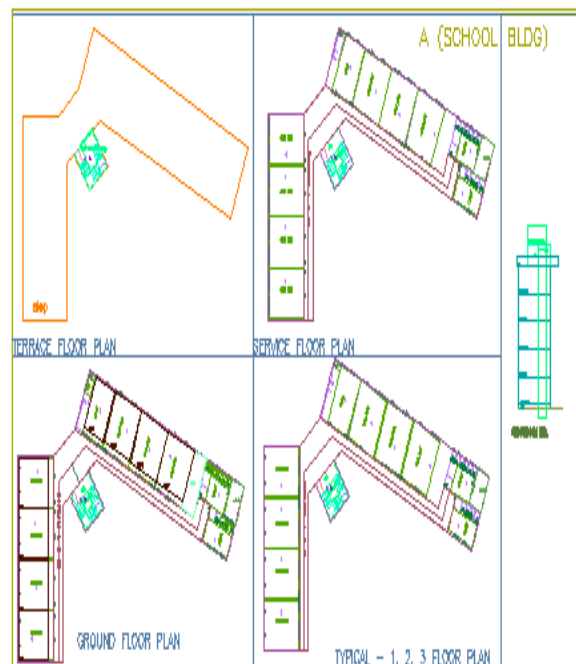
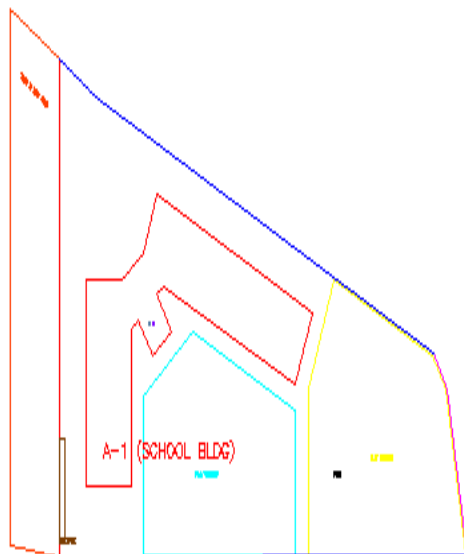
Commercial building



Industrial Building



Special building (School bldg)



Meaning of various PreDCR Messages

Entity contain more than one text"

It means Entity on this layer contain more than one text. So remove the extra text. PreDCR need only one text for one entity.

"Entity not contain any text"

It means This entity not having any name/text, so give the name to this entity on this layer

"Polyline is not in a proper format"

It means Highlighted polyline not drawn properly. So redraw that polyline & check the properties of that polyline.

"Entity is not closed"

It means the highlighted entities not a closed polyline so close it by using 'pedit' command.

"Entity is supposed to inside one of the following entities"

It means this highlighted entity should be present inside the one of the entities present in the given list"

"Entity is supposed to touching one of the following entities"

It means this highlighted entity is supposed to be touched one of the entities in given list

"Entity should be outside overlapped with following entities"

It means the highlighted entity should be outside overlapped with one of the th entities in the given list.

Entity must contain one of following entities"

It means any one layer should be present inside in this entity which is listed.

Following subentities are not found inside :

Direction Ref Point on layer _Floor,

Type :BLOCK, Color :ByLayer Status :

Common Point on layer _ResiFSI,

Type :BLOCK, Color :ByLayer Status :

It means insert the direction reference circles in side of that entities.

"The corresponding Building not found with same name"

It means that proposed work not having building with same name. So assigned that building with having same name of proposed work.

"Mark Substructures using PreDCR mark Substructure tool"

It means mark the substructure by using mark -> Substructure menu. Do not type substructure name manually.

"The lift machine room not found in building"

It means lift machine room having name not same in Plan & in section.

"The lift poly is not suppose to be touch lift machine room"

It means Lift machine room should be touch to lift poly in the section.

'Invalid objects, Please Try again"

It means If user marking balcony as a enclosed but selecting layer of terrace then this message are getting. If selected entity is incorrect then invalid objects message are showing. So select correct layer for particular of that layer marking only

"Section not found"

It means If all the floor plans are drawn but one of them in section floor are missing to converting floor in section layer then this message are getting. So draw all the floor plans with floor in sections.

"The corresponding entities not found in section"

It means that listed entities not present in the section so show that entities in the section.

"The corresponding entities not found in floor"

It means that listed entities not present in the floor so show that entities in the floor plan.

“Two Tanks should not have same Name”

It means that two tanks not having a same name. So assigned two tank by using Assigned name PreDCR menu.

Section 4

BIMDCR model checker utility

I INTRODUCTION

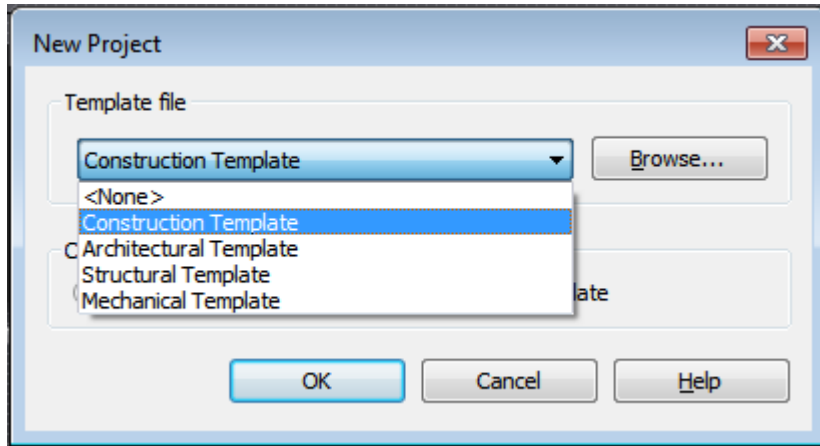
This document provides the set of guidelines to create 3D BIM model compliant to BIMDCR Software, using REVIT 2017.

BIMDCR Model Checker is an intelligent tool developed to detect modeling errors generated during drafting 3D BIM Model, which are not addressed by Revit 2017.

2 GETTING STARTED

2.1 PRE-REQUISITES

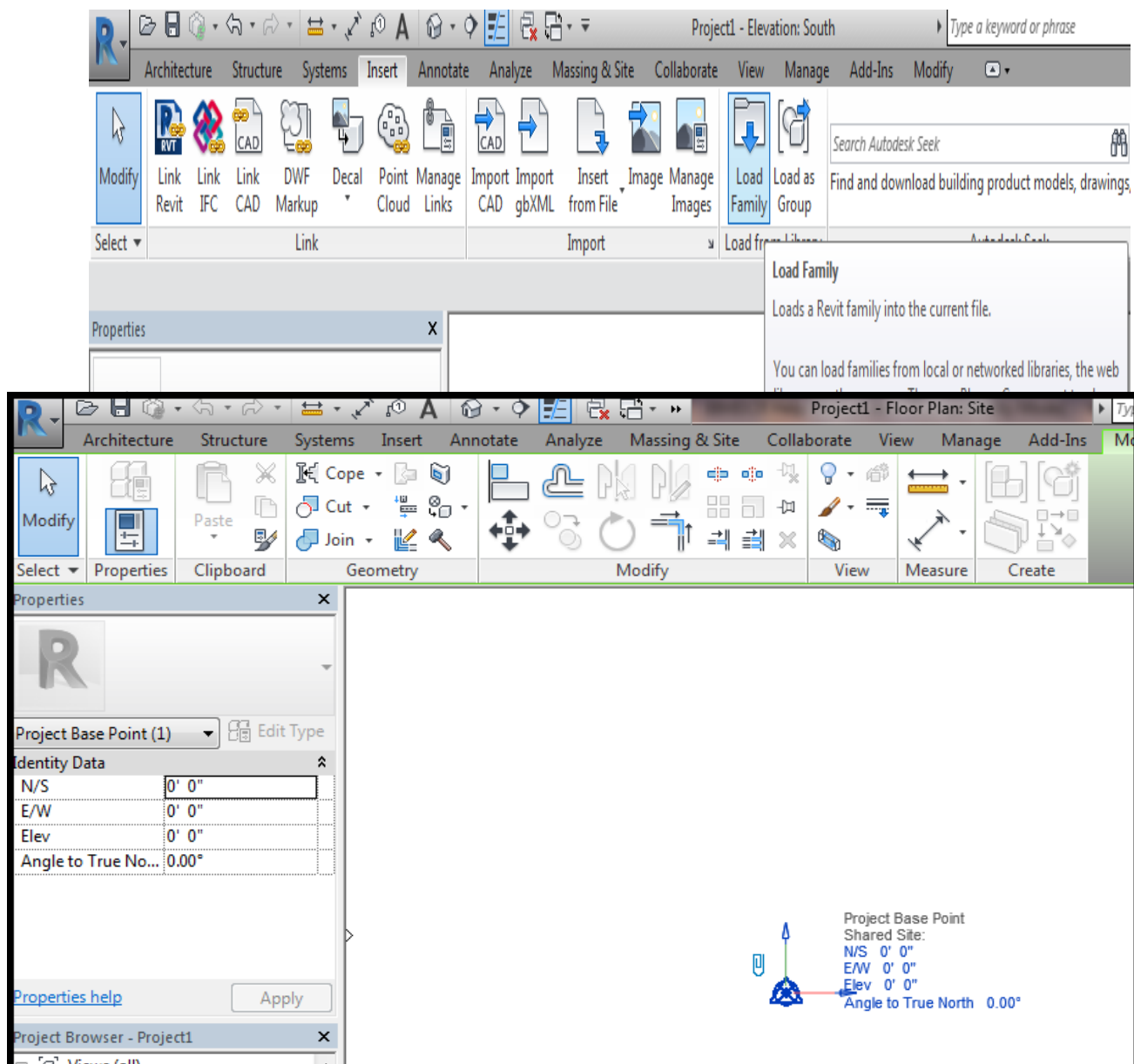
a. Construction template should be used to create the model.



b. How to start with the drawing

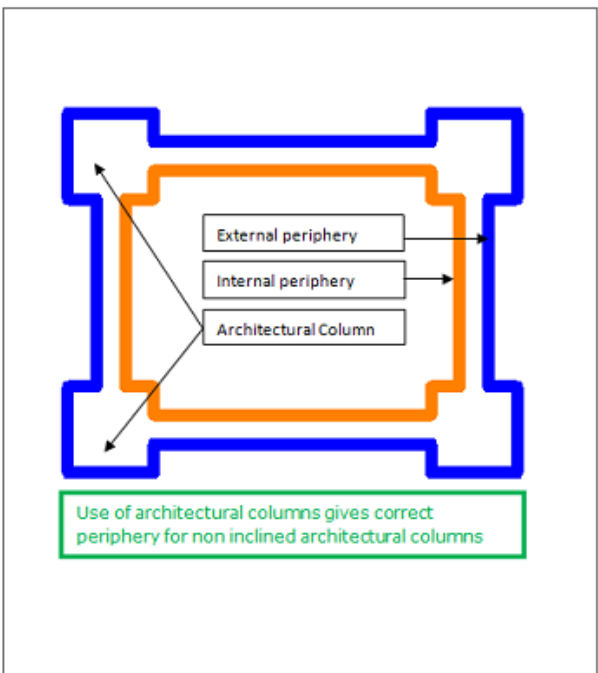
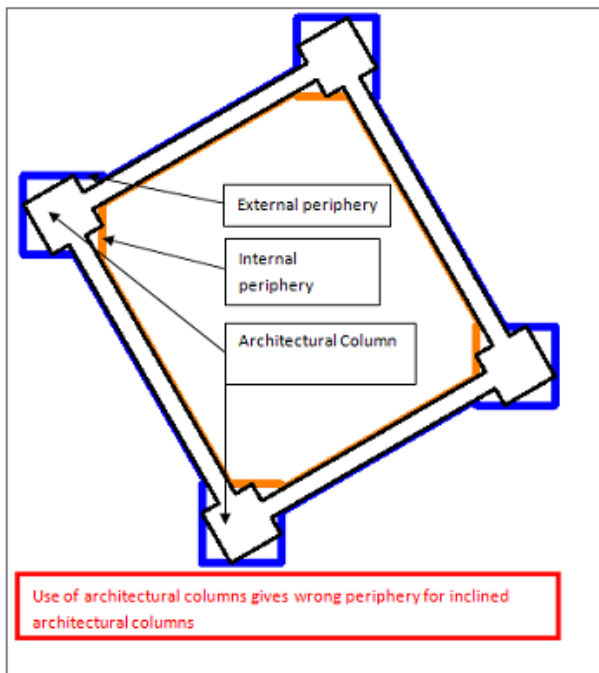
User should start drawing the plot first and then the model by keeping Survey point and base point as zero as shown above.

c. Parametric revit families should be used to draw any object in the model.

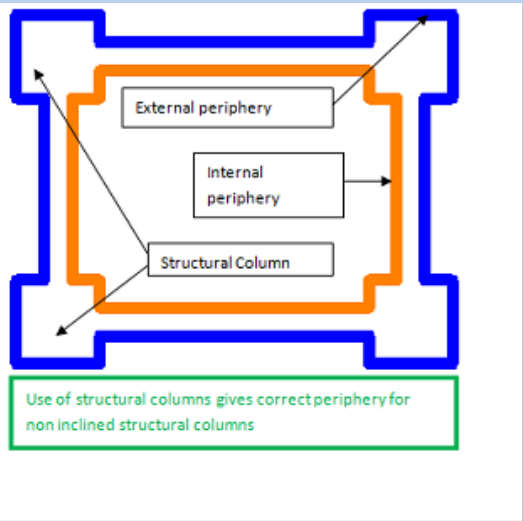
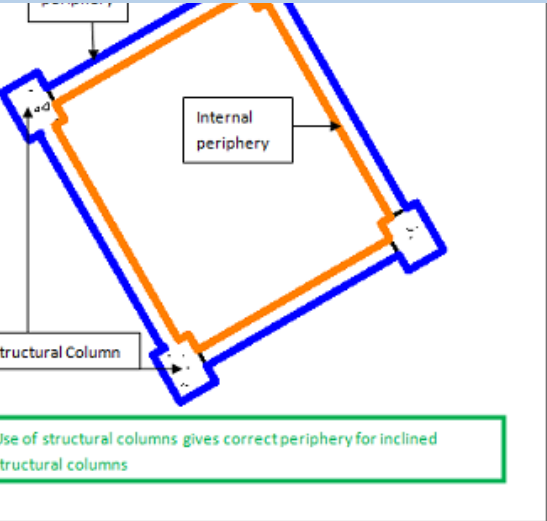


d. Structural column should be used to create column objects in the model

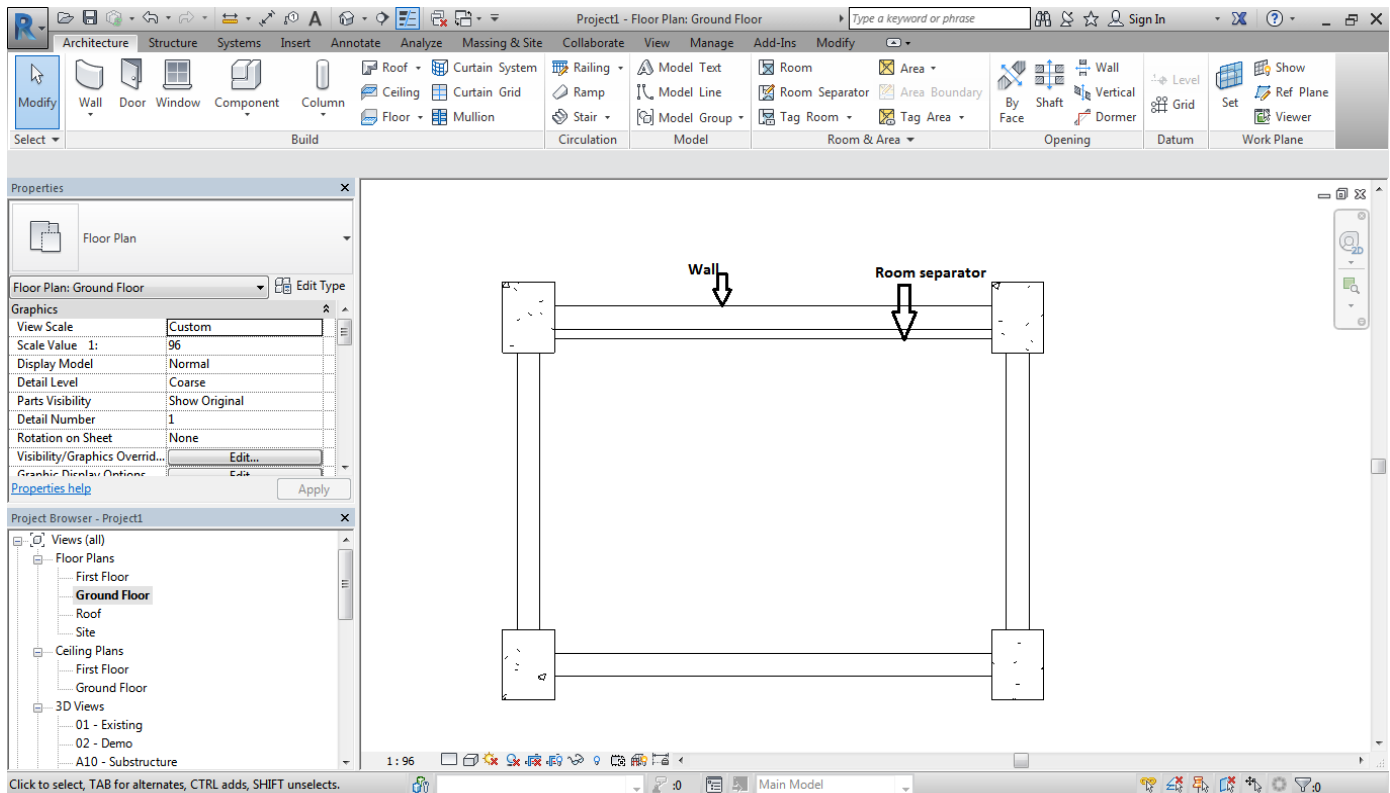
Architectural Column :



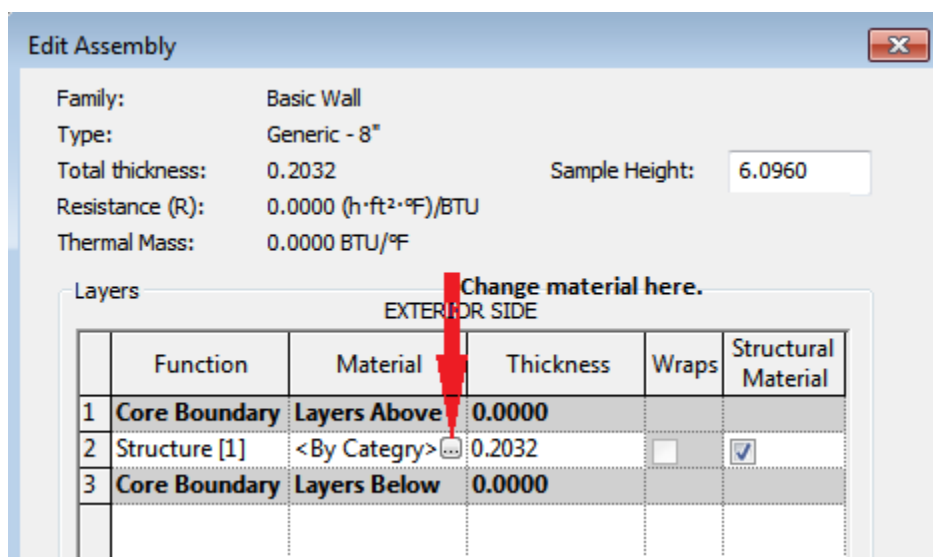
Str



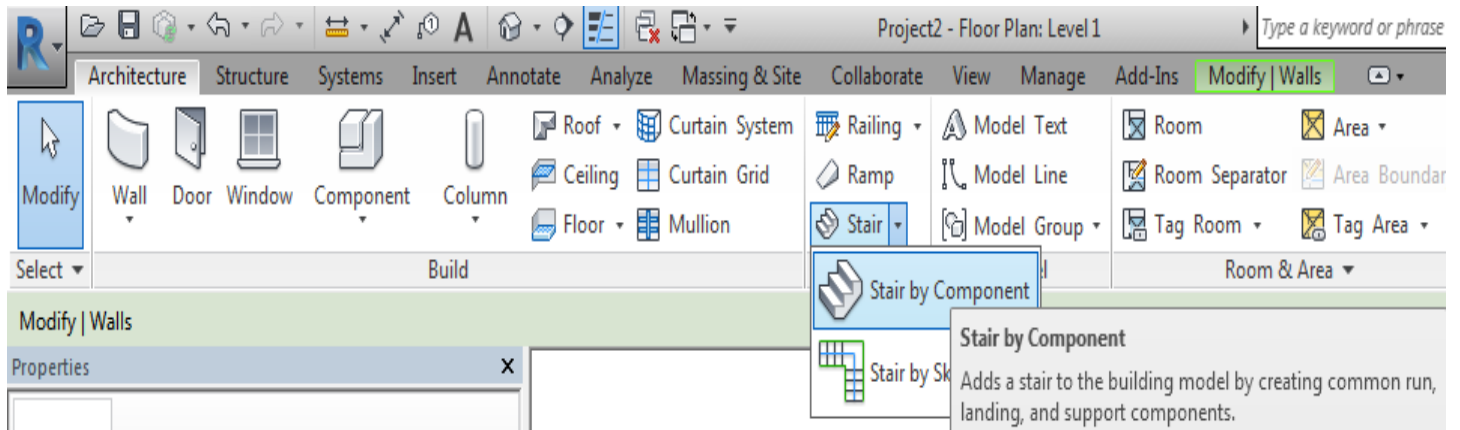
- e. Use of room separator along the column and walls to create room object should be avoided.**



- f. Material of the wall should be changed by editing its property and not by providing a new wall alongside the original wall.**

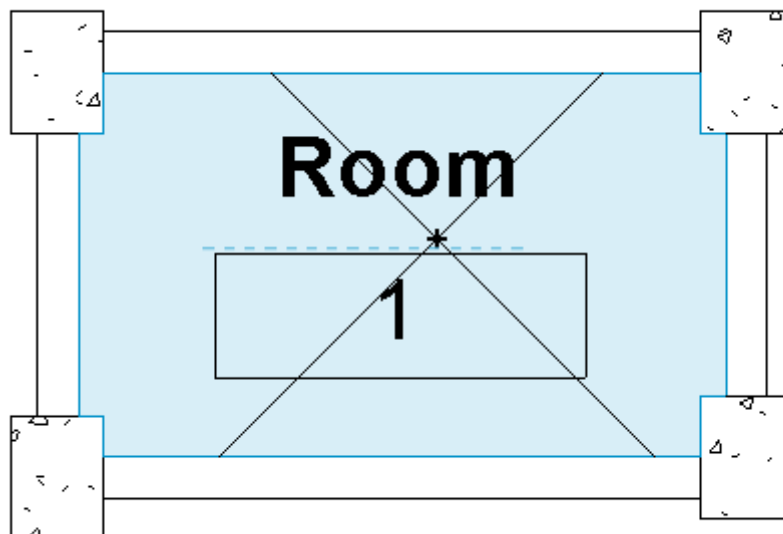


g. Stair by component option should be used to draw the stairs.



h. User should avoid using model group to create any objects.

i. Rooms should be marked at each level and tagged accordingly.

