NOTE
(FOR HSIIDC APPLICANTS/ALLOTTEES)

- For Industrial, Commercial & Institutional categories, the Allottee/Plot Owner has to apply for Building Plan through HEPC (https://investharyana.in) portal.

- For the remaining categories of HSIIDC plots/sites, the Allottee/Plot Owner has to apply through eSEWA (https://hsiidcesewa.org.in) portal.

- For HSIIDC allottees/plot owners, Registration process is to be done on Online Building Plan Approval System (OBPAS) portal after being redirected from eSEWA portal. Please DO NOT register directly.

- For Technical Persons (Architect, Structural Engineers, etc), first Signup and Register as Technical Person on OBPAS (https://haryanabpas.gov.in) Portal.

- Scrutiny fee is to be paid online on HOBPAS – Citizen portal page and not directly through eGras portal.
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PREFACE

This User Manual gives you a detailed description about AutoPlan Author. The topics included are structured, based on the menu listed in the system in order to give you clear understanding.
1 Introduction

1.1. CAD Software

CAD or Computer-Aided Design and Drafting (CADD), is the use of computer technology for design and design documentation. CAD software replaces manual drafting with an automated process.

1.2. AutoPlan BPAS

AutoPlan BPAS is Computer Aided Design (CAD) based software that can be used to automate building plan verification process in Building Plan Approval System (BPAS).

AutoPlan BPAS has two integral parts:

1. AutoPlan Author
2. AutoPlan Verify

1.3. AutoPlan – Author

AutoPlan Author is a fast, stable and user-friendly software which shall be used by the Architect / Engineer. It is used to prepare the input file (.apz file) which has to be submitted along with application through online for Building Plan Approval System. AutoPlan Author shall be downloaded from Portal Application in Building Plan Approval System by registered technical person in Portal Application. AutoPlan Author is downloaded as zip file (Author.zip) which contains a Setup.exe file and “AutoPlan Author Installation Guide.pdf” file. Setup.exe file shall be installed by following the instructions in “AutoPlan Author Installation Guide.pdf” file. AutoPlan Author is activated by License generated for registered technical person (LicenseAuthor.apx) in Portal Application in Building Plan Approval System. The License file contains details of the technical person.
1.4. **Procedure for preparation of the application file (.apz file) using Marking forms in AutoPlan Author (in system having AutoCAD (2013 and above) versions)**

**Step 1:** Building plans are prepared by Architect / Engineer in AutoCAD software.

**Step 2:** Architect / Engineer prepare a AutoPlan Author Project in which details of project such as drawing details, Ownership Details, Land Details, Building Details, Lease Details, etc., shall be entered and the prepared Building Plan shall be attached to the project.

**Step 3:** The prepared Building Plan shall be marked through various marking forms in AutoPlan Author.

**Step 4:** Application file (.apz file) shall be generated from AutoPlan Author.

**Additionally following features available in AutoPlan Author:**

i. AutoPlan Author verify the marked drawing and generates verification results and sample Report so that the Architect / Engineer can confirm whether the building plan is acceptable to Building Bye-laws and Zonal Regulations before applying to Authority for Building Plan Approval Certificate/Occupancy Certificate application.

ii. AutoPlan Author highlights the failed objects (based on Building Bye-laws and Zonal Regulations) in drawing for corrections with required / permissible values as per Building Bye-laws and Zonal Regulations so that the Architect / Engineer can correct the drawing where ever required before submitting to Authority for Building Plan Approval Certificate/Occupancy Certificate.
1.5. License Details

The license details of the technical person can be viewed by clicking **License Details** option in **Help** menu. The service URL from which the license has been downloaded is showing here. Also renewal of the license can be done from this option.

1.6. Log Files

- **Launch Error Log** option helps user to view the log files which are created during data processing containing errors.
- **Launch Application Status** option helps to identify the status of the application in verify like, log entry, application number, application name etc.
- **Launch Evaluation Log** option is used to identify the errors during evaluation
- While installing Autoplan Author Tool, use **Clear Data** option, if user wants to clear previous data.
2 AutoPlan Author Project

2.1 Creating New Project

AutoPlan Author Project can be created by either of following two ways,

i. AutoPlan Author Project can be created by clicking **New Project** option in **File** menu.
ii. AutoPlan Author Project can be created by clicking **New Project** icon in **Tools bar**

![AutoPlan Author Project creation](image)

Project Details form will open as shown below.

![Project Details form](image)

### 2.2 Project Details

Basic and necessary details of project such as drawing file details, land Details, building details, lease details, etc., are entered in Project details form.

Project Details form consists of following sections / tabs,

- a) Project Information
- b) Drawing File Details
- c) Project Details
2.2.1 Project Information

- **Authority**: Select Authority name.
- **Drawing Preparation Mode**: Choose drawing preparation mode as ‘Using AutoPlan Author’ or ‘Without AutoPlan Author’.
- **Project Name**: Enter a Name for the project.
- **Description**: Enter the description of the project.
- **Application Submitted by**: Select the person who is going to apply to Authority for Building Plan Approval Certificate.
- **Applied For**: Choose whether application is applied for ‘Self’ or ‘Client’.
- **Application Type**: Select the type of application for which the project is to be created.
- **Reference Number (if any)**: Enter the reference number of the application, if any.
- **Project path**: Select any existing folder from the list or create a new folder by clicking Make New Folder button.

*After entering all the details, click NEXT button to move to next tab. Click CANCEL button to close the Project Details form.*
2.2.2 Drawing File Details

i. **Drawing File**: Select the prepared drawing file by clicking **Browse** button.

ii. **Drawing Unit**: Select the unit in which the selected drawing file was prepared in CAD.

iii. **Drawing Sub Unit**: Select the sub unit (Meter, Millimeter, Centimeters, etc.,) in which the selected drawing file was prepared in CAD™.

iv. **Drafting Scale**: Select the drafting scale by which the drawing is drafted.

v. **Plotting Scale**: Select the plotting scale by which the drawing is to be plotted in a sheet.

vi. **Site Plan Scale**: Select the site plan scale by which the drawing is drafted.

vii. **Unit of Length**: Select the unit in which the values are to be displayed in scrutiny report.

There is option for adding Multiple Drawings in a project. After entering details of one drawing, click on **Add** button to add the drawing details to grid. Then repeat the same process for all the drawings.

After entering all the details, click **NEXT** button to move to next tab and **PREVIOUS** button to move to previous tab. Click **CANCEL** button to close the Project Details form.
2.2.3 Project Details

- **Building Category**: Select the building category from the dropdown list.
- **Project Type**: Select the project type from the dropdown list.
- **Zone**: Select the land zone from the dropdown list.
- **Classification**: Select the classification of the proposed building.
- **Project Component**: Select the project component.
- **Project Category**: Select the project category.
- **Building Name**: Enter the name of the building.
- **Total Area Covered in all Floors**: Enter the total floor area of the building in square meter.
- **Number of Floors**: Enter the number of floors proposed for the building.
- **Number of Dwelling Units**: Enter the number of dwelling units proposed for the building.
- **Floor(s) Above Ground**: Enter the number of floors above ground floor.
- **Floor(s) Below Ground**: Enter the number of floors below ground floor.
- **Setback as per**: Choose whether the setback of the site is to be marked as per Building Code or Land Approval.
xiv. **Coordinates**: Choose the coordinates as ‘False Easting/Northing’ or ‘Latitude/Longitude’.

**Add**: After entering the above details, click **Add** button to add the building to the list below.

**Edit**: To edit a building from the list, double click the building from the list, edit the same and click **Add** button.

**Remove**: To remove a building detail from the list, click **Remove** icon corresponding to the building.

After entering all the details, click **FINISH / UPDATE** button to save the details entered in Project Details form. Click **PREVIOUS** button to move to previous tab and click **CANCEL** button to close the Project Details form.

**Marking Control** form will open as shown below.

![Marking Control Form](image)

**NOTE**: The items in this marking control form will be listed based on DCR verification.
2.3 Floor Details

Converting of normal floors to typical floors is done in Floor Details form.

i. **Floor Details** form shall be opened by clicking **Floor Details** option in **Edit** menu.

Floor Details form will open as shown below.
ii. Select the building from **Building Name** drop-down list.

iii. Select the Floors to be converted as typical floors by click and hold Control button and select the floors by mouse left click.

iv. Click **Typical** button to convert Normal floor to Typical floor.

v. Click **Save** button, confirmation message box will come, click **OK** button.

vi. Step ii to vi shall be repeated for other buildings, if available.

vii. Click **Close** button to close **Floor Details** form.

**Note:** If you convert normal floor to typical after marking, a Confirmation message will come as shown below.

Click **Yes** to continue.

**“Typical Floors:** Normal floors whose floor area and other parameters are similar can be considered as Typical Floors. In Case of Typical floors, building parameters such as Floor area, etc can be calculated for single floor and it shall be multiplied by number of floors in the typical floor to get total values for the parameter. Basement Floor, Ground Floor and Roof cannot be added to Typical Floor”. 
2.4 Connected Floor Details

For plots having more than one buildings and shall be connected to each other, the connection details are saved in **Connected Floor Details** form.

i. **Connected Floor Details** form shall be opened by clicking **Connected Floor Details** option in **Edit** menu.

