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Fairfax County School Board Comprehensive Planning and Development Committee Meeting, Monday, September 28, 2026

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Place Fairfax County School Board, Virginia
Length 2h 0m (video)

- Official meeting video (YouTube): <https://www.youtube.com/watch?v=2s-hqINovWg>
- Official School Board page (FCPS): <https://www.fcps.edu/about-fcps/leadership/school-board>

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[00:09:35] Okay, we're going to get started. Do we need to hit the record button or anything? The record button is going. Oh, fantastic. This September 28th, 2026, regular meeting of the Fairfax County School Board Comprehensive Planning and Development Committee will now come to order at 4.39 p.m.

[00:09:55] Due to a lack of quorum this evening, we will not be able to vote in any committee members that would like to use virtual participation. However, they are welcome to watch the meeting via YouTube along with the public. Due to a lack of quorum this evening, we will not be able to approve the meeting minutes from the May 19th, 2026 CPDC meeting the minutes will be presented to the committee again at the next CPDC meeting in November And now I call on mr. Mason Trimble for item 1.03 energy savings performance contracting presentation

[00:10:34] Did you press the red button? Very good. Perfect. Thank you. Mr. Dunn. My name is Mason Trimble. I work with the Virginia Department of Energy operate the Virginia Energy Management Program and today we're talking about one of the core components of that program which is energy savings form its contracting we go over presentation a lot of the basic facts there's a lot of depth this program that we're not going to be able to touch on in such a short time if you have some questions while I'm going through it feel free to ask

[00:11:12] because we're still going to get pretty deep so what is ESPC ultimately it's a budget-neutral approach to resolve building issues deferred maintenance and perform efficiency upgrades in those facilities. Ultimately it's backed by a performance guarantee that way users in Virginia will feel safe to use this program effectively, offset their deferred maintenance, improve efficiencies in their buildings through this budget neutral approach. What the performance guarantee means is as a program and a project moves forward you're going to

[00:11:50] have guaranteed savings built in through efficiencies installed in the building. you're gonna have a contractor that becomes your partner for these projects and at any year during the execution of that project if you fail to meet the guaranteed savings falls on the contractor so this allows a lot of confidence into moving into these projects I'm sorry can you clarify the typical duration of those contracts like 10 years yeah certainly it can it is varied by the user public bodies can go up to a maximum of 20 years so you could go a lot shorter you could do a 10-year project you do a five-year project as

[00:12:28] long as it makes sense you're gonna be basing the length of your project generally on the amount of savings guaranteed annually so if you can't generate a lot of savings annually usually you'll extend a couple years to get more scope into a project thank you yeah certainly what is move on to financing this is usually the next question on okay we get an idea we're gonna upgrade our facility we're gonna use guaranteed savings models and then going to back that with a guarantee to make sure the savings are there okay so how do I pay for the project there are a number of approaches for this I'm gonna

[00:13:06] go over what is the typical this can be applied to you as a entity there are additional alternatives though we'll talk about briefly in addition to that you see on the right hand side there is a graph in the first column that would be your budget to operate all of your facilities in the portfolio right now and hypothetically we'll say it's like a million dollars in column two you'll be implementing an energy savings from its contracting project you can see overall the blue bar dropped by like 50% that could be typical that could be what you

[00:13:42] see the peach or tannish color is the financing payments or other mechanism that you're going to be using to pay off all the implementations you input in your facility in this case it looks like it's about like 400,000 of that million dollar budget and the last 10% is just savings immediately this may not always happen sometimes it does happen if you have excess savings you could be buying more scope or you could be using it to fund a phase two or other items in future projects and then after the timeline of your project you'll see in the third column this would be 10 15 20 years later you are realizing 100% of

[00:14:20] the savings so your budgets drastically reduced by about 50% and you can reallocate that money or use it to fund additional phases or go into some other project. May I ask a question? Of course. So in the in the graph on the right I just my understanding just want to confirm you have let's say the the bar on the far left is let's say a million dollars right and does it assume that that rectangle the full height of that bar is one million dollars throughout the for for the other three bars as well because you have the amount being cut to

