Transcript of House Planning Help episode 373

Ben Adam-Smith 00:00
This is House Planning Help - episode 373. Hello, I'm Ben Adam-Smith, and this is the podcast for you if you're interested in sustainable homes, whether they're new build or retrofitted properties. I'm exploring what houses we should be building in the 21st century and trying to break down the major roadblocks that may get in our way. Coming up in this session, my guest is Laila Dudhill, and we're going to be dropping in on this project a couple of times as it progresses. In this first installment, we'll be looking at two aspects; pre-build, so dealing with rainwater on a sloping site, and channeling this flowing water. Where do we want it to go? And also foul drainage, the specific strategy on this site is a septic tank and a willow bed. But why? Well, a lot of it is relating to phosphate pollution in rivers around this local area. Agriculture is a culprit here, but the planning authority is keen to get a grip on the problem, so we'll find out how all that impacts the project. Again, very interesting.

Ben Adam-Smith 01:03
So I just thought it was worth mentioning at this point that I understand maybe this topic is not relevant to you on your project. However, you never know when you get further down the line, but the flipside is it might be exactly what you're looking for and something you have to deal with, which is why we like all these little topics, where we're drilling down into a bit more detail. So if you are looking for something, we've been going for 13 years, and I don't expect you to go all the way back into the archive, although there are some gems. But if you come to our website at houseplanninghelp.com, there is a magnifying glass up in the top right hand corner where you can type in what it is you're looking for, and hopefully it will come up with some goods for you, and you can get downloading and into the information. If you don't find what you're looking for, well, tell me, I'm always intrigued. So come to the contact form, fill that in, and you never know, we might be making a podcast just for you, or a video at some point in the future.

Ben Adam-Smith 02:01
Let's get to our featured interview with Laila Dudhill. There are many reasons why you might want to build a new home. Laila had an existing property, lots of land, but actually that was starting to become part of the problem. There was also a bigger factor to consider as she started to plan the project.

Laila Dudhill 02:20
By the time it came around to doing it and actually starting it, I developed rheumatoid arthritis, so I actually needed to be away from this. This property is way too much for me. So it was strangely to get away from something. So this isn't, you know, this isn't what most self-builders will maybe tell you of their life's dream. No, not that at all.

Ben Adam-Smith 02:40
So how was a new house going to help?

Laila Dudhill 02:43

The idea that it can be designed, that if I get less able, I can live entirely downstairs. The bathroom, for example, can be a wet room and potentially have a live-in carer upstairs.

Ben Adam-Smith 02:56
And where were you going to carry this out?

Laila Dudhill 02:59
I had a barn about 200 metres to the west of where I'm living, and I wouldn't have thought of this otherwise, I would have eventually just not been able to manage this, and had to look for some place in town that might have fitted the bill, but can't imagine it would have.

Ben Adam-Smith 03:14
I think maybe we need to describe where you are, just for some context, because there's quite a bit of land attached.

Laila Dudhill 03:21
Yeah. So moved here in 2006 and had 40 acres, and was just very lucky that that is split almost in half by the main road, and I'm able to sell the house, the barns and half of the holding, and on the other half is where the barn was. Most farm houses have the barns only wrapped around the farm house. This was just, I just say, I'm just so lucky.

Ben Adam-Smith 03:44
And this barn, was it always going to get planning permission, because, I mean, they don't always do they? It's an agricultural barn, presumably. Is that right?

Laila Dudhill 03:51
Yep, it was an agricultural barn. So most of them do. They get permission for change of use, what's called a class Q. It's a steel frame barn. I think it was a 1990s build so not terrifically old. We did in digging up find that there were footings for an older one that had been on the side, but we got the class Q permission on the basis of the existing one, and could therefore build something to the same footprint, same envelope, same size. But because it was steel frame, the main difference was that the steels would have created thermal bridging, lost heat. And so the architects did explain that, you get the class Q, which is a change of use permission, and then you go back to the council and say, “Well, I'm going to build something anyway, but now can you give me permission to build something more sensible that's not going to lose heat through the steels.”