![Connected Floor Details form](image)

**Connected Building Details** form will open as shown below.

![Connected Building Details form](image)

ii. To establish a connection between two or more floors, following steps have to be followed.

   a) **Connection Name**: Enter a name for the connection.
b) **Type of Connection**: Select the connection type whether Simple Passage Connection or Total Area connection.

c) **Area Division**: Select the type of area division among connected floor whether Ratio or Equal.

d) **Building Name**: List all the buildings in the project, select the building in which connection has to be established.

e) **Select Floor**: List all the floors in the selected building in Building Name, select the floor which is connected to other building.

f) **Add**: After selecting the building and floor click **Add** button to add the building and floor to the connection.

g) **Remove**: Use remove button, if you want to delete the floor name for the connection provided.

h) Step (d) to (f) has to be repeated to add another building to the connection.

i) After adding all the required buildings in connection, click **Save** button. Connection will be listed in List of Connections.

j) **Clear**: To clear all the details such as Connection Name, buildings in the list, click **Clear button**.

k) **Remove**: To remove any connection from list, select the connection and click **Remove** button, confirmation message will come, Click **Yes** button.

l) **List of Connection Details**: To edit an already established connection, **double click** the connection name in List of Connections, the connection details will be loaded in corresponding fields. Edit the required details and click **Save** button.

m) **Close**: To close Connected Building Details form, click **Close** button.
**Simple Passage Connection:** If two buildings are connected by a passage only then the connection is called Simple Passage Connection.

![Simple Passage Connection Diagram](image1)

**Total Area Connection:** If two buildings are connected by a common floor which may extends beyond the floor area of individual buildings, and then the connection is called Total Area Connection.

![Total Area Connection Diagram](image2)

**Area Division-Ratio:** Area Division-Ratio means the connected area which is common for all the buildings in the connection shall be divided among the buildings based on the **ratio of floor area of non-connected floors in each building.**

**Area Division-Equal:** Area Division-Equal means the connected area which is common for all the buildings in the connection shall be divided among the buildings equally.
2.5 Road Details

In case multiple roads abutting the site, road library details can be saved in Road Details form.

Road Details form shall be opened by clicking Road Details option in Edit menu.

Road Details form will open as shown below.
i. **Classification of Road:**

ii. **Road Name:** Enter a name for the Road

iii. **Road Category:** List categories of road such as 'National Highway', 'State Highway', ' Provincial Highway', etc. if Classification of Road = 'Public Road / Street' is selected and 'Residential Road', 'Commercial Road', etc. if Classification of Road = 'Internal Road' is selected.

iv. **Existing Width:** Enter the Existing Width of Road

v. **Proposed Width:** Enter the Proposed Width of Road

vi. **Building Line:** Enter the Building Line value for the Road

vii. **Add button:** After completing the above steps, click Add button to add the road to the list below.

viii. Step (ii) to (xiv) shall be repeated to add more road.

ix. After adding all the required roads, click Save button. Confirmation message will come, click OK button.

**Remove Road Details:** To remove a road from the list, select the road from the list and click Remove icon at the last column of the list, Confirmation message will come, click Yes button.

### 2.6 Means of Access

Means of Access Library can be created using **Means of Access Details** form, if there is multiple means of access to the plot from Public Road.

**Means of Access Details** form shall be opened by clicking **Means of Access Details** option in Edit menu.
Means of Access Details form will open as shown below.

i. **Means of Access Name**: Enter a name for the Means of Access

ii. **Existing Width**: Enter the Existing Width of Road

iii. **Proposed Width**: Enter the Proposed Width of Road

iv. **Development On**: Select any one from the list

v. **Dead End**: Check if the Means of Access is dead end.

vi. **Add button**: After completing the above steps, click Add button to add the means of access to the list below.

vii. Step (ii) to (xiv) shall be repeated to add more means of access.

viii. After adding all the required means of access, click on Save button. Confirmation message will come, click OK button.

### 2.7 Opening Library

Light and Ventilation shall be marked only by selecting the opening from Opening Library. In a building, openings with similar dimensions shall be repeated at same floor or different floor or different building in same project. In such case, one opening added to library shall be used to mark all the openings of similar dimensions.

i. **Opening Library** form shall be opened by clicking Opening option in Libraries menu.
Schedule of Openings form will open as shown below.
ii. **Opening Type:** List all the room types available based on the selected authority. Select the room type under which the room has to be added to library.

iii. **Opening Name:** Enter the name of the opening.

iv. **Width:** Enter the width of the opening.

v. **Height:** Enter the clear height of the opening.

vi. **Description:** Enter a short description about opening.

vii. **Area:**
   a) Click *Mark* button corresponding to Width.
   b) Now control will switch to AutoCAD work space with *selection* cursor.
   c) Select the object(s) to be marked for Width by *mouse left click*.
   d) Selection process is completed by *mouse right click* or *click enter key*.
   e) Marking confirmation message will come in *Tray* icon.

viii. **Add:** After completing the above steps, click *Add* button to add the opening to the library list below.

ix. **Step (ii) to (x) shall be repeated to add more rooms to library.**

x. After adding all the required openings to library, click *Save* button. Confirmation message will come, click *OK* button.

xi. **Remove Opening:** To remove an opening from list, select the opening from the list and click Remove icon 🗑️ at the last column of the list, Confirmation message will come, click *Yes* button.
2.8 Room Library

Rooms shall be marked by selecting the room from Room Library. In a building, rooms with similar usage, dimensions are repeated at same floor or different floor or different building in same project. In such case, one room added to library shall be used to mark all the rooms of similar usage and dimensions.

i. **Room Library** form shall be opened by clicking **Room** option in **Libraries** menu.

![Room Library Form](image)

**Room Library** form will open as shown below.

![Room Library Form](image)

Click on the **Add Room** button to add new room library.
vi. **Room Type:** List all the room types available based on the selected authority. Select the room type under which the room has to be added to library.

vii. **Name:** Enter the name of the room.

viii. **Area:**
   a) Click Mark button corresponding to Area.
   b) Now control will switch to AutoCAD work space with selection cursor.
   c) Select the object(s) to be marked for Area by mouse left click.
   d) Selection process is completed by mouse right click or click enter key.
   e) Marking confirmation message will come in Tray icon.

ix. **Length:** Refer steps in Area for Length Marking.

x. **Width:** Refer steps in Area for Width Marking.
xi. **Floor Level:** Refer steps in Area for Floor Level Marking.

xii. **Ceiling Level:** Refer steps in Area for Ceiling Level Marking.

**Opening Details:**

*Opening Details section in Room Library is used to select the Openings provided in the Room*

xiii. **Opening Type:** List all the opening types available based on the Openings Library. Select the opening type proposed in the room.

xiv. **Opening Name:** List all the openings available based on the selection in Openings Type. Select the Opening Name to be tagged to the room.

xv. **Location:** List the different locations by which the opening is leading towards such as Exterior Open Space or Interior Open Space.

xvi. **Number of Openings:** Enter the number of openings provided in the room corresponding to the Opening Name selected.

xvii. **Add (Openings) button:** After completing the above steps (xiii to xvi), click **Add** button to add the openings to the Rooms list below.

xviii. **Add (Rooms) button:** After completing the above steps, click **Add** button to add the room to the library list below.

xix. Step (ii) to (xiv) shall be repeated to add more rooms to library.

xx. After adding all the required rooms to library, click **Save** button. Confirmation message will come, click **OK** button.

**Remove Room Details:** To remove a room from list, select the room from the list and click **Remove** icon at the last column of the list, Confirmation message will come, click **Yes** button.

### 2.9 Loft Library

Rooms shall be marked by selecting the room from Room Library. In a building, rooms with similar usage, dimensions are repeated at same floor or different floor or different building in same project. In such case, one room added to library shall be used to mark all the rooms of similar usage and dimensions.

**Loft Library** form shall be opened by clicking **Loft** option in **Library** menu.
Loft Library form will open as shown below.
i. **Loft Section Name:** Enter the name of the loft section.
ii. **Description:** Enter the description about loft section.

iii. **Loft Slab Bottom Level:**
   a) Click *Mark* button corresponding to Loft Slab Bottom Level
   b) Now control will switch to AutoCAD work space with *selection* cursor
   c) Select the object(s) to be marked for Loft Slab Bottom Level by *mouse left click*
   d) Selection process is completed by *mouse right click* or *click enter key*

iv. **Loft Slab Top Level:** Refer steps in Loft Slab Bottom Level for Loft Slab Top Level Marking

v. **Room Floor Level:** Refer steps in Loft Slab Bottom Level for Room floor Level Marking

vi. **Room Ceiling Level:** Refer steps in Loft Slab Bottom Level for Room Ceiling Level Marking

vii. **Add:** After completing the above steps, click *Add* button to add the loft to the library list below

viii. Step (ii) to (x) shall be repeated to add more rooms to library

ix. After adding all the required loft to library, click *Save* button. Confirmation message will come, click *OK* button.

x. **Remove:** To remove an opening from list, select the opening from the list and click Remove icon 🗑 at the last column of the list, Confirmation message will come, click *Yes* button.

---

### 3 Marking Forms

#### 3.1 Drawing Bound

Drawing Bound is used to select the boundary of the drawing in which marking is to be done

To select the drawing bound,

i. Select **Drawing Bound** option from **Settings** menu
ii. Drawing Bound form will open as shown below
Marking Drawing Bound:

a) Click **Mark** Button corresponding to the Drawing Bound
b) Now control will switch to AutoCAD work space with selection cursor
c) Select the Polyline to be marked for *Drawing Bound* by mouse left click
d) Selection process is completed by mouse right click or click enter key
e) Marking confirmation message will come in Tray icon.

iii. After marking all the required sheets, click Close button to close *Drawing Bound* form.

### 3.2 Road

Road is used to mark the width of road(s) abutting the site in Site Plan.

#### 3.2.1 Mark Road:

i. Click **Mark** button corresponding to Road in *Marking Control* form.
ii. **Mark Road** form will open.
iii. Select the Road Name added in Road Details form from **Road Name** drop-down list.

iv. Select the type of road, weather existing or proposed from **Type of Road** drop-down list.

v. **Side 1:**
   
   a) Click **Mark** button corresponding to Side 1.
   
   b) Now control will switch to AutoCAD work space with selection cursor.
   
   c) Select the closed polyline(s) to be marked for Building Boundary by *mouse left click*.
   
   d) Selection process is completed by *mouse right click* or *click enter key*.
   
   e) Marking confirmation message will come in Tray icon.

vi. **Side 2:** Refer steps in Side 1 for Side 2 Marking.

vii. **Center:** Refer steps in Side 1 for Center Marking.
viii. Step (iii) to (viii) shall be repeated to mark road(s) abutting on other direction of plot such as Left, Right and Rear.

i. After marking road in required direction, click Close button to close **Mark Road** form.

