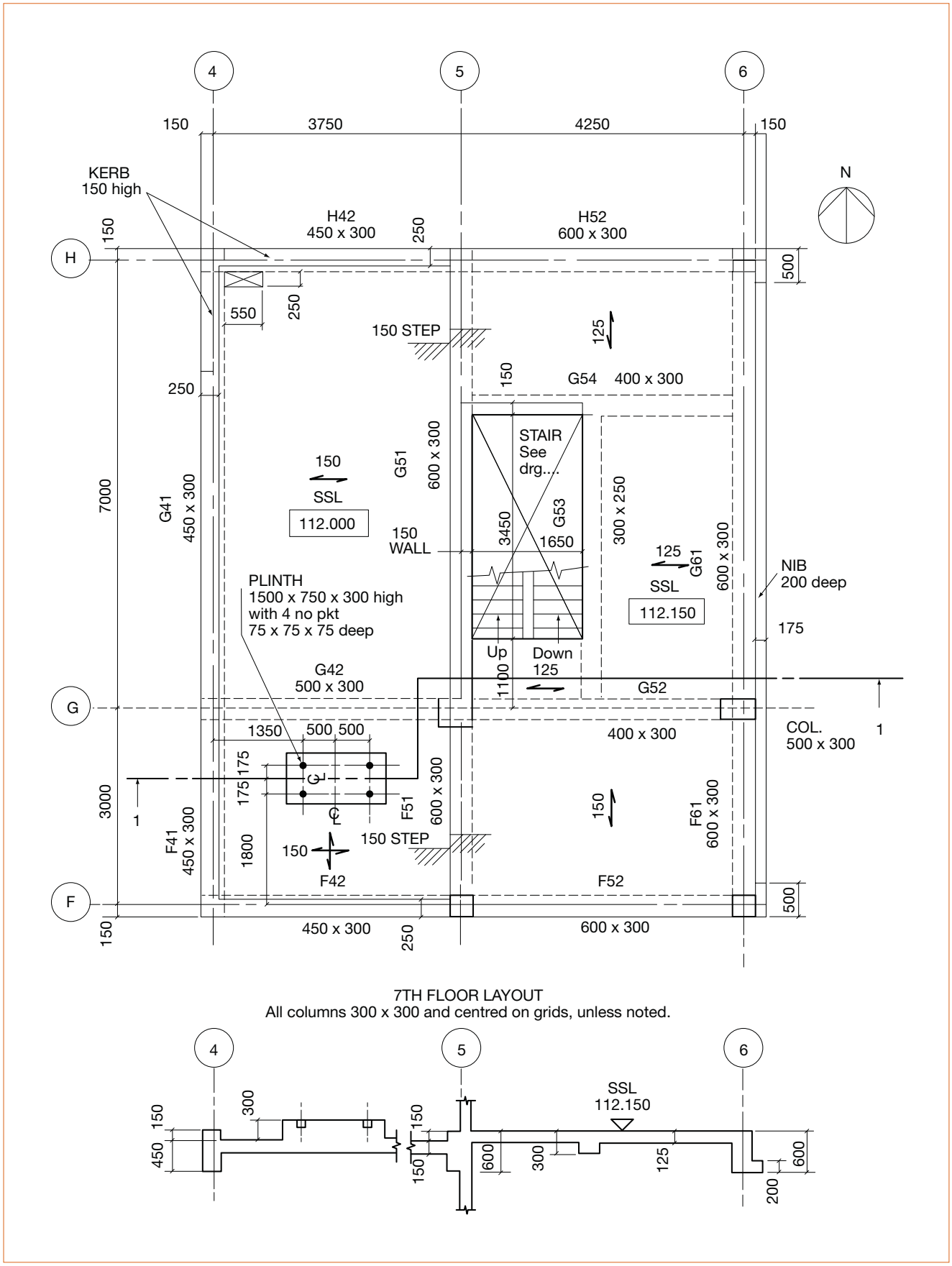
Example of General Arrangement Drawing for concrete structures

Reference: IStructE - Standard method of detailing structural concrete



7TH FLOOR LAYOUT
All columns 300 x 300 and centred on grids, unless noted.

Information shown on General Arrangement drawings for concrete structures

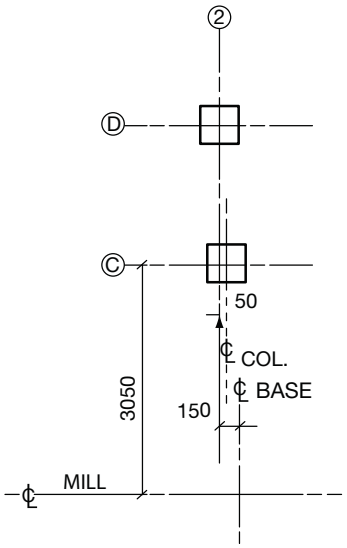
Reference: IStructE - Standard methods of detailing structural concrete

a) Grid lines

These form a network across the job and provide a convenient datum for dimensioning and referencing elements (see 3.19). Grids usually coincide with the centre-lines of columns; clarify if they do not.

b) Centre-lines

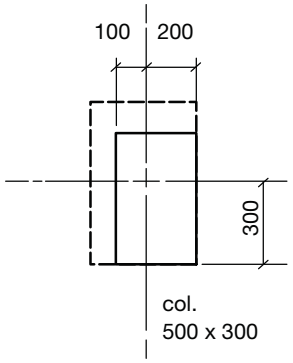
These often coincide with grid lines. Otherwise notate and locate by offset dimensions from nearest grid. It is useful to locate groups of holes, pockets, isolated bases, plinths, machinery, plant, etc.



c) Columns

State overall concrete size (with clear indication of orientation) and locate relative to the nearest grid lines. If the size of the column is greater below floor, show the lower profile dotted; its size will be indicated on the lower floor plan.

