

Episode 138

Why an integrated design approach works well for self build – with Charles Grylls and Nick Grant

The show notes: www.houseplanninghelp.com/138

Intro: Today we're talking to Nick Grant from Elemental Solutions, and Charles Grylls from Dempsey Decourcy Architects, about integrated design – what it is, why it is suited to self build and how can we make it work in practice.

I started by asking Charles to tell me about his background and the team that he works with.

Charles: My name's Charles Grylls and I'm an architect in Ross on Wye. I've been working with Nick and the rest of our design team for about 5 years now on a variety of Passivhaus projects – retrofit and new build. The rest of the team, that's Nick Grant, Alan Clarke, Allan Pearce and Mike Whitfield the contractor. So Alan Clarke is the services engineer, Alan Pearce is the structural engineer and Nick is Passivhaus consultant.

Ben: Why is this topic something that is close to your heart, Nick?

Nick: For me is, as I was talking about when you interviewed me before, a lot of my experience goes back to industry and there was a big sort of split between management and shop floor and so on. And I see that happening in the construction industry where traditionally the architect draws something and then the engineer has to try and make it stand up and then the builder has to try and build it. I'm much more attracted to the idea of people really working together, so everyone's chipping in and you're looking to the builder, how are you going to, you're looking to them for advice how it's buildable, you're looking to the client. It's just everyone working together. It's a much flatter, non-hierarchical. It's not designed by committee but it's a much more satisfying way of working I think.

Ben: How long has it taken to get to this point?

Charles: In terms of our integrated design approach? I think we started off pretty much straight away but we just I think took a few weeks just to get, not ground rules, but just to get understanding what somebody like Mike Whitfield would do as a contractor, what the engineer would bring in terms of design into Passivhaus standards, just in terms of things like eliminating cold bridges and reducing the amount of structure in walls, without getting too technical. So one project which we did in Garway for a Passivhaus, which is in Herefordshire, so I think it was that first project and that led on to the next project and next project.

Ben: Is this about the people as much as the process?

Nick: Yes. I think so definitely. This is, we're a bunch of friends, I know it's often not the best thing to work with your friends, it can be a recipe for disaster, but we get on well and we respect each other. That's not always possible. So we've done other projects where we've had to put a team together from scratch, but again it was the same sort of principle. We get the contractor in early on, try and find a local builder people are happy with, not going out to competitive tender, design it and then get people to put in prices and go with the cheapest or the second cheapest. For a self build or a small project it's much better if you can find someone you trust, speak to their previous clients, look at their projects and just agree a way to work forward, and whether it's working for... There's different methods. I'm not a contract specialist but there are different ways of working it out but that needs sorting at an early stage.

Ben: There must have been a period of forming the team though and getting it together and knowing who's best. You make it sound as if it was just like this straight off. So for other people who are trying to get a good team together, what advice would you give them?

Charles: I suppose from our personal point of view we'd worked with Mike Whitfield for a long time before we worked together. Because we'd worked at Architype we knew of him and we knew of Nick Grant who'd worked with Architype quite a lot, so there were already connections in place. So it's just something that has been there really.

I suppose if we were starting from fresh, usually word of mouth and we'd probably go to somebody who had done a Passivhaus and ask them who's done it. I think that's quite simple and maybe I think word of mouth is usually quite good when you see good projects, if

you start from afresh, but we'd had a working relationship for 15 years or so.

Ben: Can we talk about a traditional process of how you would bring the team together from architect to builder and so forth, and to what you're suggesting is an integrated design process?

Nick: You'll have to talk to Charles because he's a proper architect about what the normal way of doing things is, but my experience on the outside is I see lots of different ways. I get involved as a Passivhaus consultant and I see sometimes something's been drawn, it's got planning and then we have to then solve the energy problems and overheating problems, and then we have to try and find someone who can build it, and then we find it's over budget and then... So that seems to be quite common. So that's the bit we want to avoid.

We've kind of fallen into it. I think we've all known each other... Mike helped with building our house a long time ago. Allan Pearce was structural engineer on that and we wanted to do some things very differently and he didn't balk at that. If this is a one off Passivhaus or one off low energy building then that's not really worth investing the time and effort in learning so people have got to see this as a direction they want to go. I think that's key.

Ben: Charles, the traditional route then, take us through that.

Charles: In terms of a traditional contract, so you'd start off with the client and an architect working through a process designed from concept to developed design and then that going for planning, and then usually go to tender once you've got planning. So basically you're going to go quite a long way down the process of design without talking to a contractor and especially in terms of Passivhaus where it really needs an integrated approach all the way through. It can be a little bit risky because you'll get to a point... I mean I think with our experience we probably wouldn't make any mistakes, but I think if you were to start in this process and working with a builder who hadn't worked on Passivhaus before, I think it's a risk in terms of cost control and quality control and just putting it together really on site.