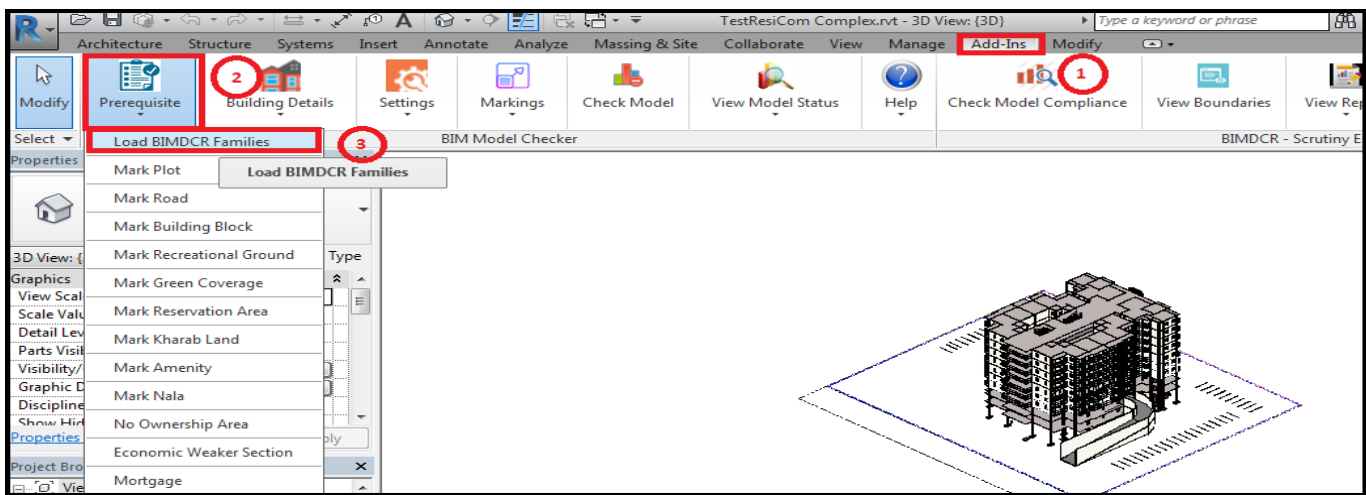


3 STEPS TO RUN BIMDCR Model Checker

3.1 LOAD BIMDCR FAMILIES

Steps:-

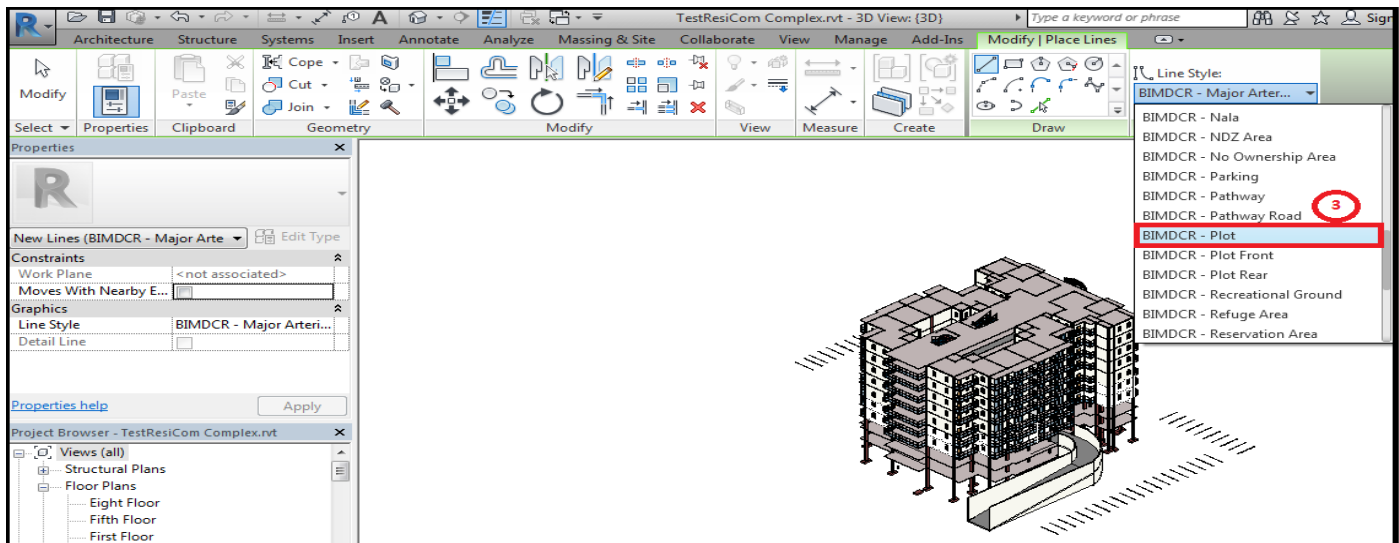
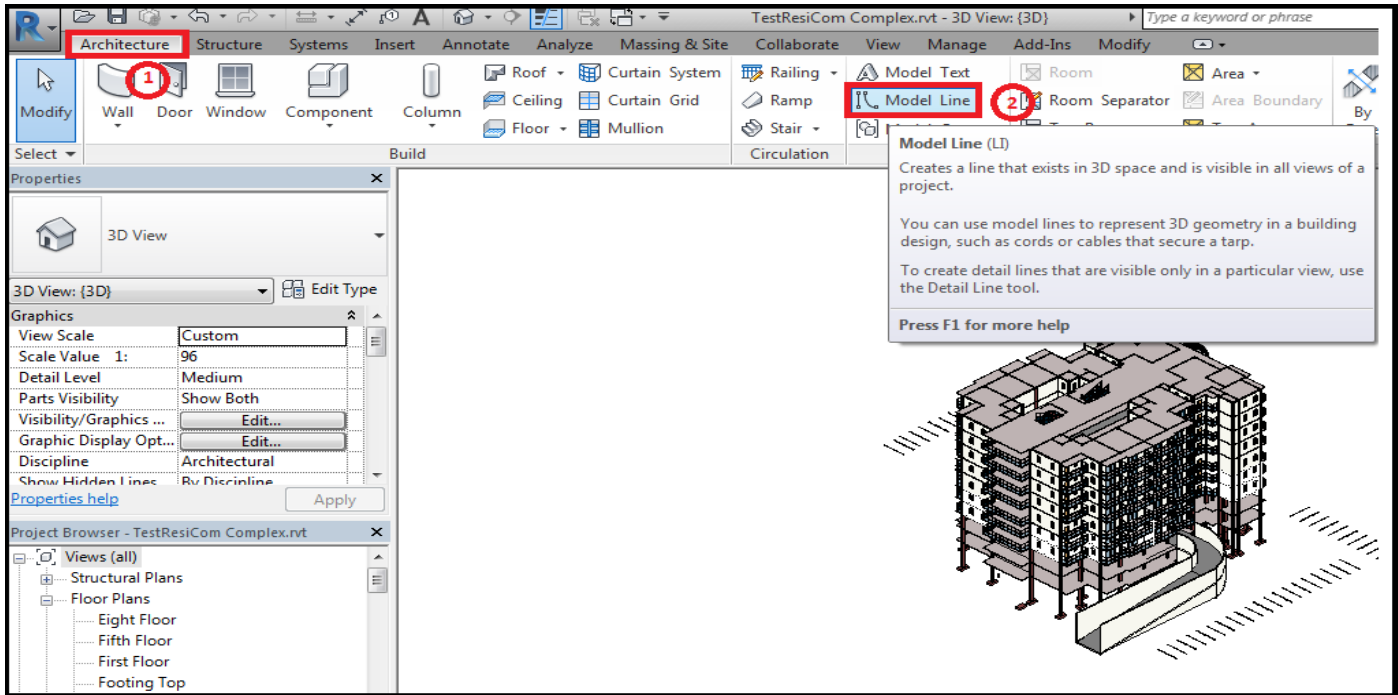
1. Go to Add-Ins -> Click on prerequisite -> Click on Load BIMDCR families

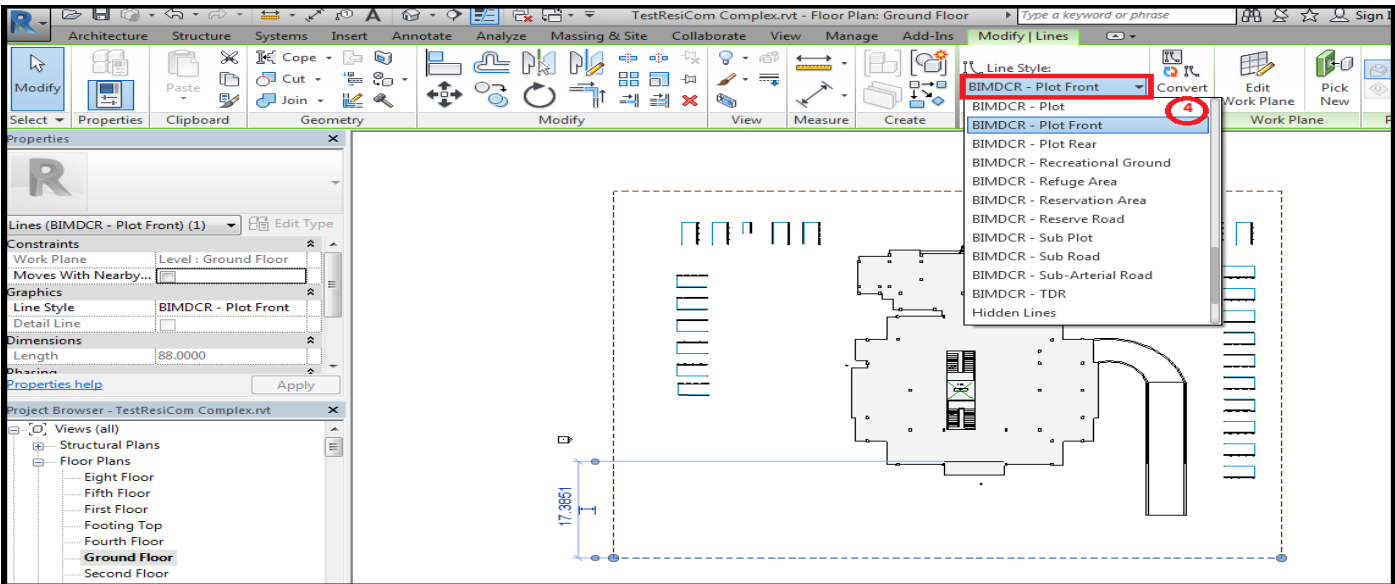
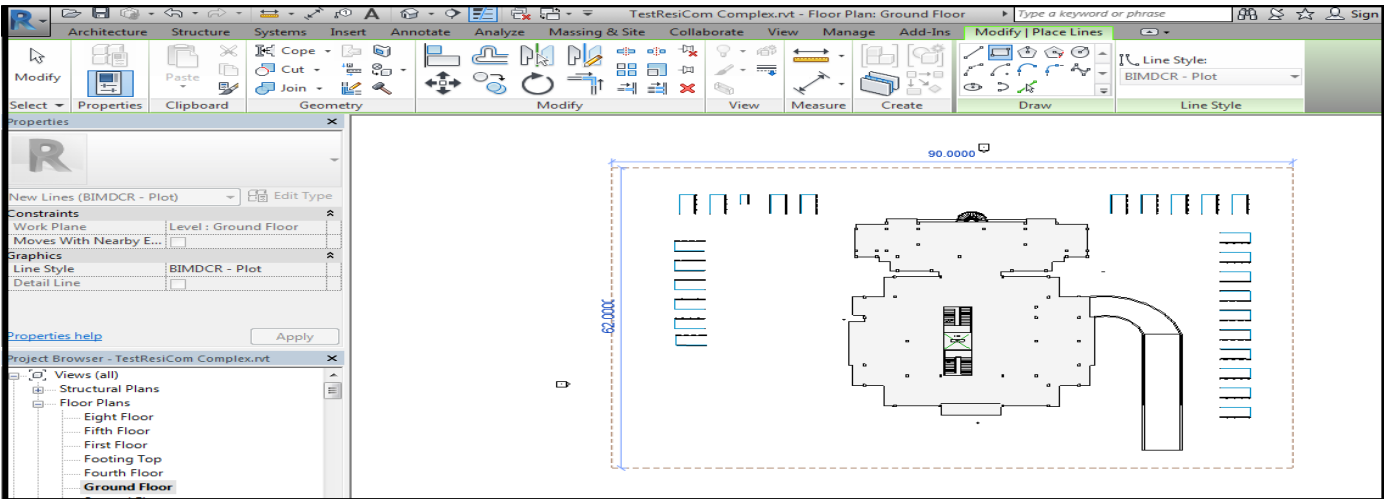
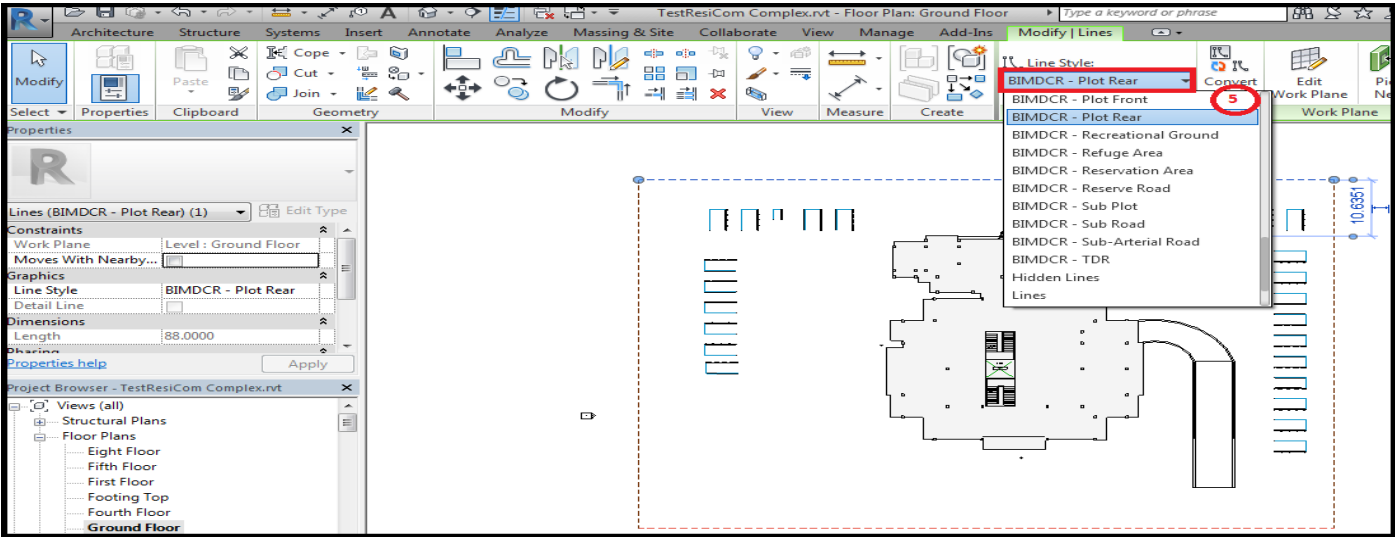


2. Along with BIMDCR lines, BIMDCR parking families will also be loaded into the project

- a. User should click on component button to load the BIMDCR families into the project.
- b. User should select the parking from the list available
- c. User should use these families to draw parking in model.