[00:14:56] half let's say 500,000 and then you have financing payments and project costs so what that conveys to me just the height of the bar is not going up it's its level is that by entering into an energy savings performance contract you start to save money almost immediately right because you're not paying more than a million dollars per year for that project I just want to confirm this is how I'm interpreting it it

looks like if I'm paying a million dollars before I enter an ESPC the amount I have to pay goes down because the contractor brings

[00:15:31] energy efficiency technologies or other measures to reduce my my costs and then after it's done there's just savings that continues into the future is that a fair interpretation yeah that's fair I mean this graph could be misleading Obviously, there's going to be some escalations and cost of electricity or water, but there's also going to be escalations built into your financial model to represent those and and the alternative side of as you're saving energy Kilowatts or kilowatt hours. I mean the cost of a kilowatt hour will go up over time

[00:16:06] So the amount of savings can escalate as well. Okay. Did you have something mr. Gordon? I was just gonna add Electricity is going to go up. Sure. That's just kind of we recognize that just a standard look at it There will be fluctuations in there When you do get further into the project and you're actually getting financial models presented to them When you go to execute contract those are gonna be set and like we said previously that Performance guarantee it's backed by you see at the bottom of this. It says measurement of verification It's an international protocol where they will come in annually and measure how much savings did you generate in your facility?

[00:16:46] Did were those the savings that we guaranteed in that model if they were were great if it if your savings exceeded the model You get to take home the rest of that excess savings and allocated how you want and if it failed to meet that Guarantee the contractor in place will rectify the situation with you could be liquid capital that they infuse into your Whatever method used to finance could be coming to repair equipment and it could be a mixture of both and can you offer just a sample or I I don't want to skip ahead a slide but can you offer any example or sample projects just to explain for for the members of

[00:17:24] the committee you know what types of projects might be within scope of an ESPC yeah it's quite it's purposely left rather vague what can be included every single item that is to be included in the project is anything that could be defined as an energy efficiency measure or an operational efficiency measure which leaves a lot of space anything from lighting upgrades envelope upgrades techniques and measures that can alter employee behavior to cause operational efficiency it could be installing new types of outlets that have longer lasting

[00:18:00] equipment or other connective pieces where employees don't have to go and do some type of upkeep every week you could eliminate say an hour of upkeep that could be defined as an operational efficiency but you could I believe from our past conversations take an entire building and say we just we want to make this whole building energy efficient and drywall windows doors that would all fall under everything envelope items drywall doors windows and then you'd have the internal electrical systems the internal plumbing systems HVAC systems pretty much every single thing in the building that draws energy in any form

[00:18:39] electrical water gas any other fuel system all of that could be if an efficiency is found that could support something you could put it in the project so so it basically upgrade the infrastructure of the building through an ESPC and then you'd pay for it over X number of years yes you pay for it the best way possible is you pay for it over years based on the savings in itself generated by doing that upgrade Virginia code of Virginia there's three sections that are included under ESPC in particular and one of them does allocate you can infuse capital if you couldn't beat the zero budget the net

[00:19:17] zero budget some of our users do that and some of them use it as a way to set themselves up for future phases there's a lot of interesting things you can do as well if you had capital or not everybody has capital understanding thank you another note on financing this is really important for every public body and state agency to understand that in 45.2 1702 this is one of the three components of the Code of Virginia that covers energy savings forms contracting specifically constitutes that debt taken for the use of an ESPC project should

[00:19:54] not constitute a liability an obligation or a pledge of faith of credit does that mean you can't use bonds for you can use bonds you can use but you can use bonds to help service agreements direct financing with a financier pretty much any method you can take money or if we want to put it straight debt that could be used to pay for the project because right now we get all our construction renovation dollars through school bonds yeah mr. Gordon that's correct and so we were talking Mason I were talking earlier for the meeting started as one of the

[00:20:33] drawbacks potentially would be that if you go out and borrowing using a partner to borrow money would be considered against the county's capital bond rating now what Mason says hey per this regulation the state says it's not the case yeah it doesn't always work out that way yeah to his credit we were we were talking the we've as an agency and members we've talked with some of the financial models excuse me financiers out there and in particular there's one that holds a master lease agreement with the Treasury of Virginia we've talked to of their experts in how this actual Code of Virginia component interacts and they