With a negotiated tender which is still a traditional route to negotiate a tender, so when you say traditional or non-traditional a negotiated tender would be a traditional route to go down as well. We just find that that's less risky.

I think in terms of competitive pricing we've found that people that don't know Passivhaus will go in either with a low price because they don't understand what they're going to have to build, or they go in and price it for risk and so overprice it. So negotiating with somebody who knows how to do it, everybody knows where they are and what they can manage in terms of expectations.

Ben: And how is it that the system is set up like this? Why did it happen? It makes sense in some ways to think that you would do this as an integrated team, but clearly it's always just started with that design and then gone out to tender?

Charles: I suppose if you're an architect it's probably easier just to design things. It's more of a risk for the client that they'd have to pay and then you'd get to this thing of "value engineering" where you're chopping things out which I don't know. It's just that traditional way of doing things in competitive tendering, but you wouldn't usually go for competitive tendering until you've got all the detail ready. But there's sort of two stage tender can't you where there's not as much detail then more detail.

When you say how we've got to this point, there's always been this negotiated tender which is in there, so I think it's always been part of the process. So I think it's just different routes, and competition and just getting competitive tenders but we'd just go for negotiated tenders.

Ben: When we're going down this route then of integrated design, you Nick have told me that it lends itself very well for self build. So can you explain that a little bit and also the communication side, because it flows much better doesn't it in this way?

Nick: Yeah. I mean self build and any small projects we do see sometimes, especially if someone's in the profession and they're doing a one-off build, they'll go through say if it was a school they were building or some very large project and they'll go through the tender package and so on.

And some smaller builders who'll be completely capable and brilliant at the job, but you just need someone, they don't need to know anything about Passivhaus they just need to care, they just need to do stuff neatly and stack bricks neatly or nail wood together, that's all you've got to do, and just care about what you're doing.

And some of the smaller builders who are great at that, they won't have the department that is specifically doing the tender and then looking at extras and all this. So they'll happily turn up and do the job and they'll work for a fair price but in terms of trying to win jobs in that way that bigger companies do they're really at a disadvantage.

So if you can find a small builder who you get on with and you can speak to previous clients then I think you'll get a cheaper, better job. I think there's ironically less risk.

My partner, Sheila, her dad was a builder, long retired now although he still does stuff. He said he'd never done a quote in his life and had some people move to their village in Norfolk from London, they asked for a quote for a job and he said he didn't do quotes but if they didn't like what he did then don't pay him. And you've got to be good to do that because if you do a duff job or you charge too much you'll never work again. Word gets round the village. But people have a sort of mistrust, and it seems strange to sort of trust someone that much to go for this way of working but it actually works out better for the client and better off for everyone. But there's an element of trusting each other.

Ben: Your team obviously you've done a few projects together and I know that if I lived down here it would be a very easy thing to buy into that. But somewhere else in the country, how would you go about it then? Find this local builder? You want someone with some Passivhaus experience?

Nick: Yeah. I think you need enough people, you don't need everyone to have done Passivhaus, but you need someone who's willing to lead that and know what...

So this applies not just to Passivhaus it's anything you want to do. It's about quality really. So someone who can keep a handle on that.

And then just people who care – that's the key thing. So if it's your job, so say you're an architect or a Passivhaus consultant, whatever it is, it's going to be very useful for you to try and develop that expertise in your area, particularly for smaller jobs. For bigger jobs it's always going to be a different contractor, it's going to be a different team and that's a different game. But for self build, small housing projects, you somehow work at getting that group of people together, it's a way to go.

It's whatever you do, if you're keeping chickens or whatever, you'll make the contacts, you'll know where to get your chicken feed, you'll know who does this, that and the other. It's the same sort of thing, it's getting that network.

Ben: Can you talk us through the communication side of this when you're working as a team, how you do that with integrated design?

Charles: I think nowadays because everybody is internet and email proficient I think this is going to be for most people now that we do quite a lot of work just emailing PDF drawings out. So everybody is always copied in. We don't usually have to do a joint... Sometimes we can use joint Dropbox type folders so we can have joint folders for consultant's information so we can keep checking and cross-checking and everybody has an open and immediate response to information that goes out.

Ben: That's the other thing, you could say oh have a look at this but you need to know that they've had a look at it.

