CITY OF NEWARK
DELAWARE

PLANNING COMMISSION
GREEN BUILDING CODE WORK GROUP
MEETING MINUTES

February 26, 2019

3:30 p.m.

Present at the 3:30 p.m. meeting:

Chairman:	Will Hurd
Members Present:	Jeremy Firestone Tim Poole Ben Prettyman Reid Rowlands
Members Absent:	George Irvine Rob Jadick Stacy McNatt Vacancy (Conservation Advisory Commission)
Staff Present:	Planning and Development Department represented by Tim Poole

Mr. Will Hurd called the Green Building Code Work Group meeting to order at 3:30 p.m.

1. **INTRODUCTIONS**

Mr. Will Hurd: Alright, welcome for another exciting time of going through a spreadsheet.

Mr. Tim Poole: Let's identify the meeting.

Mr. Hurd: Oh certainly. So, this is the February 26 meeting of the Green Building Code Work Group. We could go around the people for Michelle. This is Will Hurd.

Mr. Reid Rowlands: Reid Rowlands.

Mr. Ben Prettyman: Ben Prettyman.

Mr. Jeremy Firestone: Jeremy Firestone.

Mr. Poole: Tim Poole.

Mr. Hurd: Awesome. Alright, working down the agenda, we've already done the introductions.

2. **CHAIR'S REMARKS**

Mr. Hurd: Chair's remarks. I have very little in the way of Chair's remarks because I didn't have anything prepared. The sheet that you have in front of you is an edited down version of last month's where I've edited the commercial section and removed all the items that we had said we're not doing or that doesn't make sense. I cleaned up the language on a couple of them to sort of get that ready. The goal today is to go through the residential. If there is time, we can maybe start the conversation about kind of what kind of points framework we see, like total number of percentages or such, with the goal being I guess next month to sit down and really

kind of go, okay, where do we want to put the emphasis and where do we, you know, does every item get a single point? Do some things get two? Do we have a range?

Mr. Firestone: It might be useful if someone did a straw man and then they talked to that.

Mr. Rowlands: Did a what?

Mr. Firestone: Well, someone assign points and then we talk about, I mean, versus . . .

Mr. Hurd: Oh yeah.

Mr. Firestone: Versus every single thing discussing in the abstract is going to be difficult without . . .

Mr. Hurd: Yeah.

Mr. Firestone: So, I would say maybe if you could go through and sort of give a tentative assignment or ranges for a few things and then, I just think our meeting will be more productive.

Mr. Rowlands: Yeah.

Mr. Hurd: I think you're probably right.

Mr. Poole: I might be able to dedicate some time to that, as well.

Mr. Hurd: Okay.

Mr. Firestone: Okay, great.

Mr. Hurd: That would be perfect. So, okay, if you do it, I'll make sure that I edit this soon after the meeting and get a copy out to you.

Mr. Poole: Okay.

Mr. Hurd: Rob Jadick can't be here because he's traveling. He's going to kind of go through this and mark it up with his thoughts and I'll sort of try to work those in. He hopes to have that by the end of this week, just sort of comments on that.

3. **MINUTES OF THE JANUARY 22, 2019 GREEN BUILDING CODE WORK GROUP MEETINGS**

Mr. Hurd: Minutes. We can't approve minutes without minutes. Okay . . .

Mr. Rowlands: On the minutes, is there a way to get a condensed version to approve instead of verbatim minutes with 30 pages that no one reads?

Mr. Hurd: So, Planning Commission does verbatim minutes and that's been the way it is. And we, as a committee of the Planning Commission, have . . .

Mr. Rowlands: Do the same?

Mr. Hurd: Do the same.

Mr. Rowlands: Council does summary minutes, but they have the audio online. So, if you wanted to listen to the whole meeting, you can listen to the meeting, but they have the summary minutes. I'm not really in a position to start pushing one way or the other.

Mr. Rowlands: It's not worthwhile, it's just . . .

Mr. Hurd: But, yeah, you're right. It's kind of, there's a lot of ums and ohs and things. Does anyone recall if the minutes were attached to the email for the meeting?

Mr. Rowlands: I did not see them.

Mr. Hurd: Okay.

Mr. Rowlands: We don't have a quorum anyway, do we?

Mr. Hurd: Yeah, we have five.

Mr. Poole: Yeah, we do. Five out of nine, right?

Mr. Hurd: We actually have, I can't remember her name who was joining us from the Conservation Advisory Committee, had to back out.

Mr. Rowlands: Of the group?

Mr. Hurd: Of the group. So, I think we're at eight, then. Five, six, seven, yeah. Okay, so we may have to bump the minutes to the next meeting for approval.

Mr. Rowlands: It's just translated off that, right?

Mr. Hurd: So yeah, Michelle listens to this and transcribes from that to do the minutes. They don't pay her enough.

Mr. Rowlands: There's voice recognition.

Mr. Hurd: We tried an outside service, I mean this is off-topic, but we tried an outside service for the Planning Commission at one point to take the, like, here's the audio and we'll just edit it . . .

Mr. Rowlands: Right.

Mr. Hurd: And the editing was so involved . . .

Mr. Rowlands: They didn't know planning stuff, yeah right.

Mr. Hurd: And as soon as there were two voices coming in, they weren't differentiating it. And Michelle, because she sits, you know, would sit at the meeting . . .

Mr. Rowlands: She got it.

Mr. Hurd: She knows who sounds like who and she just, yeah, so they're like, yeah, that was done.

Mr. Poole: I did not see them in the email.

Mr. Hurd: Okay.

Mr. Prettyman: Should we say hi to Michelle?

Mr. Hurd: I'm just going, as part of the Chair's remarks, I'm just going to point out we have this lovely memo from Tim Poole summarizing the permits from last year. So, few, which is kind of surprisingly.

Mr. Poole: That's only new buildings.

Mr. Hurd: Oh, only new building permits. Got it, okay. Yeah, that makes more sense. Okay. Which is what we're covering.

Mr. Poole: We had 1,700 plus actual permits and only 36, well no, yeah it was 36 total new buildings.

Mr. Hurd: Okay. So, it kind of fits in with what we were talking about previously about, because currently the Code says subdivisions of five or more dwelling units fall under the jurisdiction of the sort of enhanced Energy Code. And commercial projects of 25,000 . . .

Mr. Poole: Yes.

Mr. Hurd: Fall under it. So, you can kind of see that about almost all the residential would have hit that and half the commercial would have fallen under that. And our discussions had been should we make all residential or all three units or more subdivisions fall under it and should we drop the square footage for commercial? And to my eyes at least, I think there's an argument here for saying 5,000 is a good bottom number because basically that covers, that gets us 13 out of the 18 permits. And the five that weren't covered were really tiny buildings like Tim was saying, a bathroom, a guard shack, an exterior storage unit, things that we don't necessarily need to . . .

Mr. Rowlands: Were these what those five were? Storage shacks?

Mr. Poole: Well, the 64 was a bathroom. The 240 was a guard shack. The 1344, I think that was a storage building. I can't remember what the 2500 was. And the 2940 was a single-family dwelling with a rental office on it. So, it was a mixed-use building.

Mr. Firestone: If we think of a single-family dwelling at 2,000 square feet and we multiply it by 5, you get 10,000 which might be then a good break for the commercial as well.

Mr. Hurd: Oh, so you're thinking if you look at five units, you mean?

Mr. Firestone: If you were to, you know . . .

Mr. Poole: I was looking at with breaking it at 5,000, then we're getting three-quarters of the buildings, 75%, which is really what our goal is.

Mr. Hurd: Right.

Mr. Poole: Is to increase it from being 50% to 75%, which in last year's numbers, that would be almost exactly the case. And the ones that it's missing, it would be difficult to get the points on a 64 square foot bathroom.

Mr. Hurd: Yes.

Mr. Rowlands: Oh, no, absolutely.

Mr. Firestone: Yeah.

Mr. Hurd: It's like there's just not enough in there.

Mr. Poole: There's not enough in there to save and really how much advantage is it to anyone to really work those buildings for efficiency.

Mr. Hurd: Right.

Mr. Firestone: Well then, on the flip side, should the residential be taken down to three which, again, is about 6,000 square feet. So . . .

Mr. Hurd: Yeah, I think my thought was to drop the residential to a three-unit . . .

Mr. Firestone: Roughly the same size structure.

Mr. Poole: Well, again, right now, the division is at the major subdivision level, which is five or more. And based on . . . I don't see why we wouldn't say just any subdivision. Why not go to two instead of three?

Mr. Hurd: I see what you're saying. So, any subdivision project . . .

Mr. Poole: Where there's more than one dwelling unit created, there's more than one buildable lot. Any time where you're going to have more than one, then meet the requirements.

Mr. Rowlands: Is there a way to get the metrics that everything's got to meet it until you fall below where it just doesn't make sense? One brand new building of 2,500 square feet, to me, should fall in there, unless it's a shed.

Mr. Poole: And that also says that, you know, if you're having two houses around here where you're getting typically 2,500 square foot houses, then you're at the 5,000 square feet.

Mr. Hurd: Yeah, that's kind of where Jeremy was going with the math.

Mr. Firestone: Yeah, I'm just trying to . . .

Mr. Hurd: So, it's sort of an equivalent amount of square footage is being covered under both sort of processes.

Mr. Firestone: Right.

Mr. Poole: But it takes infill lot projects out of the mix.

Mr. Hurd: Single unit lots, yeah. But it looks like you only had one.

Mr. Poole: Where there's already one lot that's created, yeah, and that's the one that we missed . . .

Mr. Hurd: Yeah.

Mr. Poole: Out of the residential because all the other ones were subdivisions.

Mr. Rowlands: So, is there a way to word it where you capture that one but you're not overburdening small projects where it's just not cost-effective?

Mr. Hurd: Well, that one will get captured just sort of as the Code gets more stringent, partly. Because that would fall under the standard 2018 IEC . . . well, once we adopt it, that will be in play for that single-family home. It's when you build two that we go . . .

Mr. Rowlands: If that's good enough, why are we here?

Mr. Hurd: Well, it's not good enough when you're building many of them. Well, if this were flipped, if we were doing, if it was like 17 single-family homes on an individual lot and there was only like one subdivision, then yeah, you'd say no we want to hit those 17 homes. We want to capture those.

Mr. Rowlands: I'm just saying if there's an easy way to word it where you captured everything except the sheds and things that don't matter or where it's not cost-effective or it doesn't make sense to require them to do this. Bathrooms and things like that.

Mr. Poole: Well, the other part about that is, particularly with site stuff where a subdivision isn't involved, there's no site stuff. I mean you're just taking the whole site plan part of it away because on a single-family home you're typically not looking at 5,000 square feet of land disturbance so you're not getting into stormwater management. You're not really getting into half of the stuff that we're doing. So, is that realistic to put that burden that since this isn't applicable, now find the points somewhere else?

Mr. Hurd: Right.

Mr. Rowlands: Not in the way we're headed.

Mr. Firestone: Yeah. I mean there are not going to be that many single-family dwellings.

Mr. Rowlands: No.

Mr. Poole: Right, and like I said, if we put it at . . . and I don't see that much of a difference between two and three. If you're at a subdivision level where you're creating a new lot, not an existing lot where there's a vacant lot and you're just building something on it, you're creating a new lot so that you can build more than one, then you've got a little bit more of a regulatory process and this is more, and you've got somebody who is developing. You don't have somebody that's doing it just because, oh, I found the perfect lot and I'm building my dream home. You're eliminating them from the mix. You're typically looking at developers or multiple improvements and site plan review.

Mr. Rowlands: Fair enough.

Mr. Hurd: I'm going to put . . .

Mr. Firestone: So, someone who has a large lot with an existing structure and breaks it and then has . . .

Mr. Poole: Who is creating two lots.

Mr. Firestone: Two lots.

Mr. Poole: That's a subdivision.

Mr. Firestone: So, that would be a subdivision. Okay.

Mr. Hurd: What I'm going to do so that we don't do too much discussion on this because it's not an actual agenda item and we don't want to get in trouble, I'm going to put this onto the agenda for next month because I think this is going to be, when we start talking about the points and the assignment of the points and things, that I think comes into play as to when do we think the scope of these points, when do we think it should be applied? What projects should it apply to? So, thank you, Tim, this is good data to have this and be able to say, oh okay, that's what's going on.

Mr. Rowlands: And I just wanted to bring it up in discussion as far as either way.

Mr. Hurd: Yeah.

Mr. Rowlands: It doesn't sound like . . . we're not losing . . .

Mr. Hurd: Yeah, and this is a side note but you know so many people are talking about they're only building student apartments. Why aren't they building more single-family homes? It's like, well one, where would they build them? There's not a lot of open lots. And, two, they're not not building, they're building a few here and there.

Mr. Poole: If you go back a couple of years and you've got, I mean depending on how far you want to go back, Wilson Farm, how many units are those? Those are all single-family homes. You know, you look at Twin Lakes, those are all single-family homes. I mean there is some development going on that's not student housing. Certainly, we have a very vigorous student housing rental market.

Mr. Hurd: We do.

Mr. Prettyman: What a lot of people don't understand in the public is that you can't delineate between student and non-student. It's a rental.

Mr. Hurd: Right, it's a rental.

Mr. Prettyman: But the cost is so high that a resident will not rent. But when you go in the overall scheme of things, it's just a rental.

Mr. Hurd: It's just . . .

Mr. Poole: It's supply and demand.

Mr. Prettyman: And the more rentals that can come into Newark, the more the price for that rental is going to drop and the more residents that will be able to live closer.

Mr. Hurd: I tell people that, too. It's like ideally if we get enough of these, there will be fewer single-family homes with students in them in your neighborhood, which is where most people complain. They're like, that house over there . . . it's like, they'll have a better place to live and there will be an opportunity for that to be rented to someone else.

4. **REVIEW OF SELECTED CONCEPTS FOR COMMERCIAL PROJECTS**

Mr. Hurd: Alright, we're going to kind of skip the review of the commercial projects concepts because I think it is what it is. I mean unless anyone had anything that jumped out at them.

Mr. Poole: We'll be going through it again.

Mr. Hurd: We will be, in detail.