[00:21:10] say there's like confusing and conflicting answers from the bond rating and credit rating agencies so it is understanding when you go to do it under how they're going to interact with that it's unfortunately hasn't perfectly come out of the wash yet thank you certainly move forward into who does ESPC there's you of course state body state agencies public bodies do ESPC projects the other side of that is the ESCO the energy savings contractor in Virginia we have 19 currently pre-qualified contractors we scrutinize

[00:21:48] them on a two-year basis we make sure they haven't done anything bad that they're following all the guidelines they're following all of the program parameters they're not breaking any laws they're not doing anything horrid and on the right hand side you can see all 19 of them currently these some of these are like household home companies some of these are a bit more obscure some are very niche and so finding the right partner for your project is a very large component of using this program how we actually progress through the program the apartment has built out a five-step process or five-phase process into

[00:22:26] moving through the project these are very comprehensive and are can be quite long we would put you as a public body in stage one phase one already it's feasibility and ultimately in feasibility just understanding can you use the program do you have scope that needs to be paid attendant to and can you establish a viable project if that's the case we would move to phase two and go to the back of envelope and you actually get into the process of procuring one of the ESCOs phase three you're actually negotiating like the

[00:23:01] Finalized project itself once you execute that contract you move into phase 4 where we deliver construction All of the reviews of the process of course it already happened and then phase 5 goes from end of construction to the end of that Like 10 15 20 year time frame is measurement of verification How long does it take to get to phase 1 to phase 4? Phase 1 to phase 4 is extremely client dependent I generally

don't count phase 1 as part of the timeline because some clients have sat in phase 1 for more than a year and Some of them have sat in phase one for a couple of weeks, right?

[00:23:37] It's very dependent on how motivated or aggressive the client team is and how already well-structured they are in interacting with each other. We're about to go into the phases a little bit more deeply, but that answers. So for the RFQ process, do you see any of them, any times where maybe a couple of them will come together and partner to solve particular needs?

[00:23:59] Do they partner? The ESCOs? Yes. Yes, we have seen ESCOs partner. In fact, I can give you a very modern example. We just had a project at Longwood University go into a contract and enter construction earlier this year. It went up to the governor's office for final signature.

[00:24:15] By the way, only state agencies go up to the governor's office for final execution. And they had two ESCOs, which were TRAIN and CMTA, working cohesively in the same buildings, which is rare. More often you'll see two ESCOs working in different buildings instead.

[00:24:35] but it can happen we have proof of concept in 2026 and are they both primes in that in that circumstance or is one a subcontractor to the up to another that's question one question two is for like a company like Schneider Electric right which was on there and they do a lot of like electric grid things but if you're doing a whole building envelope they don't do HVAC right so so would they bring on like a subcontractor like train or other companies yes in the first part of that train is the primary okay and then to your second question yes if they don't have the in-house resource they have all of the ESCO's

[00:25:12] pre-qualified have large lists of well-established partners and in addition to that they'll work with any contractor you want and they're all vendor agnostic they'll use you know if you have a specific control unit you want and you hire a contractor that makes a control issue they're still gonna offer to use the one you have in place they're not gonna put it in your your face oh no you need to use our controls or anything like that and and if you do a building envelope for example do they go through and and do a list of possible improvements that could be made yes you'll see in phase two when you're

[00:25:51] procuring them they're gonna give you a high-level understanding of what they think they could do in your building okay and then the main premise of phase two is to determine which ESCO would be your best partner and once you've established you think this is gonna be the best partner you'll move into phase three with that partner and they'll go into the investment grade audit or the IGA and that's when they're gonna build out every single possible thing they think they can do for your building and then present that information to you and then you'll sit down with them and go over yeah we want to do this we don't want to do this and you get to create your own project and with the understanding of if this will generate this much savings and so you can

