

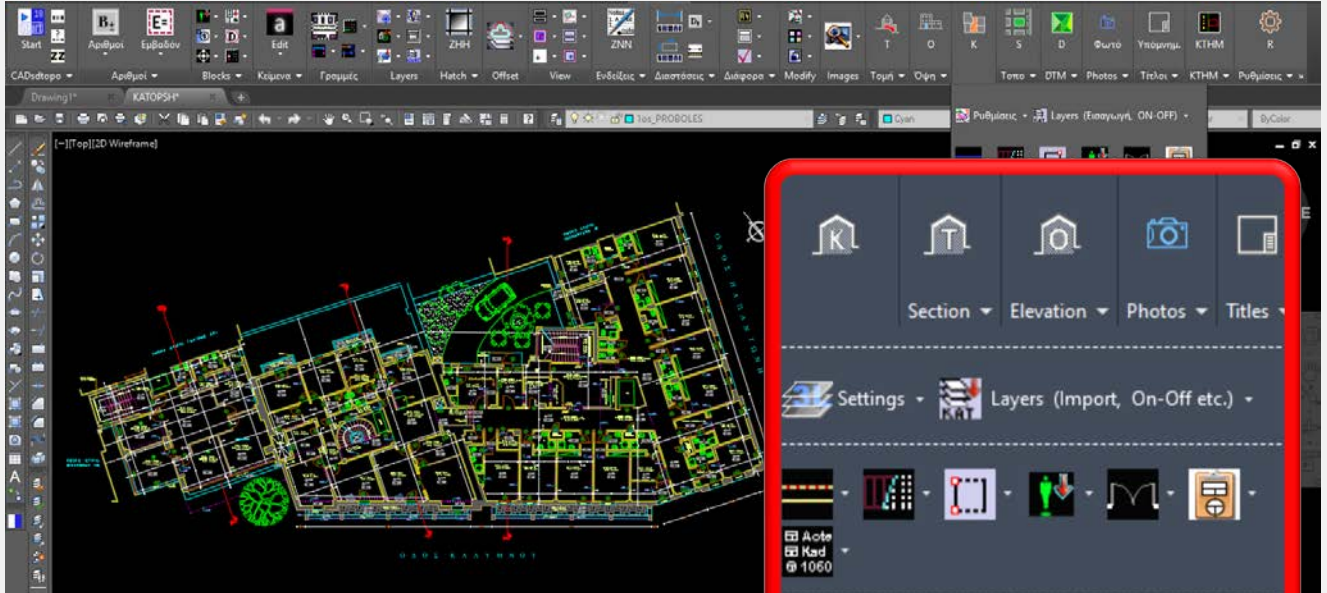


SD BOX
DESIGN SOFTWARE

FLOOR PLAN



DETAILED INSTRUCTIONS FOR FLOOR PLANS



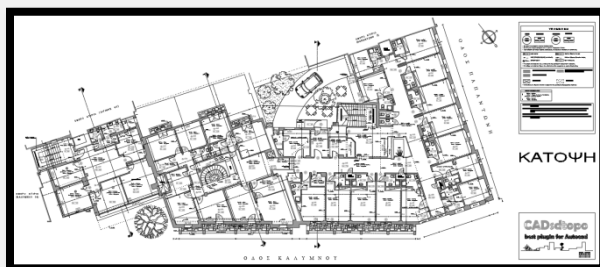
Procedure and commands are available on:

- Menu → "Floor plan step by step"
- Toolbar "15a Floor plan step by step"
- Ribbon → Floor plan

Follow the steps below to draw up a complete Section plan:

Note: Links for [Manual](#) in English are being developed and will be completed soon. Until then automatic translation is provided. (For those of the videos that are in Greek, subtitles are provided.)

0. Settings



Recommended settings: **SDBOX** → **Settings** → **Default settings for buildings and topographic surveys**. This process only needs to be done once.

Symbols and text sizes

There is an option to set symbol sizes (e.g. for annotations and level-marks) to be entered at almost twice the recommended size for printing. This

is recommended when it is required to be able to print a design drawn up for e.g. [Plot scale](#) 1:50, to be printed also on a scale of 1:100 and to keep the texts and symbols as legible as possible. It is common for 1:50 or 1:100 scale floor plans to be printed on smaller paper sizes (as A3 or A4) and for this reason objects can be inserted 'larger' to be read at larger scales.

With [50100Scale](#) command you have the ability to change this setting and set the symbol and text sizes to default to be sharp and save space on the design, or large to print on smaller paper.