### 3.2.1.1 Highlight Road:

Marked Road can be highlighted by clicking Highlight button corresponding to Road in **Marking Control** form.

Road in all the direction can be highlighted by changing the direction in **Direction** drop-down list.

### 3.2.1.2 View Road:

i. Click **View** button corresponding to Road in **Marking Control** form.

ii. **Road Details** form will open in which Plot Area, Coverage Area, Coverage % and Total number of buildings will be displayed.

![Road Details Form](image)

iii. Click Close button to close **Road Details** form.

### 3.3 Means of Access

Means of Access form is used to mark the means of access to the plot from Public Road or street.
3.3.1 Mark Means of Access

i. Click **Mark** button corresponding to Means of Access in **Marking Control** form.

ii. **Mark Means of Access** form will open.

![Mark Means Of Access Form]

- **Name of Means of Access**: Enter the Name of Means of Access to the plot.
- **Public Road / Street Name**: Select the road from which the Means of Access is proposed.
- **Type**: Select whether the Means of Access to be marked in Proposed or Existing.
- Mark **Side 1** and **Side 2** to calculate the Width of Means of Access.
  - a) Click **Mark** button corresponding to Side 1 and Side 2.
  - b) Now control will switch to AutoCAD work space with **selection** cursor.
  - c) Select the line to be marked for Means of Access by **mouse left click**.
  - d) Selection process is completed by **mouse right click** or **click enter key**.
  - e) Marking confirmation message will come in **Tray** icon.
f) After marking Means of Access, click Close button to close Mark Means of access form.

### 3.3.1.1 Highlight Means of Access:

Marked Means of Access can be highlighted by clicking Highlight button corresponding to Means of Access in Marking Control form.

### 3.4 Site Area

Site Area is used to mark the boundaries of site or plot in Site Plan.

#### 3.4.1 Mark Site Area:

i. Click Mark button corresponding to Site Area in Marking Control form.

ii. Mark Site Area form will open.

If the setback of the site is to be marked as per Building Code, following screen will open.
If the setback of the site is to be marked as per **Land Approval**, following screen will open.
iii. Click **Mark** button corresponding to Site Boundary. Option to select drawing file will appear as shown below.

![DRAWING FILES]

iv. Select the required **Drawing File** and click **OK** button.

v. Neighbouring Details corresponding to Front, Left, Right and Rear are optional in which details of neighbourhood of the site shall be entered.

vi. Click **Mark** button corresponding to Front.
vii. Now control will switch to AutoCAD work space with selection cursor.
viii. Select the closed polyline to be marked for Site Area by mouse left click.
ix. Selection process is completed by mouse right click or click enter key.
x. Marking confirmation message will come in Tray icon.

(xi. Step (vi) to (vii) is repeated to mark Left, Right and Rear.

xii. After marking site boundaries of Front, Left, Right and Rear, click Close button to close Mark Site Area form.

xiii. Site Depth and Site Width shall be marked by picking points along the Site Boundary Line (similar to Dimensions).

xiv. Also mark Front, Left, Right and Rear Setback Line. Refer Step (vi) to (vii) to mark setback lines.

3.4.1.1 **Highlight Site Area:**

Marked Site Area can be highlighted by clicking Highlight button corresponding to Site Area in Marking Control form.

3.4.1.2 **View Site Area:**

i. Click View button corresponding to Site Area in Marking Control form

ii. Site Area Details form will open in which site area and neighbouring details entered in Mark Site Area will be displayed.
iii. Click Close button to close **Site Area Details** form.

### 3.5 Building Boundary

Building Boundary is used to mark the boundaries of each floor of building(s) in Site Plan.

#### 3.5.1 Mark Building Boundary:

ii. Click **Mark** button corresponding to Building Boundary in **Marking Control** form.

iii. **Mark Building Boundary** form will open.

iv. Select the building from **Building Name** drop-down list.
v. Floors added in the selected building will be loaded in the form.

vi. **Click Mark** button corresponding to Ground Floor.

vii. Now control will switch to AutoCAD work space with *selection* cursor.

viii. Select the closed polyline(s) to be marked for Building Boundary by *mouse left click*.

ix. Selection process is completed by *mouse right click* or *click enter key*.

x. Marking confirmation message will come in *Tray* icon.
xi. Step (v) to (ix) is repeated to mark Building Boundary of other floor(s) in the selected building (If Floor(s) above Ground Floor is proposed).

xii. Step (iii) to (x) is repeated to mark floors in other building(s) (If more than one building is proposed).

xiii. After marking building boundary of all the floors, click Close button to close Mark Building Boundary form.

3.5.1.1 **Highlight Building Boundary:**

Marked Building Boundary can be highlighted by clicking Highlight button corresponding to Building Boundary in Marking Control form.

Building Boundary for all the floor can be highlighted by changing the building in Building Name drop-down list.

3.5.1.2 **View Building Boundary:**

i. Click **View** button corresponding to Building Boundary in Marking Control form.

ii. **Building Boundary Details** form will open in which Plot Area, Coverage Area, Coverage % and Total number of buildings will be displayed.

iii. Click **Close** button to close **Building Boundary Details** form.

3.6 **Floor Level**

Floor Level form is used to mark the level of all the floors in the building in Section Plan.
3.6.1 Mark Floor Level:

i. Click **Mark** button corresponding to Floor Level in **Marking Control** form.

ii. **Mark Floor Level** form will open.

![Mark Floor Level Form]

iii. Select the building from **Building Name** drop-down list.

iv. **Reduced Level (R.L) of Ground Line**: Enter the Reduced Level (R.L) of Ground Line with + or – symbol.

v. **Is Ground Floor is Stilt**: Check ✓ if ground floor is a stilt floor.

vi. **Stilt and Ground Floor**: Check ✓ if stilt is above ground floor.

vii. **Ground Line**:

a) Click **Mark** button corresponding to Ground Line. Option to select drawing file will appear.

![Select Drawing File]

b) Select the required **Drawing File** and click **OK** button.

c) Now control will switch to AutoCAD work space with *selection* cursor.
d) Select the line to be marked for Ground Line by mouse left click.

e) Selection process is completed by mouse right click or click enter key.

f) Marking confirmation message will come in Tray icon.

viii. **Roof Line**: Refer steps in Ground Line marking.

ix. **Floor Level**: Refer steps in Ground Line marking.

xiv. **Slab Bottom Level**: Refer steps in Ground Line marking.

xv. After marking all the levels, click **Close** button to close **Mark Floor Level** form.
3.6.1.1  Highlight Floor Level:

Marked Floor Level can be highlighted by clicking Highlight button corresponding to Floor Level in Marking Control form.

Floor Level and Slab Bottom Level for all the floors can be highlighted by changing the floor in Floor Name drop-down list.

Ground Line, Roof Line, Floor Level and Slab Bottom Level for all the building can be highlighted by changing the building in Building Name drop-down list.

3.6.1.2  View Floor Level:

i.  Click View button corresponding to Floor Level in Marking Control form.

ii.  Floor Level Details form will open in which Height of Building, Plinth Level, Floor height, clear height and Reduced Level of each floor in the building will be displayed.

iii.  Click Close button to close Floor Level Details form.

**NOTE:** Floor area usage and New & existing option only come we selected the project type is alteration and addition
**Ground Line:**

*Ground Line is the level from where height of building shall be calculated. Generally Ground Line is the level of Road abutting the plot. If level of road abutting the plot is not clear, then Ground Line shall be average level of ground (earth) abutting the building.*

![Ground Line Diagram]

**Roof Line:**

*Roof Line shall be top most level of roof slab of the topmost storey of the building. Parapet Wall, water tank, staircase room, lift machinery room and other exemptions in height above terrace shall not be considered while determining the Roof Line.*

![Roof Line Diagram]

**Floor Level:**

*Floor Level shall be the level of finished floor surface of a storey.*
**Slab Bottom Level:**

*Slab Bottom Level is the lowest level of finished roof of a storey and it includes beams.*

![Image of Slab Bottom Level and Floor Level](image)

### 3.7 Building Area

Building Area is used to mark floor area and deductions in FAR for each floor in Floor Plan.

#### 3.7.1 Mark Building Area:

1. Click *Mark* button corresponding to Building Area in *Marking Control* form.
2. *Mark Building Area* form will open.
iii. **Building Name**: Lists all buildings in the project. Select the building from the list.

iv. **Floor**: Lists all floors in the selected building. Select the floor from the list.

v. **Floor Area Use**: Lists Main and Ancillary. Select Main if the area to be marked is of main land use category and vice-versa.

vi. **New / Existing**: Select New if the area to be marked is of new construction and vice-versa.

vii. **Building Outer Line**:

   a) Click *Mark* button corresponding to Building Outer Line. Option to select drawing file will appear as shown below.

   ![DRAWING FILES](image)

   a) Select the required *Drawing File* and click *OK* button.

   b) Now control will switch to AutoCAD work space with *selection* cursor.
c) Select the closed Polyline to be marked for Building Outer Line by *mouse left click*.

d) Selection process is completed by *mouse right click* or *click enter key*.

e) Marking confirmation message will come in *Tray icon*.

viii. Step vii(a) to vii(e) shall repeated to mark other required items like Staircase, Duct, Lift, etc.

ix. Step iv to vii shall repeated to mark all the floors in the selected building.

x. Step iii to vii shall repeat to mark all the buildings in the project.

xvi. After marking all the required items, click Close button to Close *Mark Building Area* form.
3.7.1.1 **Highlight Building Area:**

Marked Building Area can be highlighted by clicking Highlight button corresponding to Building Area in **Marking Control** form.

Building Outer Line and other deductions for all the floors and buildings can be highlighted by changing the floor in Floor Name drop-down list and building in Building Name drop-down list.