3.2 PLOT

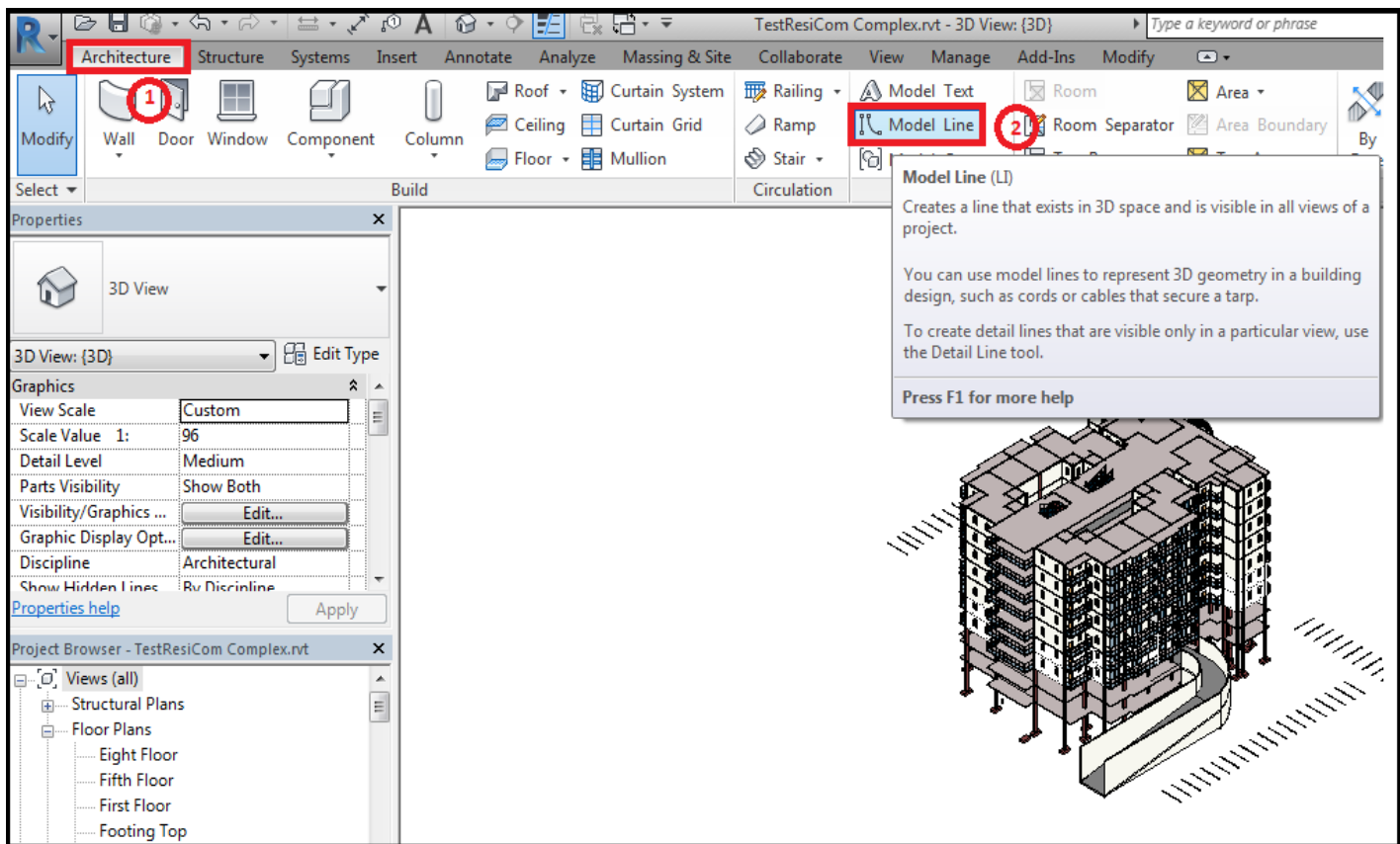


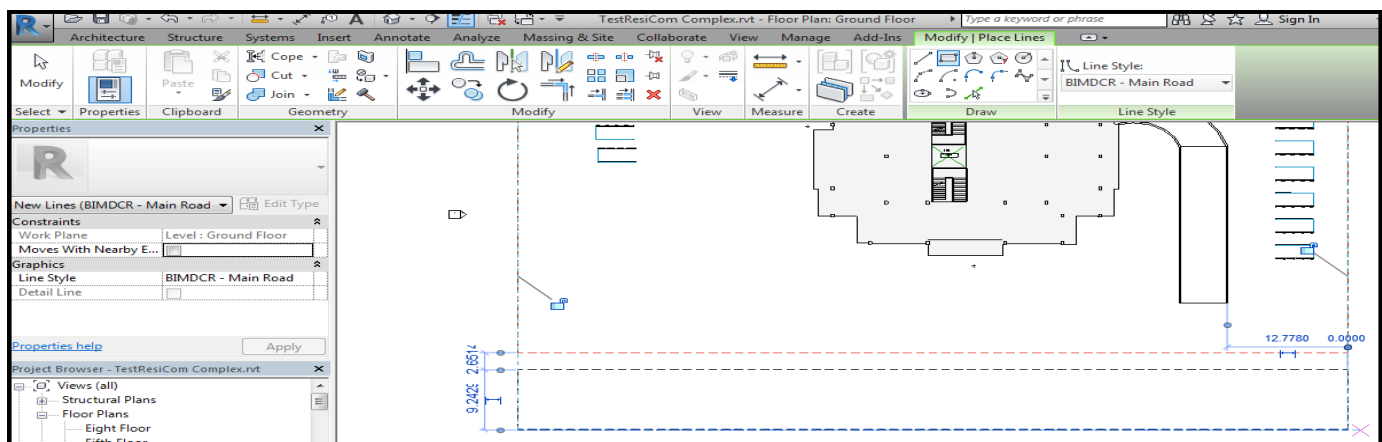
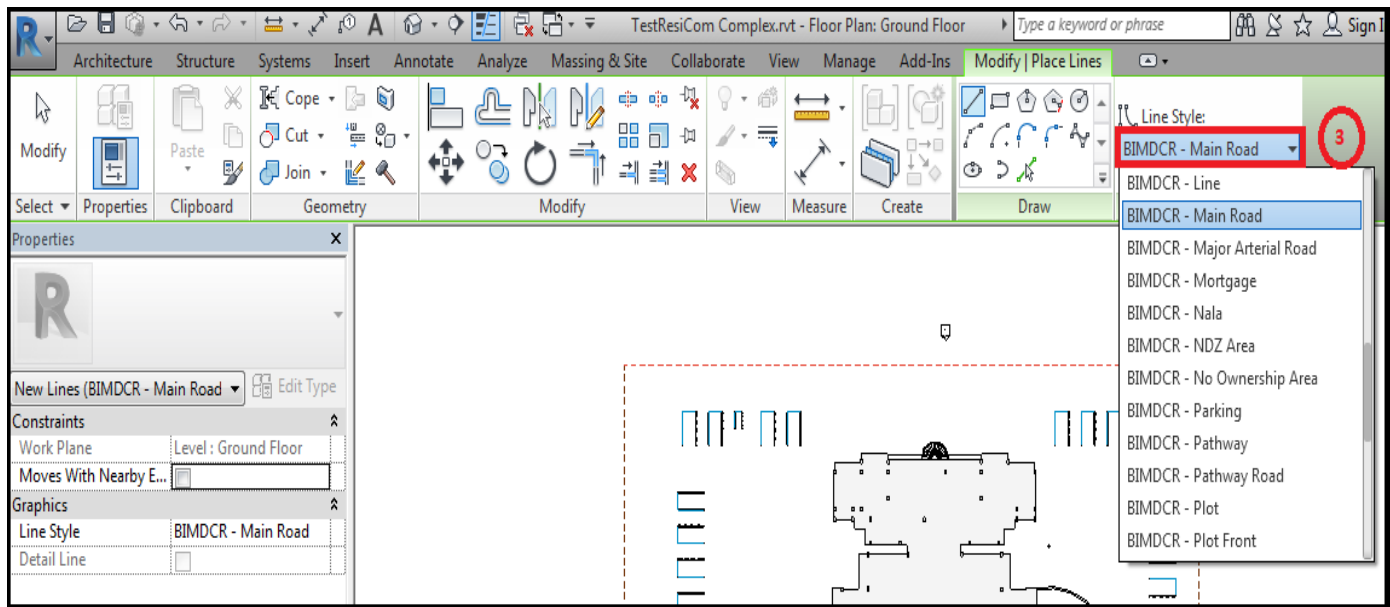


Note:-

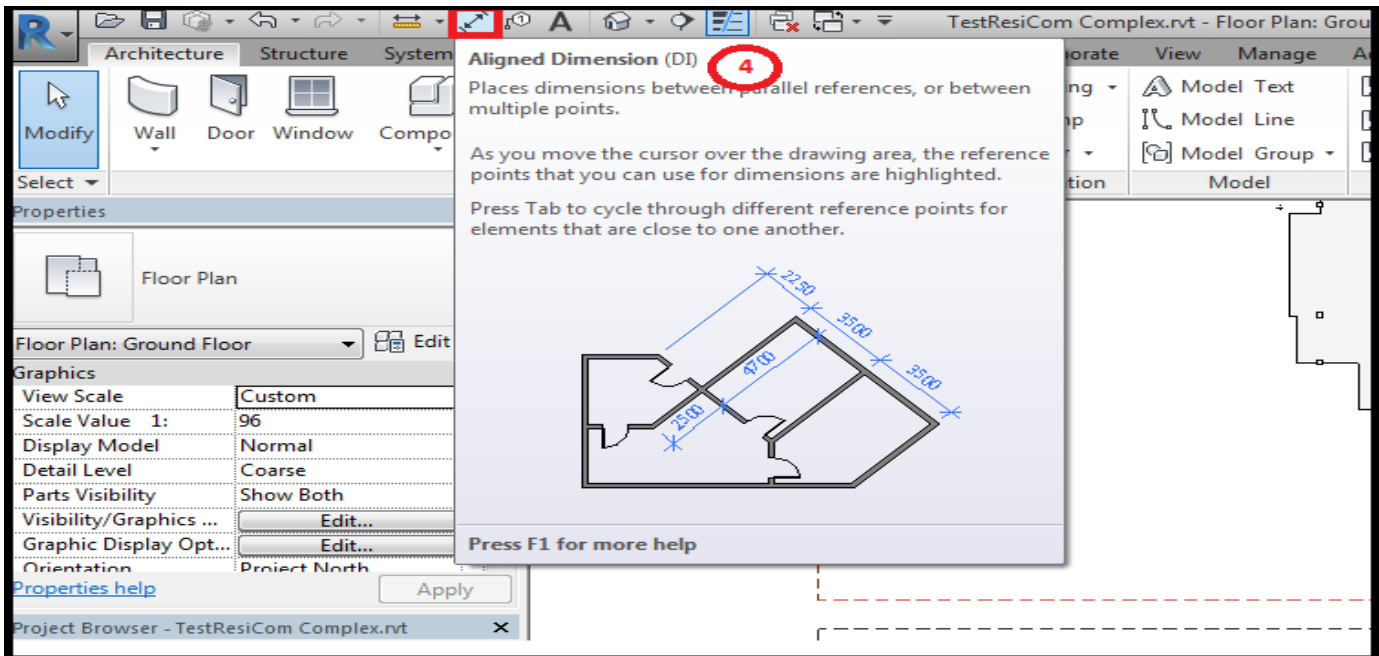
BIMDCR families should be loaded to draw the plot lines.

3.3 ROAD





Tolerance of 0.01 m is allowed between plot line and the road line.



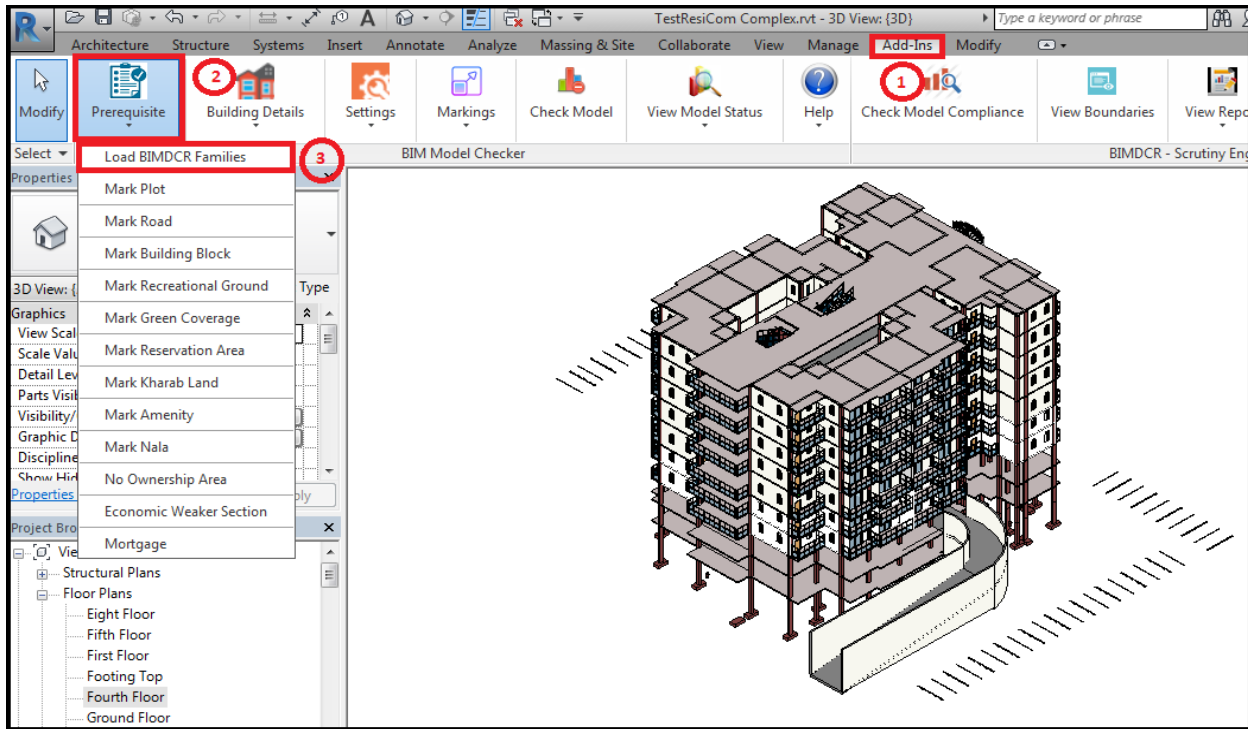
Steps:-

1. Click on
Architecture.
2. Then click on
Model lines.
3. Select
BIMDCR road lines from the list.
4. Draw road
using different line tools.
5. After drawing
the road lines click on Aligned dimension tab to provide the dimensions.
6. On selecting
the aligned dimension tool click on the road lines to set the dimension.

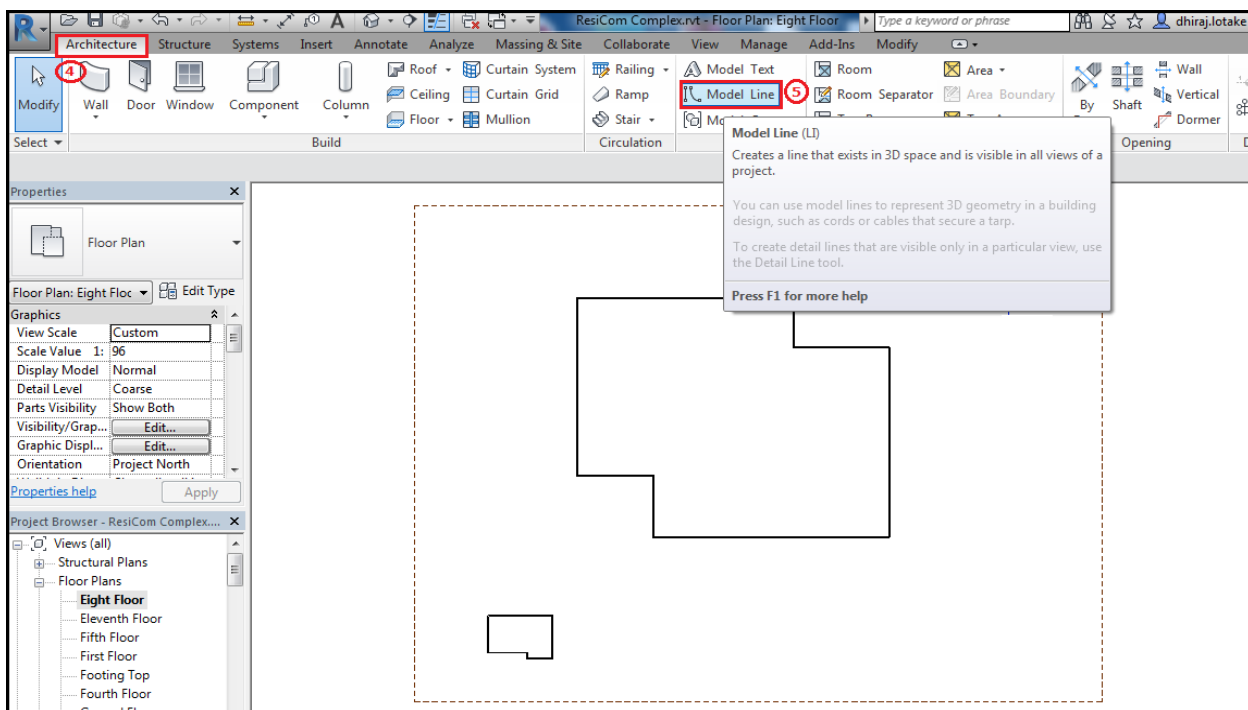
3.4 BUILDING AND ANCILLARY BLOCK

Steps

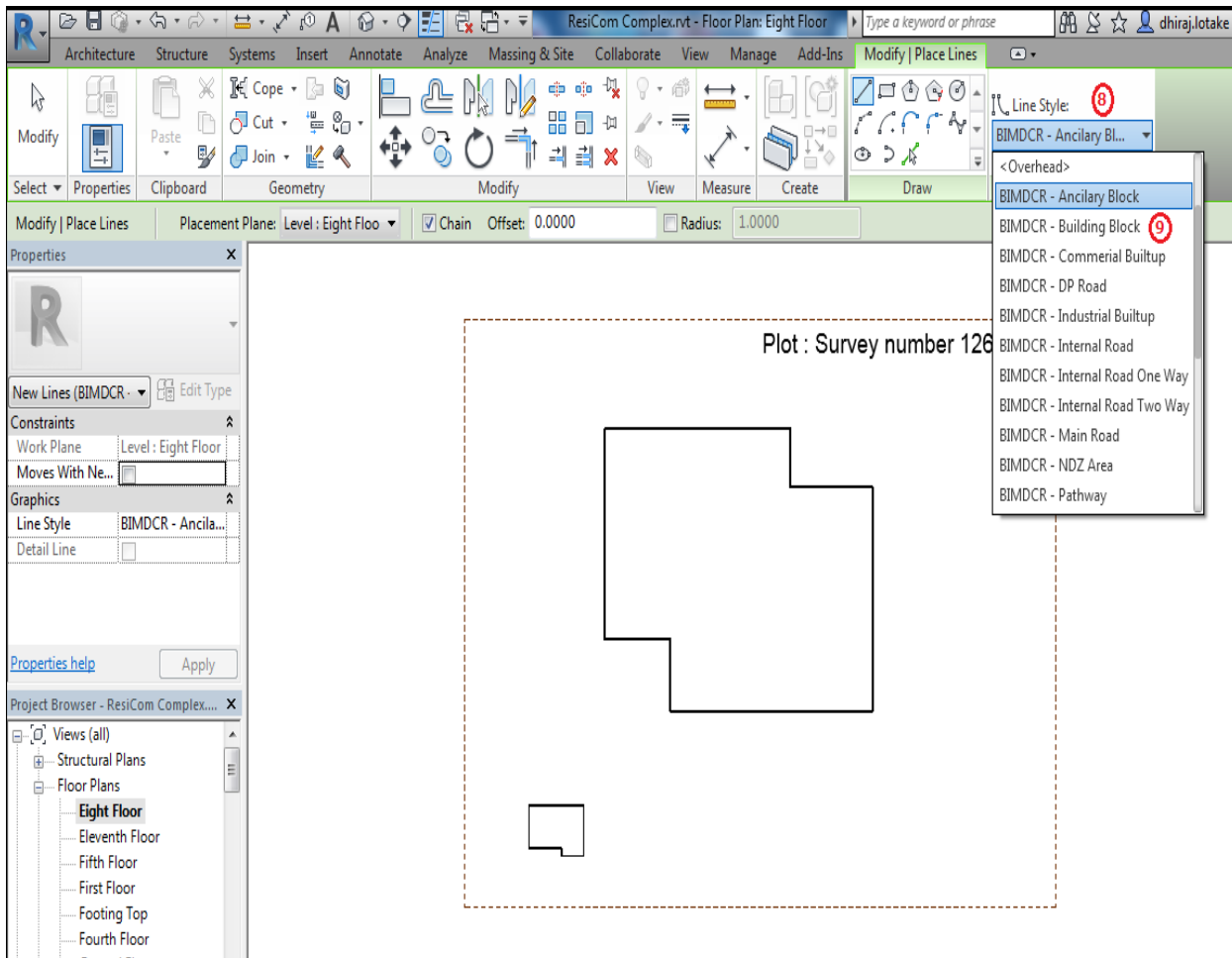
1. Go to Add-In -> Prerequisite -> Select Load BIMDCR Marking Lines



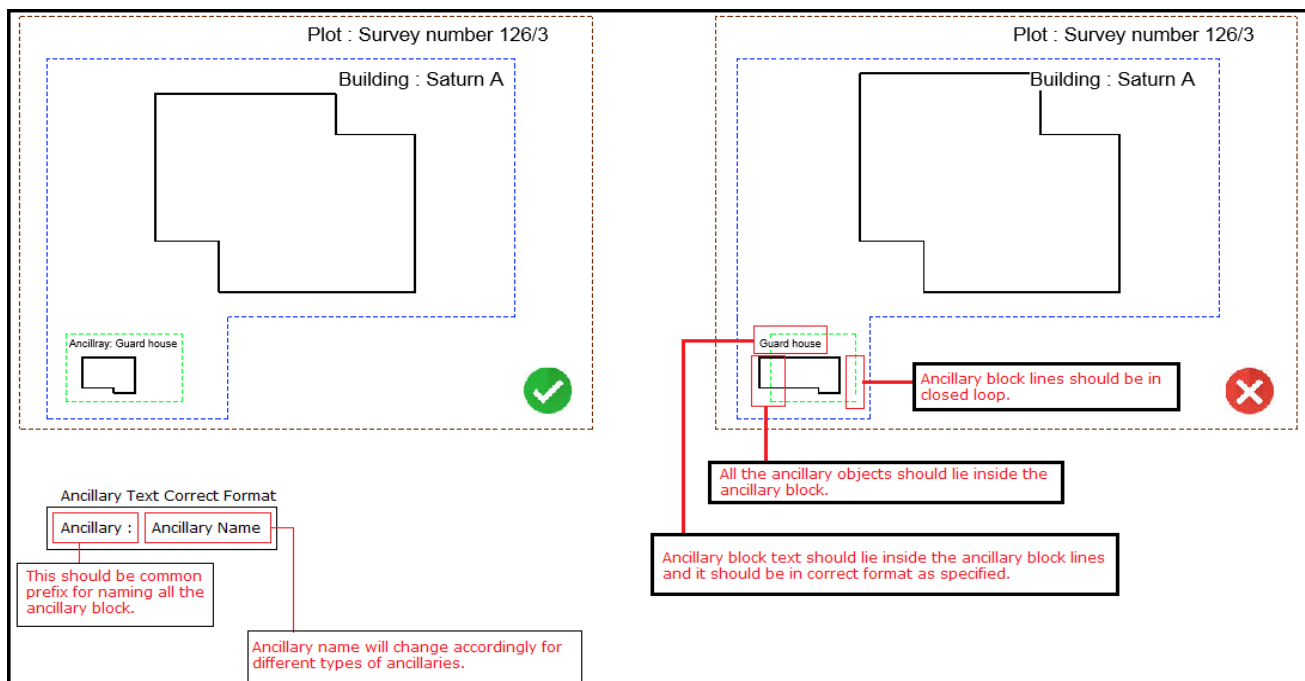
2. Go to Architecture -> Model Lines -> Line Style -> Select 'BIMDCR - 'Building Block'.



