HOUSE PLANNING HELP

Episode 270

What is the WELL Building Standard? – with Olga Turner Baker from Ekkist

The show notes: www.houseplanninghelp.com/270

Olga: I'm a chartered surveyor by training. I've spent many years working on a range of projects both residential and commercial and I set up Ekkist around three years ago focusing specifically on health and wellbeing in buildings.

I also sit on the RICS Eastern Region board and on the CLC Council looking at innovation in buildings.

Ben: We're going to be talking about the WELL standard today. So, I guess I'd like to know a little bit about your journey first. When did you first hear about this?

Olga: I first heard about it around 2016, 2017, and the real focus was coming from the US. The US was doing a great deal more on health and wellbeing in buildings and that's originally where the WELL building standard was launched.

I started going to conferences about this and my real thoughts were why is this not happening in the UK? Why is the UK lagging behind the US, China and other countries adopting this? And I became very interested in the subject, very passionate about it, and as a result I set up a company here in the UK applying all those principles that were starting to be applied around the world over here in the UK.

Ben: What are the origins then of this standard?

Olga: The WELL building standard was launched in the US in 2014 and really the origins of it were all around medical research and science.

So, the standard itself was formed from seven years of medical research. Essentially, they took every single study in the world that had been done to do with health and wellbeing in buildings, whether it was from the British Lung Association, Harvard Medical School, all the major research bodies around the world that had done any

research about how buildings impact our health. They pulled that together over a seven year period and turned it into a building code.

Ben: Now, when you've said it like that, it sounds very simple! But there's a little bit more to it. You've got to work backwards from that. So, how does that turn into a building code?

Olga: It's essentially a review of best practice and best guidance, of all the different components of building design. So, ranging from the best guidance on air quality and how to create the best buildings for that, all the way through to water filtration, the safe use of different building materials and different materials and how they impact our health, but also through to management of buildings and all about how you operate them. So, really touching on things like mental health and sense of community.

So, it's research but it's also how it's transpired in practice. And what that has resulted in is very specific guidelines across ten core areas of buildings. Really ranging from that physical infrastructure all the way through to the softer side of the building, all about how you run it and its operations.

Essentially, it forms a set of guidelines; a rulebook, essentially, of how you design.

Ben: How do you make sure then that you comply with this, or is it just guidance?

Olga: No, it's a very robust process really. There are preconditions in the standard; so essentially things you must do to meet the criteria to get your WELL building certification; but also, something called optimisations which are points you earn which help you get the minimum level of certification all the way through up to silver, gold, platinum level certification.

So, it is a very technical and robust standard in the sense of there is a rulebook, you follow it, you submit documentation on it, and you're tested for it in practice through something called performance verification testing.

It is a very robust procedure that you do follow which includes how the building is in use as well as in design.

Ben: Let's go through some of those fundamentals. You've already mentioned them, but any comments that you want to throw in, we'll try to condense this down. So, air first of all.

Olga: So, air is a very important part of the WELL Building Standard. You're really here looking at air filtration, making sure that you're keeping the worst chemicals and particulate matter and dust out of the buildings; particularly houses or offices. I know we're focusing more on housing today. Making sure that it's at a safe level.

Really, we're looking at things like PM2.5 and PM10 and making sure that the presence of those is low enough as supported by medical research to make sure that all our systems function the way they should, that we're not exacerbating things like asthma and allergens.

So, that's a really core part. But also, ventilation and filtration form a big part of that. You may install carbon filters for example in your MVHR system to take out some of those organic and inorganic gases that you may typically find in the home. They can be produced from anything like creating a lot of dust; hoovering kicks up a lot of that type of dust – to cooking or using even deodorants or any kind of cleaning products in the home.

What you're really ensuring in the air part of the standard is that you're maintaining really good, robust, indoor air quality levels.

Ben: Water next.

Olga: Water filtration is in a very similar way to air. You're keeping out anything that may be harmful. Anything from coliforms to public water additives and by-products of disinfectants. And also, any kind of agricultural contaminants.

People often think of water quality as either a rural or an urban issue but in reality, in either environment, it can become contaminated. Anything from old pipes to poor cleaning procedures of the taps themselves. There are many points at which water can become contaminated.