Mr. Poole: So, let's get the, I think it's more productive to get the first . . .

Mr. Hurd: The first pass through the residential.

Mr. Poole: Pass through the residential.

5. **REVIEW AND SELECTION OF CONCEPTS LIST FOR ENERGY REDUCTION, RENEWABLE ENERGY, RESOURCES, AND INDOOR AIR QUALITY FOR RESIDENTIAL PROJECTS**

Mr. Hurd: Alright . . .

Mr. Rowlands: Before we get started, I have a question.

Mr. Hurd: Sure, absolutely.

Mr. Rowlands: We should bring Ben up-to-speed on what we've been doing here with this. But anyway, we're going down this path and it seems like we're head deeper into this path. Stretch codes are out, they're not happening? Not even considered or other forms of revising this Code?

Mr. Poole: Well, I thought last time we had discussed a stretch code as being an alternative to our checklist. That we were looking at having a checklist and then having alternatives being a 20% stretch code with, you know, some other givebacks because the stretch code is only about energy . . . and with some other givebacks on some other things, or we get like LEED silver as an alternative that if you're already getting LEED silver, then you don't have to do that, just give us your certificate at the end.

Mr. Hurd: Yeah. And that's what . . .

Mr. Rowlands: I didn't see that. It very well could have been, I just didn't . . . and I'm all about energy, so I didn't want to see it maybe.

Mr. Hurd: Most of what I've seen when they're talking about stretch codes is they're only really discussing energy.

Mr. Rowlands: Oh, absolutely.

Mr. Hurd: You know, here's the baseline energy performance from a 2108 IEC whatever and then 20% better is this. We, sort of in the way that LEED has, and some other ones have said, beyond energy we also want to address resource usage, indoor air quality, site selection, and stretch codes don't do, most stretch codes don't do a good job of tying into that.

Mr. Poole: The other disadvantage to a stretch code is it is all calculation-based. If we were to only have a stretch code, then we're requiring every single building get an energy calculation done for heat loss, for every appliance and every . . .

Mr. Hurd: Right.

Mr. Poole: And then we have to chop 20% off the top and they have to meet that number.

Mr. Rowlands: But can't you just have a stretch code of whatever percent, 20% let's say, and it has to be these items? A blower door test, a continuous insulation . . .

Mr. Poole: That's not a stretch code. The stretch code is this is how much energy the typical house uses and you will save 20% of that.

Mr. Hurd: I think that's one interpretation. I think other ways I've seen it . . .

Mr. Rowlands: There are lot of versions around the country where they fit what they want to be in that stretch code.

Mr. Hurd: Right, because I know I've personally sometimes said, you know, the minimum R value is this and I'm going to go 20% above that in this house. So, that's another way to sort of look at it and say if this is the base insulation, we want to see a documented 20% increase in insulation and 20% reduction in air exchanges.

Mr. Rowlands: Right.

Mr. Hurd: We could just sort of say 20% to anything that's measurable, either on the drawings or . . .

Mr. Rowlands: Or verifiable.

Mr. Hurd: Or verifiable, yeah.

Mr. Poole: Insulation is tough to . . .

Mr. Hurd: No, no, I agree.

Mr. Poole: If you're going to go 20% greater than R21, okay, so now you're going to R25?

Mr. Rowlands: Right.

Mr. Poole: So now you're going to 2 x 8 walls?

Mr. Hurd: Or exterior . . .

Mr. Rowlands: Or continuous.

Mr. Hurd: Or continuous, or some combination. But yeah, then you get the issue of R25 in the cavity is different than an R20 in the cavity and an R5 on the outside. It's a different performance. So, and then you hope that they did the dew point calculations correctly and they're not going to rot the sheathing.

Mr. Poole: Again, I'm not personally thrilled with the prospect of a stretch code just because of the energy calculations and the cost to anybody who is going to try and comply with that to getting those energy calculations done. And I would rather they spend that money on prescriptive improvements than engineering.

Mr. Rowlands: But again, I think we can tailor it towards our . . . here it is, it's got to be three. Well now it has to be 2.whatever.

Mr. Hurd: Right.

Mr. Rowlands: And they've got to verify it anyway so that's no additional cost. So maybe that's the only one. Our little stretch code is that and/or something else.

Mr. Hurd: Well there may be ways to . . .

Mr. Rowlands: I just didn't want to lose that possibility . . .

Mr. Hurd: I understand.

Mr. Poole: Well like you said, I don't have a problem with having it as an alternative. I'm just saying to make that the base code where somebody has to do that to comply, period. It's an engineering cost that's exceeding $1,000 or even . . .

Mr. Rowlands: I don't want engineering costs to be involved in here. We're not modeling this thing. Let's just . . .

Mr. Poole: Right.

Mr. Rowlands: Well, obviously, try to keep it simple.

Mr. Hurd: I'm just sort of looking at this and thinking that there may be ways . . .

Mr. Rowlands: Could be.

Mr. Hurd: To rewrite the energy section to sort of go these are the items that we would like to see you do or, you know, compliance with LEED or HERS rating value of 20% improvement or compliance with the ASHRAE 189, which is the high-performance building standards as opposed to the 90.1. You know, something that sort of says we're going to ask for this but if you want, you can also get the same points by showing compliance with this, you know, 20%.

Mr. Rowlands: That's a good way to do it. You know, sitting right here, none of these points are required. They can just, it's just whatever they want. But we could do it, okay, you got to get 20 whatever points but here's four that are required.

Mr. Hurd: Yeah.

Mr. Rowlands: And the four could be energy or whatever . . .

Mr. Hurd: Yeah.

Mr. Rowlands: Or something else. But air infiltration or the next one down, windows. Twenty percent improvement in the U value. There's a stretch code right there.

Mr. Hurd: Right. I was thinking of the commercial one but yeah.

Mr. Poole: But that's a prescriptive thing. There's no calculation there.

Mr. Rowlands: No, right.

Mr. Poole: That's, again, it's all about the calculation on the stretch code for me.

Mr. Rowlands: Okay, fair enough. But if we can then just take like air infiltration and make it a required at 10% or whatever, we put a number . . .

Mr. Poole: I thought we were looking at breaking it into groups and saying you have to get so many points here and so many points here and so many points here. And where you get your points in energy is up to you, but you have to get . . .

Mr. Rowlands: And/or we could say that . . .

Mr. Poole: But say we get 30 points . . .

Mr. Rowlands: Here are four that are required.

Mr. Poole: Then you have to get 15 points in energy or you have to get 20 points in energy . . .

Mr. Rowlands: Right.

Mr. Poole: And then which 20 points you get is up to you and then you have to get five points in water and five points in, you know, stormwater or whatever.

Mr. Hurd: And I think that's where we can start to talk when we get into that. I almost would want to say we'll say here's our list of energy things we want you to hit. Or, you know, you could get full compliance with the energy section of this by showing that you hit the HERS rating of 20 or, 50 is the average, right?

Mr. Rowlands: Yeah.

Mr. Hurd: So, whatever the number would be. Just sort of basically saying show a HERS rating of this or a valuation of this or that you're a LEED this or a Green Globes that or a Passive House. And just say basically we will accept compliance with that standard at that level as being equivalent to . . .

Mr. Poole: This.

Mr. Hurd: Our whole thing. Because I think the only way to get, not the only way but the best way to get people to go down an alternate path is to say you don't even have to do our energy checklist. If you show compliance, and that's all on you, to design it, build it, test it, and verify it, you can come back and say it and we'll go, yeah, there you go. Because that's what we're looking for. We're looking for improvement in energy performance and however they got there . . . but you could say if you don't want to get the HERS rater out there and do all that stuff, then these things, you need this many points out of this group. And that's I think where it gets

challenging for us. If that's the pathway then, we have to sort of think okay how we make sure that we've put enough points on the table that they're sort of equivalent or we still get the benefit we want if they get 10 points out of 20. Do we really . . .

Mr. Rowlands: Or make one or two of them required.

Mr. Hurd: Yeah.

Mr. Rowlands: And we may get a better feel once Drew is here next week, or next month, and kind of gives his talk on HERS rating.

Mr. Hurd: Right.

Mr. Rowlands: And costs and everything else.

Mr. Hurd: Alright, let's start. Now this is still broken out in kind of using the LEED category higher level categories. So, integrated project planning, energy and atmosphere. We'll likely rename those or regroup them because this was leftover from the previous setup of the spreadsheet. I left in sort of this innovative original design item because there are times when you know people can sort of, if you're talking about regionally designed vernacular architecture aspects, you know, wide overhangs in the south and fewer north-facing windows up here and those kinds of things. There might be an opportunity for that but, again . . .

Mr. Rowlands: That's not innovative, that's standard.

Mr. Hurd: Really? How many homes do you see around here that look like they're . . .

Mr. Poole: The question I would have on that is where's the threshold? Which, that's very . . .

Mr. Rowlands: How do you gauge it, right.

Mr. Poole: That's very subjective . . .

Mr. Hurd: Yeah, good point.

Mr. Poole: And from the enforcement standpoint . . .

Mr. Hurd: Yeah, okay, good point.

Mr. Poole: Make it clear for me.

Mr. Rowlands: Right.

Mr. Hurd: Alright, so that's out. Good point. Thank you, Tim. The voice of the guy sitting in front of the drawings. Alright, so the first one is basically what we've been talking about. It's optimizing energy performance. You know, the minimum is 20% better than baseline.

Mr. Poole: I would suggest a sliding scale there.

Mr. Hurd: Well that's why I think we have a stretch of like 30, 40 or 50 if you want to slide up or down. So, what, you want to add some language about a range of . . .

Mr. Poole: Yeah, well again, depending on what you're going to put in there, are we talking about increasing overall energy performance or do we want to break it down further and say, okay, increase your heat by 10% or if you take your minimum AFUE from 80%, which is required, to 90%. You know, take your minimum SEER rating for a heat pump from the minimum now which is 14, to a minimum of 16 or 18. You know, and that's good for X number of points.

Mr. Rowlands: This optimization is now 11 points?

Mr. Hurd: No, that's . . .

Mr. Rowlands: It says current City points.

Mr. Poole: That's a typo.

Mr. Rowlands: I was going to say, that's a lot.

Mr. Poole: I think it's currently only two points. So, again, I think a sliding scale or a further breakdown of that to say, you know, increase it by this per COMcheck on the envelope. Increase it by this per COMcheck on the lighting. Increase it by this on the equipment efficiency.

Mr. Hurd: Well not actually . . . that's a good point because . . .

Mr. Rowlands: And you have to do all those to get that one or two or whatever points?

Mr. Hurd: Well here's the thing I'm seeing. We have this big thing here called optimize energy performance which is coming straight out of the LEED. But then we have, following it, individual items which really are the things that drive the energy performance. We have insulation, air infiltration, windows, so I almost think, in terms of editing, that optimizing energy performance is sort of the overall goal. We can say you've either gone down a third-party system to show 20% improvement in performance or you've done improvements to insulation, air infiltration, windows, heating and cooling distribution, you know the heating and cooling equipment with SEERs, you know, various . . . basically, all this stuff that comes after is what affects whether your energy performance is . . .

Mr. Poole: And maybe that's where we put the stretch code where you say, okay, well at 20% we'll give you four points. At 30%, you get eight points.

Mr. Firestone: Maybe it should come at the end of this list rather than at the beginning.

Mr. Hurd: Yeah.

Mr. Poole: Well, whether it's at the beginning or the end, you can, that's where, again, if you want to meet the stretch code requirement and do the calculations, then okay well you can get that many points there but then you're not eligible for all those other ones because you're already meeting them.

Mr. Hurd: Yeah.

Mr. Poole: And get it to where it's about the same value.

Mr. Hurd: Okay, so looking at this list of energy-based items, are there any that we think we don't want to mess, well, I have to, okay, I'm going to say that natural cooling is probably going to be a hard one to verify in terms of it's not a system thing.

Mr. Rowlands: I would take out natural cooling and . . .

Mr. Poole: Natural cooling it out?

Mr. Hurd: Yeah, it's like cooling towers and windows that operate, and I'll just say we have a, even though Swarthmore did this, we have a poor climate for natural cooling because we're so humid and we don't have the temperature swings.

Mr. Rowlands: Right. Is it possible that we have all these roof, insulation, air, windows and all, but under the optimize energy . . .?

Mr. Hurd: Sorry, I wasn't being clear. I was saying that under optimize energy performance, rather than an item up here that says we want to get 20%, no, the points aren't up here on the first line . . .

Mr. Rowlands: No, I understand that . . .

Mr. Hurd: The points are cumulative in these items below.

Mr. Rowlands: That's fine. I like that and all but if you left it in there and just said the HERS rating of 20% better . . .

Mr. Hurd: Right, complies.

Mr. Rowlands: That complies. Or you can pick and choose whatever you want.

Mr. Hurd: Or a LEED silver. Boom, you're done. Or Passive. Or something. Something that says you did, someone else said, yes, you've improved the performance.

Mr. Poole: Verifiable performance.

Mr. Hurd: Right.

Mr. Poole: Or calculated performance.

Mr. Rowlands: For HERS index, you've got to be verified.

Mr. Hurd: Right. If you came in and said I comply with the Passive House standard, we're like . . .

Mr. Rowlands: Oh yeah, that's coming up.

Mr. Hurd: But it could go in here. You could just say if you build a Passive House, there's all your points.

Mr. Poole: Or if you're doing Passive House, passive is, I'm not as familiar with it, that's all about envelope, right?

Mr. Rowlands: That's basically it.

Mr. Hurd: Yeah. And energy usage per . . .

Mr. Poole: So, then we want to have that as a little bit . . . is it also about energy usage?

Mr. Rowlands: Yeah but you get that by your envelope being so good.

Mr. Poole: Right. So, you could get that and then you would still want some sort of improvement in the systems probably.

Mr. Rowlands: To meet Passive House, your systems have to be off the charts energy efficient.

Mr. Poole: Yeah? Well, like I said, I'm not . . .

Mr. Rowlands: And that all comes down to the 4.75 kBTUs per square foot that your limit is. You don't get there if you don't use those systems.