3.7.1.2 **View Building Area:**

i. Click **View** button corresponding to Building Area in **Marking Control** form.

ii. **Building Area Details** form will open in which Gross area, net area, deductions and FAR area of each floor in the building will be displayed.

iii. Click **Close** button to close **Building Area Details** form.

3.8 **Room Size**
Room size is used to mark all the Rooms.

3.8.1 Mark Room Size

i. Click *Mark* button corresponding to Room in *Marking Control* form

ii. Mark Room form will open.

iii. **Building Name:** Lists all buildings in the project. Select the building from the list.

iv. **Floor Level:** Lists all floors in the selected building. Select the floor from the list.

v. **Select from Library:** Click on *Select the Room from the library* to enter into the Room Library. A Form will open.
xxi. **Room Type:** List all the room types available based on the selected authority. Select the room type under which the room has to be added to library.

xxii. **Name:** Enter the name of the room.

xxiii. **Area:**
   - f) Click Mark button corresponding to Area.
   - g) Now control will switch to AutoCAD work space with selection cursor.
   - h) Select the object(s) to be marked for Area by mouse left click.
   - i) Selection process is completed by mouse right click or click enter key.
   - j) Marking confirmation message will come in Tray icon.

xxiv. **Length:** Refer steps in Area for Length Marking.
xxv. **Width:** Refer steps in Area for Width Marking.
xxvi. **Floor Level:** Refer steps in Area for Floor Level Marking.
xxvii. **Ceiling Level:** Refer steps in Area for Ceiling Level Marking.

**Opening Details:**

*Opening Details section in Room Library is used to select the Openings provided in the Room*

xxviii. **Opening Type:** List all the opening types available based on the Openings Library. Select the opening type proposed in the room.
xxix. **Opening Name:** List all the openings available based on the selection in Openings Type. Select the Opening Name to be tagged to the room.
xxx. **Location:** List the different locations by which the opening is leading towards such as Exterior Open Space or Interior Open Space.
xxxi. **Number of Openings:** Enter the number of openings provided in the room corresponding to the Opening Name selected.
xxxii. **Add (Openings) button:** After completing the above steps (xiii to xvi), click Add button to add the openings to the Rooms list below.
xxxiii. **Add (Rooms) button:** After completing the above steps, click Add button to add the room to the library list below.
xxxiv. Step (ii) to (xiv) shall be repeated to add more rooms to library.
xxxv. After adding all the required rooms to library, click Save button. Confirmation message will come, click OK button.

**Remove Room Details:** To remove a room from list, select the room from the list and click Remove icon at the last column of the list, Confirmation message will come, click Yes button.

**3.8.1.1 Highlight Room Size:**

Marked Room Size can be highlighted by clicking Highlight button corresponding to Room Size in Marking Control form.

**View Room Size:**

i. Click View button corresponding to Room Size in Marking Control form.

ii. Room Size Details form will open in which Building Name, Floor Name, Room Type, Room Name, Number of Rooms, Room Area, Room Width and Room height will be displayed.
Click **Close** button to close **Room Size Details** form.

### 3.9 Staircase

Staircase is used to mark staircase at every floor of the building. Any Staircase that may appear in the plan has to be marked for performing verification on Staircase.

#### 3.9.1 Mark Staircase

i. Click **Mark** button corresponding to Staircase in **Marking Control** form.

ii. **Mark Staircase** form will open.
iii. **Building Name**: Lists all buildings in the project. Select the building from the list.

iv. **Floor**: Lists all floors in the selected building. Select the floor from the list.

v. **Number of staircase**: Enter the number of staircase to be needed in the field.

vi. **Staircase**: Corresponding number of staircases entered in the previous field to be listed in the drop down list.

vii. **Normal/Fire/Physical**: Select if the staircase to be marked is of Normal, Fire or Physical staircase.

viii. **Area of Staircase**
    a) Click *Mark* button corresponding to Area of Staircase. Following option to select drawing file will appear.
b) Select the required **Drawing File** and click **OK** button.

c) Now control will switch to Auto CAD work space with **selection** cursor.

d) Select the closed poly line(s) to be marked for Area of staircase by mouse left click.

e) Selection process is completed by mouse right click or click enter key.

f) Marking confirmation message will come in Tray icon.
ix. **Width of Staircase**: Width of staircase to be marked as an independent line. Refer steps (a) to (e) in Area of Staircase for marking.

![Width of Staircase Diagram](image)

x. **Tread Width**: Width of tread to be marked as an independent line. Refer steps (a) to (e) in Area of Staircase.

![Tread Width Diagram](image)
xi. **Riser Height**: Height of Riser to be marked also as an independent line. Refer steps (a) to (e) in Area of Staircase for marking process.

**For Marking Flight Details,**

xii. **Number of flights**: Enter the Number of Flights in a Staircase.

[Depending upon the Number of Flights, Corresponding Area of Mid-landing will be varying.

Area of Mid-landing = Number of Flights -1]

xiii. **Straight/Winder**: Select Straight or Winder depends upon on type of Staircase provided.
For marking Levels

i. **Start**: Select the start level of the Staircase.

ii. **Mid-landing**: Select the mid-landing level of the staircase.

iii. **End**: Select the End level (Bottom-level of the stair-slab) of the staircase.

iv. After marking all the required items, click Close button to close **Mark Staircase** form.

![Diagram of Staircase with measurements](image)

3.9.1.1 **Highlight Staircase:**

Marked Staircase can be highlighted by clicking Highlight button corresponding to Staircase in **Marking Control** form.

Staircase for all the floors can be highlighted by changing the building in Building Name drop-down list.

3.9.1.2 **View Staircase**

i. Click **View** button corresponding to Staircase in **Marking Control** form.

ii. **Staircase Details** form will open in which Building details, Flight details and Intermediate details will be displayed.
Click Close button to close Staircase Details form.

3.10 Car Parking

Car parking is used to mark the Car Parking facilities in the Building. The parking area provided for Car parking which is drawn in the plan has to be marked for performing Car parking space verification in the Site Plan.

3.10.1 Mark Car parking

i. Click Mark button corresponding to Car Parking in Marking Control form.

ii. Mark Car Parking form will open.
iii. **Building Name**: Lists all buildings in the project. Select the building from the list.

iv. **Parking Location**: Select the parking location to which the parking is proposed.

v. **Number of Lots**: Enter the number of parking lots.

vi. **Parking lots**: Corresponding parking lots entered in the Number of lots will be listed in the drop down list.

vii. **Parking Type**: Select the parking type from the drop down list as Angular or parallel parking.

viii. **Parking Line to Kurb Line Direction**: Select the directions (Up, Down, Right and Left) from the Drop down list.

**Lot Details**

i. **Kerb Line**:

   a. Click *Mark* button corresponding to Kerb Line.

   b. Now control will switch to Auto CAD work space with *selection* cursor.
c. Select an independent line to be marked for Kerb line by mouse left click.

d. Selection process is completed by mouse right click or click enter key.

e. Marking confirmation message will come in Tray icon.
ii. **Parking line**: Repeat the above steps (a) to (e) for marking Parking Line.

![Parking Line Diagram]

iii. **Boundary line**: Repeat the above steps (a) to (e) for marking Boundary Line.

![Boundary Line Diagram]

iv. **Parking Details**

   a. Select the angle provided in the Drop-down list.
   b. Once selected the angle, click on mark button corresponding to the angle.
   c. A red rectangular box will appear when click on the bottom left corner end of the parking lot.

![Parking Details Diagram]
d. Mark all the lot provided under the selected kerb line.
e. Similarly mark all other Parking lots as per the number of the parking lots provided.

After marking all the required items, Click Close button to close Mark Car Parking form.

3.10.2 Mark Multi Car Parking

i. Click Mark button corresponding to Car Parking in Marking Control form.

ii. Mark Car Parking form will open.
iii. **Building Name:** Lists all buildings in the project. Select the building from the list.

iv. **Parking Location:** Select the parking location to which the parking is proposed.

v. **Number of Lots:** Enter the number of parking lots.

vi. **Parking Lots:** Corresponding parking lots entered in the Number of lots will be listed in the drop down list.

vii. **Parking Type:** Select the parking type from the drop down list as angular or parallel parking.

viii. **Multi Selection:** The option for multi selection car parking will be ticked by default.

*NOTE: This option will be available only if you are marking car parking for the first time.*

**Parking Details**

ix. Click **Mark** button corresponding to **Area**. Option to select drawing file will appear.

![Drawing Files]

x. Select the required Drawing File and click **OK** button.

![AutoCAD workspace]

xi. Now control will switch to Auto CAD work space with selection cursor.

xii. Select a Closed Poly line to be marked for Parking Area by mouse left click.(Any number of multi closed poly line can mark)

xiii. Selection process is completed by mouse right click or click enter key.
Marking confirmation message will come in Tray icon.

3.10.2.1 Highlight Car parking:

Marked Car Parking can be highlighted by clicking Highlight button corresponding to Car Parking in Marking Control form.

Kerb line, Parking line and Boundary line for all the lots can be highlighted by changing the Parking lots in the parking lots Drop down list.

Highlight All lots in Car parking:

Marked car parking lots can be highlighted by changing the parking lots and clicking on Highlight All Lots.

Highlight All Parks in Car parking:

Marked car parks can be highlighted by changing the parking lots and clicking on Highlight All Parks.

Parking Location: Location to which the car is proposed to park. It includes
   a. Marginal and O/S & Lay-By : Parking outside the Building Boundary
   b. Basement : Parking inside the Basement floor
   c. Stilt Floor : Parking inside the Stilt floor/Ground floor
   d. Terrace : Parking in Terrace
Parking Line to Kerb Line Direction: Direction of the Kerb line corresponding to parking line is based on the 4 sides. If parking area is considered as a rectangular space facing north then, Drop down selected as

a. **Up**: For Kerb line marked on the Top of the parking Line  
b. **Down**: For Kerb Line marked on the Bottom of the parking Line  
c. **Left**: For Kerb Line marked on the left of the parking Line  
d. **Right**: For Kerb Line marked on the right of the parking Line

**Kerb line**: Line which is to be drawn at the front of parking area direction in the lot.

In **Image 1**, Parking to Kerb Direction is selected as **Up Direction**.  
In **Image 2**, Parking to Kerb Direction is to be selected as **Left direction**.

