

Forming up a small flight of concrete stairs with a landing on the top.

First clean up the site, give yourself a clear area to work as it will soon get filled up.

Level the ground, make sure all the loose crap is gone.

As this one is against a wall, mark it out in chalk on the wall.

Check and double check your sizes. I never set anything like this out in the afternoon. I'm a morning person and that's when I do the tricky stuff. when I am fresh.

Lay down your sole plates and stand up and temporary brace the landing. Fix ply on top.

Fix the sloping soffit (underneath) of the slab. The slab is the term for the part of the stair that supports the riser triangles. It is the part that the engineer is concerned with, it supports everything.

Fix the side shutters and edge forms for the landing.

Brace and prop it secure.

Call in the steelfixers and let them go for it. If you are doing your own steelfixing get some good nips and start tying steel. Its easy but boring.

Check the steel if OK fix your risers.

Fix your strong back, if any. Double check it and measure for concrete.

I have drawn these stairs against a wall, but not connected to it. I like the gap that keeps the stair off the wall for cleaning and visual appearance, but it could just as easily be touching the wall.

In this case you would fix a shutter to the wall similar to the center strong back.

Again, the landing I have drawn without any supports. The support in this case would be from connecting to a concrete slab alongside, or you could have a steel column or two built into the landing.

I have not drawn in any reinforcing steel (rebar). I'll cover that in my concreting section.

When I talk about a shutter, what I mean is formply cut to a size and backed up with battens so that it becomes a unit. The battens could be small 50x20 to large sizes, depending on the weight it has to hold.

General notes on concrete formwork.

First off local conditions are always different. What I've drawn here is and an old way of doing it with all timber.

If you have plenty cheap (even recycled) timber this is the way to go. For the props, I have worked on multi storey buildings where we used to use "bush props" that is, saplings of about 4 to 6 inch diameter.

I've done stairs where the scaffolders framed up the supports for us out of scaffold pipes and clips.

Then of course it may be cheaper for you to hire a couple of "H" frames, a few screw jacks and steel props. I can't guess your situation.

Don't take the sizes of the timbers too literally. These are just something to let you know roughly what I do. Softwood timber is the norm for formwork, and if you can get it, OK.

I quite often form up jobs using stuff left over from other jobs, or cheap downgrade material, floor joists, ceiling battens etc. I have not specialised in formwork for years, so I use what I have available or cheap.

I have done a few one off jobs using cheap MDF cover sheets, and thrown it all away afterwards.

A few old rules that have never let me down.