Mr. Hurd: Right. There's an energy budget, basically, that you have.

Mr. Poole: Okay.

Mr. Hurd: So, like, I think roof surfaces is an easy one. Insulation, air infiltration, windows . . .

Mr. Rowlands: What is that SRI?

Mr. Hurd: Solar reflective index.

Mr. Rowlands: Okay. I mean that's fine.

Mr. Hurd: Yeah, I mean that's an easy one to sort of throw out and say here's a point. A lighter-colored roof shingle. Heating and cooling distribution, you know, ducts inside the building envelope. Minimum SEER, that's where I'm not sure, I don't know what's the current . . .

Mr. Poole: Fourteen.

Mr. Hurd: Fourteen is the current minimum? So, we want something better than 14.

Mr. Poole: Right. And I would say you get one point for 16, two points for 18, three points for 21.

Mr. Rowlands: Are there specific increments that they are usually built to?

Mr. Poole: Yeah.

Mr. Rowlands: And that's it?

Mr. Poole: Yeah.

Mr. Rowlands: Why do I have a 19 SEER?

Mr. Hurd: I was going to say that I've seen 19.

Mr. Poole: Well, that's one of the ones I skipped over.

Mr. Hurd: You can't skip the list.

Mr. Poole: It would meet the 18 requirements, but it wouldn't meet the 21.

Mr. Rowlands: Is there a way to just keep the percents? You know, here's your SEER, you have to do 20%. We should think about what 20% is and what's that do.

Mr. Hurd: Well, that would be, 14, that's 2.8, that's . . .

Mr. Rowlands: That way we would be consistent.

Mr. Poole: Well what's, yeah, but what's the energy savings on a 14 over 16? What's the percentage of a 16 to an 18?

Mr. Hurd: Yeah, I don't know enough to know whether it's a linear . . .

Mr. Poole: Right. That's why I want it verifiable.

Mr. Hurd: Okay.

Mr. Rowlands: Well, no, you could still, maybe I'm not understanding but 14 SEER is code, I guess.

Mr. Poole: Right.

Mr. Rowlands: And we say it's 20% above that.

Mr. Hurd: That's a 17.

Mr. Rowlands: Then that's what it is. Or we say 30% to get to whatever. And then we can be just percent throughout the whole thing and you'd have to tweak each one to 5%, 10%, 20%.

Mr. Prettyman: Would you want to put your . . .

Mr. Firestone: It could get a little tricky just because of the industry . . .

Mr. Poole: Again, I'd like to make it . . .

Mr. Firestone: Markets some of these products or how they've coalesced under the SEER with 80% efficiency furnaces versus 96%.

Mr. Prettyman: And your 20% ends up being 95.8.

Mr. Firestone: Well it's actually, it is 20% better than 80 is 96, but you could see how they could have something at 95 and then . . .

Mr. Poole: I'd rather the more simple it is, the more easy it is . . .

Mr. Rowlands: Oh yeah.

Mr. Poole: To just take the cut sheet of whatever you're using and say this is it, then I think you're a lot better off.

Mr. Hurd: This is true.

Mr. Poole: The easier this is to implement, the better level of compliance we'll get.

Mr. Hurd: Right. And again, the intention mostly today is just to figure out which items we want to maintain in our list and which ones we're getting rid of. We can get into the language of the specifics of the, the specificity and the points in the next go-round.

Mr. Rowlands: Fair enough.

Mr. Hurd: Air destratification?

Mr. Rowlands: Where are you?

Mr. Hurd: I'm after space heating and cooling, where we just had the long discussion about SEER.

Mr. Rowlands: Oh, yeah.

Mr. Hurd: I'm willing to take that one off.

Mr. Rowlands: So am I.

Mr. Poole: Why? Take away natural cooling and fans?

Mr. Rowlands: Who doesn't put fans in a house today?

Mr. Poole: Lots of people.

Mr. Prettyman: Well, if you're talking to a developer, we still probably aren't going to put fans.

Mr. Poole: Right.

Mr. Rowlands: Maybe it should be in there. So, you don't put fans in any of your rentals?

Mr. Prettyman: We put fan/light combos so they can be added in at a later time. But as far as like a standard fixture, no. I think you'll find most of them don't. Some people do, I think.

Mr. Rowlands: A fan/light combo, you're talking about a bathroom.

Mr. Prettyman: No, so for all bedrooms, they have a fan/light box that will support a ceiling fan.

Mr. Rowlands: Oh.

Mr. Hurd: Okay.

Mr. Rowlands: The weight. Okay.

Mr. Prettyman: Yeah.

Mr. Firestone: I would say yeah. I mean I use my ceiling fans a lot, but my guess is that a lot of people will put them in and then just pump up the air-conditioner.

Mr. Rowlands: They really do a lot.

Mr. Firestone: Oh, yeah, I know.

Mr. Poole: They do make . . .

Mr. Rowlands: They're a big bang for the buck.

Mr. Poole: They do help your air-conditioner or your heating system be more efficient. I saw we leave it in and figure out a way to . . .

Mr. Hurd: Not make it a big . . .

Mr. Rowlands: Make it a half-point or something.

Mr. Poole: Well, no, you can make it, well, number one, you want to have a minimum number because do you get that if you install one ceiling fan?

Mr. Firestone: No.

Mr. Hurd: Right.

Mr. Poole: So, you want to have some sort of standard there that says, hey, you need a ceiling fan in each sleeping room.

Mr. Hurd: Right.

Mr. Poole: You know, something where . . .

Mr. Hurd: Right. A minimum number and location. Yeah. Alright. I'm thinking to kill whole house fan because it kind of, I think we're going to capture it when we talk about heat recovery ventilators because . . .

Mr. Rowlands: Yeah, that's out.

Mr. Hurd: Well because whole house fan ties into natural cooling really more than anything else. I'm okay with radiant floor heat.

Mr. Poole: So, we're getting rid of whole house fan?

Mr. Hurd: Yeah.

Mr. Rowlands: Why radiant floor heat? What's that got to do with energy savings or anything else except comfort? It's nice to walk around barefoot.

Mr. Hurd: I've seen some, I don't know if it's firmed up research that basically if you keep people's feet warm, you can basically keep people's feet warm at a lower temperature than if you keep the air warm.

Mr. Rowlands: That's just true in general. With radiant heat you're heating objects, whether it's feet or arms or anything else.

Mr. Hurd: Right, so if you're using radiant heat instead of forced hot air, you know, you're heating water as opposed to air, so it's a more efficient medium.

Mr. Rowlands: Maybe. I mean I agree with that.

Mr. Hurd: So, whether that's tied into the equipment, maybe, to say you've got, you know . . .

Mr. Prettyman: I would say that probably more of a commercial use. Large shops with cement floors and stuff like that. More industrial it will probably come into play.

Mr. Hurd: Yeah, residential is going to be hard because . . .

Mr. Poole: I've only seen it on one commercial project and it was a shop. But for the most part for where that is, I get unit heaters. Gas or electric unit heaters.

Mr. Hurd: I guess I don't see a reason to take it out. I think there's a benefit to encouraging radiant floor heat and I'm just going to make it about a minimum insulation below.

Mr. Poole: Well, that's just required under the Energy Conservation Code.

Mr. Hurd: It is? Okay.

Mr. Poole: Yes.

Mr. Hurd: You've been reading it much more than I have.

Mr. Rowlands: No doubt. If you have radiant, it's Code you have to have insulation below it?

Mr. Poole: Yes.

Mr. Rowlands: That's a good thing, I just didn't know it was Code.

Mr. Hurd: Which makes sense.

Mr. Prettyman: It's counter-intuitive.

Mr. Poole: It's like on slab on grade.

Mr. Rowlands: I understand the principle and why it should be there, I just didn't realize it was Code.

Mr. Hurd: Well I think some people will just like, oh, I'll put tubes in the concrete and then it's like why does it never get hot? It's going into the ground. Geothermal heating or mini-split heat pumps.

Mr. Rowlands: Yeah, that should stay.

Mr. Poole: Why are mini-splits in there? Or is that a geothermal mini-split?

Mr. Hurd: Geothermal or mini-split. I'll say I don't see a lot of people doing geothermal because it usually requires a lot of groundwater contact. But mini-splits, from what I've seen, especially say in a Passive House where your energy uses are so low, it's an effective way to get that because they're more efficient at lower temperatures than a standard heat pump.

Mr. Poole: They also have a high, typically like 21 SEER rating.

Mr. Hurd: There you go.

Mr. Poole: So, they're going to get it somewhere else.

Mr. Hurd: Right, so maybe that ties into our space heating and cooling. Because that's true, if I've got a 21 SEER heat pump, there's not 21 SEER. Heat exchangers, hell yes.

Mr. Poole: Yes.

Mr. Rowlands: You should also put in there energy recovery ventilator. Heat recovery or energy recovery.

Mr. Hurd: Heat and/or?

Mr. Rowlands: I mean there's two different systems. We're in the energy in this humid climate. We're not really using heat recovery.

Mr. Hurd: Efficient water heating. This is one where the 20% is going to be tricky because either we say we're asking for a different system that we sort of know performs more efficiently but you might also . . .

Mr. Poole: Tankless or direct vent. Direct vent is 90%. Whereas, you know, you get, now I don't suggest that we even consider it for electric water heat. It's just an inefficient way to heat water. But for a tankless or for a high-efficiency direct vent where you're getting 90% minimum as opposed to an 80% AFUE, that's 20%.

Mr. Rowlands: Careful on the electric because your heat pump water heater is electric.

Mr. Hurd: Right, but it's not heating, it's not electric resistance.

Mr. Rowlands: Well you could qualify it that way, I guess.

Mr. Firestone: But, long-term, we want to have people convert to electric systems from natural gas systems.

Mr. Rowlands: Correct.

Mr. Hurd: Yes.

Mr. Rowlands: So, really if you just say . . .

Mr. Firestone: Then, I mean, that's the kind of heating system you're going to have for your water.

Mr. Rowlands: And if you have energy-efficient water, you're not using resistant heating. It wouldn't qualify.

Mr. Hurd: Lighting controls.

Mr. Rowlands: Do you see that being done on most commercial these days or not at all?

Mr. Hurd: This is residential.

Mr. Poole: Yeah, you're in residential.

Mr. Rowlands: Sidebar question.

Mr. Poole: You see an awful lot of BAS, yes.

Mr. Hurd: I mean I love my motion sensor switch for my basement light. Appliances, sort of just a general note, I mean we can set a minimum EnergyStar rating or . . .

Mr. Rowlands: Does anybody buy non-EnergyStar?

Mr. Poole: It's hard to find a non-EnergyStar appliance these days.

Mr. Hurd: Okay.

Mr. Firestone: Except, I mean the problem is with apartments, the, no offense intended, there is an incentive for developers to put in less efficient equipment because they're not paying for the electricity that's used. The tenants are. So, the, and it's a second market failure that you have and so the way that you do it is to mandate in these residential buildings that people [inaudible].

Mr. Rowlands: So, this could be where just leave it EnergyStar and use this as one that is required. It's an easy one . . .

Mr. Firestone: It could just be like a required thing. It doesn't have to be optional.

Mr. Hurd: Right, that's what we were just saying. Kind of tying into the water hearing of whether there's on-demand or recirculation pumps or such for the . . .

Mr. Rowlands: There's a code, I think it's in Water Sense maybe, you take the furthest spigot away and it can't take longer than X seconds to get hot water coming out.

Mr. Poole: I know in commercial buildings if you have anything over 50-foot runout, you have to have a circulator.

Mr. Rowlands: Yeah, but if you just put it, whatever that, I think it's Energy [inaudible] or something where it's just turn it on and it's 6 seconds or something, and if it's not, you don't get the [inaudible]. That's an easy one for the building inspector to verify. You could verify that one.

Mr. Poole: What?

Mr. Hurd: Turn on the faucet and if you don't get hot water . . .

Mr. Rowlands: In six seconds or ten seconds.

Mr. Poole: So, what's going to stop them from running the hot water ten minutes before I get there?

Mr. Rowlands: That's a good point. That's what I would do.

Mr. Hurd: Randomness.

Mr. Rowlands: No, I don't know. You would have to go underneath the pipe and feel if it's warm or not before you start. I know there's a code.

Mr. Hurd: Renewable energy I dumped here because I don't think it shows up, it doesn't really have another spot. But that's, you know, installation and operation of renewal electrical generation systems onsite. So, that's obviously one we want to keep and figure out how to work that in.

Mr. Rowlands: Can it be in there that it's solar-ready or something?

Mr. Poole: Well that's passive solar potential, isn't it?

Mr. Hurd: No, we're just talking about renewable energy here. The passive solar potential and solar space heating, I was going to strike because that's, again, more a design question and less a documentation question.

Mr. Poole: Okay.

Mr. Hurd: Because that's about orientation and mass walls and . . .

Mr. Rowlands: Right, but if you get two points for putting solar panels up and, one, if you pipe it all ready for it . . .

Mr. Poole: I think I'd probably be more looking at . . .

Mr. Hurd: I know what you're . . .

Mr. Poole: I think we should look at maybe one for doing it and maybe three or four for installing it to a certain percentage.

Mr. Rowlands: To get the ratio of points.

Mr. Firestone: Yeah.

Mr. Rowlands: You should get a of points if you put solar up there.

Mr. Poole: Right.

Mr. Rowlands: To run a conduit and some wiring before you close the walls up . . .

Mr. Hurd: That's true, we should . . .

Mr. Prettyman: A lot of times you can't, you can actually install it before you have an electric bill on your . . .

Mr. Poole: You have to do the calculations of how much energy you're going to use. The anticipated energy demand, I would think.

Mr. Hurd: Yeah.

Mr. Rowlands: Even as far as the rebates for something they base it on previous . . .

Mr. Firestone: Well you could have a per kilowatt per square foot. I mean you can then scale it up . . .

Mr. Rowlands: No, there's codes to get the rebates back from the state and federal government where they base it off of your . . . but that's almost, well no, you can't do that in new construction.

Mr. Poole: No, they just rebate a percentage of the cost. That's all, and you're allowed to deduct that money from your income. It's not . . .