Really, you're ensuring that the water has been filtered to a high enough quality when it's actually delivered as drinking water or even water in your shower or bath. And again, that's a simple carbon filtration system or you can look at something like reverse osmosis.

Ben: Nourishment?

Olga: Yes. The kind of food you're providing in a building is really important. This is probably more relevant to buildings that are managed. So residential buildings, that might be what you call build to rent or PRS, where an operator might be providing food on site.

What we're really looking at here is whether you're providing healthy portion sizes; labelling for allergens, the kind of ingredients that people are typically allergic to and making them aware of what they're eating; all the way through to added sugars, refined sugars, and any kind of additives. So, making sure that you're reducing those in any food provided on site.

And finally, around healthy food messaging. So, you're not advertising unhealthy food products and you're only promoting ethical sourcing and fruit and veg as much as possible.

So, encouraging and almost like a nudging of healthy options through how you operate the building.

Ben: And we can still apply that in our own homes, a lot of it. Obviously, we're not going to have someone serving us the food but we can take the gist of that.

Olga: Yes.

Ben: Light next?

Olga: Yes. Nutrition is probably the only one that doesn't really apply to individual homes. Light very much so.

We have something called the circadian rhythm which is what keeps our body clock in shape throughout the day and what we're looking at in light is that you're a sufficient distance from a window, that floor plans in your rooms aren't too deep in relation to the windows provided. So, ensuring that you're getting really good access to daylight whatever room you're in throughout the day, to make sure that the body clock, the circadian rhythm, can function as well as it can.

Equally, when you're using electric lighting when you don't have daylight during the daytime, so as you move into the evening, make sure you're using the right colour quality and the right specification of fixtures. Not having too much blue light at night which we know can make us sleep worse and disrupt our actual biorhythms and sleep patterns. Making sure that the colour quality of that light is dimmed the right way.

If you do want to go a little bit higher spec, you can buy something called a circadian lighting system. But in the absence of that, you can just make sure that you've got a good colour quality CRI index of those lights. So, make sure it's blue in the morning which signals for the body to wake up, and reds and warm tones at night, and

you're really toning down any bright light to make sure you can sleep properly.

Ben: We're about halfway through the list and I know we're very much skimming it. But movement?

Olga: Movement is all around how a building can help you get active. And again, in your own homes, it's more around encouraging physical activity, encouraging stair use. So, that happens naturally when you're designing your own home. But you might think about how well your building is connected with the outdoors, how easy it is for your kids to play outside and integrate the indoor and outdoor space.

But in commercial and larger residential operator buildings, you're just looking at how well you encourage movement through any kind of activities you're providing, but also the design and layout of the building and the attractiveness of that staircase.

Lots of research shows that the more attractive the staircase is, the more people are likely to use that rather than a lift. Obviously, in our own homes we don't have lifts most of the time so, movement is probably more one for commercial developments. But we can still think about how we can encourage activity in our house and move away from sedentary lifestyles.

Ben: Yes, get some children. That's definitely one way that you'll find yourself moving all over the house.

Olga: Lots of outdoor space that's usable throughout the seasons. I think this is actually a good point to make in homes. Outside of the Well Standard, it's more of a general idea.

If you can have covered outdoor spaces, if you can encourage that outdoor space to be useable for longer periods of the year, you're naturally going to encourage more outdoor activity and more movement around outside.

Ben: Is one of the ways of doing that with some sort of shelter?

Olga: Yes, definitely. Or a covered pergola, veranda – anything that encourages your kids to play. Any kind of play areas outside that you can use in all weather, spaces that you can make very multifunctional and throw open throughout the year.

Ben: Thermal comfort next.

Olga: A lot of people listening to this might have issues with overheating in their homes or cold, draughty homes, and they'll probably identify with this part of the standard the most.

It's really important to keep buildings in that safe parameter of the low twenty degrees Celsius, to make sure we're all comfortable but also that our skin, eyes, all our organs are functioning the right way. We don't want hot, stuffy buildings; we don't want dry buildings; we don't want buildings with too much humidity. All of this affects conditions like eczema, asthma, and also stress. Heat stress is a real thing especially in new builds that can overheat.