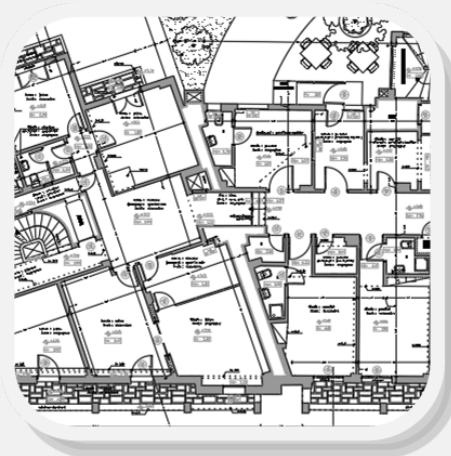
At any time, you can restore the program's default settings, which were analyzed above. The above settings do not affect any other scales than 1:100, 1:50 and smaller.

1. IMPORTING LAYERS FOR FLOOR-PLAN

Click on the images below for presentation of the defaults Layers and example of a Floor Plan design:

layers FLOOR PLAN	
ANALYSIS OF LAYERS PROPOSED WHEN DRAWING A FLOOR PLAN WITH sdbox	
The description table of the following Layers (up LV1 for 1st floor) is defined (automatically if the user wishes: SDBOX > Floor Plans > Settings > "3 letter prefix"):	
LAYER	Description
LV1_ANN-DIMS	External dimensions.
LV1_ANN-DIMS-S	Internal dimensions.
LV1_ANN-DIMS-BKG	Dimensioning of columns, concrete walls and any bearing structure.
LV1_ANN-ELEV-MARK	Floor levels and room heights.
LV1_ANN-NIGHT-MARK	Indications of beams and overhead projection's elements heights.
LV1_ANN-NOTE-IN-SETU	Notes for on-site inspection of the Project. It is printed in red. When printing the first design this layer should be set off.
LV1_ANN-NOTE-PERS	Personal notes on the plan. It should be set off when printing.
LV1_ANN-SECT-SYMB	Indications of sections.
LV1_ANN-TEXT	General annotations.
LV1_ANN-TEXT-N	Building materials (floors, ceilings, beams, walls, etc.).
LV1_ANN-TEXT-U	Usage annotations or names of spaces/rooms.

Presentation of default Layers



Floor Plan sample

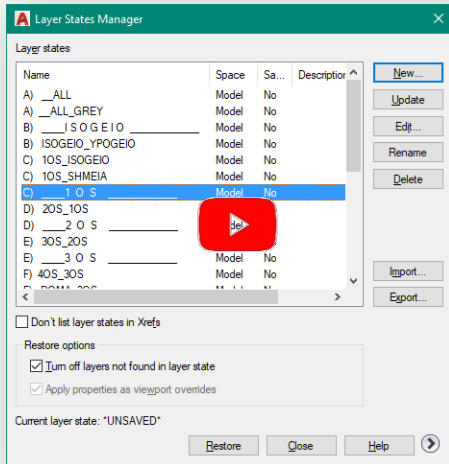
Importing a "single-level" or "single-story building's" layers ([KLAY](#)):

Name	Color	Linetype	Lineweight	Plot St.	P.	N.
0	whi.	Continuous	Default	0		
Tos_Diafora	gre.	Continuous	Default	0	Color_3	
Tos_Diastaseis	whi.	Continuous	Default	0	Color_7	
Tos_Dokaria-Anopseis	ma.	ACAD_IS...	Default	0	Color_6	
Tos_e1legxos	132	Continuous	Default	0	Color_1	
Tos_e2ptopou	22	Continuous	Default	0	Color_22	
Tos_en-Statismes	253	Continuous	Default	0	Color_2	
Tos_en-Tomes	red	Continuous	Default	0	Color_1	
Tos_en-Ypsh	181	Continuous	Default	0	Color_1	
Tos_Endiveis	61	Continuous	Default	0	Color_2	
Tos_Hatch_grey					Color_2	
Tos_Hatch_Panteri					Color_7	
Tos_Hatch_Plakostrosi-1					Color_2	
Tos_Koufomata					Color_34	
Tos_PROBOLES	cyan	Continuous	Default	0	Color_4	
Tos_sbl_Anoigma	86	Continuous	Default	0	Color_86	
Tos_sbl_Parathiro	86	Continuous	Default	0	Color_86	
Tos_sbl_Porta	86	Continuous	Default	0	Color_86	
Tos_SKALES	243	Continuous	Default	0	Color_2	
Tos_Text_Statismes	83	Continuous	Default	0	Color_83	
Tos_Toik_EPENDYSH	43	Continuous	Default	0	Color_43	
Tos_TOOKI	yell.	Continuous	Default	0	Color_2	
Tos_PPOMNHMA	whi.	Continuous	Default	0	Color_7	
Defpoints	whi.	Continuous	Default	0	Color_7	

By this command usual Layers for Floor Plan are imported. At the beginning of the command, you will be asked for the abbreviation of the level, where you can enter **three (3)** letters (e.g., LV1, LV2, BSM, GFK, FL1, FL2, etc.) or Null (nothing). If you enter an abbreviation then the Layers are created accordingly (LV1_WALLS, LV1_PROJECTIONS, etc.).