Ben Adam-Smith 04:43
And this particular site has a few challenges. It's a beautiful plot, but you're on a slope and you've got some interesting ground to deal with. So this is where we really want to start our story today, in what work had to take place. How did you discover what you needed to do? Because as farmland it's fine, isn't it, if animals are grazing?

Laila Dudhill 05:11

Yeah, you don't really realise it until you start speaking to Herefordshire Council. So the very first groundworks was actually making the track serviceable for a domestic car, for the council to even look at it as a planning permission. So our biggest problem is that we're in Herefordshire, and the number of intensive poultry units is greater than in most other counties, and as a result, the river Wye has got very high phosphate levels. So Herefordshire Council are understandably very sensitive about any more phosphates coming from foul drainage, from new properties.

Ben Adam-Smith 05:46
But there's obviously going to be a lot less from a small site like this than a huge chicken farm? But yeah, you have to jump through the hoops. So what does that mean then, for your particular site?

Laila Dudhill 05:59
You had to show that you were offsetting the phosphates. So whatever phosphates were going to come out in foul drainage from the house was going to be offset by measures taken. I've sort of more than doubled that. The main foul drainage strategy is a willow bed, a septic tank, which is unusual these days, most people are putting in bio-diodigesters, which cleans the effluent up much better. If I put in one of those, actually the willow would starve to death. So we got permission for a septic tank going to a willow bed. They're very happy with that. Taking agriculture off the ground gives you a phosphate credit of a certain amount. Planting, would you believe, fruit trees, particularly walnut trees. So I'm planting a couple of walnut trees, that offsets a certain amount of phosphates. So you just add and add and add. So I got permission on the basis of the willow bed. But in learning what else negates the phosphates that agriculture generally, is adding to the land, intensive poultry units in particular, but agriculture generally. I just felt like, and again, just, I'm in a fairly privileged position, and could do it. I just felt like doing more.

Ben Adam-Smith 07:08
Did you have any surveys of the site?

Laila Dudhill 07:13
Okay, so topographical surveys were done. Drainage studies were done. A company came out and dug a lot of holes in the in the ground. They're called percolation tests, I think. You pour water in and see how quickly or how slowly it drains.

Ben Adam-Smith 07:28
That makes sense.

Laila Dudhill 07:29
And on the clay field, it didn't drain away at all.

Ben Adam-Smith 07:32
So Clay is above you?

Laila Dudhill 07:34

Yeah, so clay is above me. And in any case, actually, the areas that they were doing it in, I would have had to pump the effluent uphill to it as well. Where they were thinking that could go, what they called, I think, just a spreader field, or drainage field that your septic tank goes to, but that wouldn't drain. So if it doesn't drain, it sits on the surface and then the danger is that run-off off the surface contains phosphates, and that's going to the watercourse. So I do have in effect, I think it's called a dry valley, which is dry in the summer, but when you do have rain, the water does flow through it. There's a pond you might have noticed just as we went in through the gateway, pre-existing pond that's on Ordnance Survey maps. So we knew we had water flow through our area.

Ben Adam-Smith 08:21
And is that naturally where water would pool to, that pond?

Laila Dudhill 08:25
Yes, locally they refer to this was probably being on a drovers route. There's a little stone wall just by the entrance gate that everyone local has always called the pound, and I think animals probably were kept in there overnight before being either taken down to market in Kington or carried on the drove down to London. So I really love the history of that, so the pond and the pound. We also have springs issuing from within the wood, springs all over this area, Kingswood.

Ben Adam-Smith 08:55
And your site, you've seen and witnessed how it behaves over a number of years, which must be an advantage. Had you ever had any difficulty around the barn?