[00:26:28] understand what you can pay for bill dependent on the savings generated is there any you have RFQ for RFQ for ESCOs as minimum five is there any reason you would limit it to five rather than just opening it to 19 to come in with proposals so that is that could be a little misleading so it's good you're pointing that out so you will RFQ all 19 okay when you move forward after the RFQ you need a minimum of five respondents okay yeah and and that's done through Virginia Energy you guys do the RFQ yes well we don't do anything

[00:27:04] directly it would be your project and so your team would be on the driving seat but for instance I moved over to the next slide of phase one feasibility you can see on the right hand side templates our

agency has developed templates to walk you through step by step of the process you're never starting from trying just trying to figure it all it's never chaotic it's one step time one of the first documents we're gonna hand you is that point of contact list the ESCO POC list I would have the contact primary contact for all 19 vendors and then on top of that you have the RFQ request right above it so you just put in your agency information and send it to that contact list and that's how you'd invite

[00:27:42] them to your project and if any of you have questions please feel free to chime in so we're just didn't know I was looking to we have a few more slides but if it's okay can you just share how widely this is used in Virginia and by boards of supervisors and by school divisions unless you already addressed that right here yeah certainly we have at time I believe about 700 excuse me 375 projects that have been completed and we have like 40 more that are currently in process and there is I don't know the exact number of school

[00:28:20] districts that have used them but probably a hundred plus school district projects I think it'd be great to know one you know a few of them and look around and see how they're doing that can you also speak to you know a lot of our buildings are aging and so it is it expected that they actually would produce savings since they kind of be retrofitted for what's possible can you speak to that yeah I would and in speaking with some of the team here beforehand I understand your district has done a great job of trying to keep up with and upgrading your facilities over time and so that can cause issues

[00:28:57] finding some of the easiest points of savings generation but there's still things out there there's a lot of purposely vague of all energy efficiency and operational efficiency measures can be considered and so an ESCO could come through and find things that sitting here we're not going to think of they're experts at this and does it include transportation or is it just buildings it would be facilities facilities okay but it could not like EV chargers it could be EV charges it's not going to include vehicles though certainly you

[00:29:34] had a question sir this is something we're currently in the RFI gathering information to support a future RFQ that will go out so we're on the preliminary part of that right now yes through the the 19 certified and just just for the group is what we were talking about earlier is as a district we have a fairly low EUI so energy use intensity standard average for k-12 is about 60 we have about 50 right now our average across our facilities are 50 so about 84% of our total footprint is 60 or below of an EUI but we do have you

[00:30:13] know roughly 16% that is that you could do some sort of targeted approach and those are some of our largest facilities you know Hayfield some of our larger schools have that higher EU and those in the EU's don't I don't think any of them would go above an 80 but they're generally in the mid 70 range just for group and does facilities count the athletic fields as well that grounds or that's different yeah the athletic facility itself if you have like a stadium that could be included but if it's a field not so much there have been lighting projects done where they do like stadium lighting with new very old and newer systems that could be enormous amounts of generation like a

[00:30:51] press box at a baseball field that would be a facility yeah that would be included you know you have all that AV control systems in there right yeah the EU eyes that have been established when you go into this feasibility stage and you've got to reset the baseline do those translate what hat with the school district has already gathered how do you factor that in but I think what Mason was saying earlier I'll let Mason speak is that's just one component of it right so there's what I think he was he's suggesting is you do the RFI get the RFQ out and they're gonna come back and tell you what they can do for you right

[00:31:30] given them you have a low UI for certain as a broad average but there are targeted schools that we could support but yeah I'll skip ahead just as I think it's a good time to answer that question we get to this back of envelope phase of phase two you're going to have already collected a lot of that RFI information and the knowledge of facilities and use your team's expertise really well it's very impactful especially from an early stage getting that kind of buy-in from your technical team and when you go to you see the second line item the kickoff meeting there says below that informational packet you're gonna include all of that current baseline information and share it to the ESCOs

[00:32:10] so they can take that into account when they come to do the next line item the facility walkthroughs in the audits so they know where you are and they're figuring trying to figure out where they can get you from there okay mr. Gordon when is that is that RFI already out or is it to be issued so we have not issued out an RFQ but we're just we're in the process of gathering information oh sorry RFI so we're requesting information so we're gathering information that would build to an RFQ so when I think of an RFI I think of like a formal solicitation RFI like or are you just doing informal kind of