It is recommended to use the level identifier (with 3 letters) in cases where all the levels are drawn in the same position (not as an array) and the AutoCAD LMAN command is used.

Layer - Lman - Multi-Storied Building Filters (KTLMAN):



By this command the usual Layers of many levels of a multi-story building, the corresponding LMANs and filters are imported. You also set the number and type of levels and the measurements or drawing order.

Use this command for cases where all levels of a multi-story building are drawn in the same position (not next to each other).

For the commands to work correctly you must set the three-letter abbreviation to be added to the layers SDBOX → Floor Plans → Settings → Floor indicator (3 letters prefix). Then depending on which Layer is current the commands also suggest the corresponding Layer depending on the abbreviation of the layer (If e.g., Layer "LV1_WALLS" is current and you choose to draw a staircase then the Layer "LV1_STAIRS" will be suggested. If in another case "LV3_HATCH" is the current Layer and you choose to draw walls then the Layer "LV3_WALLS" will be suggested etc.).

Command for corresponding layer filters: ZKKFIL

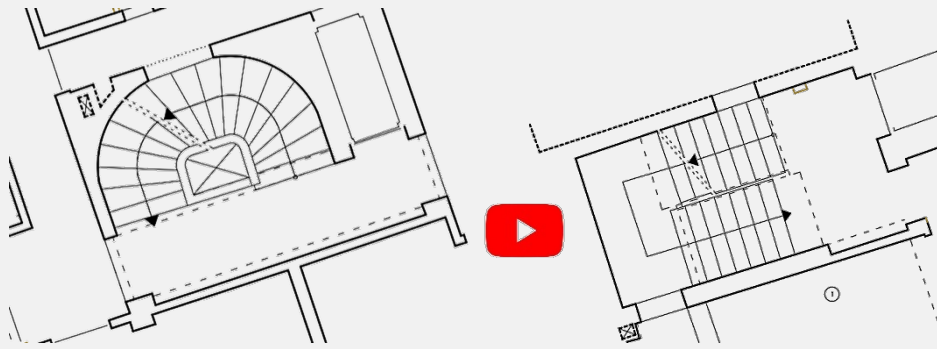
2. DRAW SECTIONS & PROJECTIONS OF FLOOR-PLAN



	Walls (LTOIX)		Stairs (LASKAL)
	Columns (LFER)		Hidden Walls (LTK)
	Projections (LPROB)		Hidden Proj. (LPK)
	Overhead (LDOK)		Other elements: ZLL

During drawing with the commands of SDBOX you also have the possibility to [construct points](#) you need to specify.

STAIRS-RAMPS



Climb arrow of stairs (BS)



Ramp arrow (rampa)



Overhead climb arrow ([BSA](#))



Stair section and overhead projection (TS)



Step width calculation and offset (OSK)



Automatic stair design by offset (OSKM)

Design tools (that also work by typing codes of Survey nodes):



Rectangle by 2 points ([MR2](#))



Rectangle by 3 Points ([MR3](#))



Spline by points ([MSP](#))



Circle by 3 points ([MK3](#))



Circle by Center+Radius ([MKK](#))



Arc by 3 points ([MJL](#))



Copy to Point ([MCC](#))



Offset to Point ([MOF](#))



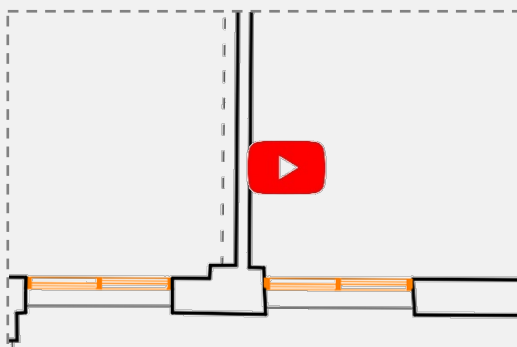
Rectangle by sides ([ZDTT](#))



Rectangle by 4 points ([ZR4](#)),

3. Frame design

WINDOW



Drawing of standard window section (single, double, with internal or external shutter, slider or simple with multiple partitions) [PARATH](#).



DOOR



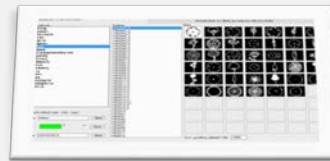
Drawing of a standard Door (without frame, with frame 5x5, with frame the entire thickness of the wall, double, overhead projection) [PORTA](#).



4. ARCHITECTURAL SYMBOLS



Inserting fixed dimension symbols (Parking, Cars, Courts, Office furniture, Bushes, Trees, Kitchen furniture, Bathroom, Dining room, Bedroom, Drains, etc.) [ASD](#).



Symbols are inserted into the Drawing in their actual dimensions (regardless of the Drawing's Plot scale). You can enrich the library with your own symbols and use them easily in any Design.

You can set the symbol library to be read from a shared folder on a local network so that multiple users can use and enrich the same library.