Laila Dudhill 09:04
Not until last winter. We were here since 2006, so I can't say ever, but certainly in our time here, we hadn't had a problem until last winter, and then it was repeated again this year.

Ben Adam-Smith 09:24
So why is that just freak weather?

Laila Dudhill 09:24
Yeah, heavier weather events, heavier rainfall.

Ben Adam-Smith 09:25
Do you have any flood surveys or anything like that? Or is that all kept within the drainage reports and so forth?

Laila Dudhill 09:31
There was mention of it in the planning and this wasn't a flood zone. And I think I can still say that, because it wasn't flooding, it's never flooded, it's flowing water, which I suppose is different. I think flood zones are, we've got a house and it might actually rise, but because there's a gradient it'll flow past.

Ben Adam-Smith 09:46
Right, I'm not using the right terminology, am I?!

Laila Dudhill 09:49
Yes, it'll flow past, but you're quite right, because we did have to have a flood plan.

Ben Adam-Smith 09:52
But there was no risk of that.

Laila Dudhill 09:54
The flood risk had to get looked at but there was no risk, because it wouldn't rise around building.

Ben Adam-Smith 09:58
So explain to me what happens. So it rains, and this is all rain that we're dealing with. What happens with all of that water? Where does it go? And are you sufficiently comfortable that when you build your timber frame house, you're never going to get water seeping into the structure?

Laila Dudhill 10:16
Yes, I think I'm now confident, because we had a severe weather event and the flood alleviation pond that we had dug, that had what we thought would be a sufficient overflow, wasn't sufficient but we now at least we have seen that in action, seen the worst that can happen, and we will do some more remedial work in the spring when the ground dries up. And in any case, it over-topped and it didn't flood the house. It's just flowing past the front of it.

Ben Adam-Smith 10:42
And is this more or less building another pond? Is it specially lined? Or what do you need to think about?

Laila Dudhill 10:48
So the original pond, it was because we're on clay. So the downside of the drainage is that we're on clay. The upside is, when you're digging a pond, you don't need a liner. It's beautiful, it's clay, and in a couple of years time, when we get some vegetation in it, it will be a wetland. I want to have as much biodiversity as possible in the 12 acres that I've retained. Also tree planting, I've put in over the whole holding 1000 trees about 12 years ago, and then another 5000 trees, all mixed species, about 27 different species, broad leaf native, as diverse as possible, and that will really help as well.

Ben Adam-Smith 11:27
So when you planted these trees a decade or so back, like you mentioned, have you noticed anything different in how the water drains away on that or not so much?

Laila Dudhill 11:37
Well, those were planted on areas that didn't have a problem draining. They were on areas that had originally been woodland and back in, I don't know when, my agricultural history isn't brilliant, portions of the woodland had been grubbed up and turned to pasture, as agriculture was just expanding long before I was born. So we wouldn't have noticed much, they're just beautiful. What it was, is a strip of woodland that I have was broken up by these bits of pasture, and we've been able to be create a

woodland corridor. So to actually have a more continuous strip of woodland was an advantage environmentally, for nature. That's the purpose those served. So the 5000 that I put in more recently is partly just because I wanted to, but yes, it will have a flood impact.

Ben Adam-Smith 12:27
Also screening to the neighbour? You've got a neighbour, so there'll just be some nice vegetation between you. So does that cover off our moisture worries on this site? Have we mentioned all aspects of it to begin with?

Laila Dudhill 12:43
Yes, we just need to have more outflow pipes from the top of the pond. So we're going to see how many we can fit next to the existing one, and have it basically safely going past the house, not washing the drive away.

Ben Adam-Smith 12:54
So at that point, it was just coming over the top of this pond capture area, and that's not what you want. You want to be able to safely, control it. So when it's coming nicely down this pipe, where is it off to next?