Charles: Exactly. And the client as well. Usually most clients are going to be email proficient and connected up. So yeah, right through I think we can always cross-check and evaluate everything that's going on. I can send real simple sketches out to Mike even before we've got a commission so we can always start off on the right foot and finish on the right foot.

And we do a little bit of video conferencing now and again. I think we've all got that Facetime connectivity so if it really is serious we can... We do have to put our trousers on usually. Just from the waist up we can communicate quite easily!

Ben: Anything else on communication?

Nick: Yeah, I think also just although it's good communication it's not superfluous. We don't sit around in design team meetings with everybody there which happens on bigger projects. And I think often there's too much of that on bigger projects. You've got the landscape architect sat through 4 hours of discussion about fire regulations which ended up taking a lot of time up.

So there's the informal and also separating out what is focus. So you get on site, the builder's busy, bang bang bang, we solve this problem, quick sketch, sorted, go away, send the drawing. So it's not loads of time spent in meetings. But then we'll chew the fat down the pub and we'll sketch out ideas, and it's non-productive

time. We're doing it for fun. It can drag on, we can be silly, we can fool around and when we've had enough we can stop.

But when you've got an actual meeting and work on site stops we keep that very focussed and Charles is great with providing the communication needed, thinking through the sequencing, doing a lot of the builder's thinking for them having discussed with them the issues and then trying to come up with solutions so that when they're on site everything goes together very quickly and works very well.

And if it doesn't go very well we get the feedback down the pub, spend a bit of time, because we're going to do it time and time again. If it's just one project you can't be doing that. You can't be spending ages trying to work out how this tricky corner detail went, is one example we had. But if you know you're going to be using that many times again it's worth putting in a couple of hours upfront to make it much easier the next time.

And the same with the drawings. Charles uses, there's 2D CAD, a 3D CAD but also a little Sketchup illustration, sometimes very handy if the builder has an A3 drawing, there's the proper dimension drawings but sometimes a little 3D visual just to explain how it all goes together to help the builder on site communicate to his team.

Ben: We're talking very much about some of the stuff that you're doing, but how as clients can we help you as well?

Charles: I think a good brief. We usually start with a good brief, so when we form contract documents when we have appointments we always integrate the brief into the appointment documents. But it's the discipline of writing down everything that you want and then from that baseline it's just always good to have that starting point. So the more you think about it to start off with the better.

And then in terms of changes on site, I think some of the dangers are when you communicate with a builder and don't include the architect or the consultants. You've really got to be disciplined and maybe if the architect's got a role on site usually we do just up to the pre-site commencement design works and we can be on the end of a phone for advice but if you're on site that's when dangers can, you've really got to keep that communication line between yourself and the project manager, or the architect. So it's got to be a hierarchy.

Ben: Because there is a line here isn't there, between we talked about it a little bit, that you have these meetings where you drag everyone in and it all goes wrong, and then the other extreme where someone's missing out. So how are you drawing that line or is it almost on a contractual basis as you say, that you take it to a certain point and then it's handing it over?

Charles: I think usually there'll be roles and responsibilities that you can set out so if we did go for a traditional procurement where an architect administers it, works on site, and there's roles and responsibilities where the architect is project manager and administrates the contract, so everything has to go through them. And then it goes down to the contractor. So you just need a little flow diagram of who's doing what if it gets as complex as that.

I think we've kept ours really simple because Mike, our contractor, has formed a direct contract between him and the client. And usually because we've worked it all out beforehand there aren't really a lot of changes. I think most things are sorted out and we haven't really had any changes on site apart from some people moving the building on site, but that's... It's all worked out because there are contracts in place. So that's the way to do it.

Ben: Because although we've mentioned team a couple of times, you're all working separately aren't you?

Nick: Yeah, it's an informal arrangement. We work together, we share information, everything's very open in terms of whether it's fees or whatever. But yeah, we're all independently employed, self-employed or whatever our arrangements are.

I was just thinking of one thing with the bit about what Charles was saying before. One of the things is again back to trust and responsibility, so when Mike's, the contractor's, doing the building we're kind of trusting them to know how to do it. They've come to us if they're not sure but they've got a responsibility if they're not sure about a change whether it matters, they'll get back in touch and say is it okay if I do this, does that matter? So they have, because no architect can be on site enough to spot all the things that could possibly go wrong. It would just cost the client too much. So there has to be a sort of this training the person doing stuff and a feedback process. I think that's important. So you're not having to be on site that much but in effect you are because the contractor is seeing problems through the eyes of the rest of the team and they'll get in touch if they think something needs doing.

Ben: Is there anything that we need to think about when we're looking at budgets?