5. ANNOTATIONS

Space Usage



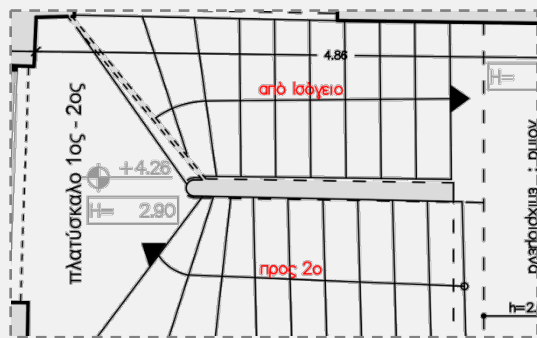
[NNX](#): Single-line Text for space usage (e.g. STORAGE, OFFICE, ASC, BEDROOM, WC etc.)

Symbol annotation



NNB: Block with 2 lines of Text, reference point and line (e.g. marble cladding, false ceiling projection Balcony etc.)

Text annotation



NNA: Single-line Text for additional information (e.g. apron, marble, towards 1st floor, etc.)

Custom annotation



NNC (similar use to the symbol annotation, with the difference that there is a possibility to select the distance of the indication line from the dot, when there is a need for space or other clarity needs. It is recommended that these indications be entered in the horizontal or vertical direction (Ortho ON).

Streets



NNOD: Single-line Text for Road names.

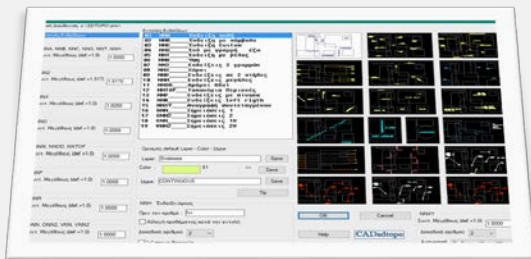
Materials for floors-walls-beams-ceilings



NND (Annotations in 2 columns) e.g.

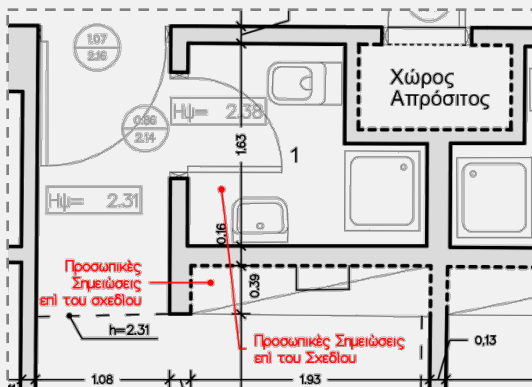
floor	:	industrial
ceiling-walls	:	plastered
beams	:	concrete

Choose another indication



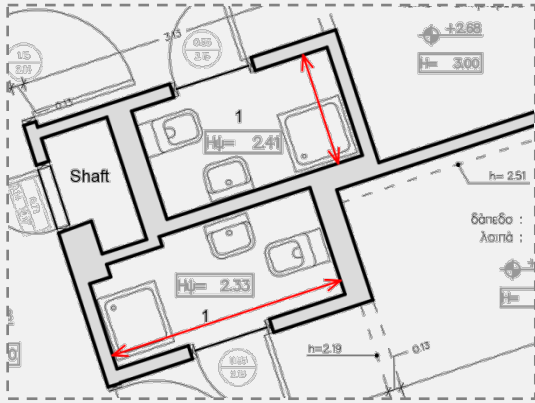
ZNN : Select one from the rest of the annotation types or set options.

Personal notes



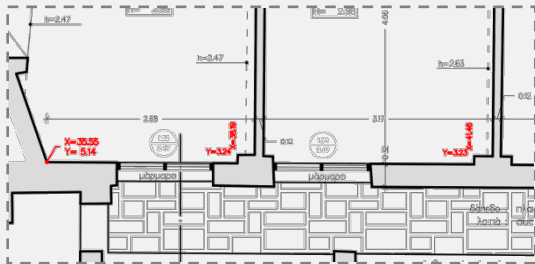
ELE: Indications (Leader with dot) for personal notes on the Plan or observations. The Layer of these notes (ANNO-NOTE-PERS) must be closed when printing.

Dimension to check



VLV Dimension for inspection: Line with arrows on both ends concerning a dimension for on-site inspection or a significant difference that must be resolved before delivery. They are printed in red on all sdbox's plot styles. Their Layer must be closed for final printing.