Laila Dudhill 13:07
Okay, it goes under my driveway, rather than flowing over it and washing the scalpings away under the drive. It goes to the head of a brook that emanates just kind of at the edge of the woodland, that picks up woodland springs, and then it goes along the side of my driveway, down to a pond by my gateway, by the road, and that's the original, probably an ancient pond. That's the one I was referring to, that has the pound by it that I think was used by drovers, etc. And then from there, it goes into my neighbour's field, and then down through pipework, a culvert under the road, down through my fields by my existing farm house, joins a brook, goes down to Kington, which is our nearest town, and that has the river Arrow going through it. So this is actually the Lugg catchment. So I did talk about the Wye having problems, but the Lugg catchment has also got problems. So because we've got that much water, effectively, we've got a watercourse, all the more reason why the phosphates being discharged by the house in its foul drainage are a problem, because if any of that leaked out in any way, it's potentially getting into a water course.

Ben Adam-Smith 14:15
So this is going into the sewage, or it's not, it's just stopping?

Laila Dudhill 14:19
From the house, all my sewage goes into a septic tank. That septic tank goes into a willow bed, this is zero discharge. So you dig it like a pond, you line it so nothing can escape into the surrounding soil and therefore into the surrounding water. It's nice we've done it this way round, because I've explained we've got this flowing water that goes down to the river. Now I'm talking about what the council does not want.

Ben Adam-Smith 14:45

Well, I was just going to bring this back to planning permission. So this, this is why they're worried about it, because they want to know you can deal with this.

Laila Dudhill 14:51
Yeah, this is why I think for quite a few years, there's been a moratorium on planning permissions, I understand in Herefordshire. There was talk when I was doing this, that there was phosphate credits that house developers could buy. So I think Herefordshire Council were going to be developing three wetlands. They would cost money to develop, and they'd be beautiful sort of nature reserves, I suppose. That money was going to be funded by housebuilders. So housebuilders could buy their phosphate credits, and that money would go to the wetlands, and this was offsetting, like carbon offsetting that we're all familiar with. Basically, this didn't come on stream soon enough for me, and in any case, I would have been at the bottom of the list. So I'm effectively doing my own.

Ben Adam-Smith 15:33
And this all sounds pretty significant. I've seen the work that you've done on site, so how much is this costing? Or has it gradually been, oh no, there's another thing to pay here, or another thing that we've got to do? So was there a design of it first, you know, because this is at planning permission stage as well?

Laila Dudhill 15:53
Yeah, financially, it's incredibly expensive, it's more than anyone could possibly want and it's probably not very realistic. We're probably a good test case, it was really interesting to get it done, and I'm again, in a fortunate enough position to be able to do it. So as I say, this lined willow bed, you backfill it with the soil, plant it with willow. That willow, you were saying what happens to that water from your foul drainage, through transpiring it, the plants evaporate the liquid and they use the nutrients to grow. I've coined a phrase, I'm going to grow a crop from my crap!

Ben Adam-Smith 16:32
I think it's good. You've got to have phrases like that, make it catchy in the podcast.

Laila Dudhill 16:36
And the willow has to be coppiced, half of it, or a third of it every year.

Ben Adam-Smith 16:42
What size is this willow bed, crop? Because it's sounding now, now that you're getting a crop from it, the second you say the word crop, I think of a bigger area. So is this all manageable too?

Laila Dudhill 16:55
So it's not manageable for me, because I've got rheumatoid arthritis. I will absolutely depend on other people to plant it and to coppice it and I'm already at the stage of trying to find people who will want it, because that will determine what species I grow. Because there are lots of different, some people call it different species, some people call it different varieties. There are different types of willow. And I'm trying to determine at this stage what people want, so I go planting that, and how do they want it? I've already established I need to plant it closer together than I thought, so it grows nice and tall and

willowy, pardon the pun, so it's more usable for the end product. So I'm trying to do as much research at this stage.