**Parking line**

Line which is drawn at the back of the parking area direction (in the parking slot).

**Boundary line**

Line which is drawn at the driveway area near to that parking lot.

**Parking lots**

A cleared area which is intended for parking the vehicle.
Angular Parking

Parking in which car is aligned in an angle. It makes parking a lot easier for drivers.

Parallel Parking

It is a method of parking a vehicle parallel to the road in line with other parked vehicles.

Angle

Angles are from 0 to 180 degrees measured in the clockwise direction. 0 represents the line which is parallel to the Kerb line. 90 denotes the line which is perpendicular to the Kerb line.

3.11 Stack Parking

This is used to mark the Automated Car Parking facilities in the Building. Stack Parking is an Automated (car) parking system. It is a mechanical system designed to minimize the area and/or volume required for parking cars. Like Multi-storey parking garage, an APS provides parking for cars on multiple levels stacked vertically which allows maximizing the number of parking spaces while minimizing land usage.

3.11.1 Mark Stack parking

i. Click *Mark* button corresponding to Car Parking in Marking Control form.

ii. *Mark Automated Stack Parking* form will open.
NOTE: This marking form will be opened only for previously marked stack parking. For new marking, different marking form will be showing.

iii. **Building Name:** Lists all buildings in the project. Select the building from the list.

iv. **Parking Location:** Select the parking location to which the parking is proposed

v. **Number of Lot:** Enter the number of parking lots.

vi. **Parking lot:** Corresponding parking lots entered in the Number of lots to be listed in the drop down list.

vii. **Parking Type:** Select the parking type from the drop down list as Angular or parallel parking

viii. **Parking Line to Kerb Line Direction:** Select the directions (Up, Down, Right and Left) from the Drop down list
Lot Details

i. **Kerb line:**
   a. Click *Mark* button corresponding to *Kerb* Line.
   b. Now control will switch to Auto CAD work space with *selection* cursor.
   c. Select an independent line to be marked for *Kerb* line by mouse left click.
   d. Selection process is completed by mouse right click or click enter key.
   e. Marking confirmation message will come in Tray icon.

v. **Parking line:** Repeat the above steps (a) to (e) for marking Parking Line.

vi. **Boundary line:** Repeat the above steps (a) to (e) for marking Boundary Line.
vii. Parking Details

a. Select the angle provided in the Drop-down list.

b. Once angle is selected, click on mark button corresponding to the angle.

c. A red rectangular box will appear when click on the bottom left corner end of the parking lot.

d. Mark all the lot provided under the selected kerb line

e. Similarly mark all other Parking lots as per the number of the parking lots provided.

Floor Height Details

Level: This is used to mark different levels in a stack parking. Select the level from the list.
**Start**: Click on **Mark** button corresponding to the Start. Repeat the step (b) to (e) of parking Details to mark the start level.

**End**: Click on **Mark** button corresponding to the End. Repeat the step (b) to (e) to mark the start level.

After marking all the required items, click Close button to close **Mark ST Parking** form.

3.11.2 **Mark Multi Stack Parking**

i. Click **Mark** button corresponding to Stack Parking in Marking Control form.

ii. Mark Automated Stalk Parking form will open.
**NOTE:** This marking form will be available only, if you are marking stalk parking for first time.

iii. **Building Name:** Lists all buildings in the project. Select the building from the list.

iv. **Parking Location:** Select the parking location to which the parking is proposed.

v. **Number of Lots:** Enter the number of parking lots.

vi. **Parking lots:** Corresponding parking lots entered in the Number of lots will be listed in the drop down list.

vii. **Parking Type:** Select the parking type from the drop down list as Angular or parallel parking.

viii. **Multi Selection:** The option for multi selection stalk parking will be ticked by default.

ix. **Parking Details**

   a. Click **Mark** button corresponding to Parking Area. Following drawing file selection option will appear.
b. Select the required **Drawing File** and click **OK** button.

c. Now control will switch to Auto CAD work space with selection cursor.

d. Select an Closed Poly line to be marked for Parking Area by mouse left click. (Any Number Of Multi Closed Poly Line Can mark)

e. Selection process is completed by mouse right click or click enter key.

f. Marking confirmation message will come in Tray icon.

**x. Parking Level:**

a. **Level:** This is used to mark different levels in a stack parking. Select the level from the list.

b. **Start:** Click on Mark Button corresponding to the Start

c. **End:** Click on Mark Button corresponding to the End
3.11.2.1 **Highlight Stack parking:**

Marked Stack Parking can be highlighted by clicking Highlight button corresponding to Stack Parking in **Marking Control** form.

Kerb line, Parking line and Boundary line for all the lots can be highlighted by changing the Parking lots in the parking lots Dropdown list.

**Angular parking:** Angular Parking is provided for the ease of parking vehicle. The vehicle can be easily reversed if parked at an angle of 30, 60 and 90 degrees.

**Parallel Parking:** Parallel parking is a method of parking a vehicle parallel to the road in line with other parked vehicles.
### 3.12 Two wheeler Parking

This is used to mark the Two Wheeler Parking facilities in the building.

#### 3.12.1 Mark Two wheeler Parking

i. Click *Mark* button corresponding to Car Parking in *Marking Control* form.

ii. *Mark Two Wheeler Parking* form will open.

iii. **Building Name:** Lists all buildings in the project. Select the building from the list.

iv. **Parking Location:** Select the parking location in which the car parking is proposed.
v. **Number of Lot:** Enter the number of parking lots.

vi. **Parking Lot:** Corresponding parking lots entered in the Number of lots to be listed in the drop down list.

vii. **Parking Type:** Select the parking type from the drop down list as Angular or parallel parking.

ix. **Parking Direction:** Select the directions (Up, Down, Right and Left) from the Drop down list.

x. **Parking Angle:** Select the Angle in the Drop down list to align the Two wheeler direction.

xi. **Multi Selection:** The option for multi selection two wheeler parking will be ticked by default.

i. **Parking Details**

   **Scooter Parking:**
   a. Click on **Mark** Button corresponding to Scooter Parking. Following drawing file selection option will appear.
   
   ![Drawing Files Selection](image1)

   b. Select the required **Drawing File** and click **OK** button.

c. Now control will switch to Auto CAD work space with **Pick point** cursor.

d. Pick the point at the bottom right end of the Parking lot to identify the number of scooters parking space in the lot.

![Parking Details Diagram](image2)
ii. **Bicycle Parking**: Click on Mark Button corresponding to Bicycle Parking. Repeat the Step (b) to (e). Click mark button corresponding to bicycle parking.

iii. After marking all the required items, click Close button to close Mark Two wheeler Parking form.

### 3.12.1.1 Highlight Two wheeler parking:

Marked Two Wheeler Parking can be highlighted by clicking Highlight button corresponding to Two Wheeler Parking in Marking Control form.

Kerb line for all the lots can be highlighted by changing the Parking lots in the parking lots dropdown list.

### 3.13 Projection in Open Space

Projection in Open Space is used to mark the projections in the building into setback area.

### 3.13.1 Mark Projection in Open Space

i. Click Mark button corresponding to Projection in Open Space in Marking Control form.

ii. Mark Projection in Open Space form will open.
iii. **Building Name**: Lists all buildings in the project. Select the building from the list.

iv. **Floor Level**: Lists all floors in the selected building. Select the floor from the list.

v. **Projection Type**: List various projection types. Select the type of Projection required.

vi. **Number of Projection**: Enter the number of projections provided in the building for the selected Projection Type.

vii. **Projection Name**: Based on the entry in Number of Projection, list of projection name will be generated, select the projection for which marking is to be done.

viii. **Direction**: List all four directions, Front, Left, Right and Rear. Select the direction in which the projection is proposed.

i. **Area**

   a) Click **Mark** button corresponding to Area. Following drawing file selection option will appear.

   ![DRAWING FILES]

   b) Select the required **Drawing File** and click **OK** button.

   c) Now control will switch to Auto CAD work space with **selection** cursor.
d) Select a Closed object to be marked for Area by mouse left click.
e) Selection process is completed by mouse right click or click enter key.
f) Marking confirmation message will come in Tray icon.

ii. **Length**: Step (a) to (e) is repeated to mark **Length**.

iii. **Width**: Step (a) to (e) is repeated to mark **Width**.

iv. After marking all the required items, Click **Close** button.

### 3.13.1.1 Highlight Projection in Open space:

Marked Projection in Open Space can be highlighted by clicking Highlight button corresponding to Two Wheeler Parking in **Marking Control** form.

**Projection Type**

*Type of structures in the Building which are projected outside are mainly,*

- **Mid-landing of Staircase**: Staircase projected outside the building line.
- **Chajja/Overhanging**: It is the projecting or overhanging eaves or cover of a roof usually supported on large carved brackets.
- **Balcony**: A platform enclosed by a wall or balustrade on the outside of a building, with access from upper-floor window or door.
3.14 Ramp

Ramp is a sloping level joining two different surfaces which are provided in the floor of a building.