Display coordinates



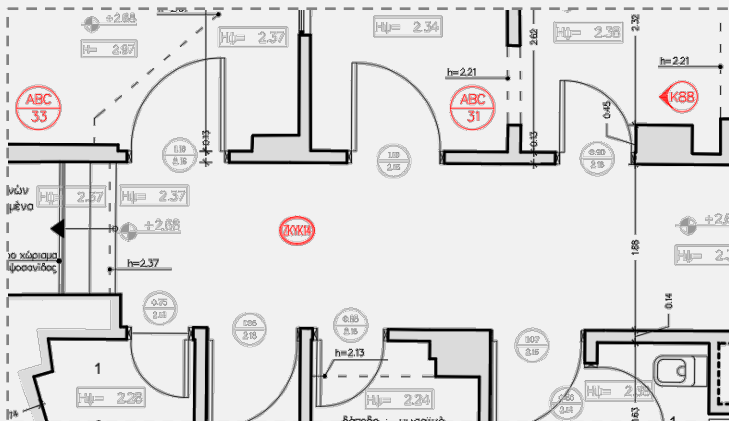
NNX: In case coordinates are requested at the corners of the columns or other characteristic points.

Number in a circle



NNAR: Continuous numbers in a circle (small size) for rooms or any other use.

Circled indicators



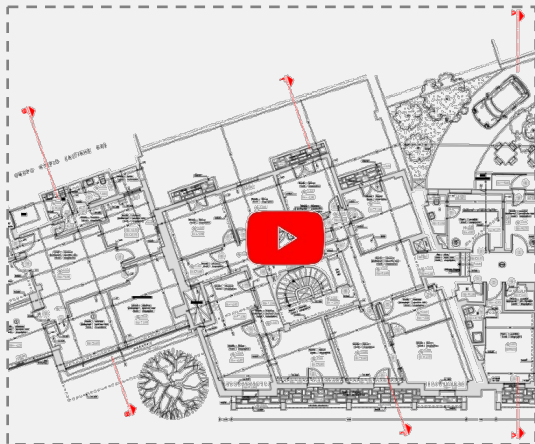
ZKYK: Library with symbols for numbers or text combinations in circles.

Data in a box



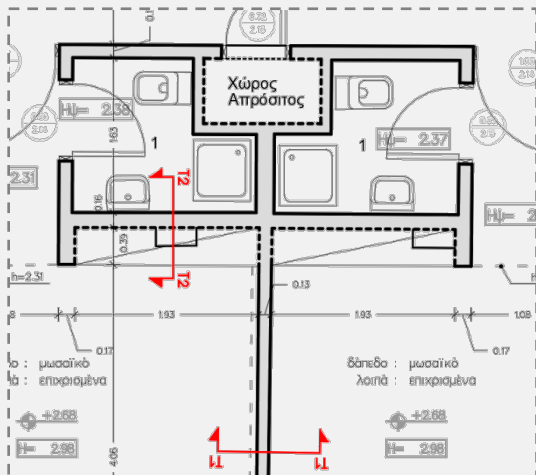
ZTET: Library with symbols for numbers or text combinations in labels.

Section marks



KTM: Specify the beginning and the end of the Section line, enter the name and direction.

Small Sections



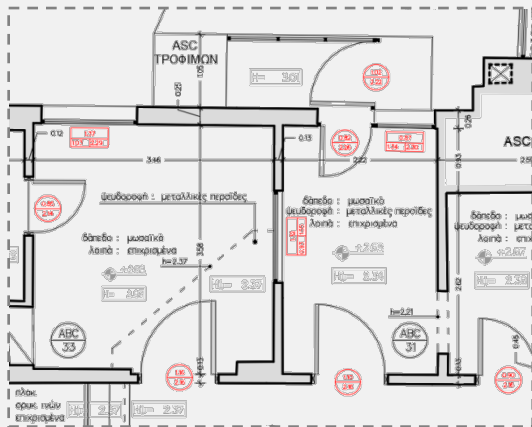
MTM: Specify point, direction and name and the symbol of the small Section is automatically drawn and placed in its final position.

COMPASS-ARROWS





ZBOR: Inserting a North sign or other arrow symbol.


6. DIMENSIONING AND ADD LABELS FOR OPENINGS



ZKKP: Insert label for Doors, Windows or other openings that contain information on the type of opening, count, width, sill and lintel.

Example for simple label for Doors: 

Example for simple label for Windows: 

Example for Windows label with numbering: 



ZZDK: Columns



SPARS: Windows



SPAR: Numbered windows



SPART: Window type



SPOS: Door



SPO: Numbered door



SPORT: Door type



SANS: Opening



SAN: Opening with numbering



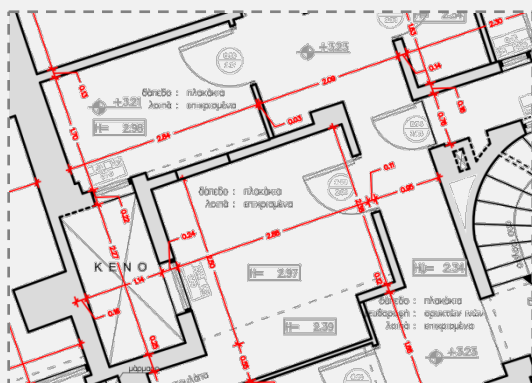
SANPS: Opening with an apron



SANP: Opening with sill and lintel

7. Dimensions

AutoCAD style dimensions



Dimensioning options **ZDDAS**



External dimensions (Linear) **ZDL**



Internal dimensions (Linear) **ZDLM**



External dimensions (Aligned) **ZDA**



Internal dimensions (Aligned) **ZDAM**



Intersections with imaginary line **ZDDG**

Dimensioning by text (Text)