Nick: Yeah, I think we always start with the budget. I know some projects you draw the thing and then go out to tender and find out what it costs, and then decide if you can afford it. So first question we ask is what do you want to spend.

And that needs some unpicking because sometimes a client will sort of give a lower number because it's almost like you're bargaining for something and think I won't let people know how much money I've really got. And then the danger is then you design for that lower budget and they're disappointed because they haven't got all these things they had in their mind, but you haven't put them in because they couldn't afford it. And then suddenly there's more money available and it wastes a lot of time and it has to be a bit of trust and real honesty about what you really want to spend because once the budget's fixed then you've got to trade things. You can have that but you can't have that. And the client can choose. Do you want to spend your money on this or do you want to spend your money on that.

So I think the budget is really key and just honesty and transparency. And again talking with the builder very early on we can get some realistic ideas about things. So well you've done this before, was that roughly what will that cost if we do it that way and we don't put anything in the design that we have to take out later hopefully. So we're not stripping out all the nice stuff at the end. That's the value engineering thing we talked about before.

Ben: So we get through the project, and then you're at this stage, I suppose typically we might not see the contractors again afterwards, but tell us about how it's different when you've got this integrated team and how you look back at the projects.

Charles: I think integrating the team, I'm including the client within that team, so after the builder's left and everything's finished. We've finished this recent retrofit in Monmouth in 2015 so we've just gone back today and we've just been checking on the whole performance through the heating season and also through part of the cooling season. And so we're learning what they've been doing through their house and how they're adjusting to their controls and using things like log burners along with the MVHR.

So it's just because they've been in there for a year they've got to a point where they're getting used to control systems, maybe slightly

not using it to its full potential so we can give them, it doesn't take a long time because everything's in place. So it's simple adjustments and maybe just chatting through how you open a window at night or two windows and just thinking through how it all works for the best environmental internal comfort.

So I think that's less to do with the contractor unless there's something going on which is unusual we're going to get any problems with the superstructure or internal fixtures and fittings. We haven't had any of that sort of thing so far. But usually it's just about fine tuning and getting the building as efficient and as comfortable as possible.

Ben: And Nick, do you have anything to add in terms of things that you've learnt afterwards that you then can plough into the next project? I know you're very big on refining things.

Nick: Yeah. Obviously you've got to be fairly confident. Often you just hope that the phone doesn't ring again once you've left the project! I'm not saying that's our approach but by building on what we know we're very confident we can go back and if there is a problem we want to know about it because we don't want to be having to... You lose money on going back and fixing stuff.

So today part of the problem is they were so comfy and so happy we were kind of probing them and pushing them and saying there must be something that we can improve! Surely some way of operating. So we did suggest a few things they could do simpler. And then in the end the only thing they could think of was some downpipe clips were loose so we just gave them a tap with a hammer and said they should be fine, but that was kind of it. So we were looking for problems which is unusual I think but you can only do that if you're confident there won't be too many problems!

Ben: Well maybe we'll round this off then and just look at someone who's going into a self build project, looking to build up that team. You've given us lots of tips, is there anything else that they should bear in mind, particularly at that early stage because I think once you've got that team together there's not much that's going to change. You're just working together from that phase.

Charles: Well I don't know if it's going off the subject but pre-application planning advice, I'd definitely get that as soon as you can because just having the planners on board as part of your integrated team and also the building control officer. We get all the local authorities involved very early as well on so I think that really does help for

successful projects. So if you do pre-app processes you can get all the issues about highways, surveys, ecological surveys. Successful projects you just need everybody up front from the very start. It costs a bit more I suppose there'd be a little bit of outlay in terms of pre-apps but the investment is just worthwhile I think.

Nick: Just as Charles was saying that I was thinking of one of the rural... I mean the ideal thing sustainably is to be building in towns and cities and so on and here we are in the country because that's where we could get planning permission and I don't know where you'll end up but again plots are really tricky.

And the rural thing often is the drainage can be a big problem if you're on heavy clay soil and so on, and again you've got to be really careful you're not buying a plot where you don't have a possibility for drainage. And I've seen that happen so that's something that comes in with the pre-app advice and the initial surveys and checking flood plains, all that sort of stuff. Very important when you're dewy eyed looking for your ideal plot it's easy to sort of not want to know bad news.

Charles: Get that bad news out of the way at the very start, because if it drags on. Things like highways issues, they're non-negotiable. You're stuffed so you've got to get that sorted. All the horrible things then you can concentrate on the nice bits.

Ben: Well thank you very much for all your information today. Really appreciate that.

Nick: Cheers, thanks Ben.

Charles: Thank you very much Ben.