3. Go to Architecture -> Model Lines -> Line Style -> Select 'BIMDCR - Ancillary Block'.



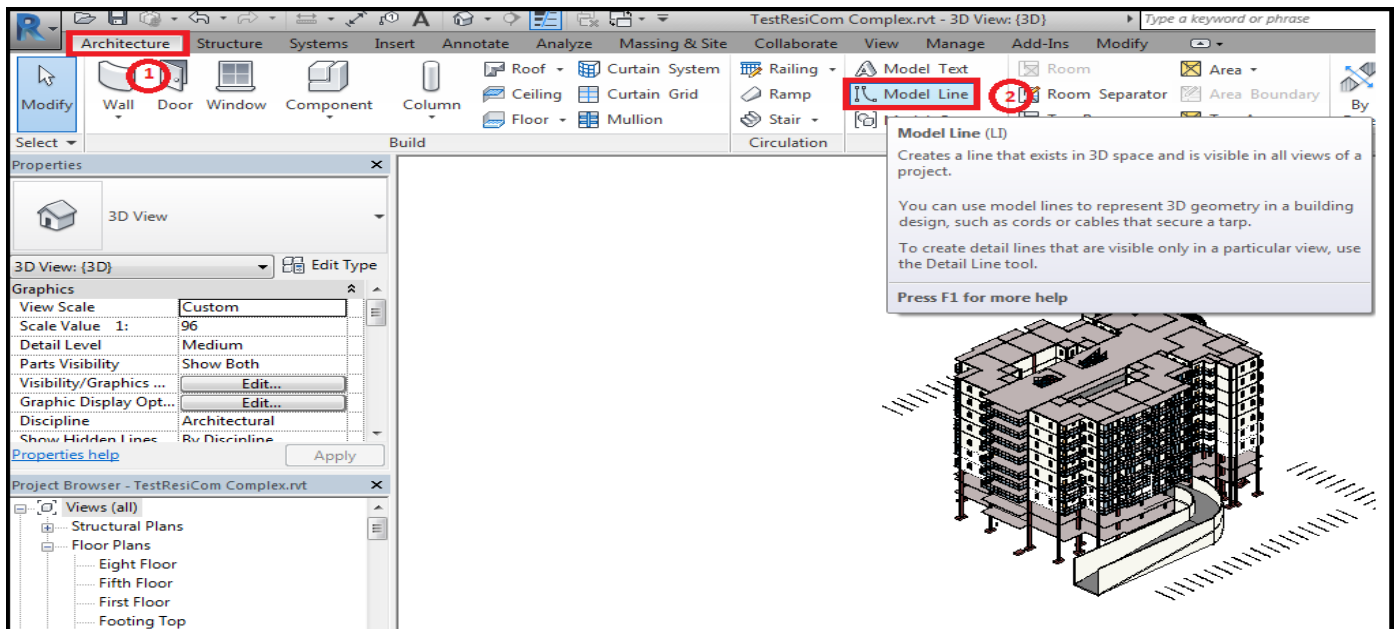
Correct and Incorrect Method of Drawing



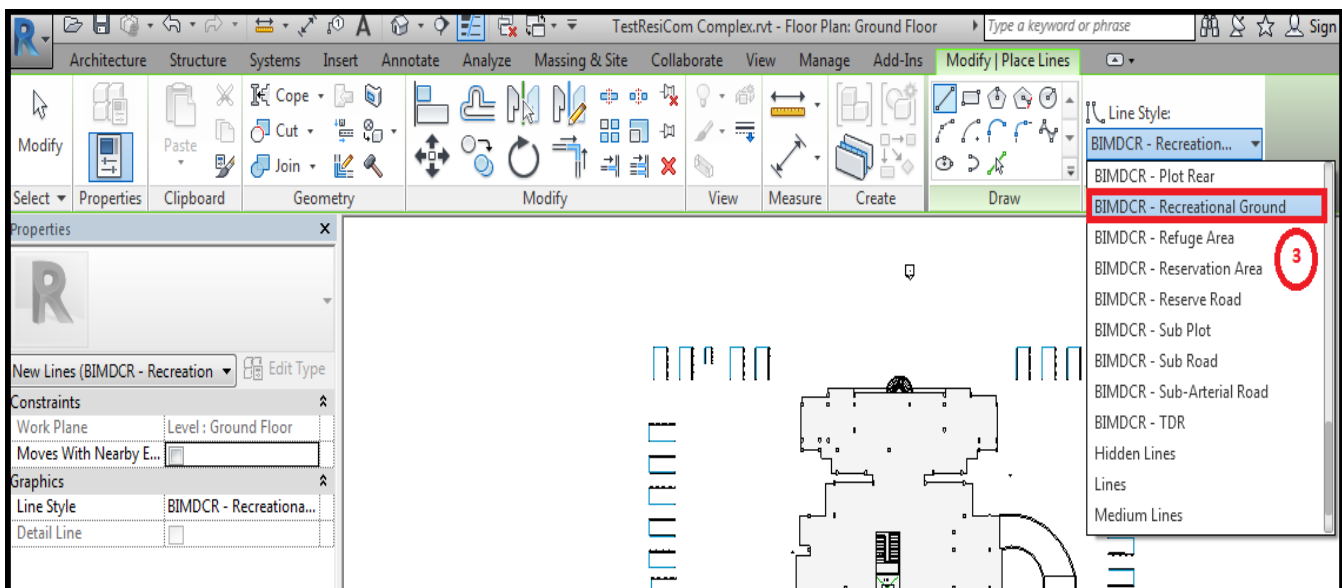
3.5 ORGANIZED OPEN SPACE/RECREATION GROUND

Steps:-

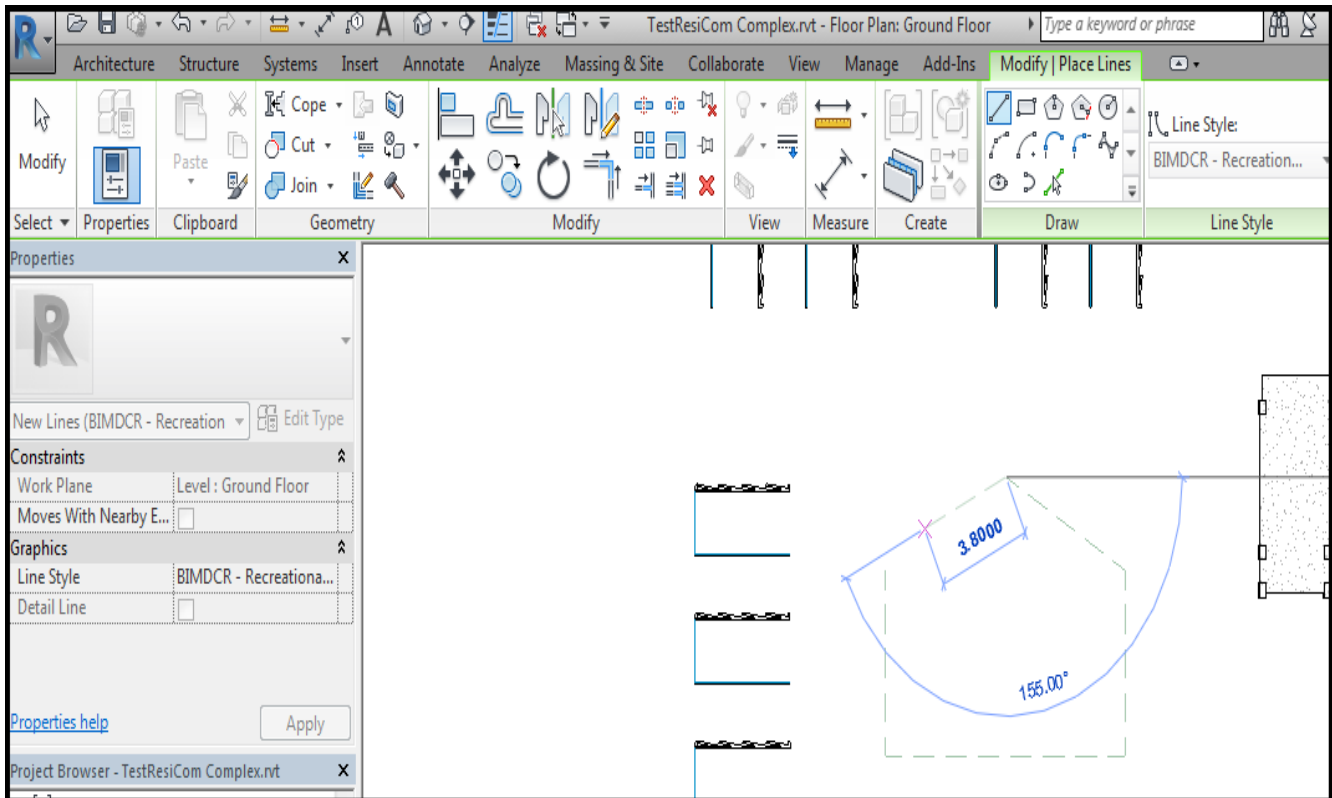
1. Go to Architecture -> Click on model lines.



2. Click on BIMDCR-Recreational ground lines



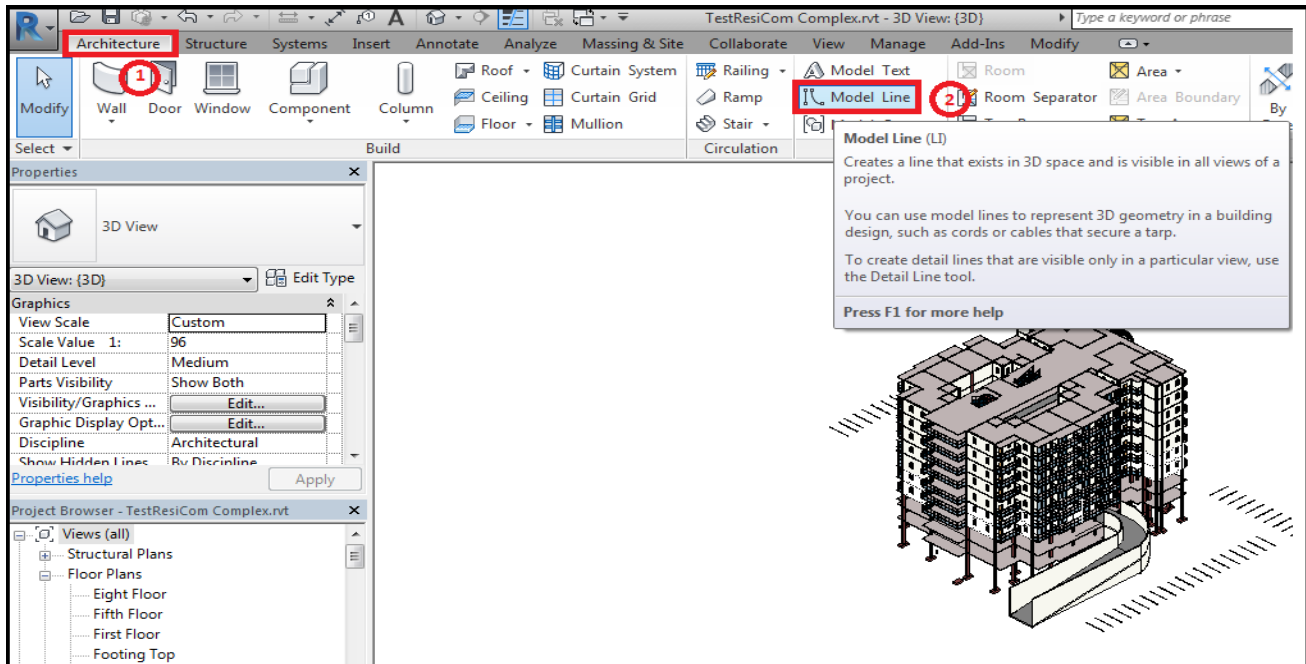
3. Draw Recreational area on the ground floor using BIMDCR – recreational ground lines in a closed loop.



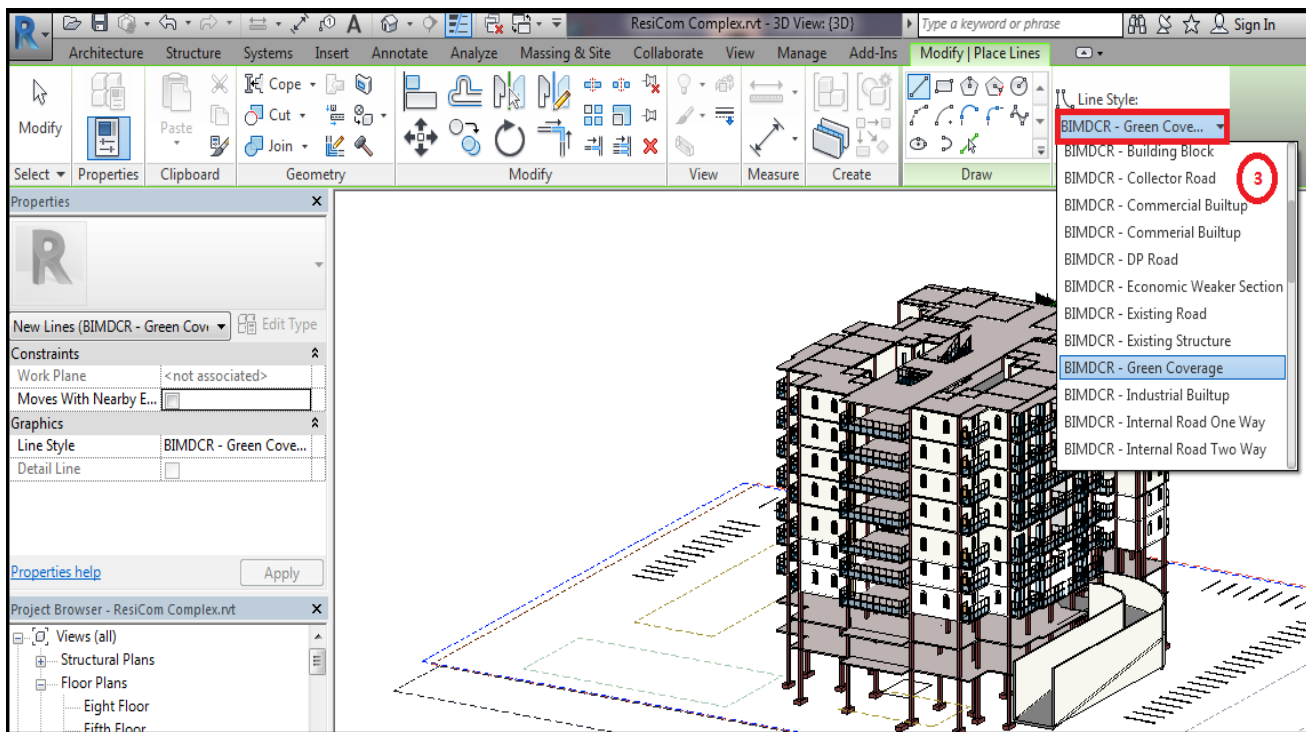
3.6 GREEN COVERAGE

Steps:-

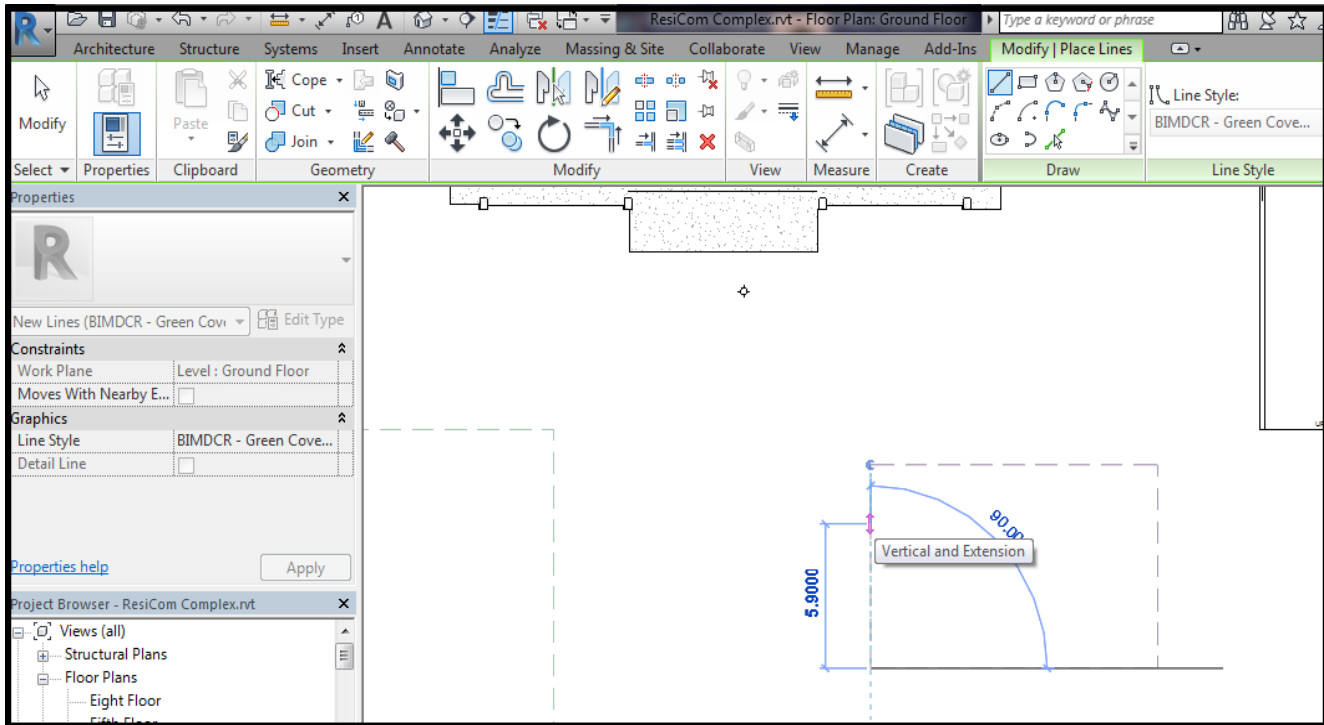
1. Go to Architecture -> Click on model lines.



2. Click on BIMDCR-Green coverage lines.



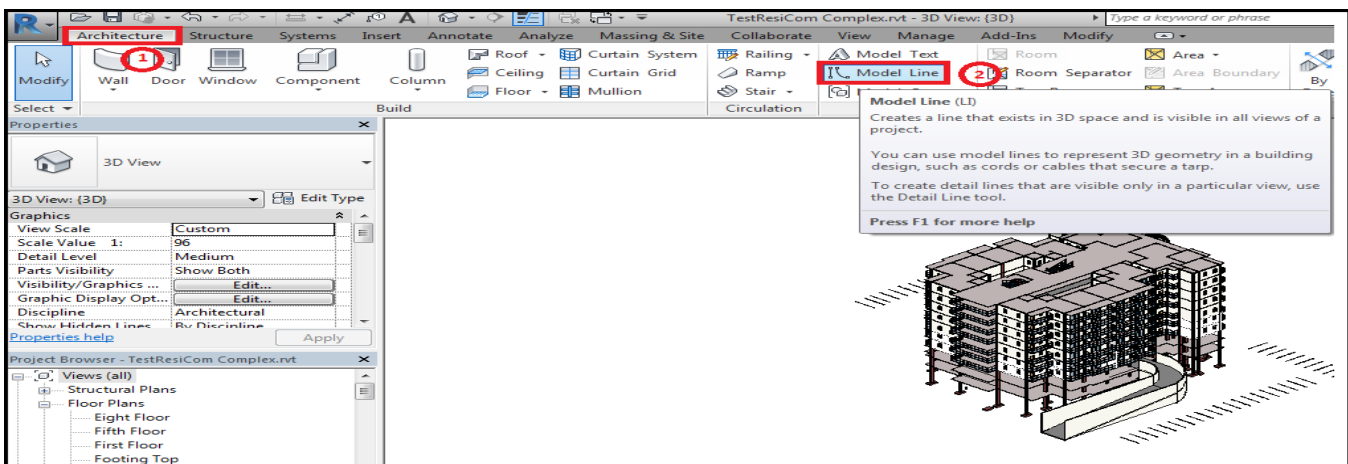
3. Draw Green Coverage area on the ground floor using BIMDCR - Green coverage lines in a closed loop.



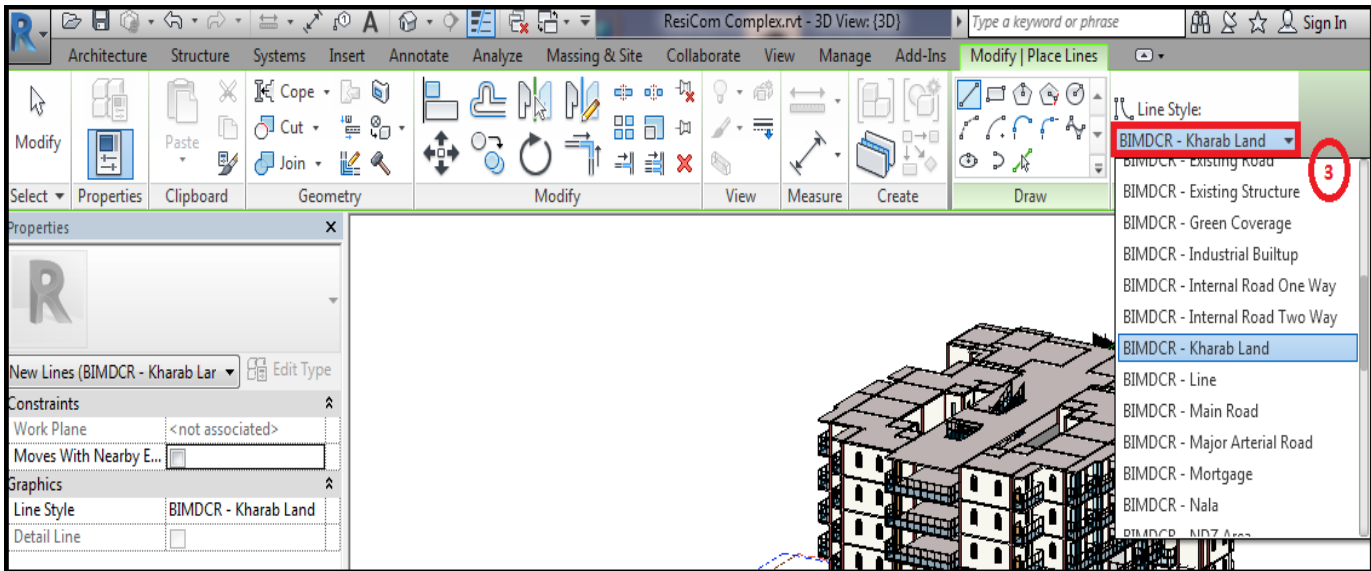
3.7 KHARAB LAND

Steps:-

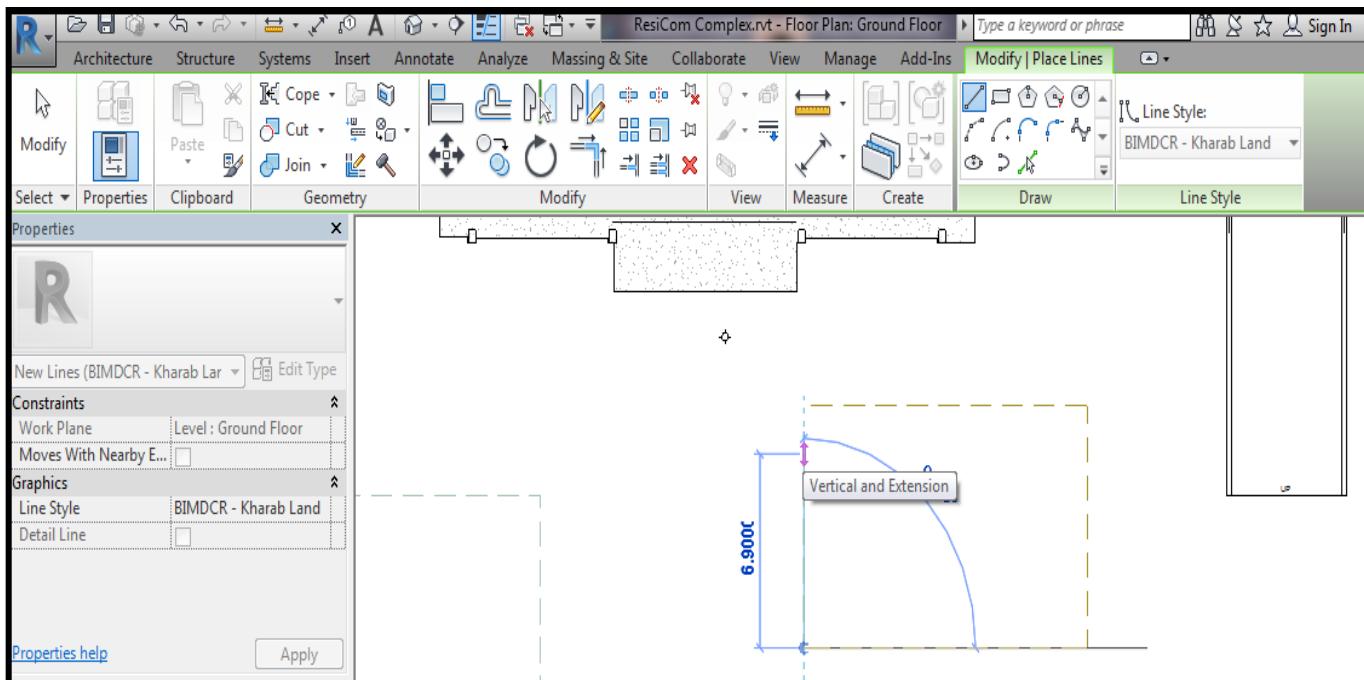
1. Go to Architecture -> Click on model lines.