Mr. Prettyman: Alright, I'll look at that. But we were going to look into it for 47 West Cleveland and I had to go off of like a 6-bedroom unit like farther up the street, but they were pretty much telling me they needed concrete proof. I mean they estimated the system so I could get a rough idea of how much it would cost but when it came to like when you put this on, we can put all the mounting brackets up and everything but we can't actually install it until we have an actual usage. I'll go back and revisit. I thought that was my conversation with them.

Mr. Hurd: Yeah.

Mr. Rowlands: There's something in there where they base, I thought it was the amount of rebates or something.

Mr. Hurd: Air-conditioning refrigerants, which . . .

Mr. Rowlands: Where are we now?

Mr. Hurd: Back side of page 5. Page 6.

Mr. Rowlands: Where did 5 go?

Mr. Hurd: Five is the one we were just working on.

Mr. Rowlands: Yeah, 6.

Mr. Hurd: Do we need to do that or is that something that's, I mean, are there still products out there that don't comply?

Mr. Rowlands: That's almost a self-regulating industry, isn't it?

Mr. Hurd: That's kind of what I was thinking.

Mr. Poole: Yeah, I think that's gone.

Mr. Hurd: Okay. Alright, materials and resources. The first bunch here you can see is coming out of the National Green Building standard, but one is reducing the conditioned floor area. LEED Homes I think does a good job of saying this is our base square footage and if your building is larger than this, you lose points. And if it's below this, you gain points. That's kind of their way of trying to push for more efficient buildings. So, that's something we could look at. And that other thing ties directly into sort of the 20% to say if I build a building and 2,500 square feet is the standard and I build a 2,000 . . .

Mr. Poole: Less than 2,000. Two thousand or less.

Mr. Hurd: Two thousand or less, boom, there's my 20%. That's sort of like that's, we're pushing that goal.

Mr. Rowland: Is that either a given or a not-given point? I'm going to build what I want or what the size, the space can limit, what the market demands?

Mr. Poole: Yeah, but if you're, well, yes. The market is going to dictate that a lot more than anything else, but when you start looking at things like affordable housing, you know, if you want to potentially give some givebacks for someone building affordable housing, then this would be a place to do it because your affordable housing is typically smaller.

Mr. Hurd: Right.

Mr. Rowlands: Then you're just giving it to them for free.

Mr. Poole: Yeah, but it's also harder to meet some of the other requirements. Particularly things like envelope.

Mr. Rowlands: Yeah but those, low-income housing is mostly multi-family bigger units. They're not building single-family per se for low-income. And then it's easy to make.

Mr. Hurd: I'm inclined to leave it in and we can find out, if we have trouble figuring out how to pointify it, then we may have to lose it. But I'm in favor of keeping it in. Foundations that reduce soil disturbance. Thoughts?

Mr. Rowlands: I think that's market and site specific almost.

Mr. Poole: I just don't see a lot to it, but I don't have a problem . . .

Mr. Hurd: It's kind of like, I think everything we look at there are several questions. One is, is this solving a problem that we see around here that we want to eliminate or reduce?

Mr. Poole: Usually the only time you see something where you've got slab on grade is because they have water issues and if they put in a basement, then it's going to leak.

Mr. Hurd: Right.

Mr. Rowlands: Alright.

Mr. Hurd: Okay.

Mr. Rowlands: Out.

Mr. Hurd: Out. Mass wall systems. I'm not sure that buys us.

Mr. Rowlands: What does it mean? What is it?

Mr. Hurd: I'm not sure.

Mr. Rowlands: I know a thermal mass inside the building is good, but is that what they're talking about?

Mr. Poole: Mass wall systems are poured concrete, concrete block, masonry, something that's . . .

Mr. Rowlands: So, if I'm going to build a basement in my house, I get a point?

Mr. Hurd: But this is above grade.

Mr. Poole: No, above grade. If you build your basement above grade, then it's not a basement.

Mr. Rowlands: Okay.

Mr. Hurd: Yeah, I'm not so sure that we're in an area that we want to encourage . . .

Mr. Rowlands: That or they're going to pour that foundation wall above grade and then insulate on the inside.

Mr. Hurd: Alright . . .

Mr. Poole: So, that's out?

Mr. Hurd: Yeah, I'll take it out. Improvement moisture management. Now I'm starting to see more about drainage planes being required in siding. Am I right in that, that the Code is pushing that more? The Building Code?

Mr. Poole: That's more of a manufacturer thing.

Mr. Hurd: A manufacturing thing? Okay.

Mr. Rowlands: But that's coming from the building sides of not wanting their things to fail.

Mr. Hurd: Right.

Mr. Rowlands: I don't know how you qualify that. In my Passive, we were all about the building sides and vapor and where it's going. So, I wouldn't even know how, I mean I'd know how, but I don't know how anybody else is going to do that without going through a bunch of analysis.

Mr. Poole: And we already require above Code in foundation waterproofing.

Mr. Hurd: Okay, and that's a big one, I know, for things like that. Alright, so let's pull that one, then.

Mr. Rowlands: On the foundation, nobody's insulating outward of that foundation.

Mr. Poole: What?

Mr. Rowlands: When they pour their foundation wall, nobody's insulating outward of that.

Mr. Poole: Outside of it?

Mr. Rowlands: Yeah.

Mr. Poole: No.

Mr. Rowlands: We do, and we also put drainage points on the outside of that. Because once that insulation gets wet, it's not going to work as well but I don't think they're going to be doing it at this point.

Mr. Hurd: Okay. I don't know what improved flashing means, so I'm going to pull that too.

Mr. Rowlands: Yeah.

Mr. Hurd: Here's an easy one, covered exterior doors.

Mr. Poole: Keep it.

Mr. Hurd: You're replacing your door less frequently. I like the roof water discharge because I think that's generally a good idea. There's no code, is there? I mean is there a minimum distance already in the code for discharge?

Mr. Poole: No.

Mr. Hurd: Okay. That's supposed to say building reuse. I don't know if that one actually should fall in, well, I guess it can sort of sit here in materials. That one, of course, is a challenging one to quantify.

Mr. Prettyman: But I think it . . .

Mr. Hurd: It's something to encourage.

Mr. Prettyman: I mean if you can take all the walls out and repurpose the space for something else, you're not tearing it all down and building it all back up.

Mr. Poole: But is that really something that happens in residential? I mean, we had . . .

Mr. Prettyman: I think it's becoming more commonplace, but . . .

Mr. Poole: What's the darn one that, Phillips Mill.

Mr. Hurd: Oh, okay.

Mr. Poole: Phillips Mill was the only one that we've really done anything with that in residential.

Mr. Rowlands: And to be honest, I think if you, 1 or 10 or whatever points, it's not going to . . .

Mr. Poole: How many barns do we got laying around?

Mr. Rowlands: Nobody is going to make the decision because I can get a point here I'm going to reuse that old building.

Mr. Hurd: Okay, so we'll strike that. Here's the good stuff, material efficient framing, engineered lumber, structural alternatives to wood. I think those are all, I mean there's things that are mostly happening and I think we just want to . . .

Mr. Poole: Panelized walls?

Mr. Hurd: Yeah, I'm not sure, I can put that under material efficient.

Mr. Poole: Yeah.

Mr. Rowlands: So, engineered lumber, the LVLs and all, this is more of a structural, somebody's going to be spec'ing this thing out and if I see a point there, am I going to, what, take out steel and put wood?

Mr. Hurd: Take out dimension lumber and put in a TGI, most likely. It's getting people to stop using 2 x 12s basically.

Mr. Poole: The LVL and PSL, I don't know that you're, they're only using those because the span is too long. But the TGIs, again, it helps with your span, but it really is a lot more efficient as far as materials.

Mr. Rowlands: Oh, absolutely. Does it cost more or less than . . .

Mr. Hurd: I honestly don't know.

Mr. Rowlands: I mean if it costs less . . .

Mr. Prettyman: We haven't used TGI, so I wouldn't know.

Mr. Rowlands: You don't?

Mr. Prettyman: We just use the open web.

Mr. Hurd: They use floor joists. Oh, floor trusses.

Mr. Rowlands: I would think TGI is less than a framing of 2 x 12s.

Mr. Hurd: Well it's partly that and it's also you can do, you know, your 20-foot span with a TGI, where you couldn't even buy a 2 x 12 that's going to . . .

Mr. Rowlands: Correct.

Mr. Hurd: As soon as you say I'm doing a 2 x 12, well then you've got that center beam and now you've got structure and how you're, you know . . .

Mr. Rowlands: So, why are we giving a point for something that's more of a . . .

Mr. Poole: Because it's saving resources for the environment.

Mr. Rowlands: Well it's not going to change anybody's mind on how they build. If I have a big span, I have to do it this way or I pay an outrageous amount of money. I'm asking is this the case?

Mr. Poole: Again, looking at it from an environmental perspective, the more we encourage them to use engineered lumber, the better off the environment is.

Mr. Rowlands: But it just seems to me if I'm, and maybe I'm wrong, if a 2 x 12 is going to cost me $300 for a span of whatever and TGI is less, it's what I'm going to use anyway. Are we using TGIs or open web anyway?

Mr. Prettyman: I think my question would just be like how much? What quantifies it? So, if I have a building like 36 Benny Street where we have all these different rooflines, on some of them they might be standardized, on some of them we have LVLs . . .

Mr. Poole: All roof or all floor framing.

Mr. Prettyman: Okay.

Mr. Hurd: Yeah.

Mr. Poole: You know, that's where you're going to use the, and like I said, I would take out the LVL and the PSL because I don't really think that there's any benefit to having them in there. But the TGIs, I think there is benefit there for the environment as far as using less wood.

Mr. Hurd: Yeah.

Mr. Poole: And some people don't use them just because they're new and they're uncomfortable with them. And they do require some specific framing details that if you get them wrong, you're buying a new TGI and you're putting it in.

Mr. Hurd: Yeah. Well, certainly there's a comfort level on the crew that you have to have.

Mr. Rowlands: Actually, that just brings up a seminar that I went to one time. Why do you want to use TGI versus a solid lumber? To save on the forest, I guess?

Mr. Poole: Yes.

Mr. Rowlands: Except this girl from the forest agency said we want you to buy more wood. We are managing it. It's all good, keep buying it. Keep buying it. And then there is the mass timber effect of the carbon sync of a true lumber versus of a TGI. You've captured more carbon.

Mr. Hurd: True. I think the . . .

Mr. Rowlands: So, I'm not even certain we want to encourage that.

Mr. Hurd: The challenge I would see is that in the larger framing sizes, they're going to be harder to find.

Mr. Rowlands: Which is why they're already going to go to TGIs anyway.

Mr. Hurd: Yeah, but no one is using, very few people, I think, are going to use the 9 ¼ TGI because the span is such that you might as well, it's like everyone is using it to replace 2 x 12s.

Mr. Rowlands: That's fine. So, use regular framing and you've captured more carbon and, from what they're telling me, I mean they had this [inaudible] during the industrial revolution, our forest went down like this and since the 1930s, I think, it is deadlocked.

Mr. Poole: It still doesn't mean that it's not good for the environment.

Mr. Rowlands: To use TGIs over regular lumber?

Mr. Poole: Right.

Mr. Rowlands: I would argue that it's more harmful.

Mr. Poole: The Green Building Code disagrees.

Mr. Rowlands: He says you're breathing in that TGI.

Mr. Poole: The Green Building Code and LEED and those folks disagree.

Mr. Rowlands: That's an old code.

Mr. Hurd: Well maybe that, if you want to dig into that a little more, Reid, if you have some time and just see if there really is . . .

Mr. Rowlands: I'll dig up her seminar and forward it to you. I also go to a lot of woodworks events and it's all mass timber, so I see a lot of these, how much carbon you're sequestering with wood versus steel versus whatever.

Mr. Hurd: Oh, yeah. Structural alternatives to wood.

Mr. Rowlands: There we go.

Mr. Hurd: That will probably be steel. I mean steel has its place, too.

Mr. Poole: What's the threshold there? What do you have to do . . .

Mr. Hurd: Does that mean you frame the whole building out of steel?

Mr. Poole: I'll have to look at this Swarthmore thing and see what they say about . . .

Mr. Hurd: I think that's the full text in their write-up.

Mr. Rowlands: This thing says structural alternatives to wood. They want you to use steel over wood?

Mr. Hurd: Some people, because some people say that steel is recyclable and so you know . . .

Mr. Prettyman: So, you know, a building . . .

Mr. Hurd: So, it goes in and it comes back out again 20 years down the road and you just melt it down and it goes back out again.

Mr. Prettyman: Or you could have like five posts instead of 2 x 4s and 4 x 4s and . . .

Mr. Rowlands: And that's all sequestering carbon as opposed to steel is not. And you're going to fire up that furnace to re-melt it. I'm telling you, I go to too many of these seminars on wood. Push wood, push wood. I'll get some information for you.

Mr. Hurd: Okay.

Mr. Rowlands: But structural alternatives to wood. That's just the opposite of . . .

Mr. Hurd: I'll circle it as . . .

Mr. Prettyman: How is that foam that you got? Is that foam you got any good? I mean could somebody use structural foam?

Mr. Rowlands: Not for this type stuff. That's compression.

Mr. Hurd: Do we want to strike it or do we want to put a question mark on it?

Mr. Rowlands: I want to reverse it.

Mr. Firestone: Yeah.

Mr. Rowlands: I'm telling you, that is so dead wrong in my mind.

Mr. Poole: I think we strike it.

Mr. Hurd: Okay. Structural insulated panels, which gets into panelizing efficiencies.

Mr. Poole: Typically, also it's continuous as opposed to . . .

Mr. Hurd: Right, well your insulation is much better for sure, and tighter.

Mr. Poole: So, we leave it.

Mr. Hurd: Okay. Environmentally preferable products, the nice general vague thing.

Mr. Rowlands: Well, that would be not structural insulated panels then.

Mr. Poole: Correct.

Mr. Hurd: That's like straw board and stuff.

Mr. Rowlands: Environmentally preferable products. I don't know how you qualify it.

Mr. Hurd: Well, LEED gives it a shot and of course there's going to be additional text about their LEED credits for that that we can . . .