ZDDAT: Options



Lengths (sides) by layer **ZDLAYT**



Lengths (sides) of selected **ZDST**



Display distances specified by points **ZDGI**

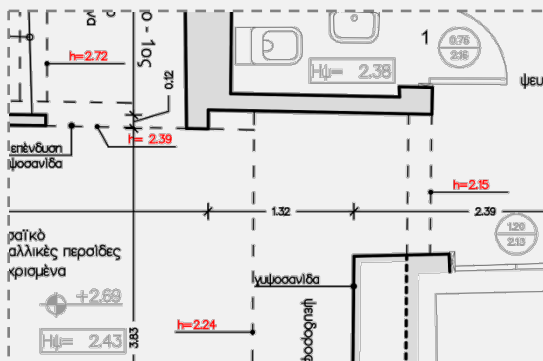
8. LEVEL & HEIGHT MARKS



ZST: Labels for Level and Height to ceiling (with calculations and notes during entry).



Beam or overhead element height



NNH: List the heights of overhead elements from the floor (beams, roof risers, roof changes, ceiling steps etc.)

Change datum level **B±**

ZNMB: In the event that Datum level changes you can change all elevations of Level marks at once.

ENTER LEVEL 0.00

Enter the Datum level symbol, if it is on the plan area, with the **ZSI** command by selecting symbol "zSt01 Datum level".

9. HATCH



[ZHH](#) Select Hatch Type. Patterns such as flower beds, marking areas etc. are automatically entered in a scale corresponding to the Plot scale. Patterns such as roof tiles, paving etc. are imported to their actual dimensions.



HHH: bearing structure



HHG: Shading of structural elements in the case where the carriers are not separated



HHD: Area marking



HHT: Dotted area



HHP: Flower bed



HGR: Grass



HPOES: Bluegrass



HTHAM: Shrubs



HKER: Roof tiles



Polished stones HPEL



Paving 1 HPL1



Paving 2 HPL2



Sidewalk paving HPL3



Red HHRED



Green HHGREEN



Blue HHBLUE



Yellow HHYEL



Gray 0 HH0



Gray 1 HH1



Gray 2 HH2



Gray 3 HH3



Gray 4 HH4

10. LINES-SYMBOLS-HATCH MEMO



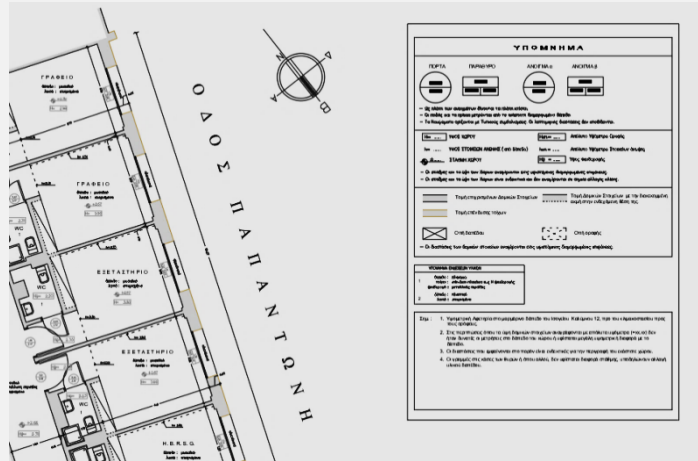
ZYPGR : Line legend



ZYPBL : Symbol legend



ZYPHH : Hatch legend



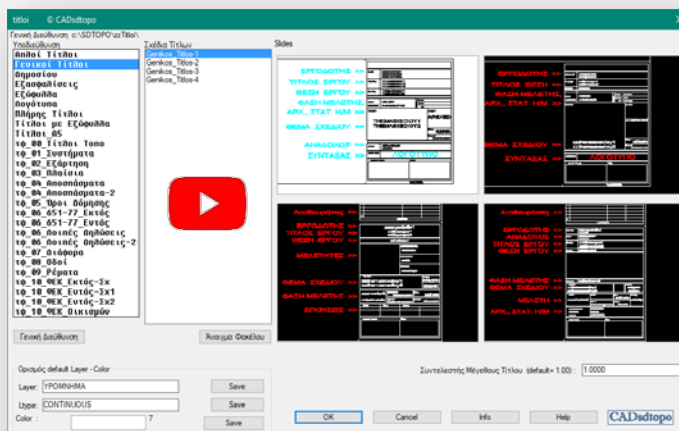
Note 1: The Hatch legend also shows the total surface area of each Hatch type. The symbol legend also shows the set of each type of symbol.