2. Select Kharab land BIMDCR Line



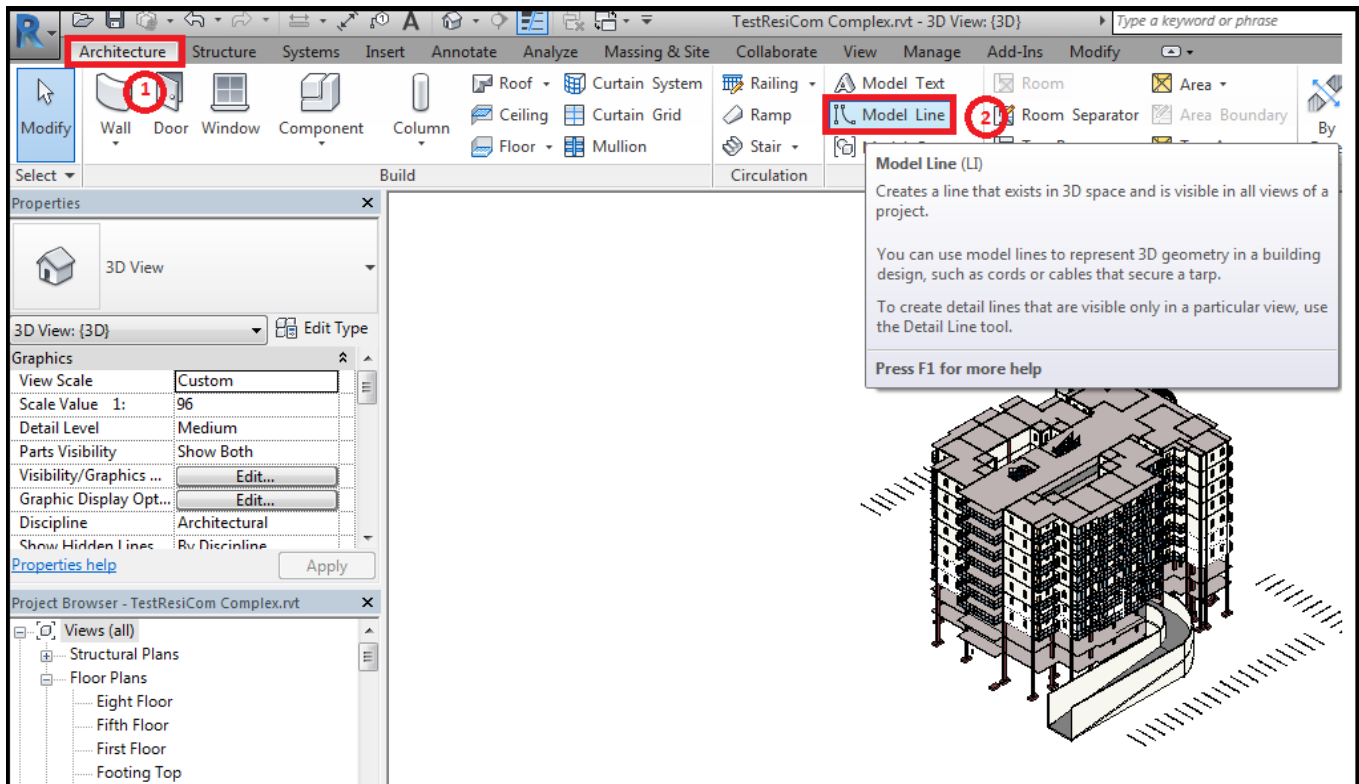
3. Draw Kharab land area on the ground floor using BIMDCR – Kharab lines in a closed loop.



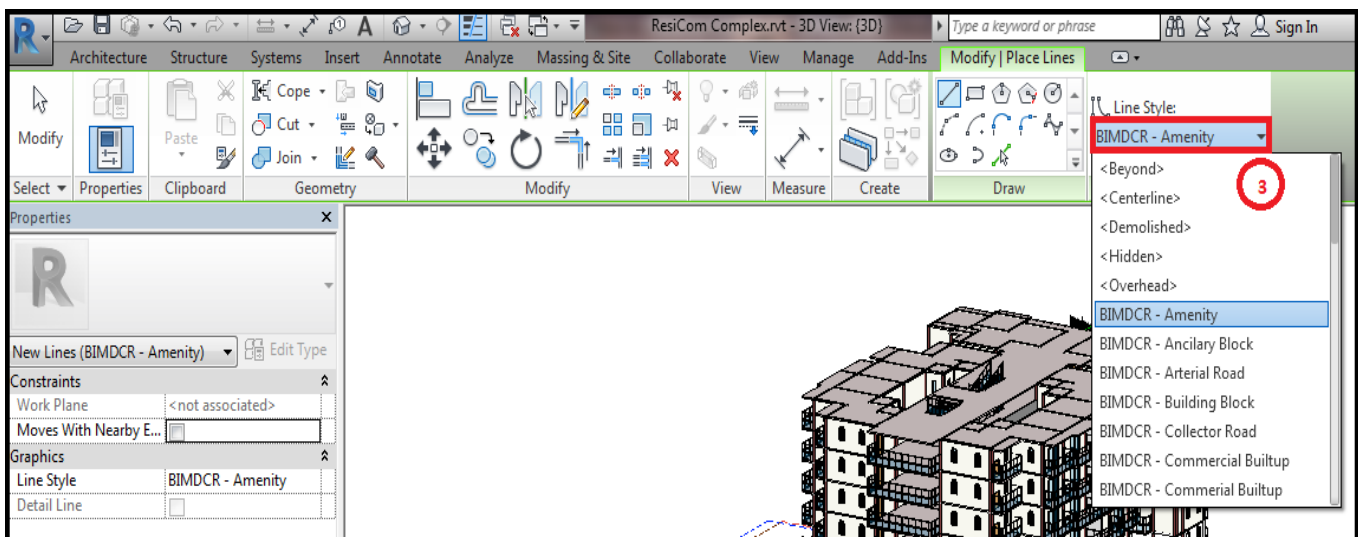
3.8 AMENITY AREA

Steps:-

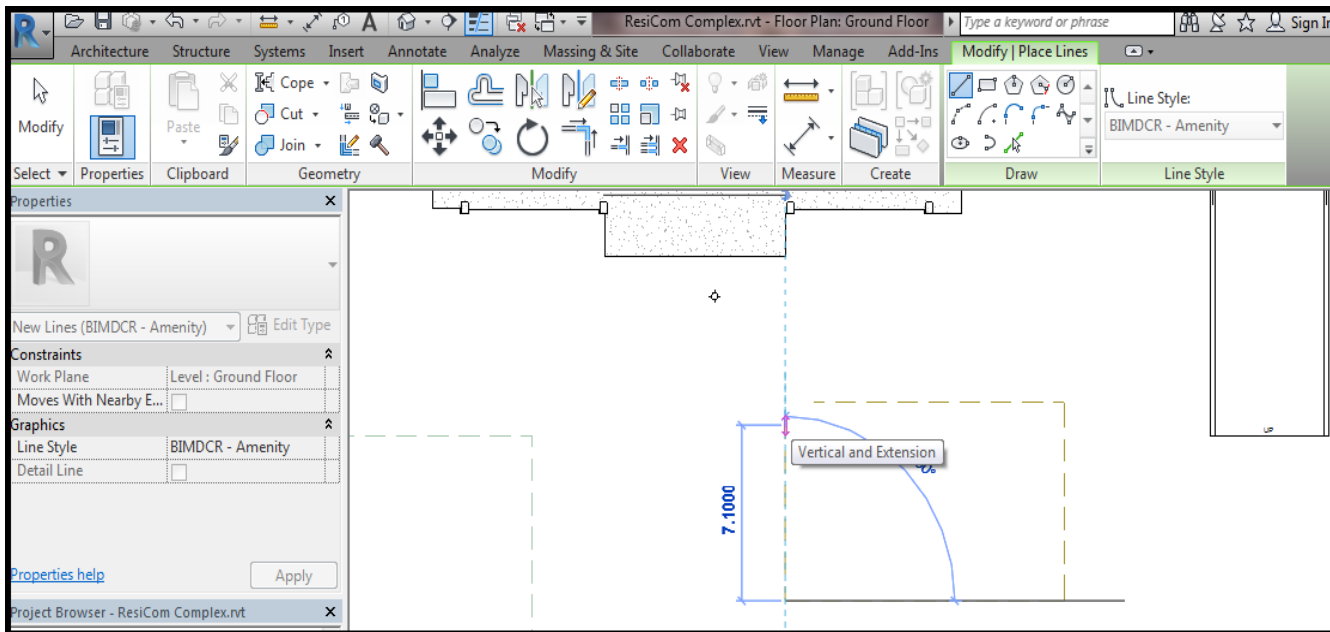
1. Go to Architecture -> Click on model lines.



2. Click on BIMDCR-Amenity.



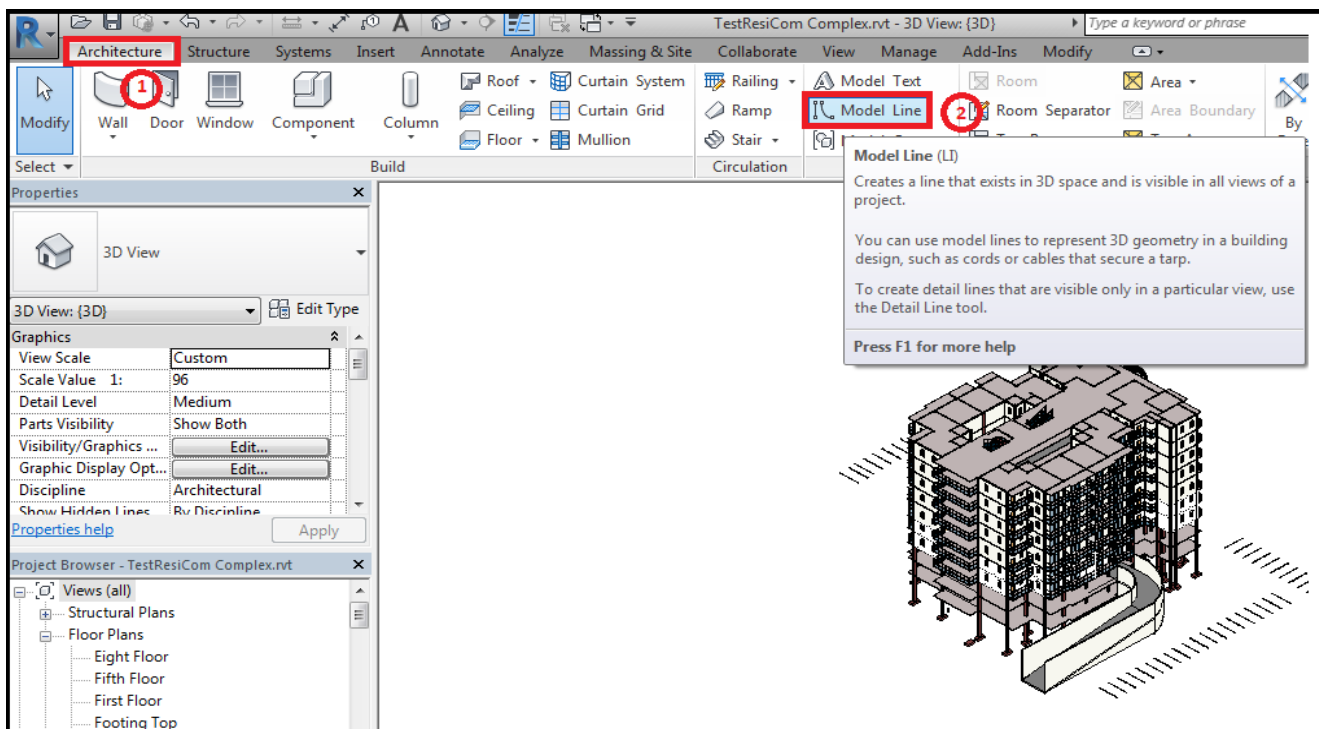
3. Draw Amenity area on the ground floor using BIMDCR – Amenity lines in a closed loop.



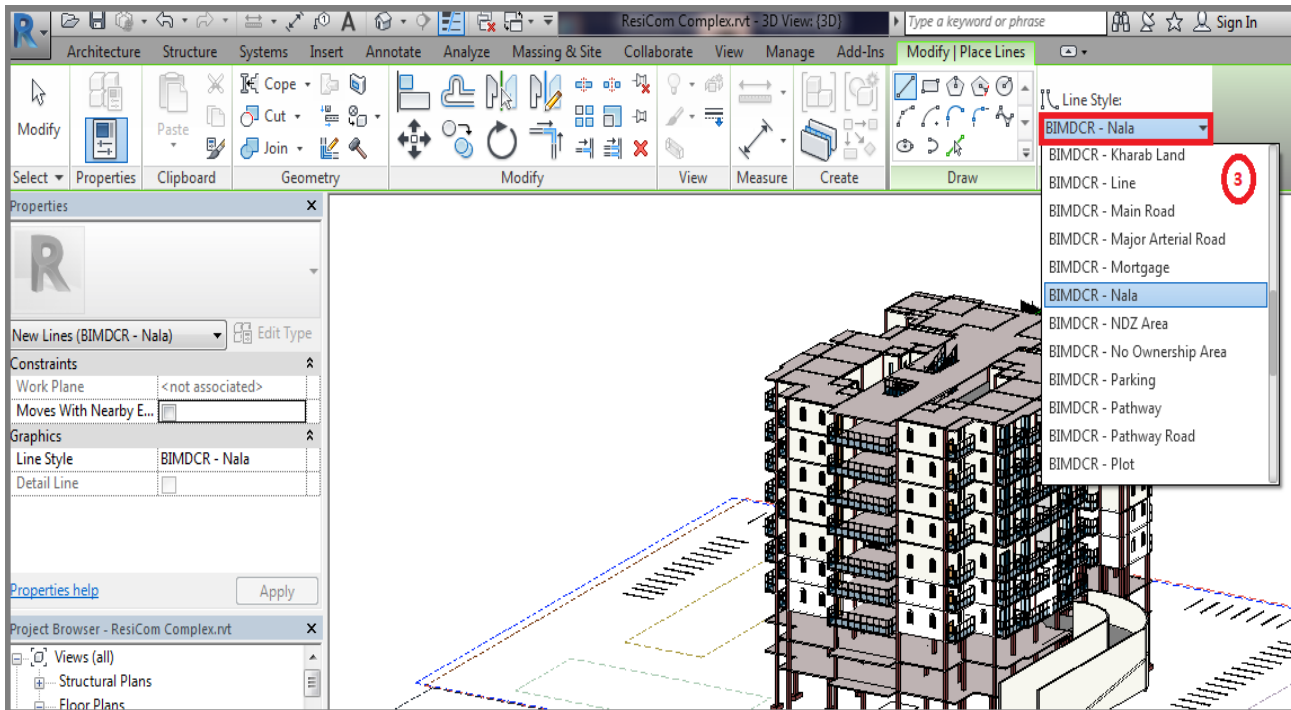
3.9 NALA AREA

Steps:-

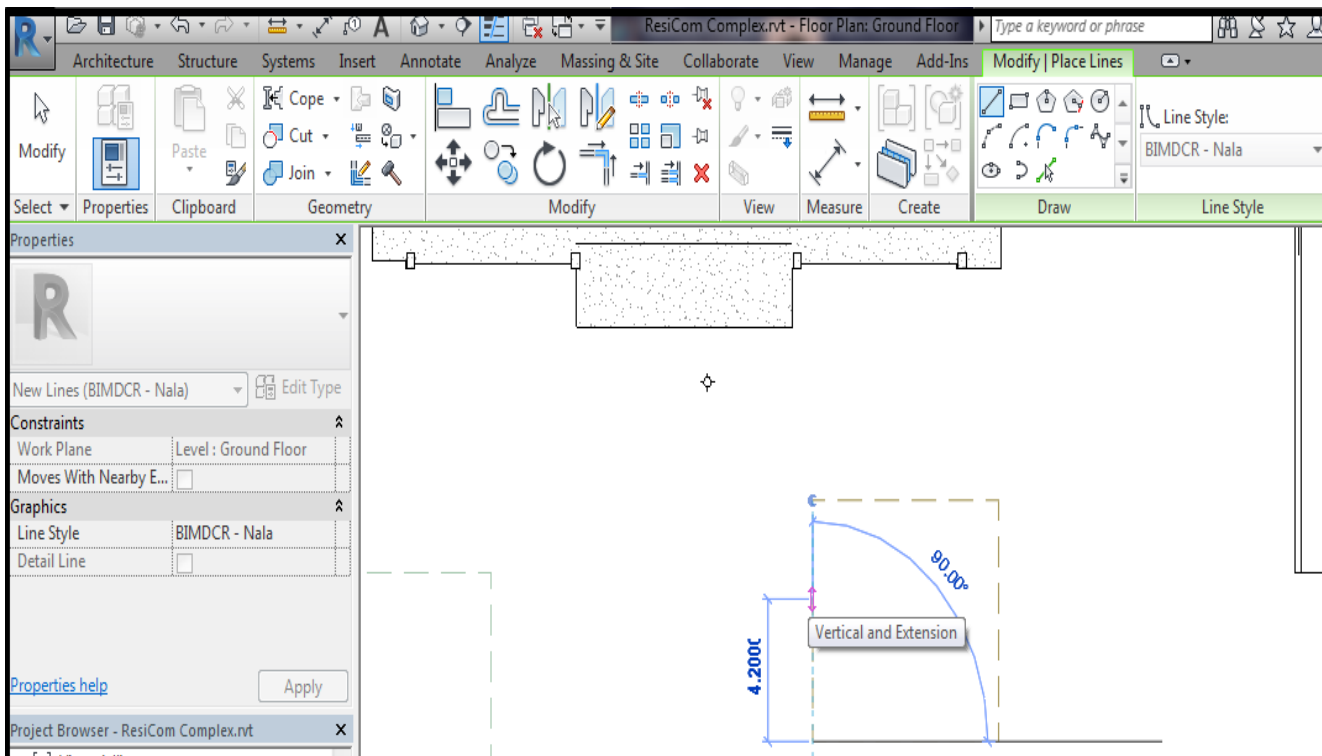
1. Go to Architecture -> Click on model lines.



2. Click on BIMDCR-Nala lines.



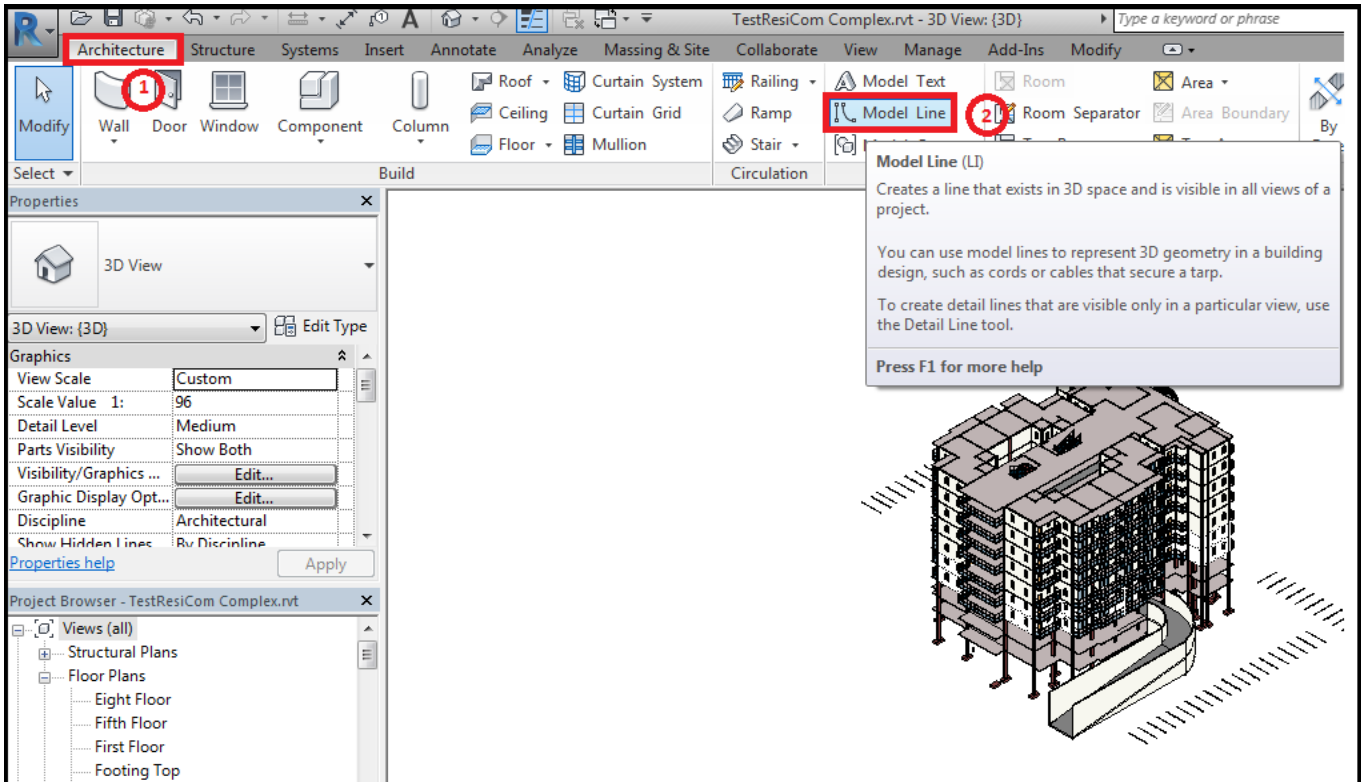
3. Draw Nala land area on the ground floor using BIMDCR - Nala lines in a closed loop.