Laila Dudhill 17:32
The septic tank, as all of them do, will be desludged. So the willow isn't using everything. The septic tanks accumulate, what they call it a sludge, a nice crust on the top, a nice sludge at the bottom and every, however often you have it desludged… And okay, so the size, there's not many precedents for this. My drainage consultant Alan Corner, looked at a Danish study and an Irish study, and the figures were all there. It was specified for the number of bedrooms in the house, so it's sized, not on the size of the house, but the number of bedrooms, which usually determines occupancy. Now it's, I think, going to be, strictly speaking, a four-bedroom house, although you could do more or less in it. That has specified it for however many occupants that's going to be and that comes up with a willow bed about the size of an Olympic swimming pool, 47 metres by 8 metres, the surface of it! And I'll be living in the house on my own.

Ben Adam-Smith 18:33
So, have we dealt with everything that is happening to do with water, rainwater, and also the foul drainage?

Laila Dudhill 18:45
There is rainwater which falls on the house, and that will be discharged into a good draining area of the woodland, which, yeah, that's been established. That's the only extra.

Ben Adam-Smith 18:57
You have a change of soil, don't you, as you get to the house, but that could potentially be useful?

Laila Dudhill 19:03
Yes, actually, that's relevant to what I've just mentioned, the rainwater goods. In front of the house is all clay, is where the foul drainage will go to this septic tank and willow bed. The back of the house, so I have this beautiful site, where in front of the house is what was a field, and behind the house is woodland. The woodland is just a completely different nature. So the percolation tests, which were referred to at the beginning, where the water just sat in our test pit and wouldn't drain away at all. We dug those on the woodland side, and we could not pour the water in fast enough. It was draining that fast away, and I was so excited, and thought, yay, we've got drainage. And probably within a minute, my brain was going, they won't like this either. And sure enough, because of course, if it's going that fast, the chances are it's going straight into your groundwater, and that's not good either.

Ben Adam-Smith 19:56
Do we need to do anything else then to deal with the water there?

Laila Dudhill 20:01
Rainwater is fine, absolutely fine. Because rainwater goes to groundwater and, I mean, effectively, it's the rain hitting the roof of the house, if the house wasn't there, it would hit the ground there.

Ben Adam-Smith 20:10
So did you not just say that there is a worry, because it goes straight to the water table?

Laila Dudhill 20:15
So that's when we were doing the foul drainage test pits on what we thought, oh, let's find some ground that isn't clay. So we found some ground that wasn't clay. It went too fast. So we were in a Goldilocks situation, we could not find one just right.

Ben Adam-Smith 20:32
So let's move on to the house now, and we're just going to finish up in this session with what is to come once we've dealt with the foundations. But the foundations, do we want them a certain height? Are they unusually above ground as an extra safety measure, or are we saying we've actually dealt with drainage water? It's all dealt with. We don't need to worry anymore, because it's a timber frame house, isn't it?

Laila Dudhill 20:57
Yeah, I mean, there's two sides to that. One, I'm confident we've dealt with it. Secondly, because this all started life as a class Q, change of use, you actually have to stick with the finished floor level, the footprint, everything of the pre-existing barn.

Ben Adam-Smith 21:11
Right.

Laila Dudhill 21:12
So that's dictated.

Ben Adam-Smith 21:13
Oh so everything, so the floor level, the height of the building?

Laila Dudhill 21:17
So the height of the building is, I don't know exactly how much it's increased. The eaves are the same height that the barn eaves were. The ridge is ever so slightly raised because the barn roof had a 15 degree gradient. That's not brilliant for solar. If you can just get a little bit more lift on it, you get a lot more benefit in terms of your solar generation. So we did get permission for the 15 degrees to just raise to a 20 degree. So, as you can imagine, if you've got the same eaves, and you lift by about five degrees, you're going to just lift the ridge ever so slightly.

Ben Adam-Smith 21:50
So what about the team for this project? Then we've, we've focused very much on what's happening with drainage. But how did you find an architecture firm? How did you find a builder? How was the design process?