Note 2: You can also use Text Legend ([ZYPTI](#)) in the case that e.g. different Text types are used to separate elements..

11. TITLE-BLOCK & LEGENDS

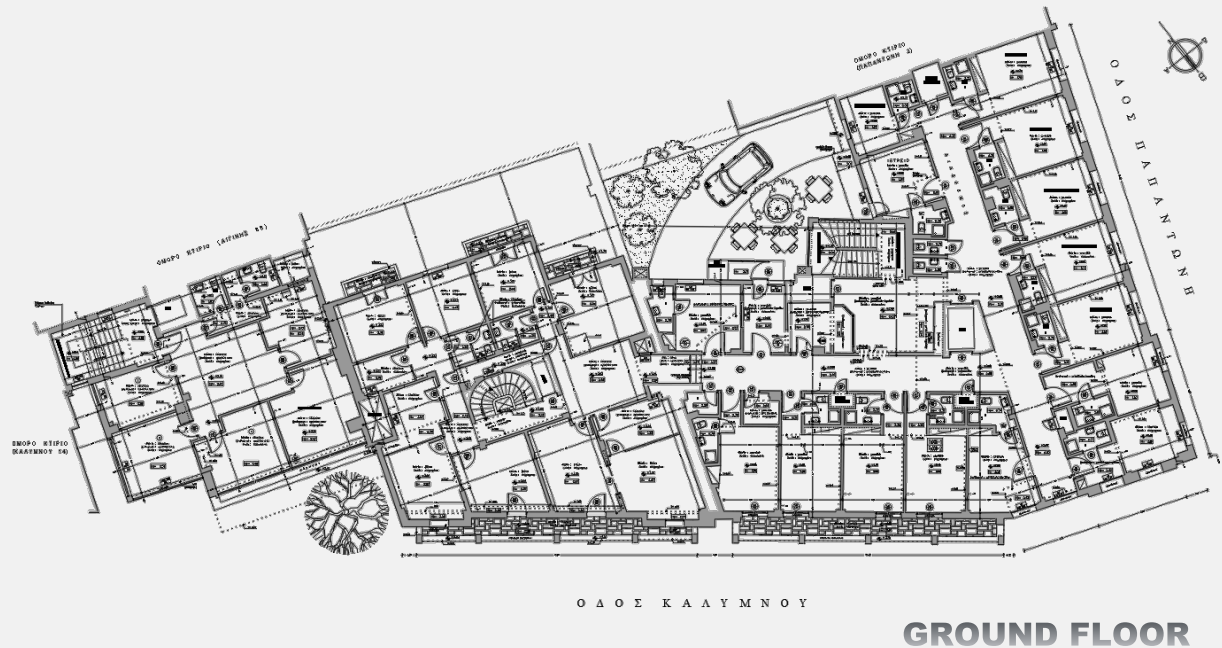


Import a Title-block ([ZTITLOI](#)). Choose one from SDBOX's database of Title-blocks or add your one in the specified folders.



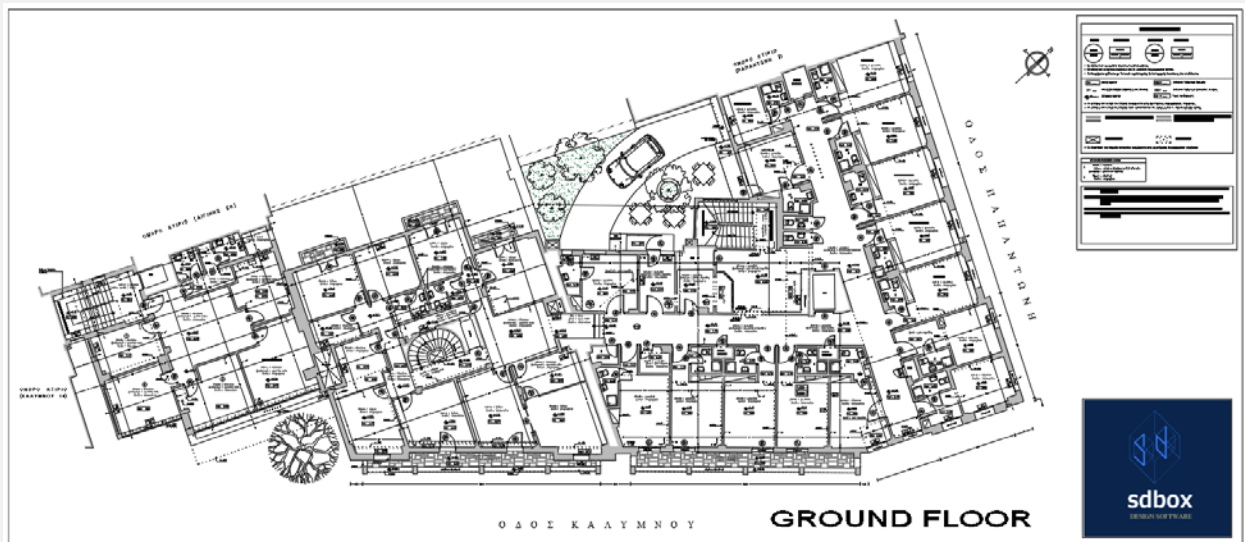
12. Title under Plan

With the command [YITI](#) --> (Large Wide Title) you can add the name of the Floor Plan (e.g. GROUND FLOOR, FIRST FLOOR, etc.) to the bottom right of the drawing.