Mr. Poole: We'll look at how we word the explanation.

Mr. Hurd: Yeah. Recycled content in carpeting, decks, sheathing, siding, roofing, wall insulation, ceiling insulation. You're all okay with that?

Mr. Poole: Yeah.

Mr. Hurd: And that's going to be just like a spec sheet kind of thing for you just like any . . .

Mr. Poole: Right, and it's got to be, let's put something like 90% of what's used. That way if somebody has some specialty carpeting that they want to have at their, just inside the door or in one specific location . . .

Mr. Hurd: Right. The general carpeting should be but yeah there are spots that . . . pre-finished materials which I almost would have thought would be under air quality, but it's there. Salvaged materials.

Mr. Prettyman: How would you quantify pre-finished materials?

Mr. Hurd: That's a really good question, I'm not sure.

Mr. Rowlands: Well, flooring is either pre-finished or site-finished.

Mr. Prettyman: Right but like metal, when you get it is the metal finished, not finished? Trim, if it comes primed white, is that finished?

Mr. Rowlands: Halfway finished.

Mr. Prettyman: If you sand it, is that considered finished? I'm just asking how would you quantify that. There's a lot of different . . .

Mr. Hurd: Yeah, yeah.

Mr. Rowlands: You can also get pre-finished wood that's toxic stuff as opposed to site-finished which is environmentally friendly stuff, too, so . . .

Mr. Poole: So, are we taking it out?

Mr. Hurd: Should we bag it?

Mr. Rowlands: Bag it.

Mr. Hurd: Okay. Salvaged materials.

Mr. Rowlands: It's all good but how do you qualify . . .

Mr. Hurd: It's all good but quantify it and how often does it, you know, are we, what are you gaining? I mean are people really reusing timbers or whatever? Are we seeing that kind of issue?

Mr. Poole: I'll have to look at that one. Look at the way that they have it in their . . .

Mr. Rowlands: Yeah.

Mr. Hurd: Okay. Waste management, that talks mostly about sorted containers.

Mr. Rowlands: During construction?

Mr. Hurd: Construction, yes.

Mr. Rowlands: And do you always do that or never do it?

Mr. Prettyman: It depends on . . .

Mr. Rowlands: The site.

Mr. Prettyman: You can sort them a bunch of different ways. We normally do generic masonry versus construction debris.

Mr. Rowlands: But you have incentives, financially, to do that?

Mr. Prettyman: Yeah. They essentially haul off the masonry for less of a cost.

Mr. Firestone: If you got points, would you do anything different? How would you change your practices if there were points awarded for it?

Mr. Rowlands: Or actually as the points are because he does what he does, he's going to checkmark that point anyway.

Mr. Firestone: Yeah, I know. I mean are there things more that you could do?

Mr. Prettyman: I guess you could take out, you could refine it more so you have all lumber or all tree products.

Mr. Hurd: Or metal. I think sometimes I'd like to see metal pulled out.

Mr. Prettyman: Yeah, like on South Main Street we did the metal, but it's . . .

Mr. Rowlands: So, do you do metal, stone and everything else in one? So, three?

Mr. Prettyman: Pretty much.

Mr. Rowlands: So, in that other one is there something else that we could add that . . .

Mr. Hurd: Does anyone recycle like drywall products or things like that? Or not as much?

Mr. Prettyman: That normally gets lumped in with the construction stuff but it's more or less where, would the builder recycle them? Yeah, because wherever would be recycling them would use it but there's a shortage of people that, or we're unaware of people that will take your old drywall and crush it all up and remake it . . .

Mr. Poole: I would think that that's a nightmare because most of your stuff that's going to be demolished is pre-1978 and now you've got to certify that it's asbestos-free.

Mr. Rowlands: Oh yeah.

Mr. Hurd: Yeah.

Mr. Prettyman: But the mortar or the brick and all that kind of stuff, they can just grind it all up and it comes out with . . .

Mr. Rowlands: And there's financial incentives now to keep stone here and metal here and everything else. And everything else might be really hard . . .

Mr. Hurd: To separate it, yeah.

Mr. Prettyman: Some people do mix it. Some people don't give a crap, they just mix it. But, you know, for the person that's doing it, depending on what the contract price is, depending on who they know and what they get, I mean it might be . . .

Mr. Poole: Yeah.

Mr. Rowlands: I wonder if we could ask if, of the people who do it, I mean this guy does it.

Mr. Poole: Well, again, your bigger projects, they're usually doing it from our perspective, but are they doing it because that's best practices, it's financially agreeable, or because they're going to get this, and they got to get the 25 points somewhere.

Mr. Rowlands: Yeah, right. Why is it happening?

Mr. Poole: Like, it's their business model because that's an easy one that, again, with the LEED points that we get here in the City and the recycle, and then they get a little bit of money back from that or at least they pay significantly less . . .

Mr. Rowlands: Less to haul it.

Mr. Poole: In their disposal fees. You know, I don't know what you pay to get rid of concrete versus what you pay to empty the dumpster, but it's significantly different.

Mr. Rowlands: Do we have a history of where these points have been given out in the past.

Mr. Poole: Absolutely not.

Mr. Rowlands: Would you even be able to guess if anybody went for two points on waste management?

Mr. Poole: Almost everybody goes for that one.

Mr. Rowlands: And is it because they're doing it because they're getting cost-effective anyway, so we're going to get that one for free?

Mr. Poole: I think it's a combination. Because if somebody is on the edge, it pushes them.

Mr. Rowlands: Right.

Mr. Hurd: Yeah.

Mr. Poole: If somebody is like, well, it's a pain, it's another dumpster I got to have onsite . . .

Mr. Rowlands: I'll pay the price to keep this job moving.

Mr. Prettyman: We took a recycled can, a full four-yard, to Elkton Recycle, full, and we got $200 for it. Full.

Mr. Rowlands: But you didn't pay $500 to throw it away.

Mr. Prettyman: Right but we probably still paid somebody over $200 to load it and fill it. I mean so it's literally like counter-intuitive to do it.

Mr. Poole: But meanwhile you also didn't pay $300 to dispose of it.

Mr. Rowlands: In dump fees, right.

Mr. Poole: And dump fees.

Mr. Hurd: Yeah.

Mr. Poole: I mean it's a bunch of factors but, like I said, from him, time is money . . .

Mr. Rowlands: Yeah.

Mr. Poole: And if he's paying somebody to do one thing, he's not paying them to do the other thing.

Mr. Hurd: Yeah.

Mr. Rowlands: So, maybe it's a 1-pointer . . .

Mr. Firestone: Yeah, I think it's at most one, but I'd be okay scrapping it, too.

Mr. Rowlands: If people are on the bubble.

Mr. Hurd: Scrapping or . . .

Mr. Poole: I think it's environmentally friendly and if they get an easy point, but it encourages them to do the right thing, why not have it? I don't see the resistance to it.

Mr. Rowlands: And easy half-point.

Mr. Hurd: Reid doesn't want any easy points.

Mr. Rowlands: We'll get to the points system.

Mr. Poole: No, he wants them all hard.

Mr. Rowlands: No, I don't.

Mr. Firestone: No, I want them to be something.

Mr. Rowlands: I don't want to give points for free.

Mr. Firestone: I want it to be meaningful.

Mr. Poole: Just because it's best practices or because it helps you in other ways, doesn't mean there's no value to it.

Mr. Firestone: I would say it's . . .

Mr. Poole: That's the vibe I get from you guys is that you feel that because it's predominantly done, there's zero value.

Mr. Firestone: Well, no, it's standard practice and so you shouldn't get extra credit for it.

Mr. Rowlands: Right.

Mr. Firestone: I mean if my students submit something that's just standard, I don't give them, oh, you get an extra five points because, you know . . .

Mr. Poole: But it's not standard practice. Standard practice is an 80% heater that because they'll have some savings on the construction of the chimney and the house is a little bit more marketable to somebody from an energy perspective, they use a 90% heater, it still costs them

more, whether they get most of that savings back from not constructing the chimney or they'll a little bit more marketable, it doesn't mean there's not value in saving that 10% efficiency.

Mr. Hurd: Right. Well, and the other way we can counter sort of this sense of these are standard practices is by raising the total number of points. It's like if, you know, if there's five or six points within this category that, or says there's five and we say that's stuff that people are doing already, well then five is the starting point of that points scale and then we just say . . .

Mr. Rowlands: Well, that's the same as . . .

Mr. Prettyman: Yeah, because if you start getting into too much stuff on, you know, all this, then people are going to be going in for bigger stuff, more stuff, and prices are going to increase on everything. I mean it comes in on the back end, too, and I think the small stuff is still important to include in because that's our basis.

Mr. Poole: Yeah, if we're going to go from 25 to 30, then . . .

Mr. Prettyman: We want to take the person who gets 30 and raise them five points on top of what they would already be getting, and they're already getting the recycled materials. So, we want five additional . . .

Mr. Hurd: Yeah, I see what you're saying. Okay.

Mr. Rowlands: We can weigh the points down the road, but it sounds like it stays temporarily.

Mr. Hurd: Yeah. Okay. Donation of deconstructed materials to reseller.

Mr. Poole: Sure.

Mr. Hurd: Sure. I don't know if it gets used very often.

Mr. Prettyman: I mean that would be probably the same thing. There's overlap there.

Mr. Hurd: Well it's like if 50% didn't go to the waste-stream because it went to someone else or went to a recycler or went to . . .

Mr. Prettyman: A guy who sells brick or sells block . . .

Mr. Poole: Cabinets, they donate a whole bunch of cabinets to Habitat for Humanity.

Mr. Hurd: Interior doors and things like that.

Mr. Poole: And yeah, they get a benefit by not paying to dispose of that, but like Ben said, there's the hassle factor. Those things don't pull themselves out carefully . . .

Mr. Hurd: Get themselves onto the truck and drive up there.

Mr. Prettyman: We sold every single kitchen that was in College Town Apartments where South Main Street was. We took every single one out, resold every single one, or used the kitchen in like a light rehab, believe it or not.

Mr. Hurd: Okay.

Mr. Prettyman: And in hindsight, it was probably very counter-intuitive to sell, you know, whatever, you know, the whole kitchen for $85 or $150, but they were resold for that and other people do . . .

Mr. Poole: Yeah, you probably paid more than that in the labor to remove it carefully as opposed to just going through there with a sledgehammer.

Mr. Hurd: But in some ways, I mean, it kind of gets back to your point about affordable housing. One of the ways to make that housing affordable is to reduce the cost of some of the materials. So, instead of having to go buy a new kitchen, I bought this kitchen that had been lightly used in an apartment and I've got it here and now the material doesn't get remade and it gets used and it drops the construction cost of that project . . .

Mr. Poole: Meanwhile it doesn't benefit the guy that's doing it except maybe to get a couple of LEED points from the City.

Mr. Hurd: He gets the City point, it feels good, and maybe he can write off the difference on his taxes.

Mr. Poole: Yeah, the $20 he's going to get from Habitat for Humanity.

Mr. Hurd: Well, you take the value of the kitchen and the value of what you sold it for and then the loss . . . I don't know . . . alright, we're on page 7. Water, our favorite.

Mr. Prettyman: I think we keep the reuse. I think it's a great way to encourage fountains, irrigation and all that kind of stuff.

Mr. Hurd: Yep.

Mr. Poole: Gray water. That's where you're most likely going to get any . . .

Mr. Hurd: Gray water or rainwater reuse.

Mr. Rowlands: Have you seen anybody do it yet? Rainwater?

Mr. Poole: No, but I hear there's somebody that's coming. But until I see it, it hasn't happened yet.

Mr. Rowlands: Then encourage it.

Mr. Hurd: So, encourage it, yeah. And we can decide if there's a percentage in that, I mean that's sort of where we get into the language of it. What kind of extent of water reuse? Not just you're using some, doing something, like I have a rain barrel. You know you have a cistern that's pumped to the, you have like a rain system that's pumped to the irrigation system and not connected to municipal, and that's, it's that kind of level.

Mr. Poole: Right.

Mr. Hurd: Because you need to see that it's not connected to municipal. It's connected to a reuse system and that there's some way to do that. Irrigation, just general reduce reduction, and so that, I don't know if there's any kind of baseline or percentage we can figure out.

Mr. Poole: Drip irrigation as opposed to sprinklers. That's what that's about.

Mr. Rowlands: That's a big one.

Mr. Hurd: Oh, water-efficient, okay, so drip and point irrigation basically.

Mr. Poole: Right.

Mr. Hurd: Water-efficient fixtures and fittings. That, again, comes up with what's the current baseline and what's the percentage.

Mr. Rowlands: We're almost there.

Mr. Hurd: I look at some fixtures and I'm not sure how we can start using less water.

Mr. Rowlands: Right.

Mr. Hurd: It's like how little can you . . .

Mr. Poole: Well, when you've got the two-button toilets and you've got, you know . . .

Mr. Hurd: Well, sometimes it's just saying, well, this is, again, residential, so you're not going to see it as much but like a waterless urinal. It's like there goes that liter or gallon thing.

Mr. Poole: And for places like assembly uses, that's big.

Mr. Hurd: That's huge.

Mr. Poole: Drink some more beer.

Mr. Hurd: Water conservation by performance and reduction in water consumption. The challenge I see with these, as we may have talked about when we did the commercial, what are we measuring that against.

Mr. Poole: Right.

Mr. Hurd: So, maybe those go out because if we encourage water-efficient fixtures, that's going to reduce the demand sort of to its minimum level.

Mr. Firestone: Yeah, that makes sense.

Mr. Hurd: Because that almost would say that makes sense in like a remodel or something. If you said, if your annual water bill was this and then after you did a remodel and installed efficient fixtures, your water bill is 10,000 gallons a year less, hey, you get a . . .

Mr. Poole: That's back to the stretch code and the calculations. I mean if somebody wants to do that and do the calculations, I say we give it to them.

Mr. Hurd: Yeah.