[00:32:47] market analysis no it'll be formal and it's in the process of running through internally here so that we can actually distribute it out okay so we haven't gotten to that part about halfway through internally right now okay and do have a time frame for doing that month or two maybe to get it finalized and then the RFI will go out to all the 19 all 19 fantastic and and do we know when the facilities condition assessment will be complete that might inform the so yes sir so currently we're scheduled to be complete with the condition facility condition assessment in February 27 so we're approximately about 77 percent

[00:33:25] through the the condition assessment and we're still working through the suitability piece of that as well so we think the assessment piece will be done mid-november and the suitability analysis will be done probably mid month of October but then we also have a community engagement piece we're actually going out and interviewing stakeholders and so there's a plan that just brief the chiefs today I'll talk to dr. Reed you know we'll figure out how that engagement strategy will look going forward yeah I whenever you do that I'd love to learn more about that no good good stuff I had one other question as

[00:34:01] you are in the early RFI stage are you contemplating just schools or all FCPS properties including admin centers so thanks Janice for the question so you know as with the FCA we are doing all facilities right looking at admin centers as well so I think we would so internally I think we would look at admin centers because there's a need for it some of them are pretty pretty poor off but we'll also take guidance and how the board will drive us from this as well I mean from my opinion as a community member it's all energy bills that we have to pay as an organization correct so I think it would make sense

[00:34:39] at least at the early stage to consider them along with the facilities of schools perfect so y'all are doing a great job on the second point here of gathering all your baseline information third point that's really impactful for projects and how they progress from start to finish is establishing what we call the core tenant team you got a great technical team already kind of doing a lot of the footwork here but to complete a project successfully remove all of the possible sticking points and delays and ultimate like stopping or deconstruction of a project down

[00:35:14] the road you really want to include procurement teams from the start to the finish legal teams from start to finish financial and management and having their buy-in and them understand what this is from day one is hugely impactful when they actually are needed a little bit later on so So let's get back over to phase two, being this already, the release of your RFQ would be the initiation of phase two.

[00:35:39] It does go out to all ESCOs and then your RFP that would follow that does need at least five respondents to be invited to the project fully. You would establish a kickoff meeting where you're going to transfer all that baseline information, understanding your facilities, layouts, everything you can give.

[00:35:57] And ESCOs would take that and digest it to understand where you are now. They would then follow through with walkthroughs and some audits. They're going to have engineering resources deployed to your back of envelope buildings. This is not going to be your full portfolio. This is going to be a sample size of your portfolio.

[00:36:14] So you have lots of schools. So you might pick, like, one school of each grade classification, right, and maybe an admin building. If you deemed less need than that, then you do so, and we would help you through the process understand and help figure out those buildings.

[00:36:31] the audits. The ESCOs themselves would sequester away from you for a little bit, probably submit some questions that you would answer for them to understand something that they may not have full clarity on, but ultimately they'd probably have about 30 to 60 days and then they would submit a digital proposal to you with what they think they can do. This would be quite in-depth, but they're gonna explain the energy conservation measures that they would put into your buildings and then the amount of savings they would do, a full project kind of understanding with a simplified financial model your team would score that invite the top candidates to oral presentations they would then come and

[00:37:09] you would meet some of the core members of their team you understand who they are what they can bring to the table fully their expertise you would grade those presentations as well and that way you'd bring all that information from RFQ to project oral presentations scoring information pick the best partner for you move forward and go to the MOU the MOU is a linchpin document in this process everything you've done prior to the MOU has no program cost the only thing it would cost you is your employee time doing all this paperwork

[00:37:47] and meetings go forward and actually progress demo you the first stipulated line item is gonna be that has a cost it's gonna be the IGA the investment great audit fee. This fee normally falls between five to 15 cents a square foot of space being audited. That's not the only thing though you'll be negotiating in the MOU. It's going to have the entirety of your project in all of its markups, components, you know, general terms and conditions, construction costs, labor, maintenance, everything. It's going to be negotiated in that, hashed out.