3.14.1 Mark Ramp

i. Click *Mark* button corresponding to Ramp in *Marking Control* form

ii. *Mark Ramp* form will open.

iii. **Number of Ramp**: Enter the number of Ramps provided in the building.

iv. **Ramp**: Corresponding Ramps entered in the Number of Ramp will be listed in the drop down list.

v. **Location of Ramp**: Choose location of ramp as Building or Plot.

vi. **Building Name**: Lists all buildings in the project. Select the building from the list.

vii. **Type of Ramp**: Select the type of ramp from the dropdown list.

viii. **Type of Traffic**: Choose the type of traffic in ramp as One Way or Two Way.

ix. **Inner Side**

   a) Click *Mark* Button corresponding to the Inner side of the Ramp. Following drawing file selection option will appear.
b) Select the required **Drawing File** and click **OK** button.

c) Now control will switch to AutoCAD work space with selection cursor.
d) Select the line to be marked for *Inner Side* of the Ramp by mouse left click.

e) Selection process is completed by mouse right click or click enter key.

f) Marking confirmation message will come in Tray icon.

x. **Outer Side:** Refer *Steps in Inner side marking* to mark the *Outer Side*.

xi. **Start Level:** Refer *Steps in Inner side marking* to mark the start level.

xii. **End Level:** Refer *Steps in End side marking* to mark the start level.
xiii. After marking all the markings in the Ramp, Click Close button to close Mark Ramp form.

3.14.1.1 Highlight Ramp:

Marked Ramp can be highlighted by clicking Highlight button corresponding to Ramp in Marking Control form.

Separate Entry Exit

Entry and Exit of the Ramp which are provided as separately
Common Entry Exit

Entry and Exit which are provided as common

3.15 Lift

Lift is used to mark the lifts in the building.

3.15.1 Mark Lift

i. Click *Mark* button corresponding to Lift in *Marking Control* form
ii. *Mark Lift* form will open.
iii. **Building Name**: Lists all buildings in the project. Select the building from the list.

iv. **Type of Lift**: Select the type of lift to be marked.

v. **Number of Lift(s)**: Enter the number of lift(s) in the building.

vi. **Lift Name**: Corresponding to the number of lift entered, lift name will be populated in the drop down list and user can select lift name.

vii. **Lift Capacity**: Enter the capacity of the lift.

viii. **Number of Persons**: Enter the maximum number of persons to be accommodated in the lift.

ix. **Speed**: Enter the speed of the lift.

x. **Floor Levels - Start**: Enter the lift starting floor level.

xi. **Floor Levels - End**: Enter the lift ending floor level.

xii. **Lift Area**

   a) Click on Mark button corresponding to **Lift Area**. Option to select drawing file will appear.
b) Select the required **Drawing File** and click **OK** button.

c) Now control will switch to AutoCAD work space with selection cursor

d) Select the Closed Polyline to be marked for lift area by **mouse left click**

e) Selection process is completed by **mouse right click** or click enter key

f) Marking confirmation message will come in Tray icon
ix. **Lift Width**: Width of lift to be marked as an independent line. Click on **Mark** button corresponding to **Lift Width** and refer steps (b) to (e) in Lift Area for marking.

x. **Lift Depth**: Depth of lift to be marked as an independent line. Click on **Mark** button corresponding to **Lift Depth** and refer steps (b) to (e) in Lift Area for marking.

xi. **Width of Door**

   a) Click on Mark button corresponding to Width of Door
   b) Now control will switch to AutoCAD work space with selection cursor
   c) Select the Line to be marked for door width by mouse left click
   d) Selection process is completed by mouse right click or click enter key
   e) Marking confirmation message will come in Tray icon

After marking all the required items, Click Close button to close Mark Lift form.

**3.15.1.1 Highlight Lift:**

Marked Lift can be highlighted by clicking Highlight button corresponding to Lift in **Marking Control** form.

**3.16 Rain Water Harvesting**

Rainwater Harvesting is used to mark the components for Rainwater Harvesting provided in the Site plan.

**3.16.1 Mark Rain Water Harvesting**

   i. Click **Mark** button corresponding to Rain water Harvesting in **Marking Control** form
ii. **Mark Rain Water Harvesting** form will open.

![Mark Rain Water Harvesting Form](image)

iii. **Building Name**: Lists all buildings in the project. Select the building from the list.

iv. **Number of Rainwater Harvesting**: Enter the Number of Rainwater Harvesting available in the drawing.

v. **Rainwater Harvesting**: Corresponding Number of rainwater Harvesting entered in the previous field to be listed in the drop down list.

vi. **Rainwater Harvesting Structure**: Select the structure of Rainwater Harvesting from the Dropdownlist.
vii. Bore well / Recharge Pit / Recharge Trench:
   a) Based on the selection of Rainwater Harvesting structure, Click on Mark Button corresponding to Bore well/Recharge Pit/Recharge Trench.
   b) Now control will switch to AutoCAD work space with selection cursor
   c) Select the closed object to be marked for Bore well/Recharge Pit/Recharge Trench by mouse left click.
   d) Selection process is completed by mouse right click or click enter key
   e) Marking confirmation message will come in Tray icon.

viii. Start Level:
   a) Click on Mark Button corresponding to Start Level.
   b) Now control will switch to AutoCAD work space with selection cursor.
   c) Select the line to be marked for Start level by mouse left click.
   d) Selection process is completed by mouse right click or click enter key.
   e) Marking confirmation message will come in Tray icon.

ix. End Level: Refer the Start Level steps for marking
xiv. After marking all the markings in the Rainwater Harvesting, Click Close button to close Mark Rain water Harvesting form.
3.16.1.1 *Highlight Rain water Harvesting:*

Marked Rain water Harvesting can be highlighted by clicking Highlight button corresponding to Rain water harvesting in *Marking Control* form.

### 3.17 Open Space and Ventilation Shaft

Open Space and Ventilation Shaft is used to mark Ventilation Shaft(s) provided inside the building and interior space which is provided for the passage for light and air circulation.

#### 3.17.1 Mark Open Space and Ventilation Shaft

i. Click **Mark** button corresponding to Open Space and Ventilation Shaft in *Marking Control* form

ii. **Mark Open Space and Ventilation shaft** form will open.

![Image of Marking Control form]

iii. **Building Name**: Lists all buildings in the project. Select the building from the list.

iv. **Type**: Select the type to be marked as *Interior Open Space, Exterior Open Space* or *Ventilation Shaft*.

v. **Number**: Enter the Number of ventilation shaft/open space in the building.

vi. **Name**: Corresponding to the Number entered in the previous field, name will be populated in the drop down list.
iv. **Area**

a) Click on **Mark** button corresponding to the Area. Option to select drawing file will appear as shown below.

![Drawing Files]

b) Select the required **Drawing File** and click **OK** button.

![AutoCAD workspace]

c) Now control will switch to AutoCAD work space with selection cursor.
d) Select the closed object to be marked for Ventilation shaft by mouse left click

e) Selection process is completed by mouse right click or click enter key

f) Marking confirmation message will come in Tray icon

viii. **Width**: Width of open space and ventilation shaft to be marked as an independent line. Refer steps (a) to (e) in Area for marking.

ix. **Depth**: Depth of open space and ventilation shaft to be marked as an independent line. Refer steps (a) to (e) in Area for marking.

x. **Start Level:**

a) Click on **Mark** Button corresponding to Start Level

b) Now control will switch to AutoCAD work space with selection cursor
c) Select the line to be marked for Start level by mouse left click
d) Selection process is completed by mouse right click or click enter key
e) Marking confirmation message will come in Tray icon

xi. **End Level:** Refer the *Start Level* steps for marking

After marking Ventilation shaft, click **Close** button to close **Mark Open Space and Ventilation Shaft** form.

### 3.17.1.1 Highlight Open Space and Ventilation shaft:

Marked Open Space and Ventilation shaft can be highlighted by clicking Highlight button corresponding to Open Space and Ventilation Shaft in **Marking Control** form.

### 3.18 Boundary Wall

Boundary wall is used to mark the wall which is constructed around once plot.

### 3.18.1 Mark Boundary Wall

i. Click **Mark** button corresponding to Boundary Wall in **Marking Control** form

ii. **Mark Boundary Wall** form will open.

### Direction:

Select the (Front/Left/Right/Rear) direction from the list.

### Ground Level:
a) Click on **mark** button corresponding to the Ground Level. Following drawing file selection option will appear.

![Drawing Files]

b) Select the required **Drawing File** and click **OK** button.

c) Now control will switch to AutoCAD work space with selection cursor

![Compass Wall Level]

**Fig: Boundary Wall**

d) Select the line to be marked for Ground Level by mouse left click

e) Selection process is completed by mouse right click or click enter key

f) Marking confirmation message will come in Tray icon
v. **Compound Wall Level:** *Repeat the Ground level steps for marking the Compound level*
vi. After marking all the markings in Boundary Wall, click **Close** button to close Mark Boundary Wall form.

### 3.18.1.1 Highlight Boundary Wall:

Marked Boundary Wall can be highlighted by clicking Highlight button corresponding to Boundary Wall in **Marking Control** form.

### 3.19 Mezzanine Floor

Mezzanine Floor is a Floor of a building where service equipment, utility lines and various machinery are placed.

#### 3.19.1 Mark Mezzanine Floor

i. Click **Mark** button corresponding to Service Floor in **Marking Control** form

ii. **Mark Mezzanine Floor** form will open.
iii. **Building Name**: Lists all buildings in the project. Select the building from the list

iv. **Number of Service Floor**: Enter the Number of Service Floor provided in the Building.

v. **Service Floor**: Corresponding Number of Service Floor entered in the previous field to be listed in the drop down list

**Area Details**

vi. **Floor Area**

   a) Click **Mark** button corresponding to Floor Area. Following drawing file selection option will appear.

   ![Drawing Files](image)

   b) Select the required **Drawing File** and click **OK** button.
c) Now control will switch to AutoCAD work space with selection cursor

d) Select the Closed Area to be marked for Floor Area by mouse left click

e) Selection process is completed by mouse right click or click enter key

f) Marking confirmation message will come in Tray icon
vii. **Mezzanine Floor Area**: Repeat the Floor Area steps to mark the Mezzanine Floor Area.