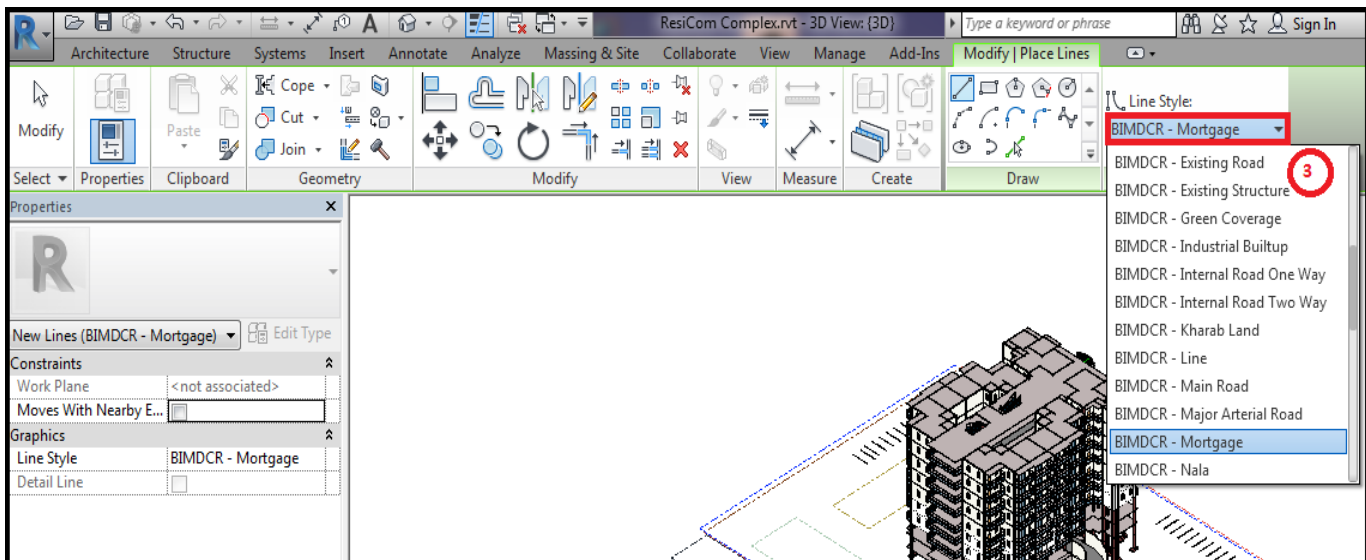
3.10 MORTGAGE AREA

Steps:-

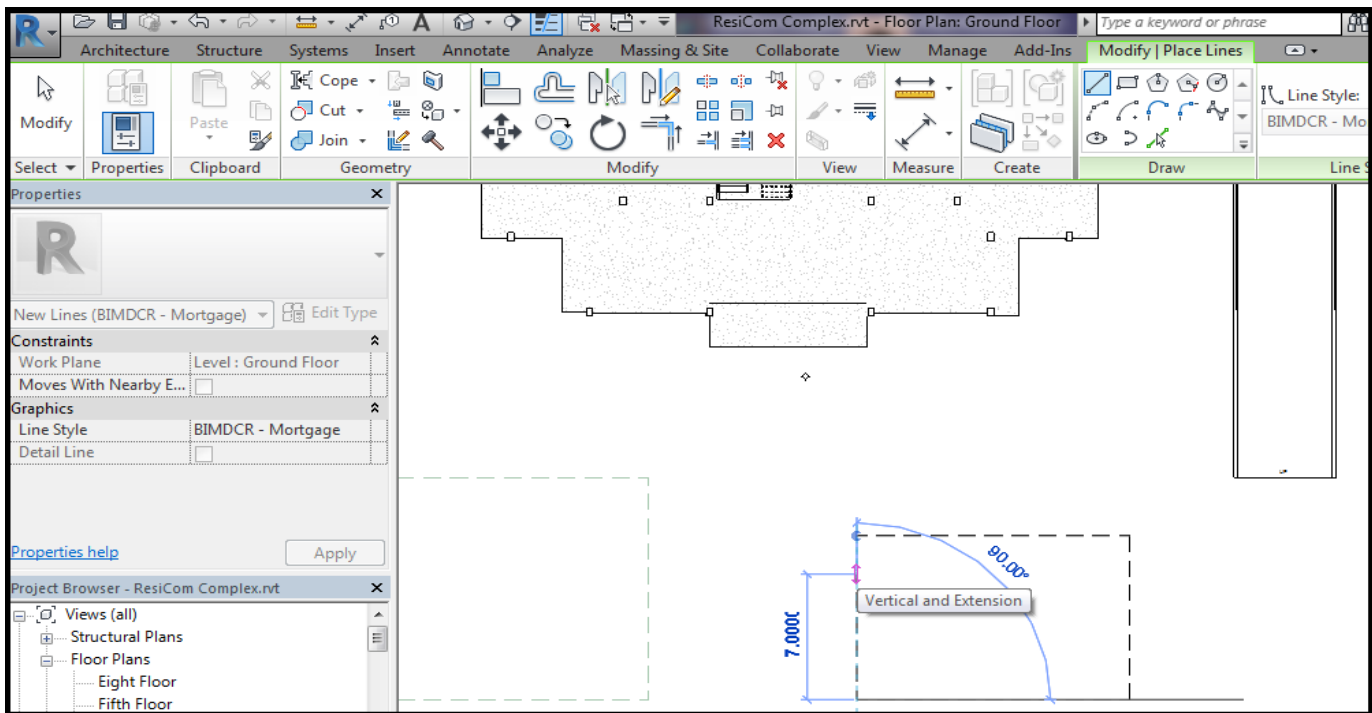
1. Go to Architecture -> Click on model lines.



2. Click on BIMDCR-Mortgage lines



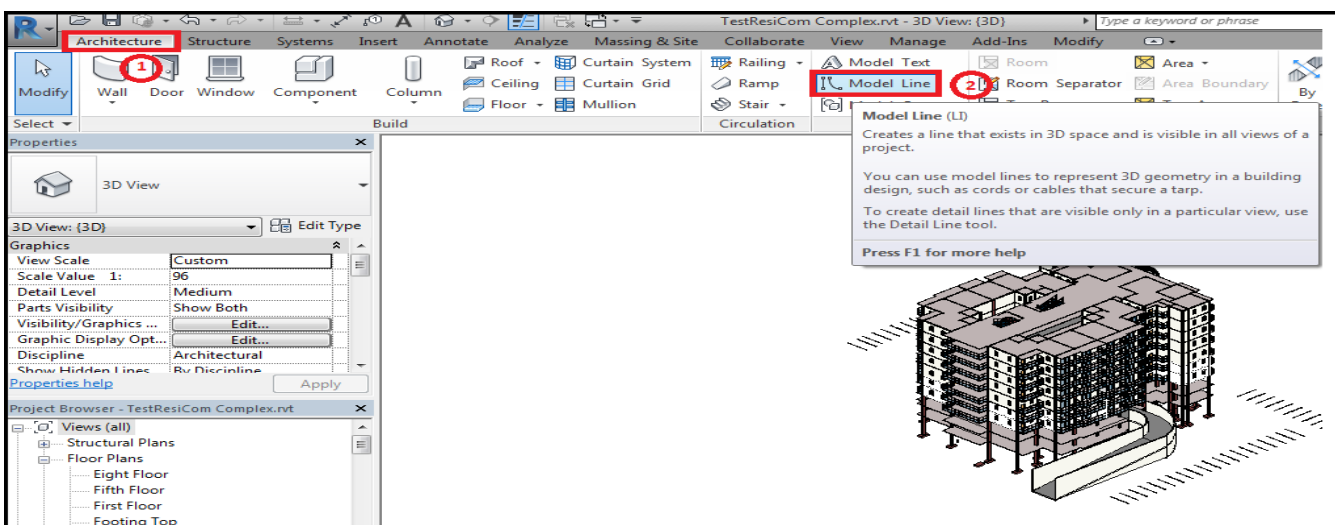
3. Draw mortgage using BIMDCR - Mortgage lines in a closed loop.



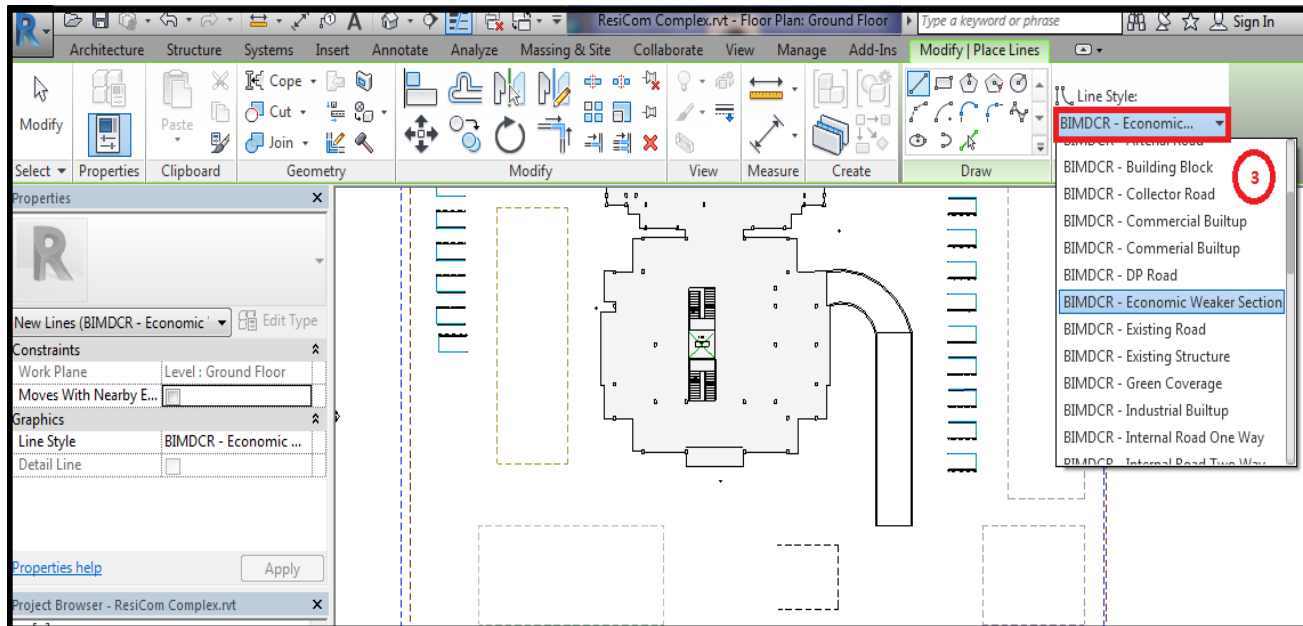
3.11 ECONOMICALLY WEAKER SECTION

Steps:-

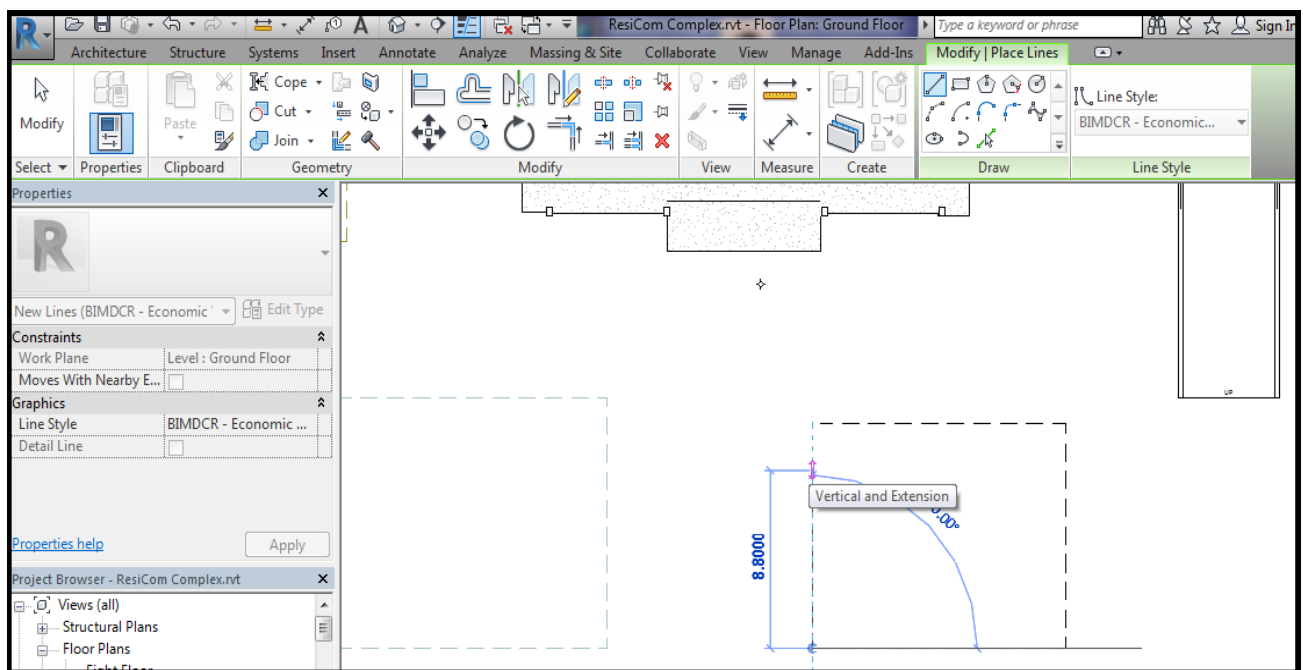
1. Go to Architecture -> Click on model lines.



2. Click on BIMDCR-Economic weaker section lines.



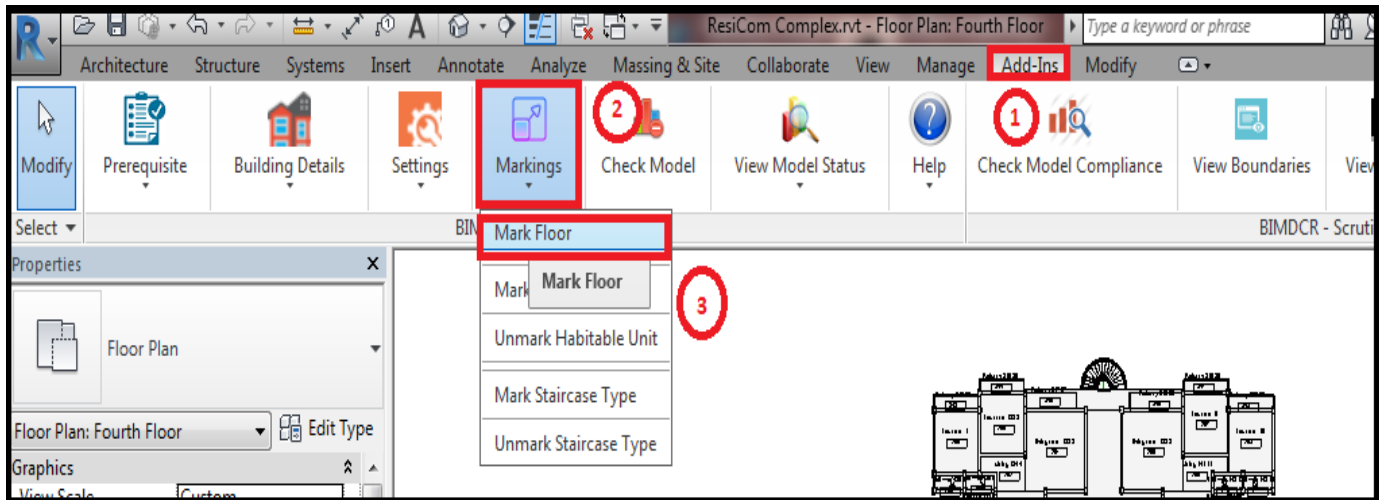
3. Draw Economic weaker section area on the using BIMDCR – Economic weaker section lines in a closed loop.



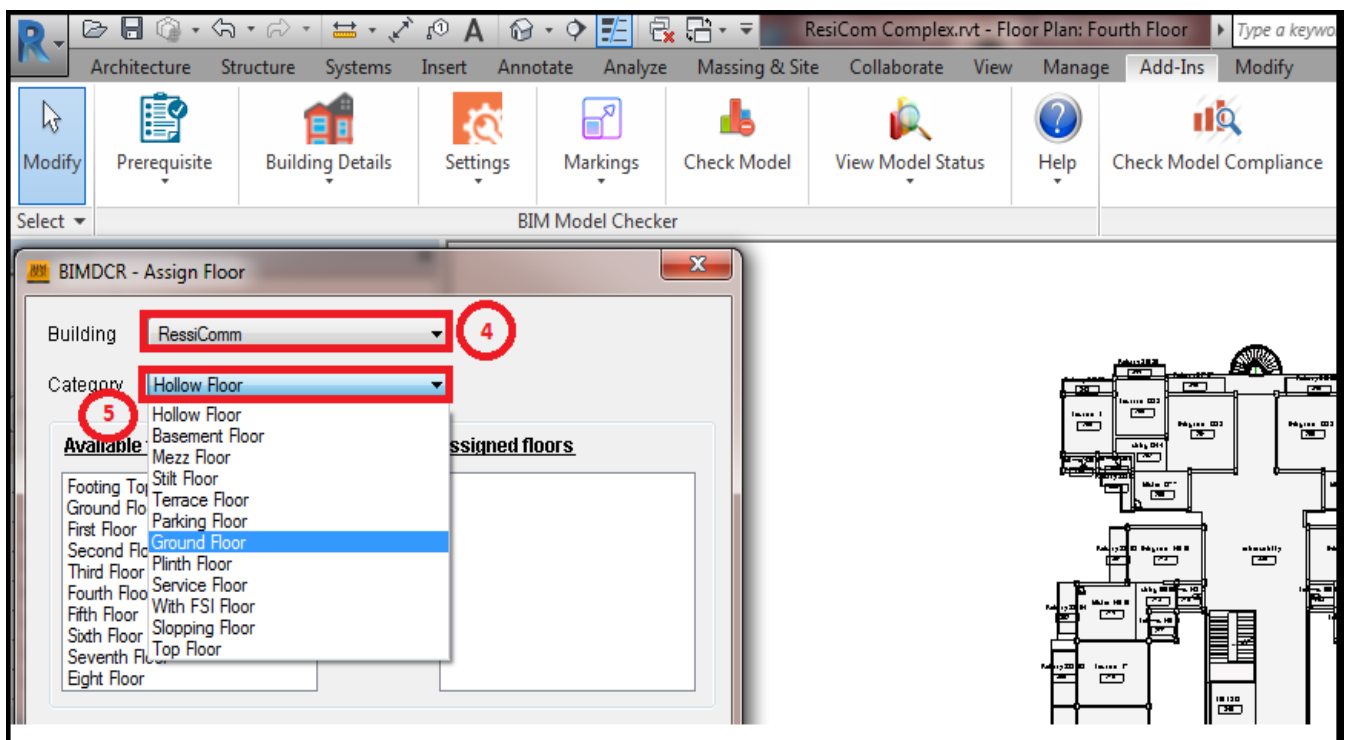
3.12 MARK FLOOR

Steps:-

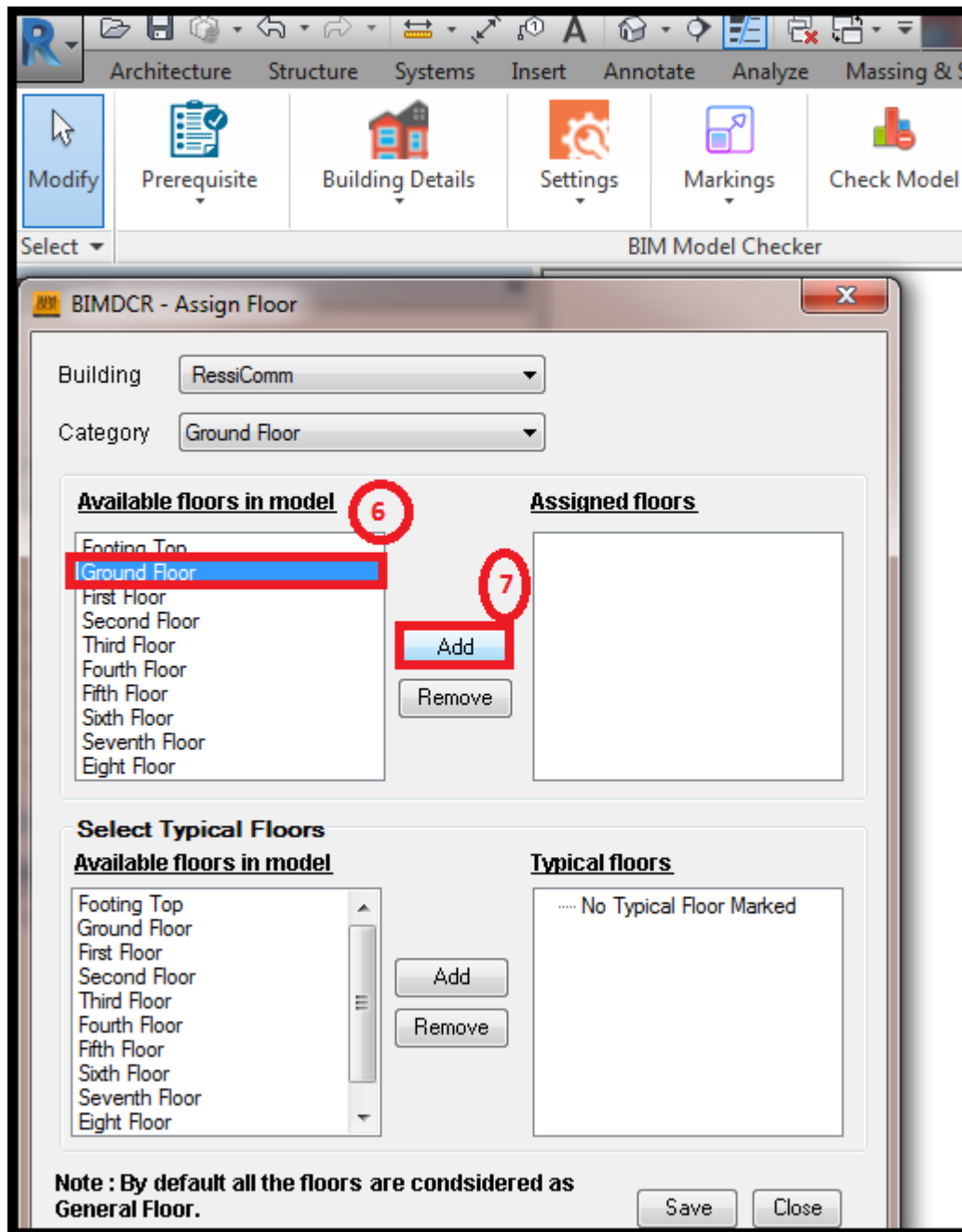
1. Click on Add-Ins -> Markings -> Mark Floor.