[00:38:22] Once both sides feel comfortable, it'd be executed. At that point, you as a public body would then have agreed to the IGA fee. If you were to back out of the process, you would pay the fee in full. If you moved forward all the way to the end and actually executed a contract, the fee normally is reduced and then rolled into the project. I can't guarantee what the reduction will be. It's completely dependent on the ESCO and your negotiations with them, but we normally see about 50% reduction. But scooting back up before we get to the execution of contract, once you

[00:39:00] execute your MOU, you'll move into the investment grade audit. This will last anywhere from 30 to 150 days. They're going to go through and exhaustively analyze all the facilities you instruct them to do so, to find every single measure that they could possibly work on. They would then take all that information, attenuate it, and present it as a final project package.

[00:39:26] You would then meet with them, determine your finalized scope. Once you've agreed, once your you know procurement teams and legal teams have reviewed all the documents done all of your negotiating and editing you could execute that regarding the IGA fee is there a time period that's got to be executed so once that's known do we have 90 days 60 days 120 days your memorandum of understanding usually you'll sign it for a year a year okay and if the if for some reason a year passes or you're getting close to that time you could do it like an amendment and extend it

[00:40:01] If you're so unsure of your scope or you need more time for some reason, you could extend. So expiring does not necessarily mean you are then forced to pay. Do the existing facility condition assessments that would be in hand, do they become the negotiating tool against the IGA?

[00:40:24] Because it seems like it's all about the baseline. The great part is you as the public body, everything's negotiable before it goes in. So from your stance you'd be looking at from the baseline compared to what they're gonna do and Generally speaking, they're gonna be doing the same thing looking at where they can get you from where you are Does that answer your question? I think so, but it's it's also the baseline if the Baseline is lower than they have more room to run and so they're gonna optimize their Their financials on that, but if the baseline is higher than they have less room to run So they're not going to really optimize that way

[00:41:04] So in my head, they're gonna actually try and drop down the baseline whereas the FCA's our FCA's could actually demonstrate It's not actually as bad as they might find that's fair I don't tend to see that as a problem like them Skewing the data to find additional things because ultimately if they skew the data and then it fails They're on the hook and they have to rectify that situation through to you so they're not incentivized to Skew data or make up data points that would cause that kind of issue

[00:41:35] So once you are ready to move to final contract execution there is a review process a lot of what's here is for state agencies You being a public body you get to skip a lot of the awful horrible wait time that is known as review our department does request that we do a review of your project to make sure it's in line with everything and To top on top just kind of add on top of that because I don't think I've hit on it yet

[00:42:07] Our agency is available to you as a resource for the entire duration of your project from day 1 to year 20, day 365, at no cost, in a comprehensive fashion. If you don't know or can't understand everything that means, it means everything you possibly could imagine it could mean.

[00:42:31] We'll do everything we can to help you progress through a project and make sure you're doing it in the best way possible. May I ask a question? Sure. Just very briefly talk about the history of the Virginia Energy Program like how many years does it exist? Yeah, sure. What you mentioned there's 375 projects and 40 in queue, but Over what span of years and what's the dollar value? Is it a million dollars a billion dollars?

[00:42:57] Like what's it like? And is there a typical project value? Yeah, I can speak to all those the project Excuse me the program began in 2002. So we've been operational for 24 years We've currently are the third largest ESPC program at a state level in the country We have operated about one point three to one point four billion dollars in projects and the average project size Specifically, I'll talk more to like a school district would be probably one to five million per phase We have a lot of school districts that do facial projects and they'll do consecutive over time

[00:43:34] I think the longest is like 16 phases right now and are there you had mentioned a hundred school divisions in Virginia use this or have used it and I think there's something around 175 school divisions total so it's the majority yeah alright can you talk about like like Loudoun Prince William kind of like Northern Virginia school divisions any projects of significance that we might want to pay attention to yeah actually both of the ones you mentioned have recently executed a new ESBC contract

[00:44:09] Loudoun County was in 2025 and Prince William County was, excuse me, Loudoun was early 2025 and Prince William County was in late 2025 as well. And both of them are phasional users. I think Loudoun County is our largest phasional user.