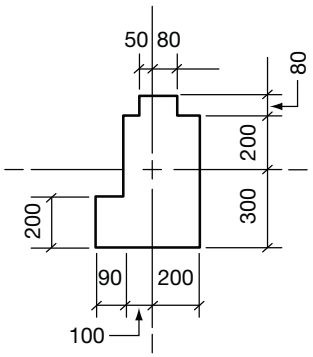
Where repetition occurs it may be convenient to add an explanatory note, e.g. all columns 300 × 300 and centred on grid lines unless noted.



d) Nibs on columns

Dimension on plan.

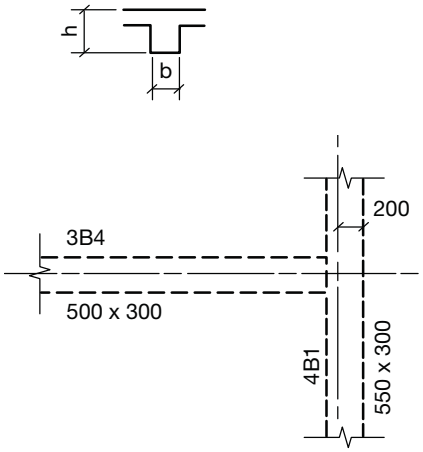
Where the profile becomes more complex it may be necessary to refer to an enlarged detail for dimensions. Elevations will be required if the vertical extent of the nibs is not obvious from the plan.



e) Downstand beams

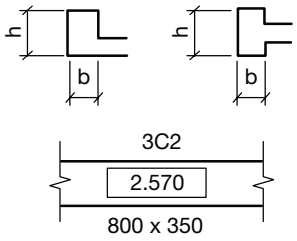
State beam reference (see 3.19) and overall concrete size (h × b), both preferably at the centre of span. The dotted line plots the profile of the lowest beam soffit.

Where repetition occurs it may be convenient to add an explanatory note, e.g. all internal beams 600 × 300 unless noted.



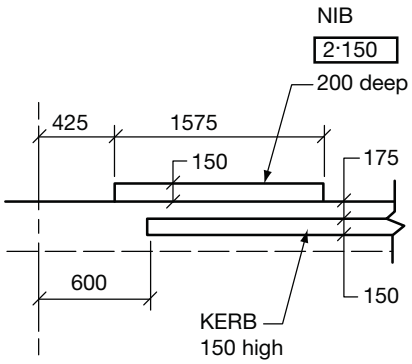
f) Upstand beams

State beam reference and overall concrete size (h × b). Add level to top of beam and/or draw section to clarify.



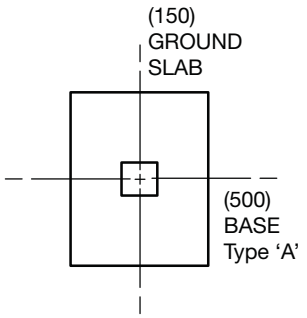
g) Nibs and kerbs on beams

Locate extent of projection on plan and notate, indicating depth. Clarify with section and/or add levels to top.



h) Bases and ground slabs

Notate and indicate thickness.



j) Suspended slabs

Show direction of span and indicate thickness of slab, preferably near the centre of the panel.

one-way spanning



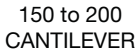
two-way spanning



cantilever

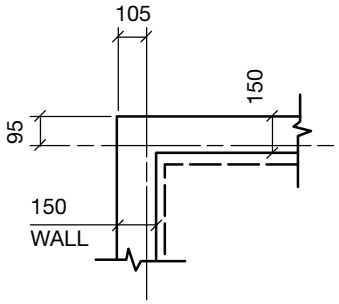


tapered cantilever (add section and indicate direction of taper).



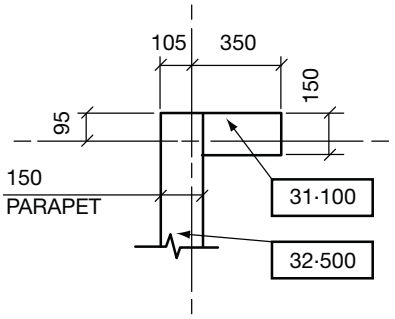
k) Walls

State wall thickness and its location relative to the nearest datum. If the wall size under is different then show its profile dotted; its thickness will be indicated on the lower floor plan.