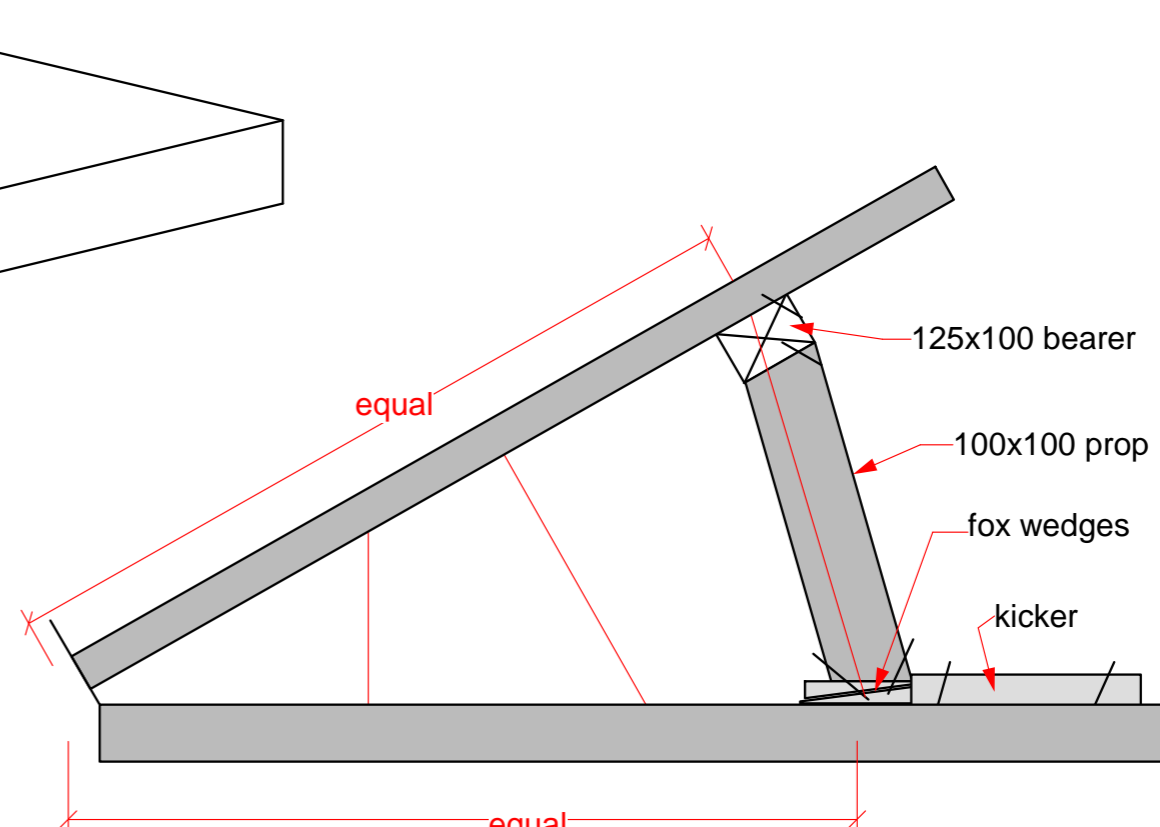
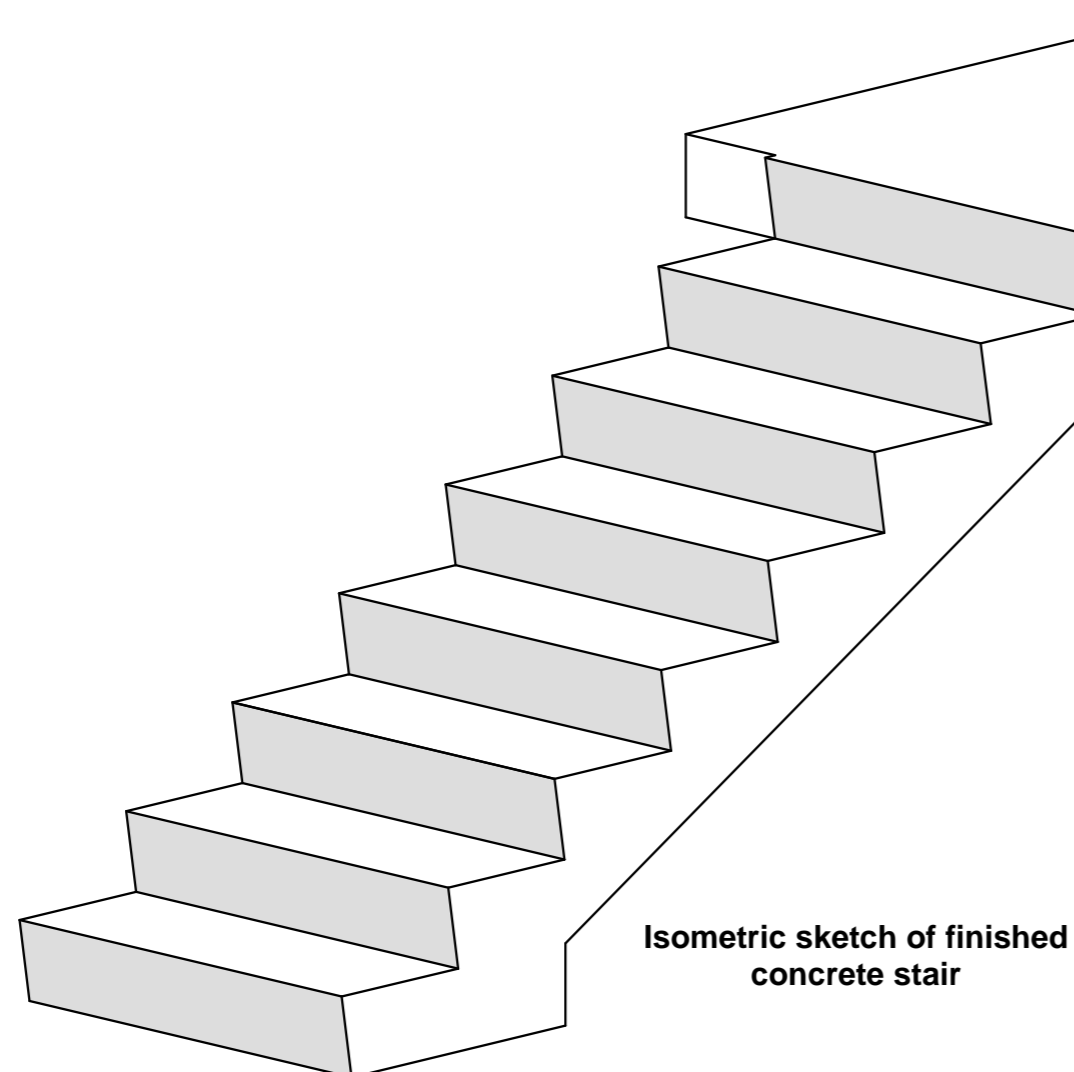
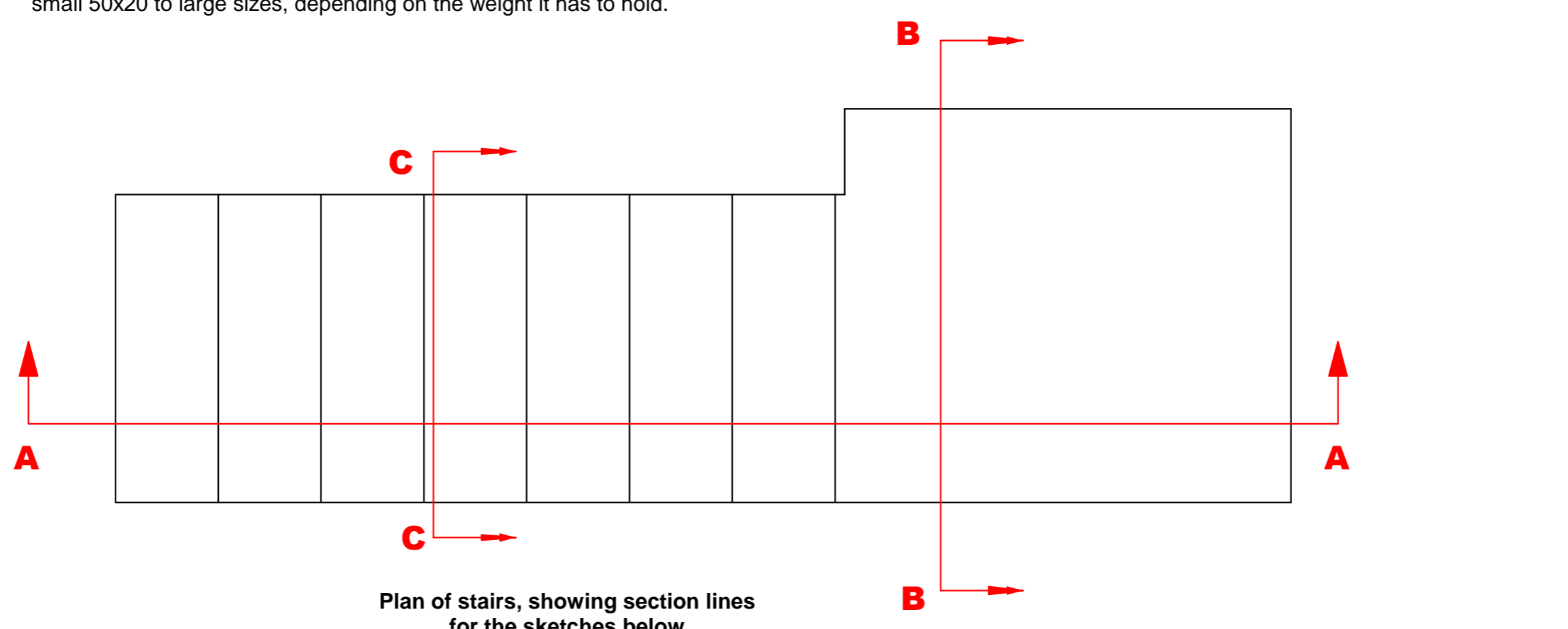
In terms of supports, props and braces, better ten too many than one not enough. I have done a job that some wit nailed a sign on one of my props saying "Bills jungle". He obviously thought I'd overdone it.

Concrete when wet, and especially when being vibrated acts with hydrostatic pressure. Like water, the pressure is greater at the bottom than the top.

That means that most of your efforts must go to holding the bottom of the forms tight and straight. That is where the weight is.

If the formwork moves during the pour it is almost impossible to push it back. Without emptying the form that is. So hold it well.

Have someone keep an eye on the props while the pouring goes on. You never know.



you have three choices with the angle of your props vertical, square off the slope, or half way between the two. I have seen it done each way, but half and half is the way I do it. This means a less acute angle than the other ways. An easy way to get your position is to mark out from the pointy bit, equal distances. Then your angles that you saw the prop at are the same also.

Note! there is no form to the top of the stair treads. A good mix of concrete to the correct slump will not push up too much at the bottom. Start pouring at the bottom and slowly work up, vibrating as you go. If any spills out, shovel it or bucket it uphill