Laila Dudhill 22:07

It started with planning consultant who was recommended by a local land agent who was helping me out with the sale of some land or valuation of some land that some neighbours were interested in. He just gave me a name and a number, and then that chap was fantastic. He guided me all through the planning application process, and he put me in touch with a groundwork guy. And it's just a real, what do you call that? Organic. When one thing leads to another leads… and it's just been a dream, I have to say, the people taking the time to explain everything. I've got a voracious appetite for the details anyway, and supportive and recommendations. And then one thing leads to another. You then go on to looking at architects, and you interview a few. Take one on. Just trying to think, I think some of this was during COVID. Yeah, 2021 was still, yeah. I'd had a hip replacement early 2021 and then through 2021 I do remember my rheumatoid absolutely was raging, and that's what pushed me. So by the end of 2021 that was it. I had to bail. I cannot cope with the farm anymore.

Ben Adam-Smith 23:17
So is this potentially going to be a problem in the build, you know, we want you to get to the house if you see what I mean, could it flare up again?

Laila Dudhill 23:25
Yes, and it will. And it's the obviously. I mean, this has been fantastic, and the people are amazing, but it's not without stress. I mean, they say even lovely stuff is stressful! Being excited and loving stuff is stressful. So that's not been brilliant. My rheumatology team have been really good this, you know, local surgery team have been really good. So they're just trying to keep it tolerable. So, yeah, the financial side of it, I was quite blase about. And largely was blase because I was very lucky and had the farmhouse and half the property to sell, which I thought would sell really quickly, interestingly enough that's been a little bit of a fly in the ointment!

Ben Adam-Smith 24:06
Well, that is a challenge. So let's just go back to the design of the house as we start to wrap up for this episode, because we'd love to come back and visit you again, if that's okay, to get more of the story. But what did you want from the house, and how did that inform the design?

Laila Dudhill 24:26
So I wanted to be able to live all on the ground floor and as simply as possible, no frills. I'm not really and again, I think learning more and more about Passivhaus principles, I went to want some of the courses down at the NSBRC, which is the National Self Build and Renovation Centre in Swindon. Fantastic place. The number of courses I've been on there, and I started to get the idea that actually the design should be as simple as possible. But other people might look at it and go, Oh, that's not very interesting. Go, yeah, but my bills are going to be low. So the Passivhaus consultant, Nick Grant, anyone I've spoken to, I don't think I've created any headaches for them, because I've just said, yep, if that's the textbook. And anyone who said to me, friends of mine, who've said, Oh, do you don't want to just, don't you to want to do that. And I've thought, no, there's a Passivhaus reason for doing what I'm doing, those windows there, or the canopy over that window. I think I'm entirely, my father was an engineer, and my mother actually a mathematician, and my brain is always function over form. So it's got to work. It's got to be the most sensible thing to do, rather than it looking pretty.

Ben Adam-Smith 25:39
And I think that it can look pretty first of all,

Laila Dudhill 25:42
Oh it will be beautiful.

Ben Adam-Smith 25:44
But people get carried away, and then they get to the stage when, oh my goodness, the finances are causing them a lot of trouble, and then they make cutbacks, and, you lose all the stuff. If you're more calculated about it, like you're saying, you can get the performance, you can get the comfort and all of these sorts of things, and tie it all in. So, yeah, it works in your favour. So timber frame, was it always going to be timber frame?

Laila Dudhill 26:11
Yeah, as soon as we got the permission to not use the steels, as soon as we got rid of the steels, yes.

Ben Adam-Smith 26:18
What else do we need to know? What is it going to look like? So we know it's simple form, but how are you finishing it?

Laila Dudhill 26:24
Timber clad, using - seems to be all the rage now - all the mills seem to be talking about thermally modified, so this is wood which you wouldn't normally use as an exterior wood. And I'm a very trusting person, so I am taking on trust, and it seems to be across all the industry now this thermally modified. They take it up to a certain temperature for a certain time, and then it seems to have qualities that it wouldn't have otherwise.