2. Click on select building and then click on category to select the category of the floor from the list.



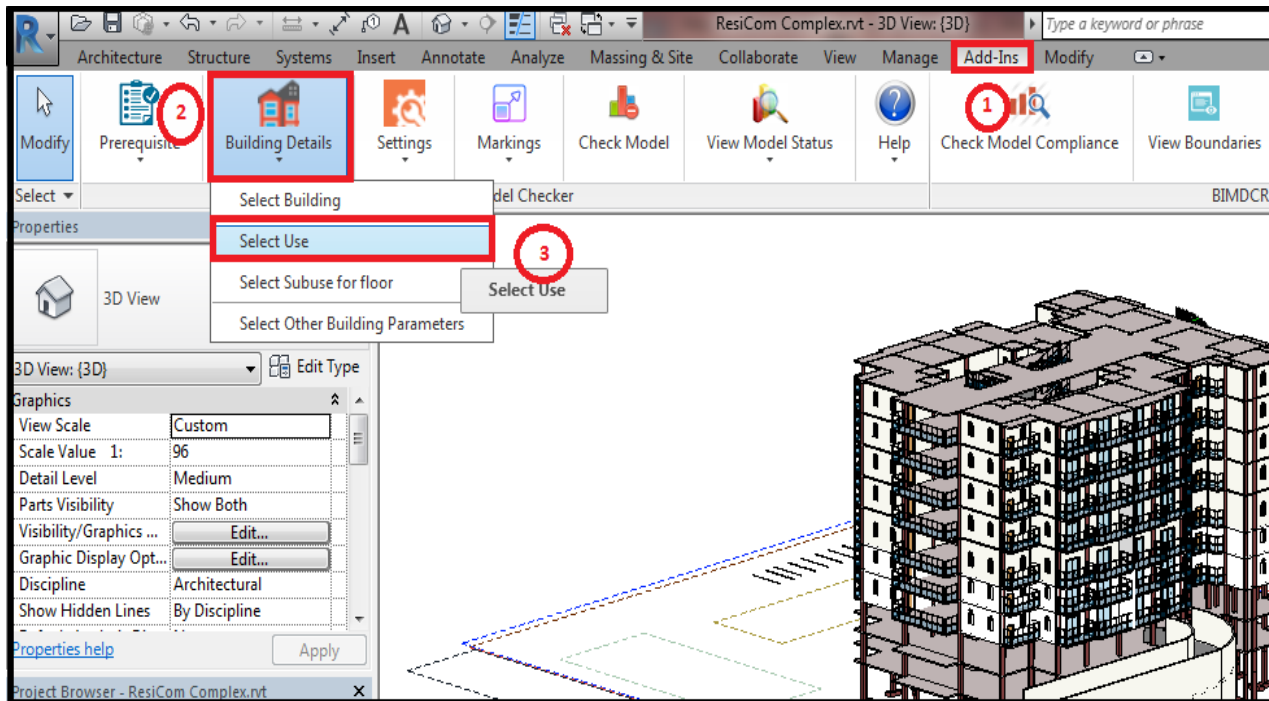
3. Select floor from the available floor list that needs to be mapped to the floor from the category list and click on add button



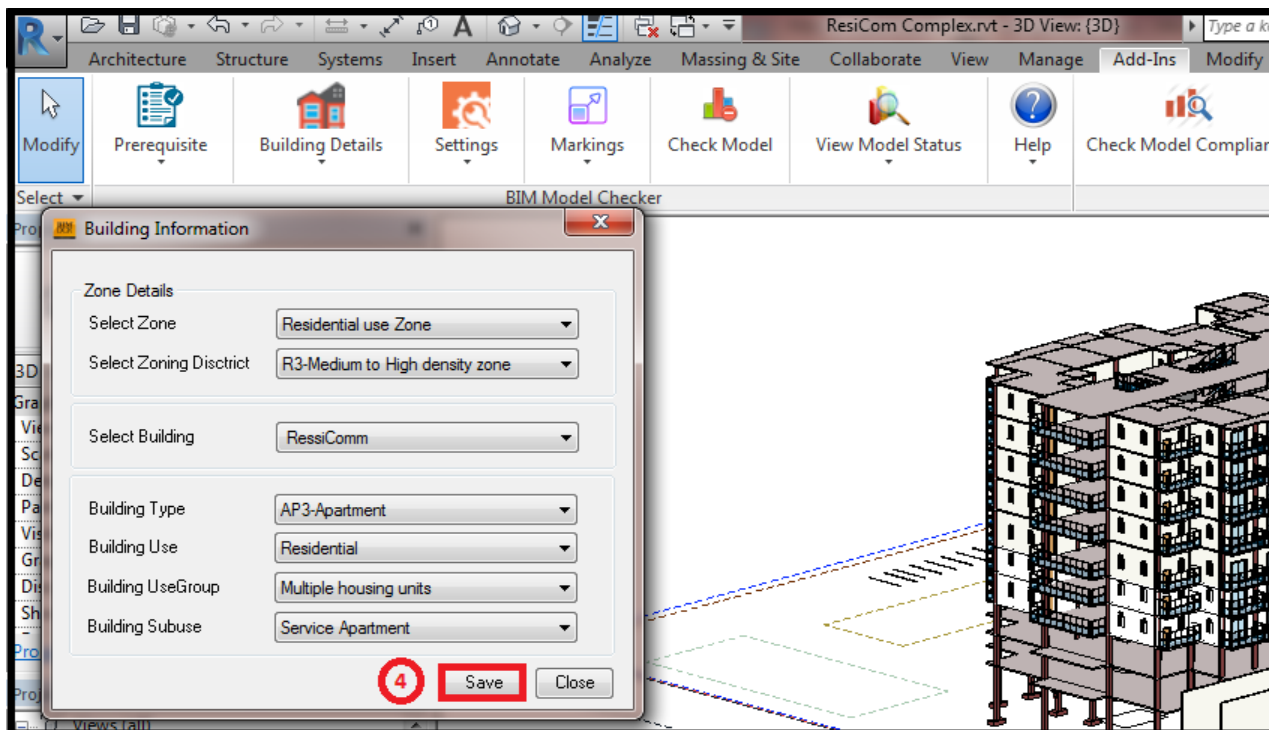
3.13 SELECT BUILDING USE

Steps:-

- 1. Click on Add -Ins-> Building details -> Select Use.**



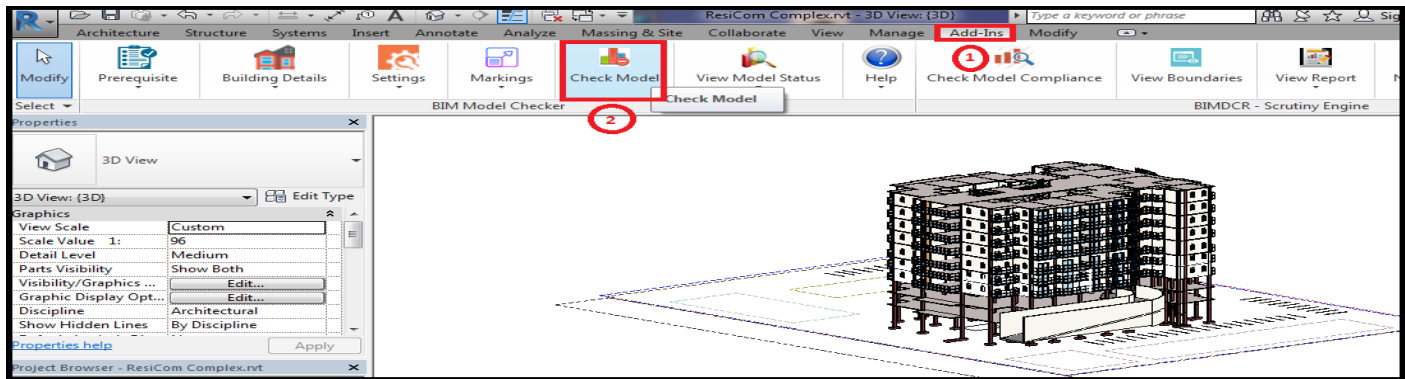
- 2. Select the use and click on save.**



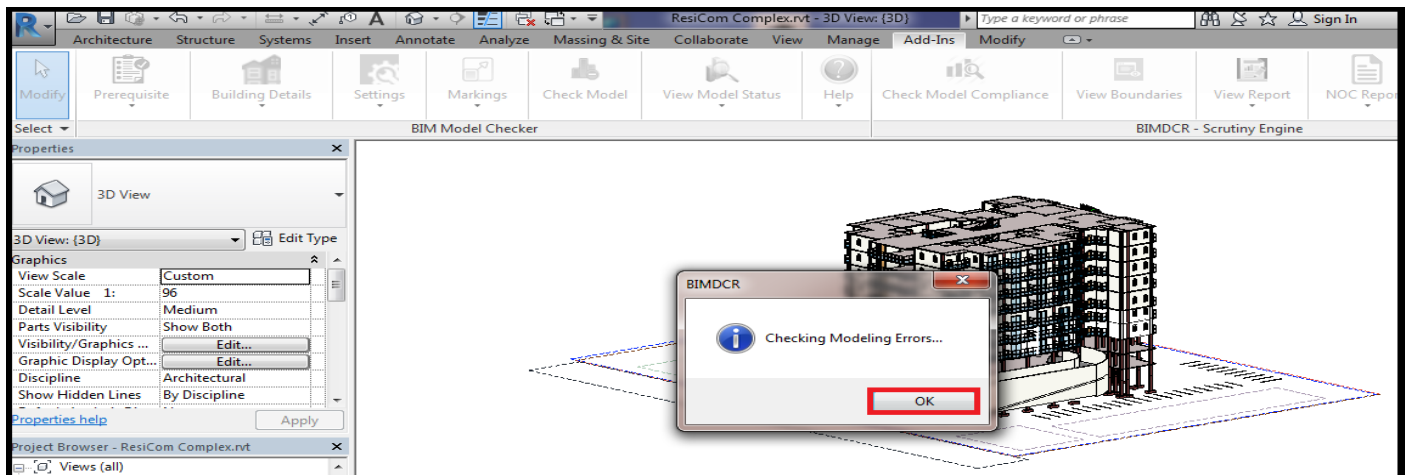
3.14 CHECK MODEL FOR ERRORS

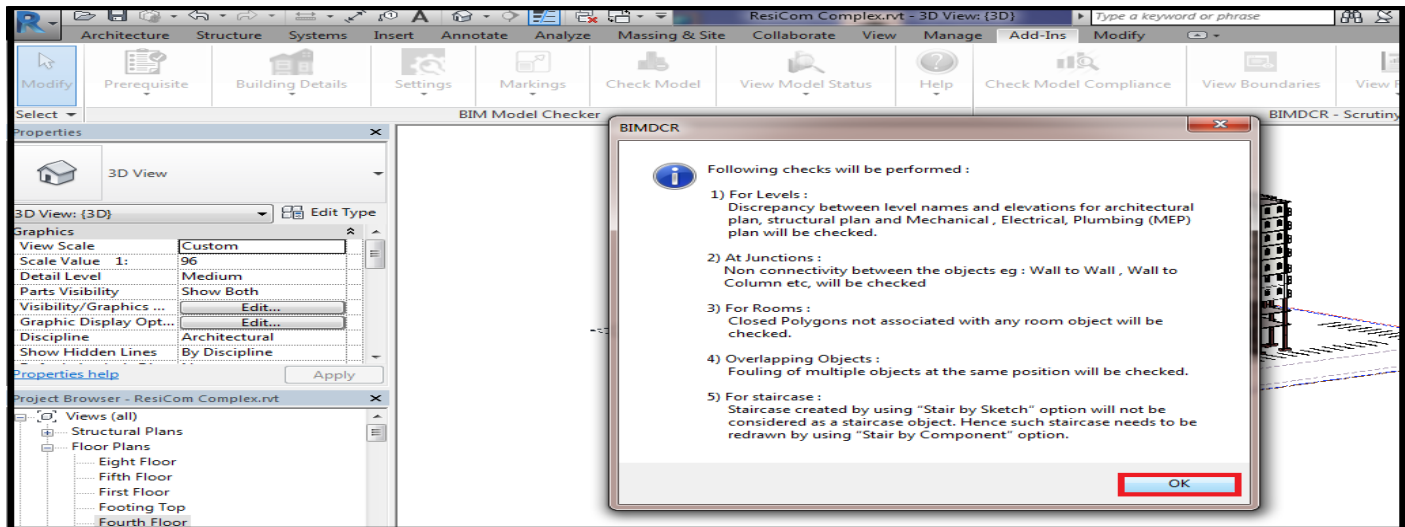
Steps:-

1. Select the 3D model view -> click on Add-Ins -> Check model



2. Click ok

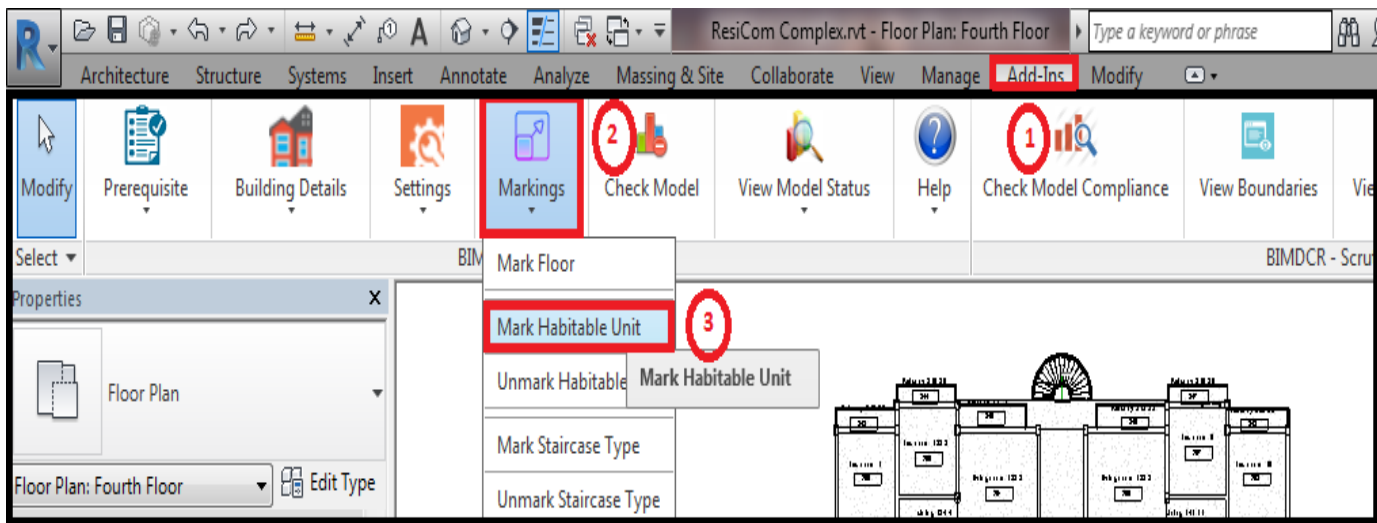




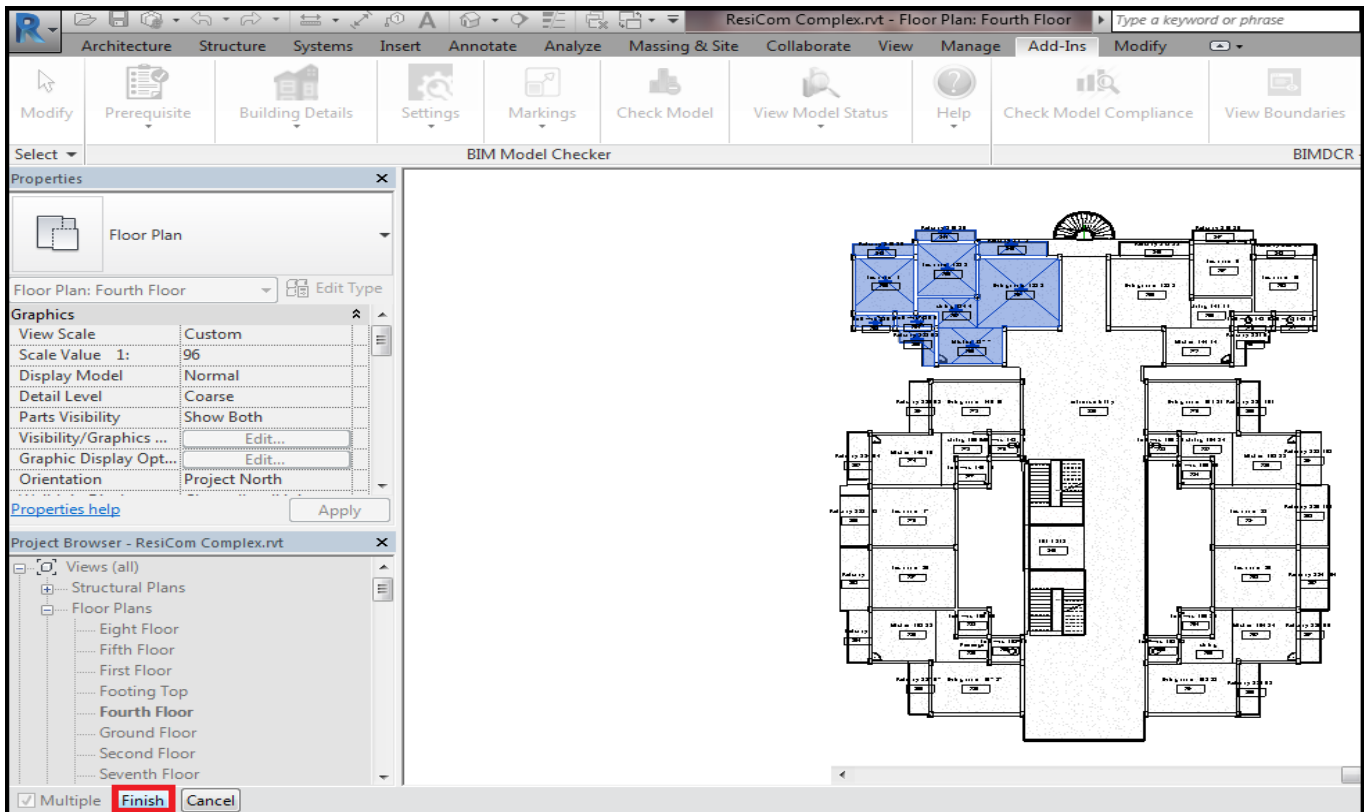
3.15 MARK HABITABLE UNITS

Steps:-

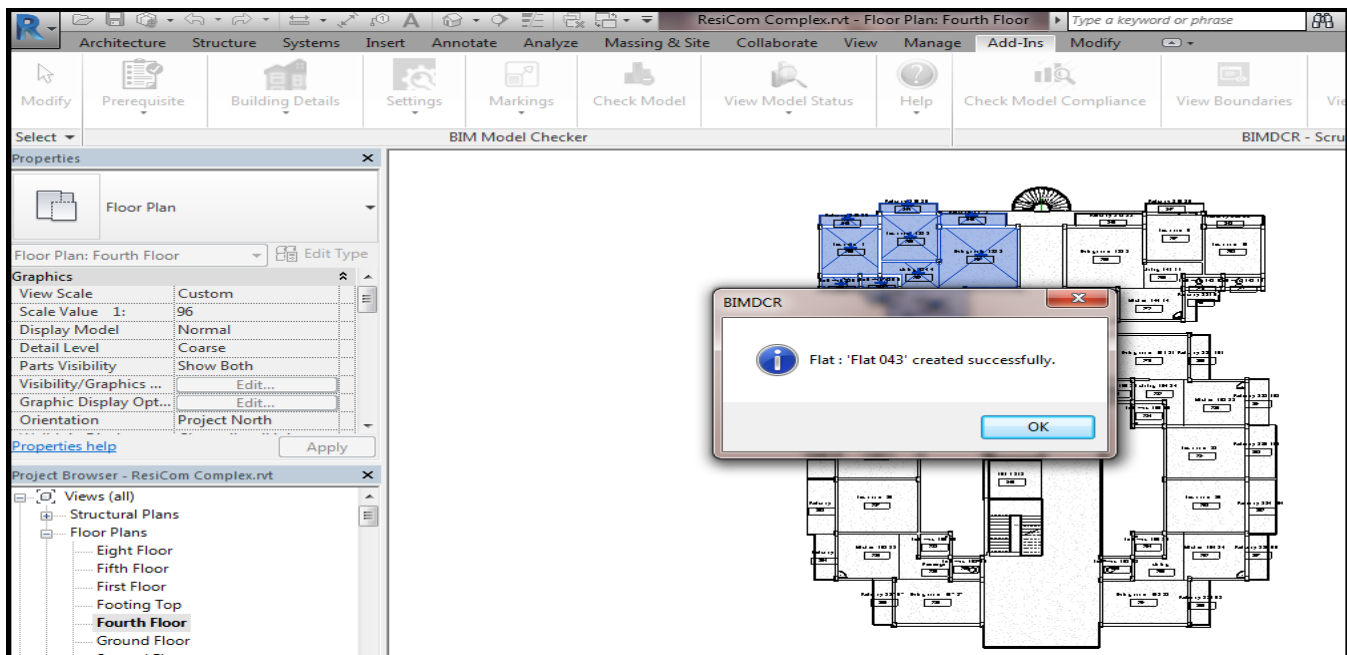
1. Click on Add-Ins -> Markings -> Mark habitable unit.