Mr. Poole: But whether we, right now we have water conservation by performance and then right below it is reduction in water consumption, and I think we're better off with the second one where we've got a percentage that they can say, okay, well we used this lavatory that reduces it below what's standard and that's 20% there, and we used this showerhead that's got the flow regulator on it, and we used this kitchen sink that's got this on it, and they can document that water usage reduction over Code-required. And that's a lot of calculations and things like that.

Mr. Hurd: Do you think it's easy enough, do you think it's relatively easy to establish a baseline water usage?

Mr. Poole: Yeah.

Mr. Hurd: Okay, so let's keep reduction in water consumption as sort of a stretch alternate.

Mr. Poole: Lose the water conservation by performance, personally.

Mr. Hurd: Yeah. Or maybe that's sort of like you do the water reuse irrigation system, indoor water use sort of combination, or you demonstrate an overall reduction in water consumption of 20%.

Mr. Poole: Right, well that's your opt-out.

Mr. Hurd: Right. But that's sort of where we're back to what Reid was talking about. It's sort of, I could say I'm going to install these fixtures and I'm going to do all this work, or I'm just going to demonstrate that I am 20% improved over a baseline.

Mr. Poole: Right, you can't get both.

Mr. Hurd: Right.

Mr. Poole: That's the big thing. We're not going to say, okay, we're going to give you points here, here, and here, and that's all going to add up to this, and we're going to give you those points, too.

Mr. Hurd: Right, exactly. It's like one path or the other. Indoor environmental quality. Let's see, we have EnergyStar indoor air package. I'm not even sure what that means. Improve bundle of air quality measures. That's LEED language. That almost needs me to see the rest of the text for that.

Mr. Poole: We're pushing that back to our, if you want to get LEED, then give us your LEED certification.

Mr. Hurd: Right, so that's the LEED path basically or you're talking about controlling combustion venting. No natural draft equipment in conditioned spaces. Moisture control.

Mr. Rowlands: What does that mean? Natural draft equipment . . .

Mr. Hurd: That's like an open fireplace or . . .

Mr. Rowlands: Oh, yeah, yeah, yeah.

Mr. Hurd: Basically, anything that processes combustion is sucking air out of the space and that's an uncontrolled air leakage.

Mr. Poole: Yeah, natural draft gas vent.

Mr. Hurd: So, you put it in the garage. Or you do a more efficient system. Moisture control, I can't even imagine how they would demonstrate that to you.

Mr. Poole: Yeah.

Mr. Hurd: Outdoor air ventilation . . .

Mr. Rowlands: Actually, they could do it with the analysis, but no one is going to unless they're going to take it to that level. But it's possible. Thermal analysis and [inaudible] wall assembly.

Mr. Hurd: Oh, gotcha.

Mr. Rowlands: And if you're doing Passive, you're doing that model.

Mr. Hurd: Well, yeah, because you're building so tight, you have to. Because of course we're pulling things from different spots, I'm not sure how outdoor air ventilation, local exhaust, and whole building ventilation tie together, if there's an intelligent way to tie those together.

Mr. Rowlands: We're trying to tie in the outdoor ventilation and local exhaust?

Mr. Hurd: Yeah, but we also already have talked about energy recovery ventilation, so we kind of killed that one there.

Mr. Rowlands: If you want to kill those two, I'm fine. If you could back up to that . . .

Mr. Poole: Where are we at?

Mr. Hurd: I'm in the middle of page 7.

Mr. Poole: But which one are you talking about?

Mr. Hurd: So, we were originally talking about moisture control and how that would be challenging to evaluate in a construction document. Is that the one you wanted to go back to?

Mr. Rowlands: Yeah. If you left that in there and specifically say you do a WUFI analysis . . .

Mr. Hurd: Can you spell that for the benefit of me and Michelle?

Mr. Rowlands: W-U-F-I.

Mr. Hurd: W-U-F-I.

Mr. Rowlands: The Fraunhofer Institute.

Mr. Hurd: Okay. And gave it, I don't know, whatever, 50 points. Not 50, but you weigh it heavily, somebody might do it. And they'll get so many other benefits by having that model.

Mr. Hurd: Okay, sure. Outdoor ventilation. I'm not entirely comfortable with just straight outdoor air ventilation without tying it to heat or energy recovery.

Mr. Rowlands: Absolutely. Well, you just put in there through a heat recovery or energy recovery . . .

Mr. Hurd: But we already sort of talked about . . .

Mr. Rowlands: Right.

Mr. Hurd: The things that heat and energy recovery . . .

Mr. Poole: We're at indoor air quality and that's significant for . . .

Mr. Hurd: So, you're thinking given them an extra point in the indoor air quality if they have a heat recovery system?

Mr. Poole: Right. Well, no, not, no. If they have contaminant exhaust . . .

Mr. Hurd: Well, it says there's exhaust and there's incoming . . .

Mr. Poole: Well, yeah, but outdoor air ventilation . . .

Mr. Rowlands: You really can't exhaust without something coming in.

Mr. Hurd: If we're looking at the tightness . . .

Mr. Rowlands: Even at 3 ACH, I don't think we should be able to do that.

Mr. Hurd: I think what I see, what I like is controlled incoming and outgoing air as opposed to relying on a leaky building or . . .

Mr. Poole: Right. But if we gave them one point here and then gave them five points for the heat recovery, then it's like it's worth it.

Mr. Hurd: Okay.

Mr. Poole: Again, it's all, we have the opportunity to weight this.

Mr. Hurd: Yes.

Mr. Poole: And you get a little benefit here and there, and you got to stack a lot of them up to the ones that we really want.

Mr. Rowlands: So, you're still talking about getting rid of the outdoor air ventilation, the local exhaust, and just giving a point for whole house ventilation through recovery. So, they're going to get it somewhere else and get an extra something weight.

Mr. Hurd: Yeah, we could do that. Do you see, Reid, in your stuff, do you see benefits in essentially spot exhaust in like kitchens and bathrooms?

Mr. Rowlands: Well, you've got to have a kitchen exhaust.

Mr. Hurd: Okay.

Mr. Rowlands: But that should be tied into that make-up somewhere.

Mr. Hurd: Okay.

Mr. Poole: Well, you don't have to have a kitchen exhaust. You can recirculate it right into the house.

Mr. Rowlands: Yes, that's true.

Mr. Poole: And the bathrooms, all you have to do is you have to have a window. You don't ever have to open it.

Mr. Rowlands: If you have a window in a bathroom, you don't have to put in an exhaust fan?

Mr. Poole: Correct. As long as your window is two square feet.

Mr. Hurd: Which is not hard to do. Alright, well maybe we hang on to local exhaust then?

Mr. Poole: I think we keep them all.

Mr. Hurd: Keep them all?

Mr. Poole: And, again, we can weight them accordingly.

Mr. Hurd: Yeah and maybe this is another time when we have sort of different paths. We say you've got outdoor air ventilation coming in through, and whether or not it's got a heat recovery thing. We've got local exhaust so that we're exhausting the moist air at that point and not letting it get into the house and we're bringing in fresh air. Or, you have a designed whole building ventilation system that has calculated make-up and it goes to a recovery and . . . basically, you don't get both. If I've got a whole building ventilation system, I don't also get my local exhaust point.

Mr. Rowlands: Yeah, but if you're getting your outdoor ventilation, reduce occupant exposure to indoor pollutants by ventilating with outdoor air, that could only, and should only, come through the heat or energy recovery ventilator. You should not be just having a whole in that and just bringing air . . .

Mr. Hurd: Yes, it is counter to . . .

Mr. Rowlands: Yes. I mean they're all tied together. They all do . . .

Mr. Hurd: So, local exhaust with make-up, which comes back to the outdoor air . . .

Mr. Rowlands: I mean you still can't just make it up and bring . . . I'm not bringing hot air in the air-conditioning, or cold air in the heating.

Mr. Hurd: Right, so outdoor air ventilation with energy recovery, local exhaust with make-up, because we can't just say here's, I don't think you want to say you can do a local exhaust but without also accounting for that loss of air and making it up somehow. And that making up has to come through outdoor air ventilation, which comes through recovery.

Mr. Rowlands: That's right. How you word all that, I don't know.

Mr. Poole: So, do you want to just take out outdoor air ventilation and leave in local exhaust and whole building ventilation.

Mr. Hurd: I'm thinking we can lose, who building ventilation kind of covers that, but I think breaking it down into those two . . . either we need a better description on whole building ventilation that says that is outdoor air coming through a recovery system, local exhaust at sources of moisture, and . . .

Mr. Poole: That tie in . . .

Mr. Rowlands: All three are the same thing.

Mr. Hurd: And calculated make-up air exchange rates. That is whole building ventilation. Because I think the way it is now, it's just like what is that? Is that just like a ceiling fan that's got a big attic fan or is that . . . so we'll sort of combine those.

Mr. Rowlands: We'll have to wordsmith those three together.

Mr. Hurd: Distribution of space heating and cooling. Well, yeah. I don't even know how to judge that. Improve thermal comfort and energy performance.

Mr. Prettyman: Could that be like dampers?

Mr. Poole: Zones.

Mr. Hurd: Zones?

Mr. Poole: Zones.

Mr. Hurd: Okay. Now do we want to pull this out as part of the LEED path and not necessarily have it be . . .

Mr. Poole: No. Anybody that is going to put in zone heating, it's going to benefit them. They're going to get energy savings.

Mr. Hurd: Zone controls. Okay.

Mr. Rowlands: You're on #93 right now, distribution of space heating and cooling?

Mr. Hurd: Yes.

Mr. Poole: Yes.

Mr. Rowlands: Well, your duct system should be balanced. You guys balancing?

Mr. Prettyman: Again, this goes back to the norm and not norm, but I think as far as a general builder would not do that. Ours are balanced and we started not, like at Chimney Ridge we don't have dampers but in all of our new stuff that's like 3-4 stories, all of them have dampers.

Mr. Poole: They have modulated dampers and heat zones?

Mr. Prettyman: Chimney Ridge doesn't but I'm saying on our new ones like on Benny Street, there's two zones because you just can't get everything, I mean we don't have to design them with them but, you know, from a management standpoint, I'm just tired of people saying it's cold or it's hot.

Mr. Poole: And maybe we put a minimum number of zones. A minimum of three zones or something like that where it's like, look, you're really managing the energy uses in this house by saying this is the common area, this is the bedrooms, this is the, you know . . .

Mr. Rowlands: Is it zones or just balance your duct system?

Mr. Hurd: Well it's a little of both because I think the advantage of zoning is that you can say, okay, you go to bed and the first floor, especially in residential that living area gets cold while the bedrooms stay at temperature. And then the bedrooms can get colder in the day while the living area is warmer.

Mr. Rowlands: Yeah, yeah, right.

Mr. Hurd: Which you can't necessarily do if you have a single zone.

Mr. Rowlands: No, that's true.

Mr. Poole: So, that's where I see the distribution of space heating and cooling. And if we put something in there about zones, then it clarifies it for them.

Mr. Hurd: Right. Okay, ducts not located in garage. I think that's got to be a mandatory.

Mr. Poole: Yeah, that's not even allowed.

Mr. Hurd: Oh, okay. Well then never mind.

Mr. Poole: Well, I mean you could locate the ducts in the garage but then you can't have any openings into, and then they're in an unconditioned space and you have to insulate them anyways so . . .

Mr. Rowlands: How about no ducts in unconditioned space?

Mr. Prettyman: Sometimes you need to have it . . .

Mr. Rowlands: Then you don't get that point. But it encourages them to . . .

Mr. Poole: Yeah. Well, we're in the indoor air quality section and not having it in the garage is probably a good thing.

Mr. Hurd: I think that falls under energy.

Mr. Poole: No, that wouldn't be under energy because you wouldn't lose it in energy because you'd have to insulate it and seal it and duct test it.

Mr. Rowlands: So, you're not getting as good as if it was inside the envelope.

Mr. Hurd: But we do actually kind of because when the heating and cooling distribution system is like the minimum, this is LEED homes again, ducts within the building envelope and sealed. That's their baseline.

Mr. Poole: Right.

Mr. Rowlands: Okay.

Mr. Poole: To get that point.

Mr. Rowland: Right.

Mr. Hurd: Okay. Air filtering. I'm not even sure. I mean is there a . . .

Mr. Prettyman: I think long-term [inaudible] would qualify in this one they have a filtration system installed.

Mr. Rowlands: They have filters on their air supply.

Mr. Hurd: If they don't change them.

Mr. Poole: Either a HEPA filter or a HEPA filter system or the . . .

Mr. Rowlands: MERV 10 or 15 or whatever.

Mr. Poole: Yeah.

Mr. Rowlands: The problem with requiring that is that nobody changes their filters like they should. That higher MERV you go to, the more important it is to get it changed. You could be making things worse for your world.

Mr. Hurd: Yeah, that's really . . .

Mr. Poole: From an energy standpoint but not from an indoor air quality standpoint.

Mr. Rowlands: No, indoor air. No, indoor air you could.

Mr. Hurd: Yeah.

Mr. Rowlands: If you require a MERV 15 filter, that a good thing. And if you don't change it often enough, it's going to clog and now your energy is going through the roof because it's . . .

Mr. Poole: Right but . . .

Mr. Hurd: Right, and this . . .

Mr. Prettyman: But as far as what we can govern, I mean we can't govern how people . . .

Mr. Rowlands: No, right.

Mr. Poole: But meanwhile, installing the MERV 15, if somebody uses it, it's going to improve their indoor air quality.

Mr. Hurd: True.

Mr. Rowlands: Until they don't change it.

Mr. Hurd: Well that's . . .

Mr. Rowlands: Which is going to happen. Even people that I know that do this . . . anyway.

Mr. Hurd: Yeah.

Mr. Rowlands: That's on them.

Mr. Hurd: Contaminant control, that's certainly a LEED thing that they talked about and I'm not sure how we would do that. Spot ventilation I think we covered under local exhaust so I'm thinking we pull that one.

Mr. Poole: Right.

Mr. Hurd: And why that was under contaminant control . . .

Mr. Rowlands: You're nixing contaminant control?

Mr. Hurd: No, just the single line of spot ventilation underneath it.

Mr. Rowlands: So, what's with contaminant control?

Mr. Hurd: I don't know.

Mr. Rowlands: Are we going to nix it or . . .