So, we're making sure that buildings function with comfortable thermal parameters where possible and that you're able to cool them naturally, whether that's with shading on south-facing windows or anywhere where you might have excess light, putting in shutters and making sure you can keep out the heat, whether it might be natural ventilation and having a good flow strategy through the home with natural ventilation, or whether you might upgrade that and actually look at mechanical ventilation or mechanical cooling and conditioning systems. But always making sure that they create the right comfortable thermal parameters.

Ben: Sound next?

Olga: Yes, acoustics. How often have we been woken up by a neighbour or somebody in our own home?

WELL far exceeds UK building regs in the requirements there for the sound section. It is an optimisation; it's not a mandatory part of WELL; the regulations around the decibels between rooms et cetera. But there are lots of simple things you can do. Things like cork insulation offers a fantastic acoustic property. Even things like clay plaster can improve acoustics.

We're talking about acoustics as in transference of noise between rooms but also transference in the room. So, whether a room sounds echoey or whether it can absorb sound. You're looking at really tactile materials and there are lots of products on the market that can actually help absorb that echoing and booming around a room as much as looking at the decibels and noise transference between each room. So, between your noisy family spaces to your quiet family spaces.

So, again, not in the WELL Standard, but the kind of materials that I like to work with are cork and clay plaster. They're really good at absorbing noise.

Ben: And while we're on that theme, materials?

Olga: Materials are hugely important; probably my favourite part of the consultancy work that we do and also of WELL.

You're really looking first of all at the toxicity. So, we're eliminating the obvious stuff we know that's toxic. We're avoiding things like asbestos, mercury, lead, PCBs; that's all a given. But then in the optimisations and the really more detailed part of the standard, we're looking at something called VOCs – volatile organic compounds.

They can occur from any kind of furniture that you've got, any varnishes and glues. So, when you're designing a home, you should be really looking at getting as low a VOC or zero VOC if possible products. So, looking at natural products, natural sealants, trying to get away from these very heavy materials that off-gas and release a lot of these chemicals into the air.

Natural sheep's wool is a brilliant furnishing fabric rather than some of the fire-coated more toxic options; natural oils and varnishes as opposed to oil-based paints or laminates.

Ben: How are you identifying these? Is it purely from the specification on the back of these products and so-forth and on websites?

Olga: Yes. You can look at the specification, but also, you can look for external validations. So, other accreditation systems that the product complies with.

There's a very good website called Origin Build that lists every single material accreditation that's currently accepted in Europe and you can filter by that. So, for example, accreditation such as Green Guard, particularly Green Guard Gold Standard, is really ensuring that the material hasn't got any toxic products in it.

Equally with Cradle to Cradle, if you get a product that's Cradle to Cradle certified, particularly in the material health section, that means that it's been tested for toxicity and isn't releasing any polluting substances into your indoor air quality. And there's lots of standards like that.

You may, on textiles, see something called Oeko-Tex. That's been tested to show that the dyes and the process of creating that fabric are non-toxic and lots of commercial brands now are Oeko-Tex certified; you'd be surprised.

So, you're looking for an external accreditation really on any kind of materials you're using that has been tested for a health component, like Green Guard or Cradle to Cradle.

Ben: We've got three more points on the overview of the standards, and the next one is mind.

Olga: Yes. Mental health is something that's risen up the policy agenda very much recently. Really, we're looking at how buildings impact our mental health and mental state and what we can do to encourage better mental health through building design.

There's lots of research around materials, for example, showing that certain materials have a calming rate on our nervous system. We can even do measurements showing that cortisol, the stress hormone found in our saliva, is actually lower when we're around materials like wood and natural materials.

In the WELL Standard, you're looking at any kind of amenities available to residents; any facilities; access to mental health services. So, probably more relevant again for operated buildings. But in your own home you can look at access to nature. There's lots of research showing that views of nature, views of plants, biophilic design and incorporating planting in and around your rooms and making sure you've got a good view of greenery is also really beneficial to your mental health and mental state.

So, where possible, try to incorporate balconies with plants or green views in particular and really embrace any kind of access to greenery you've got whether it's a view or whether it's your own garden where you can increase planting and make it seasonal and evergreen where possible.

So much research shows our mental health is better when we're surrounded by nature. Not least, a recent study that came out showing people who spend two to three hours a week in nature are significantly less likely to suffer from anxiety and depression. So, the more you can do about your home environment, your garden, to encourage you to spend as many hours a week out there, the better really for your overall mental health.