**Level Details**

viii. **Floor Level**

a) Click on Mark Button corresponding to Floor Level

b) Now control will switch to AutoCAD work space with selection cursor
c) Select the Floor Level to be marked by mouse left click

d) Selection process is completed by mouse right click or click enter key

e) Marking confirmation message will come in Tray icon.

ix. Ceiling Level: Repeat the Floor Level steps to mark the Ceiling Level

x. Mezzanine Slab Bottom: Repeat the Floor Level steps to mark the Mezzanine slab Bottom

xi. Mezzanine Slab Top: Repeat the Floor Level steps to mark the Mezzanine Slab Top

xii. After marking all the markings in Mezzanine Floor, click Close button to close Mark Mezzanine Floor form
3.19.1.1 *Highlight Mezzanine Floor*

Marked Service Floor can be highlighted by clicking Highlight button corresponding to Service Floor in *Marking Control* form.

3.20  Porch

Porch is used to mark porch provided near to the entrance of the Building.

3.20.1 Mark Porch

i. Click *Mark* button corresponding to Porch in *Marking Control* form.

ii. *Mark Porch* form will open.

iii. **Building Name**: Lists all buildings in the project. Select the building from the list.

iv. **Number of Porch**: Enter the Number of Porch provided in the Building.
xiii. **Porch**: Corresponding Number of Porch entered in the previous field will be coming in the drop down list.

v. **Location of Porch**: Select the Direction (Front, Left, Right, Rear) in which the porch situated.

vi. **Type of Porch**: Select the type of porch.

vii. **Porch**

   a) Click on **Mark** button corresponding to **Area**. Option to select drawing file will appear.

   ![Drawing Files Window]

   b) Select the required **Drawing File** and click **OK** button.

   ![AutoCAD Workspace]

   c) Now control will switch to AutoCAD work space with selection cursor.
d) Select the Closed Area to be marked for Porch by mouse left click.
e) Selection process is completed by mouse right click or click enter key.
f) Marking confirmation message will come in Tray icon.

viii. After marking porch, click on Close Button to close Mark Porch form.

3.20.1.1 Highlight Porch:

Marked Porch can be highlighted by clicking Highlight button corresponding to Porch in Marking Control form.
3.21 Light and Ventilation

Light and Ventilation is used to mark the openings (Door, Window & Ventilation) provided in the Building.

3.21.1 Mark Light and Ventilation

i. Click Mark button corresponding to Light and Ventilation in Marking Control form

ii. Mark Light and Ventilation form will open.

iii. Building Name: Lists all buildings in the project. Select the building from the list

iv. Floor Name: Lists all floors in the selected building. Select the floor from the list

v. Room Type: Select the Room type from the Dropdown list based on each Floor

vi. Room Name: Select the Room based on the Room type selected

vii. Rooms: Select the Room where opening is to be provided.

viii. Orientation: Select the Orientation in which the Opening to be placed.
viii. **Mark Openings from Library**

Click on *Mark Openings from the library* to enter into the Room Library. A Form will open.

![Light and Ventilation Library Form]

vi. Select the required room from the Light and Ventilation library list and click on Select Button.

vii. Now control will switch to Auto CAD work space with *selection* cursor.

![AutoCAD workspace with selected rooms]
viii. Pick the bottom left points in the required Opening to be marked by mouse left click.
ix. Selection process is completed by mouse right click or click enter key.
x. Openings which are selected will come in the list.

xi. After marking all the required Openings to Light and Ventilation Details, click Close button.

xii. **Remove Light and Ventilation Details**: To remove an added light and ventilation from list, select the Opening from the list and click **Remove button** at the last column in the list, Confirmation message will come, click **Yes** button.

### 3.21.1.1 Highlight Light and Ventilation:

Marked Light and Ventilation can be highlighted by clicking Highlight button corresponding to Light and Ventilation in **Marking Control** form.
3.21.1.2 View Light and Ventilation:

i. Click **View** button corresponding to Light and Ventilation in **Marking Control** form.

ii. **Light and Ventilation Details** form will open in which Name, Item, Size, Area, Description, Numbers will be displayed.

iii. Click Close button to close **Light and Ventilation Details** form.

3.22 Plantation

Plantation is used to mark the Area of land used for landscaping and other planting works.

3.22.1 Mark Plantation

i. Click **Mark** button corresponding to Plantation in **Marking Control** form.

ii. **Mark Plantation** form will open.
Plantation

a) Click on **Mark** Button corresponding to Plantation.
b) Now control will switch to AutoCAD work space with selection cursor.
c) Select the Closed Area to be marked for Plantation by **mouse left click**
d) Selection process is completed by **mouse right click** or click enter key
e) Marking confirmation message will come in Tray icon

f) After marking Plantation, Click Close button to close **Mark Plantation** form
3.22.1.1 **Highlight Plantation:**

Marked Plantation can be highlighted by clicking Highlight button corresponding to Plantation in **Marking Control** form.

3.23 **Water Tank:**

Water Tank is used to mark the water tank provided in the Building.

### 3.23.1 Mark Water Tank

i. Click *Mark* button corresponding to Water Tank in **Marking Control** form

ii. *Mark Water Tank* form will open.

- **Type of Tank:** List different type such as Domestic Water Tank, Static Water Tank, etc from which use can select the required type.

- **Number of Tank:** User has to enter the number of water Tank proposed in the Site.

- **Tank Name:** List Water Tank based on the entry in **Number of Tank**.

- **Location:** List location of Tank such as Basement Level, Ground Level etc.
vii. **Internal Area**: Mark the closed Object for selecting the Internal Area of Tank.
   
   a. Click on **Mark** button corresponding to Internal Area  
   b. Now control will switch to AutoCAD work space with selection cursor  
   c. Select the Closed Polyline to be marked for internal area by mouse left click  
   d. Selection process is completed by mouse right click or click enter key  
   e. Marking confirmation message will come in Tray icon

![Internal Area Image]

viii. **Bottom Level**: Likewise mark the bottom level of the Tank.

ix. **Free Board Level/Water Level**: Mark the Water level of the Tank.

x. **Top Level**: Mark the Top level of the Tank.

---

### 3.24 Facilities for Physically Challenged People

Facilities for physically challenged is used for marking all Areas that are provided for physically handicapped persons.

#### 3.24.1 Mark Facilities for Physically Challenged People

i. Click **Mark** button corresponding to Facilities for Physically Challenged People in **Marking Control** form

ii. **Mark Facilities for Physically Challenged People** form will open.
Facilities for Physically Challenged People are given in the form of

**Access Path**

Access Path is the road providing means to entry into another area/region.

xii. **Building Name**: Lists all buildings in the project. Select the building from the list

taxiii. **Number of Access Path**: Enter the Number of Access Path provided in the

Building for Physically Challenged people.

xiv. **Access Path**: Corresponding to the number entered in the previous field, to be

listed in the drop down list.

xv. **Inner Side**

   a) Click **Mark** Button corresponding to the Inner side of the Access path. Option
to select drawing file will appear.

   b) Select the required **Drawing File** and click **OK** button.
c) Now control will switch to AutoCAD work space with selection cursor

d) Select the line to be marked for *Inner Side* of the Access path by mouse left click

e) Selection process is completed by mouse right click or click enter key

f) Marking confirmation message will come in Tray icon

xvi. **Outer Side:** Refer Steps in Inner side marking to mark the Outer Side

xvii. **Start Level:** Refer Steps in Inner side marking to mark the start level

xviii. **End Level:** Refer Steps in End side marking to mark the start level

xix. After marking all the markings in the Access path, click single right click on *Parking tab* in the marking form of Facilities for Physically challenged people
Parking

Parking is used to park the vehicles for physically challenged persons

i. **Building Name**: Lists all buildings in the project. Select the building from the list

ii. **Entrance**:
   a) Click on Mark Button corresponding to the Entrance
   b) Option to select drawing file will appear.
   c) Select the required **Drawing File** and click **OK** button.
d) Now control will switch to AutoCAD workspace with selection cursor

e) Select the line to be marked for Entrance of the Parking Area by mouse left click

f) Selection process is completed by mouse right click or click enter key

g) Marking confirmation message will come in Tray icon

---

**iii. Parking Area**

a) Click on Mark Button corresponding to the Parking Area.

b) Now control will switch to AutoCAD workspace with selection cursor
c) Select the Closed object to be marked for Parking Area by mouse left click  
d) Selection process is completed by mouse right click or click enter key  
e) Marking confirmation message will come in Tray icon

iv. After marking all the markings in the Parking, Click single right click on Ramp tab in the marking form of Facilities for Physically challenged people

**Stepped**

i. **Building Name**: Lists all buildings in the project. Select the building from the list.  
ii. **Tread**  
   a) Click on Mark button corresponding to Tread of the step. Following drawing file selection option will appear.
b) Select the required **Drawing File** and click **OK** button.

c) Now control will switch to AutoCAD work space with selection cursor.

d) Select the line to be marked for **Tread** by mouse left click.

e) Selection process is completed by mouse right click or click enter key.

f) Marking confirmation message will come in Tray icon.
iii. **Riser:** Refer steps in Tread to mark Riser.

iv. After marking all the markings in the Stepped, Click single right click on *Entrance Landing* tab in the marking form of Facilities for Physically challenged people

**Entrance Landing**

![Entrance Landing Form]

i. **Building Name:** Lists all buildings in the project. Select the building from the list

ii. **Entrance Landing Area**
   a) Click on *Mark* button corresponding to Entrance Landing Area of the step. Option to select drawing file will appear.

   ![Drawing File Selection]

   b) Select the required **Drawing File** and click **OK** button.
c) Now control will switch to AutoCAD work space with selection cursor

d) Select the Closed Object to be marked for Entrance Landing Area by mouse left click

e) Selection process is completed by mouse right click or click enter key

f) Marking confirmation message will come in Tray icon

iii. After marking all the markings in the Entrance Landing, Click single right click on Lift tab in the marking form of Facilities for Physically challenged people.

Toilet
i. **Building Name**: Lists all buildings in the project. Select the building from the list  
ii. **Number of Toilet**: Enter the Number of Toilet provided in the Building for Physically Challenged people  
iii. **Toilet**: Corresponding to the number of Toilet entered in the previous field, to be listed in the drop down list  
iv. **Toilet Area**  
   a) Click on **Mark** button corresponding to Toilet Area. Following drawing file selection option will appear.  
   