Mr. Poole: We'll read the explanation.

Mr. Hurd: That's a . . .

Mr. Poole: We'll keep it and read the explanation to determine what value we want to give it.

Mr. Hurd: It looks like something we had before, but I don't know how we phrased it before.

Mr. Rowlands: Oh, yeah.

Mr. Poole: That's typically for . . .

Mr. Hurd: Is it just walk-off? Like the sticky mats at the entrance of construction?

Mr. Poole: Yeah, walk-off mats and things like that, but that's more of a commercial thing.

Mr. Hurd: It is.

Mr. Poole: So, I'd have to look and see what it says in LEED Homes and see, and then we'll weight it.

Mr. Rowlands: Okay.

Mr. Hurd: Alright. Radon protection. Isn't that already required?

Mr. Poole: No.

Mr. Hurd: It's not?

Mr. Poole: No.

Mr. Hurd: So, the way this is written, I guess this is to say you always install sort of radon protection or you just . . .

Mr. Poole: You install the vent, but you don't put the fan in.

Mr. Hurd: Okay.

Mr. Rowlands: Say that again.

Mr. Prettyman: You pay for the pipe.

Mr. Poole: Yeah, you put the pipe in for under slab ventilation, but you don't necessarily connect it to a fan and exhaust it out.

Mr. Hurd: Gotcha, unless radon is . . .

Mr. Poole: Unless somebody detects radon in the house and then it's like, okay, let's hook it up. Plug it in.

Mr. Rowlands: I wonder if you have an ERV or an HRV, does that eliminate the need to get rid of this when it already is . . . I don't know.

Mr. Poole: Yes. Or, no, it does not eliminate the need because are you exhausting your basement? So, you're letting the radon get up into your house.

Mr. Rowlands: It depends. If it's in my thermal envelope, it's out.

Mr. Poole: And then you're exhausting once it's up there.

Mr. Hurd: Right.

Mr. Rowlands: And even if you were, I don't know if it would do it enough.

Mr. Poole: Right.

Mr. Hurd: Alright, enhanced garage pollutant protection. Again, this is like I'm not sure what the LEED text is in terms of whether that's ventilating the garage so that stuff doesn't work through the walls or things.

Mr. Poole: I don't think that that's under our current points. I'll have to look.

Mr. Hurd: So, the base of this was the stuff that Tom put together for the Planning Commission and he had, you know, anywhere there's stuff in the column, the 1-3 or the 3 at the end, that was current City Code points. So, that was . . .

Mr. Rowlands: So, that was 11 points . . .

Mr. Poole: I'm reasonably confident that that's a typographical error.

Mr. Hurd: Okay. I think there were some where he couldn't, where the language had changed enough where the LEED4 didn't have the same thing that LEED3 had had.

Mr. Poole: Oh, I would agree with that. There's plenty of that going on.

Mr. Hurd: Alright, so that's a question to look into to retiring this.

Mr. Poole: Yeah.

Mr. Hurd: Wood materials, I guess because they're better than other things that off-gas, but I'm not sure how that fits in.

Mr. Firestone: Except for steel.

Mr. Hurd: Well, again, that's not energy. We're talking about environment.

Mr. Rowlands: Well then you shouldn't use TGI, you should use real lumber.

Mr. Hurd: So, now we're in conflict here. We have this whole, we use TGIs but now we've got adhesives and things.

Mr. Poole: Again, it's a balance and they can pick points form wherever they feel meets their needs.

Mr. Hurd: Do we want to hang onto this? I think I need to dig in, we need to dig into more what the ICC 700 is talking about.

Mr. Poole: Yeah.

Mr. Rowlands: And I'm all for using wood but I don't understand why they have it.

Mr. Hurd: I think it's maybe wood as opposed to, you know, particle board or things with adhesives or that have chemicals in them that are going to off-gas, maybe.

Mr. Poole: An I think that we're looking at in the next one with the gasketed doors, that's probably where you're looking at for the garage pollutant protection. You put the exhaust fan in the garage and . . .

Mr. Hurd: Right, gasket, continuous barrier, detaching the garage. Yeah. Okay.

Mr. Rowlands: This should be qualified to some degree. My garage is inside my thermal envelope. If it is, then you just don't want to be putting negative pressure in. But you never see garages inside . . .

Mr. Hurd: Well, if you put it in your thermal envelope, then you have to really worry about how contaminants are going to, because you said, you don't want negative pressure because that's going to suck the air . . .

Mr. Poole: If it's in the thermal envelope, it's only because they want the garage heated too, because you have to insulate between the garage and the house anyway.

Mr. Prettyman: Correct, but it is nice getting in the car.

Mr. Hurd: We have VOCs hanging out there. I think we had this conversation for the commercial about are we really, can we really . . .

Mr. Poole: Yep, keep it.

Mr. Hurd: Keep it?

Mr. Poole: Keep it. There's still plenty of stuff out there and we should encourage them to . . .

Mr. Hurd: Low VOC kind of stuff. Okay.

Mr. Rowlands: So, how do you get a point for it?

Mr. Poole: What?

Mr. Rowlands: How do you qualify a point?

Mr. Poole: Well, how do we do it now? They have to show me what product they used and that it's low VOC.

Mr. Rowlands: So, my paint is low VOC. Do I get a point?

Mr. Poole: Yes.

Mr. Rowlands: Because to my . . .

Mr. Poole: Again, currently . . .

Mr. Rowlands: How much stuff . . .

Mr. Poole: I haven't done any . . . what?

Mr. Rowlands: How much stuff . . .

Mr. Hurd: That's where we have to . . .

Mr. Rowlands: Right.

Mr. Poole: Currently, the only place that I've had it is in the commercial stuff and, in there, it's separated out for paints, flooring, adhesives and sealants . . .

Mr. Rowlands: Right.

Mr. Poole: And I'd be fine with breaking it out here.

Mr. Hurd: Yeah.

Mr. Poole: You know, again, if we give them one point for this, one point for that, one point for that, we're going to have to raise the points. But I think there's benefit to it.

Mr. Rowlands: I think you can eliminate the need for low VOC paints off this. That's just getting to be an industry standard. Floor finishes not so much.

Mr. Prettyman: Sometimes. Sometimes when you're in an industry . . .

Mr. Poole: Caulks and sealants and adhesives.

Mr. Rowlands: They're still high.

Mr. Prettyman: People want the old stuff because it holds up longer and lasts longer and sometimes . . .

Mr. Rowlands: But you can't get that old stuff anymore.

Mr. Prettyman: Sometimes even though it's not made . . .

Mr. Poole: You can get plenty of epoxy paint.

Mr. Prettyman: You can go back a-ways.

Mr. Rowlands: It's pretty expensive though as opposed to a low VOC latex paint.

Mr. Poole: Right but . . .

Mr. Hurd: But the durability.

Mr. Poole: But the durability is there and, again, then they don't get the credit on the paints.

Mr. Rowlands: Alright.

Mr. Hurd: I'm not sure why this is under, well I guess moisture management just because a cold-water pipe is going to condense but insulating cold water pipes which . . . yeah.

Mr. Prettyman: It seems pretty standard in this area.

Mr. Hurd: Well that's in unconditioned spaces, but yeah, and/or no piping in the unconditioned spaces.

Mr. Poole: Cold-water pipes don't have to be insulated in your basement.

Mr. Hurd: Yeah, I'll show you this, it's says cold-water in unconditioned spaces. Because that's where you're going to get the condensation. Duct insulation, which I think we almost have to tie back to the energy. We're encouraging, we shouldn't need the duct insulation because the duct is inside the thermal envelope.

Mr. Poole: Yeah, I say we take that one out.

Mr. Hurd: Okay, that's fine.

Mr. Rowlands: Well you still need it on heat distribution.

Mr. Prettyman: If you have a fourth-floor unit . . .

Mr. Rowlands: The same reason you want to insulate underneath radiant flooring.

Mr. Poole: If your duct is . . .

Mr. Rowlands: Inside the thermal envelope.

Mr. Poole: You still want to insulate?

Mr. Rowlands: Yeah because I eventually want my heat to come here out of that duct, not being transmitting in the next room and the next room before it got to the fan.

Mr. Prettyman: It's more expensive.

Mr. Rowlands: Yeah. It's more efficient. You're driving the heat where you want it to be.

Mr. Poole: We can leave it in but nobody's going to do it.

Mr. Prettyman: I think that's more, I mean at least some of the other people in town, from experience, it's kind of been driven to an industry kind of like standard because people have been putting the units on the upper floors and don't have wrapped ducts and then the tenants come in and crank the A/C, it condensates, and then they have all kinds of problems.

Mr. Hurd: Oh yeah.

Mr. Prettyman: So, we've been, I know, I don't know if Lang personally does them, but I know all of GG&A jobs they insulate them. And we've been insulating all of ours. But I would say somebody down in Middletown or in Avondale, I don't think Wilkinson insulates their ducts. So, I think it's worth keeping on there.

Mr. Hurd: We'll see if there's a way to pull it maybe into the energy because it has, that's probably where people are going to look for it more, too. I don't want it showing up twice. So, if we're going to say, it's like the ducts, let's figure out where it makes sense.

Mr. Rowlands: We just need more builders like you in town.

Mr. Hurd: But then he has to compete.

Mr. Rowlands: That's true.

Mr. Hurd: If they're the only ones . . . relative humidity control. Does that tie back into ventilation?

Mr. Rowlands: Your ERVs and HRVs, well your HRV controls it . . .

Mr. Hurd: Yeah.

Mr. Rowlands: To some degree, but I'm not sure.

Mr. Poole: I think there's benefit to it. Leave it in.

Mr. Hurd: Okay, that's fine. Site work. Minimize long-term environmental damage to the building lot during the construction process. And that one would require certainly some quantification about like either percentage or . . .

Mr. Poole: Percentage greater than building area.

Mr. Hurd: Yeah, it's basically building area plus a percentage is . . .

Mr. Poole: You only get 100% over building area for your laydown and disturbance.

Mr. Rowlands: So, you're out there measuring how much they excavated and square footage of this pipe and that pipe and around the outside of the foundation?

Mr. Prettyman: I would say if you're going to regulate that, that's where you put your silt fence.

Mr. Poole: Yeah, that's the silt fence.

Mr. Hurd: The limit of disturbance kind of line.

Mr. Prettyman: Because the second somebody goes over that, you get written up for it and they take pictures of it and it's in your stormwater review.

Mr. Poole: What? He sounds experienced in this issue. But, yeah, like I said, that's your silt fence. If your silt fence limits them to inside that, then they're not disturbing what's outside of it.

Mr. Rowlands: So, they're getting that point anyway.

Mr. Poole: Yes, but they're going to move their silt fence in.

Mr. Hurd: So, instead of sort of saying let's just put the silt fence up . . .

Mr. Rowlands: Yeah, at the outer limits of the property line . . .

Mr. Poole: At the property line. Now, we're keeping it in more, but it means that we have less laydown area, we have less stockpile area . . .

Mr. Rowlands: Right.

Mr. Hurd: Okay.

Mr. Rowlands: So, to get that point, someone has to go out there and measure the square footage of that silt fence?

Mr. Hurd: Well, it's usually on the . . .

Mr. Poole: No, but there would be a plan . . .

Mr. Hurd: It's on the lines and grades.

Mr. Rowlands: Yeah, yeah, yeah, okay. Okay, that's easy.

Mr. Hurd: And I kind of see, that kind of ties into the two below it. The minimum slope disturbance and minimum soil disturbance. I think its sort of like those are two paths to the similar thing. It's just minimizing . . .

Mr. Rowland: So, just combine those?

Mr. Poole: So, maybe we . . .

Mr. Hurd: Combine or two, or write it in a way that says . . .

Mr. Poole: Or we use the two other ones and . . .

Mr. Hurd: Instead of site stewardship?

Mr. Poole: Right.

Mr. Hurd: Yeah.

Mr. Poole: Yeah, lose the site stewardship and keep the other two because slopes is important. Because you run equipment up and down slopes, you're doing a lot of damage.

Mr. Prettyman: What is you're building in like a BB zoning where you're covering almost the entire lot?

Mr. Poole: This is all homes.

Mr. Hurd: This is residential.

Mr. Prettyman: Oh, right.

Mr. Hurd: Landscaping design, avoiding invasive species and minimize demand for water.

Mr. Poole: Extra bamboo.

Mr. Hurd: Yeah, more bamboo.

Mr. Rowlands: And they get 7 points for that?

Mr. Hurd: Well, that's the current. That was . . .

Mr. Poole: No, they don't.

Mr. Rowlands: That's a lot.

Mr. Poole: I'm pretty sure they don't. I'll have to look at what's in there for LEED for Homes because, like I said, I . . .

Mr. Hurd: Well, I think this is one that's in the current checklist that we have. Planting additional trees. For residential, is there a tree requirement?

Mr. Poole: No.

Mr. Hurd: Okay, so we can't really say what there really is in the beyond required.

Mr. Rowlands: We might want to.

Mr. Poole: Well, we'll say plant a minimum of X number of trees. You know, three.

Mr. Prettyman: Isn't there like a tree farm too where like if you don't have space for it or you cut down trees you have to go plant trees somewhere else?

Mr. Hurd: I guess that counts for residential because with subdivisions, yeah, we ran into that for the project on Paper Mill. That there was basically so many trees being removed it's like even when they put them back in it's like only 20% were required to come back in. And the City kind of went we don't have space for 300 trees. And that's why they started the conversation about could you create a fund that we could pay into that would like plant or maintain trees because the City had basically said there's no place to put the 300 trees that you need to put because it was a lot, like 7 acres cleared.

Mr. Rowlands: Is it worthwhile requiring [inaudible] that these trees are planted for summertime shade and, you know, lose their leaves for wintertime? So, it's going to be on your south-facing . . .

Mr. Hurd: Right.

Mr. Rowlands: And you'll get a point if you do.

Mr. Hurd: Well and you could also talk about evergreens on prevailing wind side and . . .

Mr. Rowlands: Yeah.