Ben: Yes, it's one of those things that I often feel that in some ways people are going backwards with, paving over everything and doing all of that. So, it's good to hear that that's a key point.

Community is definitely one I love.

Olga: So, the sense of community, again, there's so much research to show that when we're doing community activities, our mental health is much better.

In the WELL Standard, in the community section, you're looking at things like access to community services, community programmes, how you're bringing community into the building, what services you're offering and how you're incorporating the wider community as part of your building and initiative.

But personally, you can look at things like the new NHS Social Prescribing Guidelines which, for example, state that we can really gain a lot in our personal health from just spending time with others, doing group activities, gardening, and it's a huge part of the NHS agenda now; social prescribing is a real thing. Really we're looking at things like your personal interaction with your wider community.

WELL tries to really encourage that through the way that you both design and operate that building and what events you have on et cetera.

Ben: Finally, innovations.

Olga: Innovation is the most fun part of the WELL Building Standard. It's where you are awarded points for coming up with novel ideas that are outside of the existing standard that help increase health and wellbeing in buildings.

So, really it's up to you in this part of the standard as a consultant, an advisor, or as a client, to come up with ideas. As long as they're backed by medical research, they're now already in the standard, and they're new or novel in some way, you can propose that as an innovation about your building; so anything at all.

At the moment, we've got projects looking at using innovation, points for things like the way that they light the building but not in the existing code; having pets on site and things like that. So, really fun, novel ideas. I can't give too many away because they're client IP but really fun ideas. Essentially, as long as you can back it up by medical research, the innovation credit is there for those novel ideas really.

Ben: You've talked about medical research a few times now. Is that going to feed in to more in the future or do they think these are the ten points that will stay the ten pillars? Perhaps they'll be refined or changed a little bit but they are the ones to focus on?

Olga: I think WELL's growing all the time. The difference between version one and two, it's grown from seven points in version one to ten points in version two.

So, we've really seen additional detail to some of those aspects. Acoustics in particular has been split out with a bit more detail in. Thermal comfort wasn't there before in its own right. So, that's its own condition now rather than just comfort in general.

It's a lot more detailed. We've gone from seven to ten, just to give some of those features a little bit more weight and credit.

I can't comment as to what may or may not be done in future because it's all based on feedback; it's all based on live projects. We might have twenty features in ten years; we don't know. But we're constantly taking that feedback on board as part of the IWBI, International WELL Building Institute, and evolving the standard, I guess.

So, those ten pillars are just the ten pillars for now. We were seven; we might be twenty. We take on board all new medical research and review it in a really robust and thorough way and it's always changing and growing as those guidelines and that research continues to grow.

Ben: Let's talk a little bit about you. How did you become accredited with WELL?

Olga: It's a study period essentially where you learn all the guidance, you learn the WELL Building Standard itself, you learn about its application, and then you take a test. So, that's straightforward in a way. That's how you get accredited.

But also working on real life projects. There's no substitute, I would say, for experience. It's really working out how it's applied in practice that gives you the most learning and experience in the standard. Working through those real-life solutions with clients and really making the standard come to life. That's, I think, the most exciting part.

Ben: And I know a lot of your work will be around offices and bigger buildings et cetera, but have you got any examples of when you've thought about housing and how this has filtered down into that?

Olga: Yes. We work on a range of projects really, small and large, offices and residential. It's worth mentioning you can't get an individual building WELL certified. There's a minimum of five units and they have to have a common structural element.

So, to get WELL certification, it's not like Passivhaus where you can certify an individual building. Because so much of the WELL Standard is about managing the building, it does have to be an existing structure for that and an operations schedule as much as a building one.

But you can apply the principles. You don't have to go for the certification. If you're an individual, obviously you can't, but you can apply those principles. It doesn't mean you have to get that stamp. You can just apply the very good design practice and there are examples.

We've worked on an individual house called Ori House, where we've applied all the principles of WELL in a standalone dwelling, a rural dwelling, and that's a blueprint essentially, the clients can commission for themselves. And really, we've taken on board the parts that really resonate to housebuilders. So, the daylight, the way you're filtering the water, the indoor air quality, and also how you're using space to encourage better social interaction in the home but also to encourage privacy in the home.