Ben Adam-Smith 26:49
Maybe we haven't talked about the foundations. So what is the house going to sit on? What have you chosen in the ground there so that we're ready to put our timber frame on top?

Laila Dudhill 27:00
Okay, so it was excavated down to, I think, about 750 mm below what was going to be the finished floor level. And we had the structural engineer out, and with the very stony ground that the original barn was sitting on, he was very happy that that was sound. And then we just started building it up with, I think, what you call subbase and compacting it 16 times with a vibrating roller. Very, very long winded. And I tried it myself, because it would have saved time and maybe a bit of money, and the groundworks guy was happy to be doing something else. Unfortunately, the controls, they were very light, kind of easy controls on this roller, dual drum roller, ride-on, much like my ride on mower. But sadly, I couldn't, I was incredibly frustrated, quite upset. And then I realised, don't be, because the whole reason you're building this house is because you've got this condition. So don't be frustrated that you can't get involved in building it. So you build that up to a certain level, leaving just, I think, a 50mm layer that the builders would then come in and put a layer of really fine drainage stone on. And then Isoquick, if

you've come across Isoquick. I don’t know if your listeners will be familiar with Isoquick. That seems to be the industry standard.

Ben Adam-Smith 28:18
Now, it's nice and easy, isn't it, and then a concrete pour on top?

Laila Dudhill 28:20
And then a concrete pour.

Ben Adam-Smith 28:17
So there we go, we've got a nice flat base, and we can catch up another time. I hope the sale of the farm goes well. If anyone would like a farm?!

Laila Dudhill 28:30
I am fortunate in that I'm pretty confident I can fund it to watertight. So then the saddest thing will only be in pressing pause. I'm not worried, because I've still got a house to live in, obviously. I just feel bad to pause it from the builder's point of view, because they obviously would prefer to just continue.

Ben Adam-Smith 28:48
Yep, you lose that momentum. But yeah, let's keep positive about this. Thank you very much. It's been fantastic, and I've learned so much I might have to go and make some notes now.

Laila Dudhill 28:58
It's my pleasure.

Ben Adam-Smith 29:01
Head online to take a look at the show notes that accompany this session - houseplanninghelp.com/373. We've got a summary for you. There are also photos of the site and how it's changed, everything that we've been talking about. If you've got a comment or you'd like to ask a question, you can either head down to the bottom of the show notes and get interactive there or on social media. We'll give you links as well - houseplanninghelp.com/373.

Ben Adam-Smith 29:29
My call to action is to check out The Hub, and this is the membership community that we run alongside House Planning Help offering further assistance. We've got courses, we've got in-depth video case studies that you can watch and absorb, and then you can also get interactive in our forum or on one of our calls. And we've just had one of those. Ed Tresidder has been back for 'ask the expert'. We bring him in for various topics relating to building physics, it might be moisture management. He's done his own retrofit as well. So just to give you an idea of some of the questions you are asking. How different are the low energy building standards? For example, things like, even within Passivhaus, you've got Classic, you've got Plus, you've got Premium, you've got the PHI Low Energy Building standard. You might have alternatives like the AECB Carbonlite standard and so on. So that was one of the questions that we got stuck into. Can you do an airtightness test on a part of a property? I think this was in connection to building a new section, an extension that was going to be much better. But you probably

want to know about the old part of the building, and we dug into kilowatt hour demands. Oh, that was fun. That's where my brain goes. I might have to watch this again and how we're sizing heating systems and so on. So find out more in The Hub - houseplanninghelp.com/join for all the details.

Ben Adam-Smith 30:48
Next time Mike Eliason from Larch Lab is my guest, we're going to be finding out about his new book Building for People. I'm looking forward to that. Thank you so much for listening today. The House Planning Help podcast is produced by Regen Media - content that matters.