13. Printing

It is recommended to use the [SDBOX's Plot styles](#). For generating a PDF you can use the *SDBOX* → *Misc* → [ZZPDF](#) command where you only specify the area to print and the rest is done automatically.






14. Emailing the design to third parties

1. First set all the Layers that are needed for **printing** to be open and also open the ones that still need to be delivered. (Note: You can use AutoCAD's LMAN command to save this kind of layer states.)

2.  **ZWB:** A new drawing is automatically created to a folder you define (containing only what's selected). During the creation of the new drawing, you are informed regarding common layers that should or should not be delivered. Images, fonts and ctb files are automatically copied to the folder you specified.
3.  **Open the new drawing** and start SDBOX.
4.  In case source drawing was rotated, then use AutoCAD command `_view` and select `_top`.
5.  **ZCIMD:** Automatically set images paths to the folder where you saved the new design.
6.  **00:** Set 0 as current layer.
7.  **ZLAYREN:** Layers can be automatically renamed if needed. It is suggested to check the Layers that were not renamed and rename them accordingly. For auto-filling of the auto-rename list see [here](#).
8.      Run the commands: **PURGE** - [T2F](#) - [TTO](#) - [LLO](#) - [ZZO](#) (except the DTM layers).
9. Check for unwanted entries such as **Xrefs**, **Images**, **Layer Filters**, **LMAN**, **Views** and remove those that are not needed.
10.  **ZZARIAL:** Automatically convert all SDBOX fonts to **Arial** so that problems do not occur in different versions of AutoCAD that third parties may use.
11. **ZOOM:** Extends.
12. **SAVE:** Save your drawing as AutoCAD 2007 version.
13.  **ZPPDE:** Automatic pdf generation.
14. Delete from the folder the `*.bak` files.

15. Notes and Tips


-  It is recommended during design to follow the Menu commands "Floor plan step by step " or follow commands from the Ribbon or the Toolbar "15a. Floor plan step by step".
-  **DFF Opening a Photo:** If you have specified (with the [FFCHDIR](#) command) the Windows folder that contains the photos of the Project, then you can enter the number of the photo in the project and it will open **automatically** .


- 
CEC: Setting a list of tasks, actions or reminders (such as during design or before printing or before emailing to third parties) with [CEC options](#) 1 until CEC 4.





- " 09 Design Views " Toolbar permanently open or to work with the Ribbon.


Some useful commands:



ZMSB: (Match Block Scale). First select the Block that has the desired X, Y, Z Scales and then the Blocks that you want to acquire the same Scales.



ADA: Automatic deviation calculation between two numbers that you select on the screen or write them down.



ZMRS: Automatic adjustment of objects (average rotation, move, scale) with data of as many pairs of points as you choose on the screen.



S2P: (Spline to Polyline). Conversion of the selected Splines to Polylines with possibility to configure the density of points between the vertices of the original Splines.



ZONELAY: (Transfer to 1 Layer). Whatever objects you select are transferred to an existing or new Layer, keeping their Color and Linetype.



ZDLAYT: (Layer Based Dimensioning). Automatic listing of Dimensions (plain Text) of all objects on the same Layer.


ZDRC: Open current drawing's folder


D+D: Operations with distances and numbers.


ZCXRD: (Change Xref paths). If the drawing doesn't find the Xrefs you can redefine the folder or folders that contain them in one go.


KTI: (Text Line Spacing). Select the lines of text you want and set the distance between them (default, at a certain distance or with dynamic scaling on the screen).


PP: (Perpendicular to line point). Select any point on an object (eq line, pline), where a perpendicular new line is drawn to the desired length and side.



[LLOL](#): (Highlight Layer). Select any Layer you want which starts to flash on the screen while you are informed about how many and what kind of objects it contains.



[ZVPMC](#): (New Viewport from Model to Layout in the same coordinates). Define an area in Model which automatically appears in a layout at the same coordinates.



[ZDFS](#): (Resize according to different print scale). If, for example, you have inserted an image in random size which you want to be printed at 1:5000 scale while the rest of the design will be printed at 1:200. Just choose a dimension on the image, enter its actual value and the two print scales.



[ZIMAA](#): (Transfer objects between images). Select two images (initial and final) and based on the difference in the size, position and rotation, as many objects as you choose are moved or copied from the 1st to the 2nd.

Thank you for using SDBOX!