   ![Drawing Files Selection](image1.png)  
   
   b) Select the required **Drawing File** and click **OK** button.  
   
   ![AutoCAD Workspace](image2.png)  
   
   c) Now control will switch to AutoCAD work space with selection cursor  
   d) Select the Closed Object to be marked for **Toilet Area** by mouse left click  
   e) Selection process is completed by mouse right click or click enter key  
   f) Marking confirmation message will come in Tray icon
v. Toilet Entrance

a) Click on mark Button corresponding to Toilet Entrance
b) Now control will switch to AutoCAD work space with selection cursor
c) Select the Line to be marked for Toilet Entrance by mouse left click
d) Selection process is completed by mouse right click or click enter key
e) Marking confirmation message will come in Tray icon

vi. After marking all the markings in the Toilet, Click single right click on Passage tab in the marking form of Facilities for Physically challenged people
**Passage**

![Image of Passage Marking Interface]

i. **Building Name**: Lists all buildings in the project. Select the building from the list.

ii. **Number of Passage**: Enter the Number of Passage provided in the Building for Physically Challenged people.

iii. **Passage**: Corresponding to the number entered in the previous field, to be listed in the drop down list.

iv. **Inner Side**

   a) Click Mark button corresponding to the Inner side of the Passage. Option to select drawing file will appear.

   ![Image of Drawing File Selection]

   b) Select the required **Drawing File** and click OK button.
c) Now control will switch to AutoCAD work space with selection cursor

d) Select the line to be marked for *Inner Side* of the Passage by mouse left click

e) Selection process is completed by mouse right click or click enter key

f) Marking confirmation message will come in Tray icon

1. **Outer Side:** Refer Steps in Inner side marking to mark the Outer Side
2. **Start Level:** Refer Steps in Inner side marking to mark the start level
3. **End Level:** Refer Steps in End side marking to mark the start level
4. After marking all the markings in the Passage, click Close button to close **Mark Passage** form
4 Verification and Sample Reports Generation

After marking all the marking form or the mandatory markings in the Marking Control Form

i. Set the Project drawings with Layout Settings. (Refer AutoCAD Tips > Layout Settings for more details).

ii. After Layout Settings, click on Verify All button in the marking control Form or Edit→Verify All.

iii. Then the control will switch to the AutoCAD screen for starting verification.

iv. A screen showing Verification progress shall be move over the top left end of the screen
v. During Verification, Plotting of Drawing will be done in Pdf viewer.

vi. PDF of the Drawing will be seen after completing the plotting process. Drawing which are marked in the Drawing Outer Line of the Mark Building Area will be plotted in the PDF
After completing the Verification, Verification Report will be generated. On clicking on each Verification, Values of Proposed and required of that particular verification will be available in the list with Result.
viii. To generate the Scrutiny Report based on the given data, click on Scrutiny Report button at the bottom right corner.

ix. A Sample Scrutiny Report will be generated in the PDF
# ONLINE BUILDING PLAN APPROVAL SYSTEM

## SCRUTINY REPORT

### PROPOSAL DETAILS

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<table>
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<tr>
<td>2</td>
<td>Date of receipt of Application : -</td>
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### 3. ARCHITECT DETAILS

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<tr>
<td>i)</td>
<td>Name : Sohan Roy</td>
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<td>Address :</td>
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<tr>
<td>iii)</td>
<td>Mobile Number : 7465954754</td>
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<tr>
<td>iv)</td>
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<td>v)</td>
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<td>vii)</td>
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### 4. PROJECT DETAILS

#### BUILDING 1

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<table>
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<tbody>
<tr>
<td>i)</td>
<td>Building Category : High Rise Building</td>
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<td>ii)</td>
<td>Project Type : New Construction</td>
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<tr>
<td>iii)</td>
<td>Project Component : Residential Buildings</td>
</tr>
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<td>iv)</td>
<td>Project Category : Residential Building</td>
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<tr>
<td>v)</td>
<td>Number of Dwelling Units :</td>
</tr>
<tr>
<td>vi)</td>
<td>Total Area Covered in all floors :</td>
</tr>
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</table>
5 Highlighting of failed items in verification

i. After generating the Verification report, Failed item can be highlighted to find out the reason for the result to fail. From the verification result,

If the Provided values are within the limits of Required values, then the Result will be ACCEPTED

a) If Provided values are not within the limits of Required values, then the Result will be NOT ACCEPTED
b) If there is no Required values (or values are shown like ‘-’ Hyphen), then the Result will be NOT APPLICABLE.
ii. To identify the Root cause of Failed item. Double Click on the NOT ACCEPTED in the verification list

iii. Highlight Form will open showing the description of Failed item and Rule Condition.
6 Editing an existing Project

To open an already existing Project,

i. Click Open Project option from File menu

ii. Open dialogue box will open as shown below
iii. Browse and select the author project file (.aap) and click **Open** button. The Project details form will open. Edit the required details and click **UPDATE** button to save the changes.
7 APZ file generation

APZ file is the output file from AutoPlan Author which can be uploaded in Web Portal of BPAS application for Building Plan Approval Certificate and Occupancy Certificate.

To generate the APZ file,

i. Click *Create APZ* button in Marking Control form.

ii. Control switch to AutoCAD workspace and verification process will run and APZ file will be created and confirmation message will come as shown below.
iii. Click OK button. APZ file will be generated with project name as file name in the project folder, which can be submitted along with application through online for Building Plan Approval.
8 AutoCAD Tips

8.1 Layout Settings

8.1.1 How to set Layout:

i. Select **Layout** tab *(at bottom left corner)* and clear all the contents *(if available)*

![Layout tab](image)

ii. **Right click** over the **Layout tab Name** and select **Page Setup Manager** *(Shown below)*

![Page Setup Manager](image)
iii. In the **Page Setup Manager** window, select the **Layout Name** and click **Modify** button. **Page Setup page** is shown below.

![Page Setup window](image)

iv. In **Page Setup** window,
   a. Select 'Drawing to PDF.pc3' from **Name** dropdown list
   b. Select the paper in which the drawing is to be plotted from **Paper Size** dropdown list
   c. Select 'Layout' from **What to plot** dropdown list
   d. Select 1:1 from **Scale** dropdown list
   e. Select 'mm' from dropdown list next to **Scale**
   f. Select 'Monochrome.ctb' in **Plot Style Table** dropdown list
   g. Choose 'Land Scape' in **Drawing Orientation** radio button selection
   h. Click **OK** button

v. Close **Page Setup Manager** window by clicking **Close** button (Clear the Layout area if required)
vi. If the user has not prepare sheet layout for all the sheets to be printed in Model space, follow the below step:

Select the Sheet Layout from the workspace (default Sheet Layout from CAD application source path) and copy it \((\text{Ctrl} + \text{C})\) and go to Layout tab and paste it \((\text{Ctrl}+\text{V})\). Move the placed object to bottom left corner using MOVE command.

To resize the sheet layout \((\text{if required})\):

a. Select the full Sheet Layout pasted previously and type \texttt{SCALE} and click \texttt{Enter} key.

b. CAD will ask 'Specify Base Point', select the base point (preferably bottom left corner of the Sheet Layout).

c. Type \texttt{R} command and click \texttt{Enter} key.

d. CAD will ask 'Specify Scale Factor'. Click on the same location where Base Point is selected.

e. CAD will ask 'Specify the next End Point', select the point (preferably bottom right corner of the Sheet Layout) and drag the sheet to fit into the dotted line of the layout.

f. If the Sheet layout goes beyond the dotted line, use STRETCH command.\((\text{If Layout Sheet goes beyond the dotted line, such area won’t get printed})\)

8.1.2 How to set the drawing in sheet using View Port:

i. Type \texttt{MVIEW} command and click \texttt{Enter} key.

ii. Select the boundary up to which drawing has to be printed in Sheet.

\textit{NOTE: Objects beyond the dotted boundary line in layout won’t come in print}

iii. Now View Port is created and the drawing in Model tab will come in Layout.

iv. Double click on the drawing in View Port and type \texttt{ZOOM} command and click \texttt{Enter} key.

v. Type \texttt{SCALE} and click \texttt{Enter} key.

vi. Type \texttt{1000/100xp} and click \texttt{Enter} key.

\textit{NOTE: 1000/100xp is for plotting a plan drafted in Metre to 1:100 scale}
vii. Now do not zoom the drawing but pan the drawing to fit in as required for print
viii. Double click outside the View Port to lock it

8.1.3 How to set a new View Port with different scale in the same layout:

i. Create a new View Port using **MVIEW** command in the same layout outside the existing View Port

ii. Double click on the new View Port and type **ZOOM** command and click **Enter** key

iii. Type **SCALE** and click **Enter** key

iv. Type **1000/200xp** and click **Enter** key

v. Now do not zoom the drawing but pan the drawing to fit in as required

vi. Double click outside the View Port to lock it

vii. Select this View Port and resize it by selecting and dragging the corners to Site Plan

viii. Move the new View port over the old View Port by **MOVE** command and place it in position as required

*Now the drawing is set for printout*
Layout for Fire/PHS/HVAC:

For plotting the relevant drawings for Fire/PHS/HVAC during verification process, user has to prepare different Layout(s) in the drawing file separately for Fire/PHS/HVAC before creating APZ file for submission and naming for such Layout should be as follows

<p>| | | |</p>
<table>
<thead>
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<tr>
<td>1</td>
<td>Fire</td>
<td>FIRE_&lt;any name&gt;</td>
</tr>
<tr>
<td>2</td>
<td>PHS</td>
<td>PHS_&lt;any name&gt;</td>
</tr>
<tr>
<td>3</td>
<td>HVAC</td>
<td>HVAC_&lt;any name&gt;</td>
</tr>
</tbody>
</table>

**Example:** FIRE_Ground Floor Plan, PHS_Floor Plans