2. Select the rooms and click finish.



3. Flat/Habitable unit will be created.

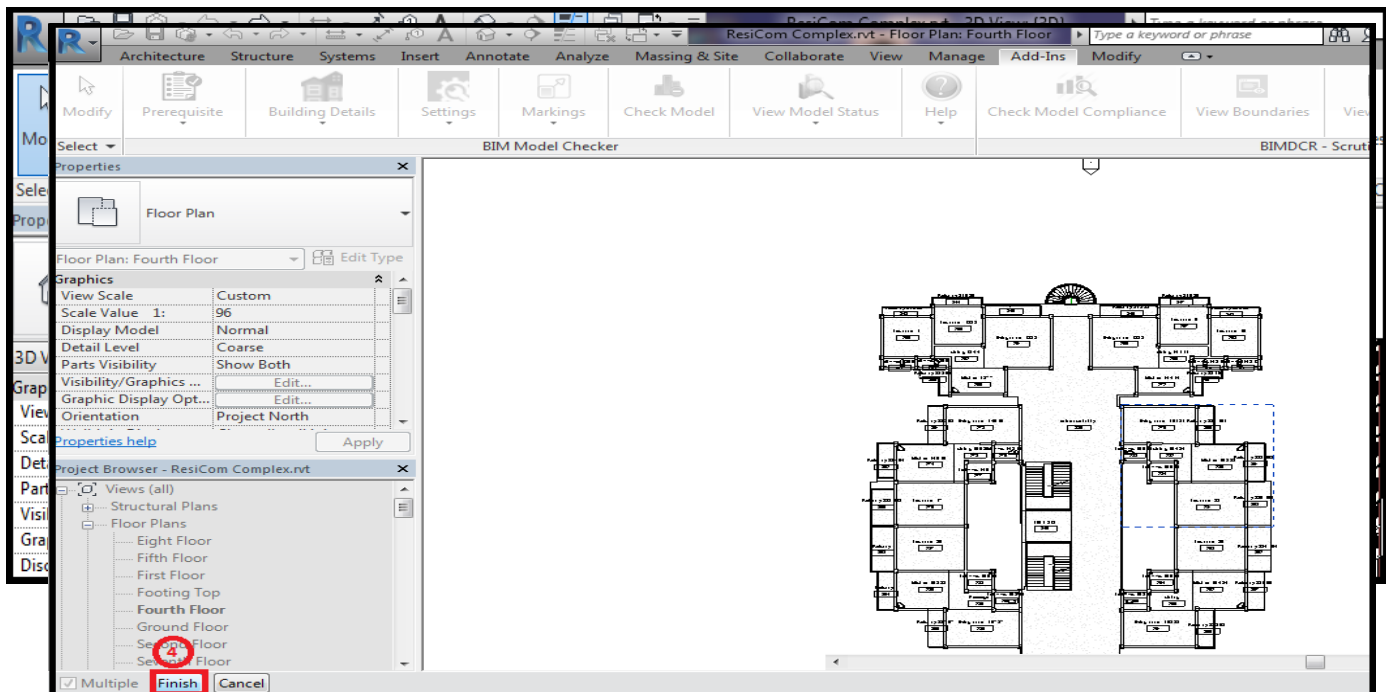


3.16 MARK HABITABLE ROOM / DWELLING UNIT

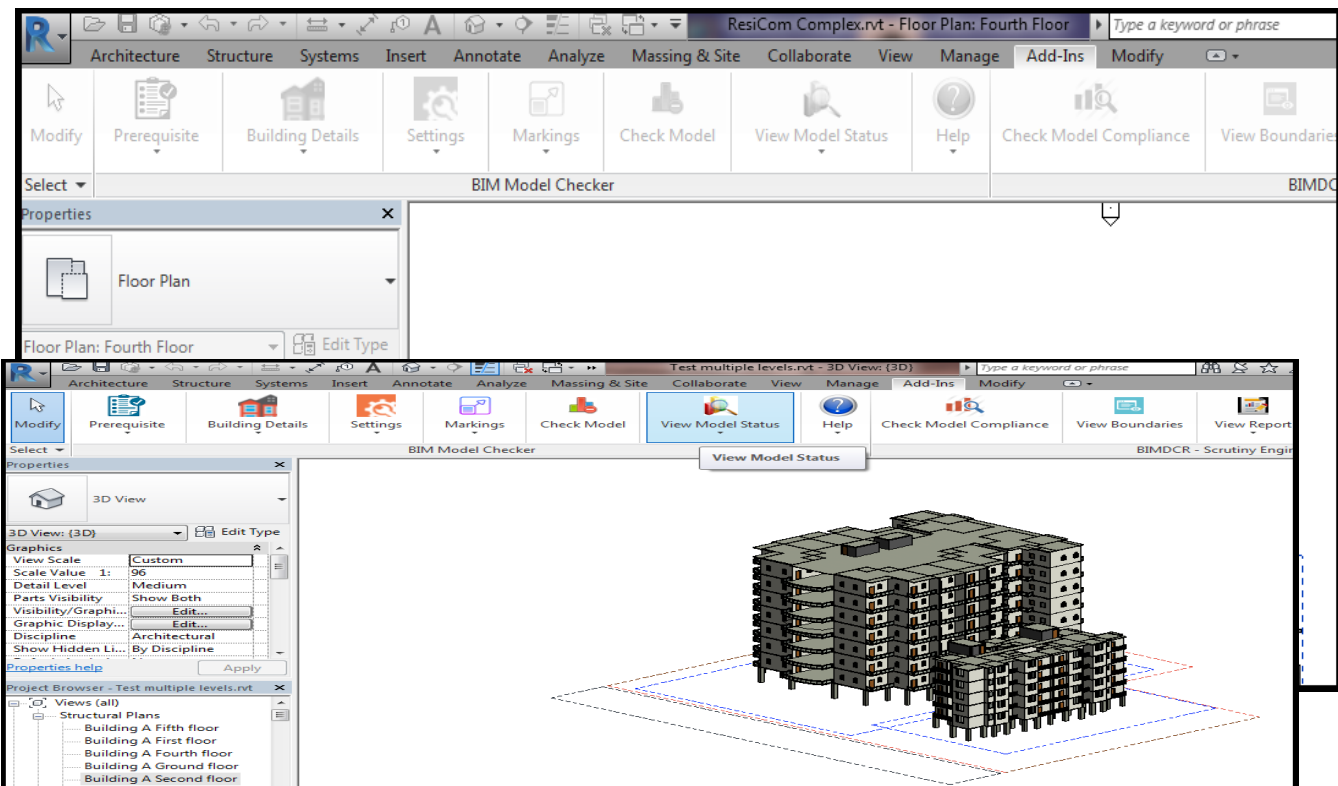
Steps:-

1. Click on Add-Ins -> Markings -> Unmark habitable unit

2. Select the habitable unit that needs to be unmarked and click on finish.

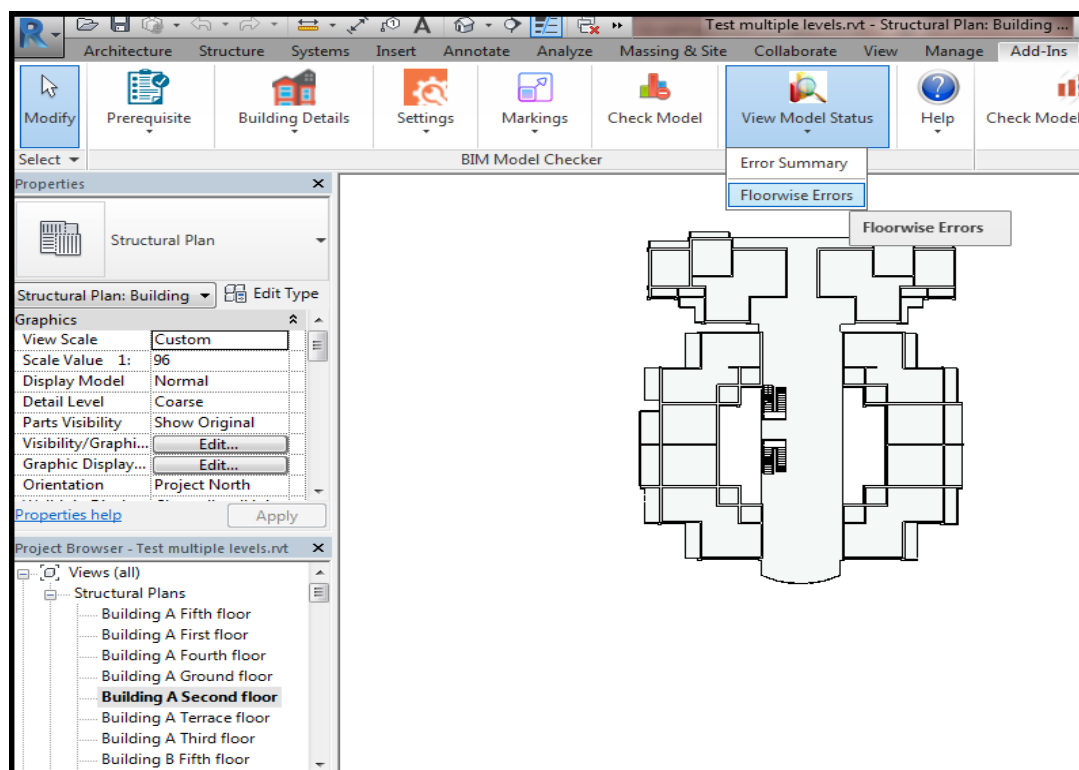
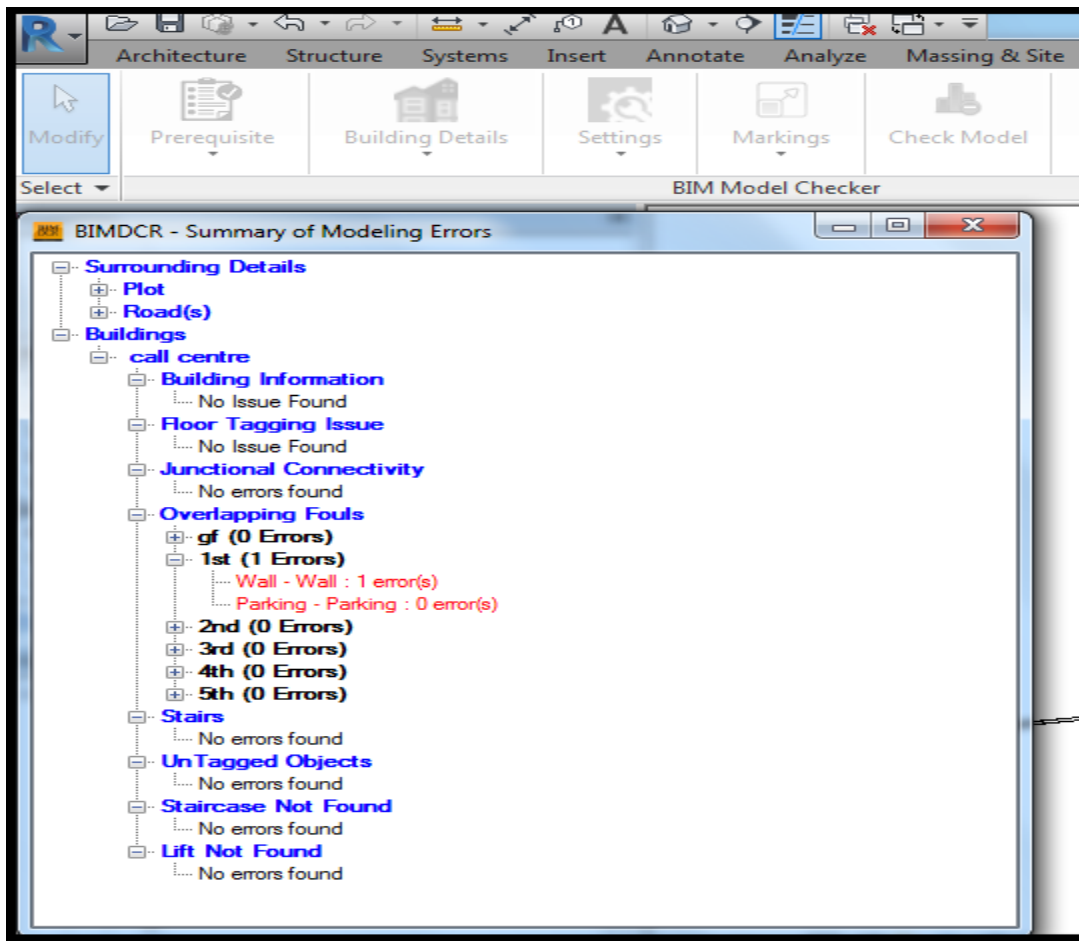


3. Habitable unit will be unmarked.



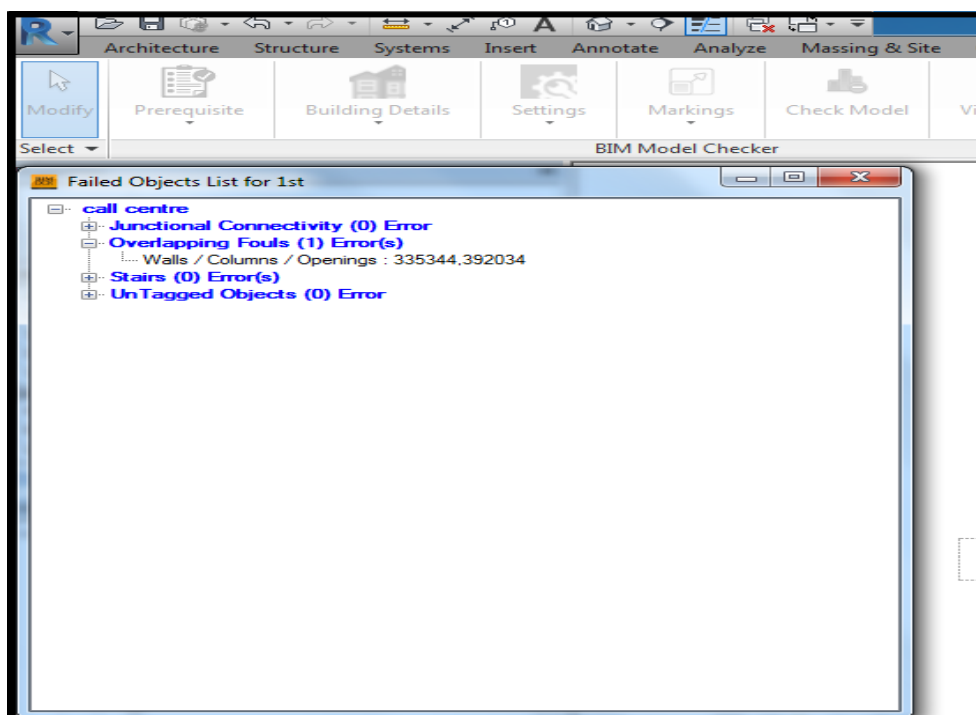
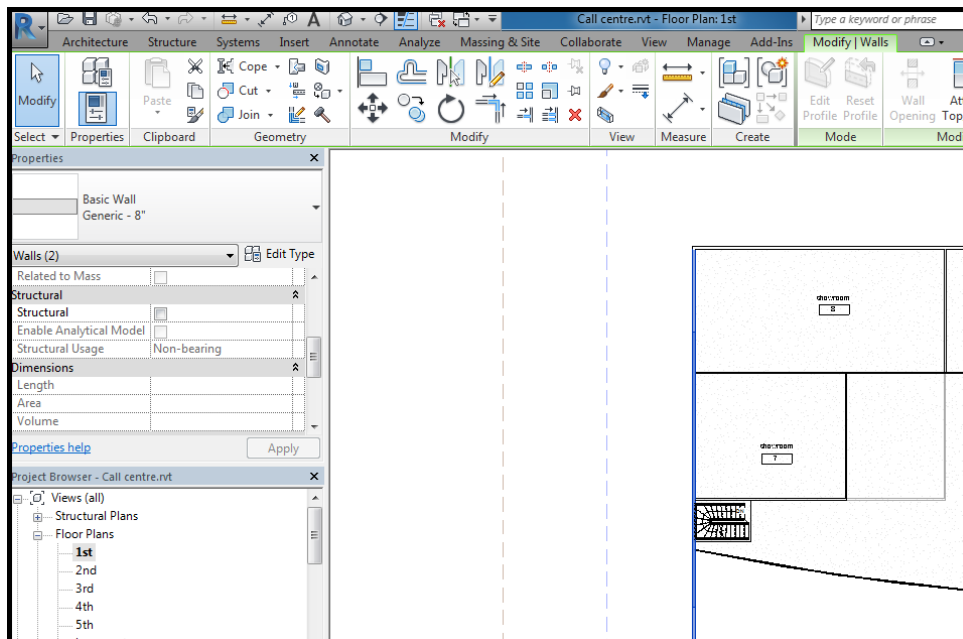
3.17 MODEL STATUS/ERROR SUMMARY

1. After model checking is done, user can view modelling related errors in View Model Status.
2. Error summary provided the details list of all the errors in the model.
3. Floorwise error summary provided the list of errors in that particular floor



4. Click on floor wise error summary.

5. Click on the IDs in floorwise error summary which will track down to 2D plan highlighting the failed object.



3.18 Preliminary Rule Check

1. After model checking is done, preliminary rule check report will be generated.
2. Preliminary rule checks will be done for following rules:-

- Minimum plot area rule.
- Minimum number of Cellar/basement.
- Maximum building coverage
- Maximum FSI.
- Maximum building height.
- Maximum floor to floor height in meters.
- Minimum setback.

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Preliminary Rule Check Report Generated On : 20-01-2018

Minimum Plot Area

Required	Proposed	Status
500.000	882.282	OK

Built Up Coverage Area (in %)

Building Coverage		Status
Permissible	Proposed	OK
529.369	368.328	
60.000 %	41.747 %	

Individual Coverage Check

Coverage Area	Permissible	Proposed
A	-	368.328
Total Proposed Coverage Area	-	368.328
Total Coverage Area	529.369	368.328

Green Coverage

Name	Total Area		Status
	Reqd	Prop	
Green Coverage	132.342	133.617	OK








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120%





Green Coverage

132.342








133.617

OK

Cellars/Basements



Views



Building	Cellars/Basements		Status
	Permissible	Proposed	
A	2	0	OK

Building Height

Building	Height		Status
	Permissible	Proposed	
A	18.000	15.000	OK

Number of Floors

Building	Number of floors		Status
	Permissible	Proposed	
A	G+5	G+3	OK

Floor Height

Building : A

Building Name	Floor Name	Height			Status
		Required	Permissible	Proposed	
A	GF	2.750	3.000	2.850	OK
A	First Floor	2.750	3.600	2.850	OK
A	Second Floor	2.750	3.600	2.850	OK
A	Third Floor	2.750	3.600	2.850	OK
A	Fourth Floor	2.750	3.600	2.850	OK








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





120%



Mandatory setbacks C



Views



Above Grade Margin Details

Building : A

Floor	Front		Rear		Side1		Side2		Status
	Req	Pro	Req	Pro	Req	Pro	Req	Pro	
GF	3.000	3.600	3.000	3.929	3.000	6.399	3.000	6.597	OK
First Floor	3.000	3.600	3.000	3.935	3.000	6.399	3.000	6.597	OK
Second Floor	3.000	3.600	3.000	3.935	3.000	6.106	3.000	6.597	OK
Third Floor	3.000	3.600	3.000	3.935	3.000	6.399	3.000	6.597	OK

Fourth Floor

Fourth Floor	3.000	3.600	3.000	3.935	3.000	6.399	3.000	6.597	OK
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Basement Margin Details

Building : A

Not Proposed

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