So, where you've got kids that want to do homework but equally you need to cook dinner or you might have a multigenerational household, we've tried to really think about that and create our own version of what it means to be a community but on an individual building level.

So, you can definitely apply it on a smaller scale. You're using the same principles but on a different scale.

Ben: How much of this do you think is instinctive but just making sure you don't miss things?

Olga: That's a really good question actually. Quite often, when we meet with architects or designers, they say this is good design practice; this is what we're doing anyway. And all we're doing is backing it up with science and ensuring that where it hasn't been thought about, it now is.

But often, architects and good designers are doing a lot of what's in WELL already. They're practicing good daylight; they're practicing good ventilation. Sometimes it's just slightly pushing them a little bit higher than they otherwise would have or supporting them with that additional scientific research and just pushing the boundaries slightly.

So, often it is intuition but for some people and some designers, it's not. So, it's just encouraging the ones that aren't already aware of it to be a bit more aware of it.

Ben: And having a look on their website first, I can see that we have just touched on these things, but some of the guidance goes quite deep, doesn't it?

Olga: Yes. I mean, you can take it as far as you want. Behind every single WELL feature there's a wealth of medical research. And if one wanted to read up about it, each section in WELL has about thirty references which are all twenty-odd page studies. So, if you wanted to get really into it, you could take it as far as you wanted really.

Ben: Just looking at Ori House, how have the occupants found it now?

Olga: Ori House hasn't yet been delivered; it's still at conceptual stage. It's been designed with all the WELL Building Standard principles in mind and we're looking for sites to build this on at the moment. We've got one client currently taking it through planning but we're still looking for different opportunities to apply it.

What we are actually working on at the moment is an urban version. So, a typology that we are looking at developing for more urban sites and showing how health and wellbeing can be delivered in an urban setting, which I think is an increasingly important topic area as cities continue to become more urbanised and as people continually seek to get more wellbeing in those urban environments.

We want the quality and the health benefits of a rural home delivered in an urban environment. That's our next big goal.

Ben: That's quite a challenge really, isn't it?

Olga: Yes.

Ben: Those clients as well, is it a case of more you saying, 'look, this is my background with WELL,' or were they coming to you because they liked WELL?

Olga: A mix really. Many come to us because they've read the research and they're amazed by it. Many just follow the press and interest that Ekkist generates. Some are familiar with WELL and just want us for the guidance and the professionalism. So, it's a real mix, really, of how people come across what we do.

I think wellness, as it grows as a topic area, we just keep seeing more and more enquiries and more interest in this. It's increasingly popular, not just for developers but single homeowners.

You may have all seen that Grand Designs episode which did a lot to help with helping people to understand how health and wellbeing can be delivered in a house where you have the two children who were allergic to certain things and would have fits et cetera. And when they applied some really basic wellness principles to their house, they felt a lot better.

Things like that, like getting things in the public domain, getting things really easy to understand, really helps people to commission this kind of work because they can see it in practice.

Ben: Is there anything else we should know, coming from a homeowner point of view? Anything else about the standard that might be interesting?

Olga: I think just to read some of the references around it and take what's relevant. Obviously, a lot of it is more relevant for larger buildings, but so much of it can be applied at a smaller scale.

And I think also read around some of the materials and some of the really innovative products out there. I'm not going to do any naming of products; I don't think that would be right. But the use of natural materials, wood; we all know that this has a really positive effect on our mental health and physiology in the building, of how we actually feel. But also, there are paints out there that can reduce pollution and actually neutralise it. There are amazing water filtration systems; there are amazing carbon filters you can get for your MVHR.

There are lots of products. So, if you just do a bit of research around taking those key principles of the WELL Building Standard and looking at what you can get on a domestic level, there's so much you can do just by keeping down VOCs, improving indoor air quality through good ventilation, filtering out what you can in terms of both air and water, but also looking at really good design and massing and getting daylight into the building.

They're all things everybody can do. They don't have to use the standard; they don't have to have a huge site. You can do this in your own home. You can look at the guidance in WELL about windows and daylight quality and just ask your architect to be more mindful of them.

Ben: Olga, it's been fascinating to have a chat. Thank you for filling in a spot that I didn't know too much about. So, much appreciated.

Olga: You're very welcome, very welcome.