Mr. Hurd: Well, we can see about fleshing that out a little. Natural resources conservation. I'm not sure whether that's just, I want to say it goes into minimizing the disturbance because if you minimize the area that you use, that minimizes the stuff that you've cleared.

Mr. Poole: I think that's more of identified environmental areas.

Mr. Hurd: Okay.

Mr. Poole: You know, we've got this that's currently part of a forest and if you don't impact that, then there's less . . .

Mr. Prettyman: Would that be like saving a tree?

Mr. Poole: What?

Mr. Prettyman: Like not tearing down a tree?

Mr. Poole: I don't know. We'd have to read what it says.

Mr. Hurd: Yeah, especially for the ones out of the other standards I didn't always bring over the language.

Mr. Poole: We'll have to look and see what it says. And I think that's because we still haven't gotten the ICC 700.

Mr. Hurd: I think I sent it out in one of the reference sets.

Mr. Poole: Okay, I'll have to look.

Mr. Hurd: I can send it out again because I'm pretty sure I did get it. Local heat island effects and surface water management are kind of two sides of the permeable paving because it's usually the way people deal with heat island or surface water is permeable paving or light-colored concrete or things. So, I'm seeing those, again, like we saw with the site stewardship, it's ways to you know, the way you deal with that often is by installing permeable paving, so I think we can combine those two. No?

Mr. Poole: Well, again, surface water management, that could be a rain garden.

Mr. Hurd: Oh, I see what you're saying, okay. So, we could kill permeable paving because it's going to be covered and sometimes used by these?

Mr. Poole: Again, if they have both, where's the rub?

Mr. Hurd: Okay. I guess permeable paving by itself is sort of like saying you have permeable paving, fine. But that also does affect surface water management and it affects heat island. So, that's why I'm saying I think that it can combined perhaps in a language way.

Mr. Poole: We can look at it.

Mr. Hurd: You know, maybe it just says, you know, installation of permeable paving or something is what I was thinking. I don't know, non-toxic pest control, I have no idea how that would be . . .

Mr. Poole: I don't either. I say we lose it.

Mr. Rowlands: Yeah, it's not something you can qualify before . . .

Mr. Hurd: Well, LEED thinks you can.

Mr. Poole: Well, I'm sure that they have quite a descriptive, but I don't know that that's really . . . I don't know.

Mr. Prettyman: When you go up into Pennsylvania, there's bird boxes all over the place.

Mr. Hurd: Is that for insect control?

Mr. Prettyman: I don't know but I can't imagine that they just decided we're going to add in this additional cost for bird boxes everywhere. I mean I have a ton of insects in like the low area and that's where all the developments kind of are, in like a low area. And I would assume they did it for insect control.

Mr. Hurd: It would make sense.

Mr. Prettyman: For the control. People around here, would they do it? I don't know but I don't think necessarily we would want to take it out.

Mr. Hurd: Again, the problem is, is it an issue we're running into that we need to address and can we sort of quantify how we have addressed it is part of the challenge. Compact development and compact building footprint are really the same kind of things somewhat. It comes into a little bit of play when you talk about the reduced square footage. At least compact . . . building footprint I think we've already picked that up in energy, no materials. We talked about, you know, smaller buildings. And I don't know if there's a way to maybe, maybe we can take some of this language and take it back into the materials section and say if this is your maximum building size, you get points for being 20%, 30% less than that maximum.

Mr. Poole: I think particularly in single-family homes, what we allow is significantly more, almost everybody would get that, the compact building footprint.

Mr. Hurd: If you did 10% less than the maximum coverage?

Mr. Poole: Yeah.

Mr. Hurd: Okay. Compact development, I want to say, I mean we haven't talked much about this but that's kind of the thing that we see in site plan approval.

Mr. Rowlands: Yeah.

Mr. Poole: Right.

Mr. Hurd: And that's . . . so, when we get into the points, we can also talk about some of the points that we see as sort of really nice things to reach for could be pulled off to a separate table to say if you're going for site plan approval, this gets added into. So, you go from a 30-point goal to a 45-point goal or something. You know, we're pushing . . .

Mr. Firestone: Aren't most people going for compact development anyway?

Mr. Hurd: Not unless . . .

Mr. Firestone: Do you think so? Most developers?

Mr. Prettyman: Are people trying to put more people in one area?

Mr. Firestone: Yeah and you have more open . . .

Mr. Prettyman: For the most part, yeah, but I mean its kind of like one of those trade-off things. So, if you're going to make the building smaller, you might go taller. If you're going to implement . . . there's not really, if you were looking like downtown, you'd have to, walkability and transportation efficiency, I mean you might have to put in, I mean what does that constitute? Like a walking path somewhere that connects to a sidewalk or a bus stop down there? Does it add to the overall sustainability of the site? I think it does. You know, when you're getting into more downtown, are we classifying like townhouses downtown as commercial?

Mr. Hurd: No. Three stories or less is residential.

Mr. Poole: Yeah.

Mr. Prettyman: So, in that, when you get more into downtown, is this more of a given? I think yes, but your sites are smaller, it is more of a given when you start working your way farther out, I don't think it's as much of a given.

Mr. Hurd: And this is what I always go back and forth on because greenfield development which is sort of where I think the site plan approval was originally written for, you know, the Paper Mill project for instance said we're only going to use half the lot. So, they had smaller lots sizes and they came to us and site plan approval gives you a higher-level density and essentially relief from some of the lot restrictions that would be there under the zoning. So, it's like if it's a 50-foot lot, they can say can we have 35 because we're going to squeeze it down and half of it is going over to the White Clay State Park. It's like, okay. Where I always had the problem is that, again, redevelopment. It's like so you're already on a dense local site and it's in the middle of the town and you want to get points for bus stops. It's like, no. You know, because you can't not get the, they're all over the place. You know, it's like you almost want to say you get that if you pick the site that's close to a bus stop and such but, yeah, Benny Street, for instance, is like you're there. You've got it. So, that's one I've always . . .

Mr. Rowlands: And that's the nature of this town.

Mr. Hurd: Right, right. It's either redevelopment but there's less greenfield and more redevelopment than . . . yeah, I'm not sure how to, but whether that kind of ties into site plan approval and it's goals of higher density for better design and . . .

Mr. Poole: I think that's all in the text and how we quantify it.

Mr. Prettyman: Because I mean to conserve land, you could put something in there about that, you know . . .

Mr. Hurd: Right.

Mr. Prettyman: I don't think you should take it out.

Mr. Poole: Like I said, if there's benefit there, we can quantify it.

Mr. Hurd: Yeah, okay. So, maybe we just need to expand that a little better to understand it.

Mr. Poole: We're going to have to go through this whole thing and put parameters on it.

Mr. Rowlands: Yeah.

Mr. Hurd: Yes indeed, that's going to be part of it. Building orientation, that a nice one. That's easy.

Mr. Firestone: The only thing I would say, and then I have to go because I have a hard stop, but there is some advantage to having a western orientation because of peak solar. So, a lot of people want to, I mean you get more, you generate more kilowatt hours with a southern exposure but a western will actually do some peak shaving so there's advantages to western too.

Mr. Hurd: Yeah, in terms of . . .

Mr. Rowlands: So, you get one point for south, or two points for south and one point for west, but if you're north and east, you don't get any? South is better than west.

Mr. Hurd: Yeah.

Mr. Rowlands: But both are better than north and east.

Mr. Prettyman: What about just roof surface area towards south.

Mr. Rowlands: Well, you're getting solar gain through your windows, too.

Mr. Hurd: Yeah, the issue of west, because when we were doing this stuff, is that eastern some but western more is lower and less, it's harder to control it. So, you get, if all your windows faced west, you get all this heat in the end of the day that you can't control effectively with overhangs or shading or anything, and it overheats. And it overheats you at the wrong point of the day. Instead of heating through the day, it . . . but I will make a note of that solar . . .

Mr. Rowlands: Is the goal to not list down like half as many rows as we have here or every one of these rows is going to have some weighted point.

Mr. Hurd: Yeah.

Mr. Poole: Every one of these rows is going to have some weighted point and they'll have their options and they need to get . . . and, again, the way we've discussed it is they need to get so many points in this section, so many points in this section, and so many points in this section. And maybe it will be you have to get so many points in this section and you have to get so many points in this section or this section.

Mr. Rowlands: Right, right.

Mr. Hurd: Yeah, I was of two minds. I think, one, I would like to see a shorter list because I think it's going to be more effective when people aren't trying to page through pages of it. However, if we can kind of look at this list and go, we're kind of okay if they hit any five of these, then give them more options. As long as we're okay with . . .

Mr. Poole: Right.

Mr. Rowlands: We've knocked off a few here and I think that we'll knock off one or two more or something, but . . .

Mr. Hurd: But I think some of them, you look at them and you go, that's the thing we want to do and that's the thing we want to do. Now you're just sort of horse trading. Do we want this or that or . . . but I guess if we look at them and we go, keep one that we're not sure, just make it so that either one they pick, you're okay with them picking it.

Mr. Poole: Right. Well, again, we'll go through it and, again, we'll probably lose a few more in the process . . .

Mr. Hurd: Right, well if we start to . . .

Mr. Poole: Where we just can't find a good wording or we can't find a way that we like it, so it will go away.

Mr. Hurd: Right. Because if we can't quantify it in a way that can be . . .

Mr. Poole: Enforceable.

Mr. Hurd: Enforced and . . .

Mr. Poole: And understood.

Mr. Hurd: And understood.

Mr. Poole: I mean one of the big things is we want to make it easy to figure out what you want to do.

Mr. Rowlands: And for you to verify it.

Mr. Poole: And for me to verify.

Mr. Hurd: Right. If we say make it better, well what's that?

Mr. Rowlands: Should we come back next month with each one of us have our hit list of five or whatever, the ones we want to lose?

Mr. Poole: Well, we have the rest that we need to get through. We still got another page or so and maybe we want to go back through them again now that we've had a couple months to digest after we finish that last little bit and say, yes, we still feel this way . . .

Mr. Rowlands: Yeah.

Mr. Poole: Because, again, next month we have two more pages or one more page?

Mr. Hurd: Really one more page and . . .

Mr. Poole: And then we go back through the whole thing and say, this is what we agreed.

Mr. Hurd: Yeah, and I would almost, the last thing for residential, really, is what's called, they call it locations and linkages. I almost want to say that that falls into zoning or site plan approval, or I think there's a better place for those issues to live than in sort of the Building Code. Because they are more site and development choices somewhat. Maybe parking and driveways might be . . .

Mr. Rowlands: Well, keep in mind, I don't know how long this guy's presentation will be.

Mr. Hurd: Yeah.

Mr. Rowlands: We've got one more page to do plus his presentation and discussion.

Mr. Poole: And, again, maybe we'll send it out and everybody take a look at it and if they have any that they have specific questions on or specific concerns about of the list that's left, then we'll discuss those with whatever time we have.

Mr. Rowlands: Sounds like a good meeting.

Mr. Hurd: It does.

Mr. Prettyman: I think you have people . . . it also might be helpful if we had a designated path through which we want people to hit. It might make it easier to weight where we want most of the points, so most people that come in . . .

Mr. Poole: Yeah, you'll get a point for this and a point for that and you get a point for this, but what we want you to do, you'll get five points.

Mr. Hurd: Well, yeah, but as . . .

Mr. Prettyman: You would skew it a little bit so, you know, it's generally along these lines . . .

Mr. Poole: You don't have to do this but . . .

Mr. Prettyman: Versus . . .

Mr. Poole: But, man, it's a lot easier if you do.

Mr. Prettyman: Right or like if you're saying that, you know, it's not advantageous to do this without that, well we don't want on a developer scale who might not be paying for a lot of the benefit that this chart is receiving, you now, you may not put a bunch of stuff into envelope and, just as an example.

Mr. Poole: We emphasized end-user. We emphasized end-use and the stuff that made it cheaper or easier for the developer just didn't make the cut. You know, stuff that benefited the guy building it as opposed to the person that was going to live there or the person that was going to work there, we skewed it. We really did.

Mr. Hurd: Yeah.

Mr. Poole: And, again, the whole thing is imperfect but we're going to get the best imperfect thing we can. That we're going to be able to get passed. That's the other thing. We have to make this so it's palatable . . .

Mr. Rowlands: Oh yeah.

Mr. Hurd: Yeah.

Mr. Poole: Because, again, when this goes before Council if you've got a room full of people with torches and pitchforks . . .

Mr. Hurd: Yeah. But I like that point, Ben. It's sort of like being clear about our intention of like sort of what's the, what do you want to see happening so that we can . . .

Mr. Prettyman: Building envelope is . . .

Mr. Hurd: Because if you can say . . .

Mr. Prettyman: We want to make sure that that's hit by like 90% of the people. That way, whatever they do, if they don't go with the upgraded SEER or whatever . . .

Mr. Poole: Efficiency. Equipment efficiency, let's get it.

Mr. Hurd: Right.

Mr. Poole: Let's get it.

Mr. Hurd: Which might mean reducing the options of other things they can get points for.

Mr. Poole: Or weight.

Mr. Rowlands: Well, that's how we'll skew the points system. It's going to be heavy on the envelope and equipment and . . .

Mr. Hurd: Right.

Mr. Poole: And the other stuff . . . because guess what? That stuff is going to stay there, at least for the . . .

Mr. Hurd: Yeah.

6. **GENERAL PUBLIC COMMENT**

[Secretary's note: There was no public comment.]

7. **ITEMS FOR NEXT MEETING**

Mr. Hurd: Alright, I will go edit this up and try to add some text and get it to you to start sort of doing a first pass at pointing. I'll try to get it out to people before the week before.

Mr. Rowlands: Okay.

Mr. Poole: That way we'll have time to review it and at least identify stuff that we want to talk about.

Mr. Hurd: Right.

Mr. Rowlands: But if you get it to me during that week, it reminds me we have a meeting coming up, too.

Mr. Hurd: That's also good.

There being no further business, the Green Building Code Work Group meeting adjourned at 5:42 p.m.

As transcribed by Michelle Vispi
Planning and Development Department Secretary

Attachments
Exhibit A: Green Building Code Concepts List
Exhibit B: Code Enforcement memo regarding 2018 New Building Permits