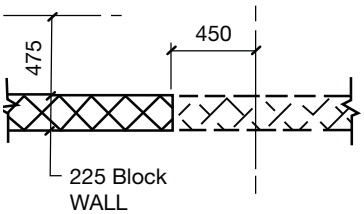
l) Dwarf walls and parapets

These walls are viewed just above their top and notated. Sections and/or levels are added for clarity.

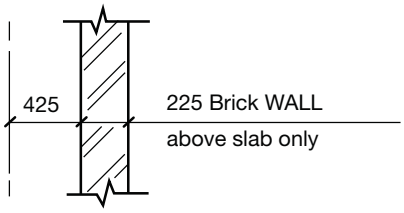


m) Load bearing walls

- Indicate wall material and thickness and its location relative to the nearest datum. Supporting walls under to be shown dotted and notated on the lower floor plan.



- Locate and identify walls above floors that are not continuously supported by walls below.

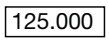


Generally non-load bearing partitions are not shown on structural drawings.

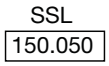
n) Levels

These provide a vertical datum and should be displayed prominently at each level as appropriate, thus:

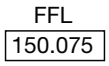
- top level of concrete, e.g. foundation base



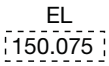
- top of structural slab level



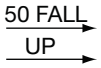
- top of finished floor level



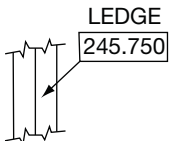
- top of existing level



- arrow indicates direction of down slopes and falls and up slopes



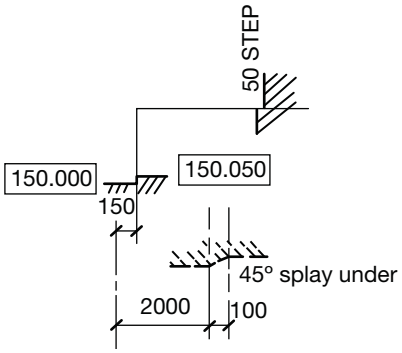
- arrow indicates level to top surface as noted.



p) Steps in level

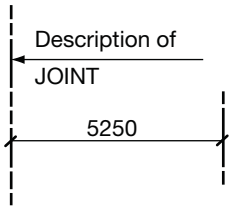
Lines at a change in level can be quickly identified by adding sectional hatching to the plan as follows:

- step on top surface
- splay on slab soffit shown dotted
- locate steps to nearest datum appropriate.



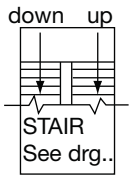
q) Joints

Any special joint required by the Designer should be located and notated on plan with a bold chain-dotted line and supported by a section if required for clarification.



r) Stairwells

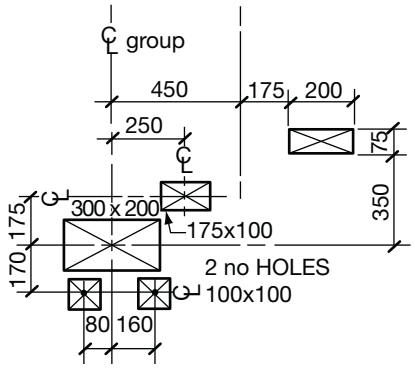
On floor plans, complicated areas such as stairwells are often referred to an enlarged layout drawing. The direction of stair flights should be indicated as though standing on the subject floor.



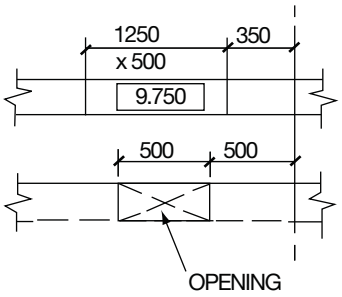
s) Holes

All should be drawn to scale, sized and located to the nearest datum (holes ⩽ 150mm × 150mm will not always be shown):

- hole through slab.
- groups of holes.
  Identify holes with a cross.

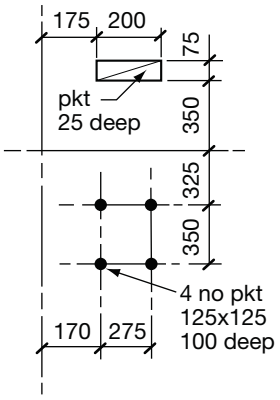


- holes through beams or walls.
  Indicate level to bottom of hole, e.g. window sill.
  Show cross dotted if below the section, e.g. downstand beam. An elevation will be required if holes are too complicated to show on plan.



t) Pockets and recesses

- similar to holes but identify area with diagonal only and notate.
- small pockets such as those used for anchor bolts are usually identified by a large dot and notated.



On section

Sections are drawn to clarify the plan and provide mainly vertical information.

a) General cross-sections

These provide a general impression of the entire vertical structure. Major dimensions and levels shown. Complicated profiles etc. may remain undimensioned; these are shown by local section prepared with the floor layouts. The elevation of background walls and columns are often included to increase impression.

b) Local sections

Show all vertical dimensions and levels. Some horizontal dimensions added will help to tie in with the plan. Local sections are preferably placed alongside the plan.