[00:44:27] They might be closer to Virginia Beach Public Schools though. But to speak more to Loudoun, I think they're on phase 15 or 16. They're very successful. and as each phase one school or phases multiple schools a phase can be any size of scope that you as the using agency kind of agree to it be I think the average for school districts is like two to one to three schools like sometimes it is just one school but often it's not it's two or three schools all bundled together and that blue that goes kind of to a holistic approach the

[00:45:03] more you can bundle into one project the better chance of you attenuating more scope overall because sometimes in your case you're running this most likely where your technical team's done a great job of modernizing the buildings over time as you grow and so there will be schools that may have need but all their easily accessible savings have already been converted to the most efficient mechanisms and so they may use those less efficient schools to purchase

[00:45:34] something large that that other school may need I just have a question as I'm just browsing around the website if it's federal funding the main source of funding for this program yeah not necessarily no because I just get nervous when I see that a lot of it is formula or block grant funded or discretionary because I don't know how reliable it is to trust that the federal money will continue to be there is there can you speak to you know have there been decreases in federal levels are they anticipated the only federal funding

[00:46:12] we generally see infusing these projects that are not or that should I say that our state level are usually it's those tax incentive paybacks like the ITAC in the recent years but that funding is kind of set aside to begin with and it fades away as time goes we've already hit some of the mile markers on it Mr. Gordon would you anticipate that you'd rely on federal grants or anything for this or would it just be part of the running costs of Operating buildings. I'm not anticipating any federal grants. So I think it's either We're making a decision as a division. We're using, you know, capital dollars or we're looking at finding a partner

[00:46:50] That's gonna front the money and that we'll get, you know, somehow get permission from the county board supervisors to do a loan Does the agreement have to be executed by the ultimate financial? owner of the bond of the capital funds like which is that the supervisors or is it the school division who ultimately gets to agree to do this I would leave that decision up to the whoever the using agency is to ensure that the proper execution authority is the one signing the documentation so ma'am I think it's the path of the fund source so I think if we were going to determine

[00:47:28] we're going to use capital dollars that's really you know dr. Reed if we were gonna go for a loan to a partner that's gonna in my mind is gonna lie with the Board of Supervisors because this really goes against the bond rating as we talked about earlier whether legally does in the state statute but its practicality is gonna go against the bond right I think it would be important to really understand that you

know who has authority what's preferred those are two different things so yeah yeah that's a important opponent why we say in phase one setting up that core tenant team and understanding like in this kind of scenario who exactly we need to be that

[00:48:07] signature authority. When I said Dr. Reed I meant the school you know obviously could go up through the board. And in my understanding and you know we can I don't know if we'll answer this today but there's a variety of third parties that offer financing that are banks and other things and so I don't know if that's I don't know if all of them have the characteristic of a bond it might be like a loan right and I just don't know I'm not division counsel so I'm not gonna say that a loan requires you know it kind of like buy now pay later right

[00:48:43] that's essentially a loan to individual consumers and and if I bought my HVAC which I did a couple years ago I financed it right so so is that something that requires board of supervisors approval maybe but I think it also depends on the character in the amount if it's a million dollars it's probably not so significant but I think we'd have to get maybe Lee Burden and John Foster to consult on on that question about the timetable for all these steps

[00:49:17] phases do you have that yeah certainly I mentioned earlier phase one is extremely variable phase two you could get done in like the average is usually gonna be a three months three to six months for did you through phase two phase three again is quite variable dependent on the client and how organized they are when they enter into it the IGA itself usually is going to last two to four months itself and so following that you're gonna run into the negotiation period from you and them to understand where you want to end up in

[00:49:53] your final scope and contract we've seen users go through that portion very very quickly like just a couple weeks but we've also seen other ones get kind lost in it for several months so if you're quite organized which apparently you quite are already you could probably move once you hit phase two three four months phase three go through it in probably five months so at that point we're looking at like a year or less nine months to a year to go through the process and that's something we would go way over your team more in depth as

[00:50:33] they were to go through the process we'd help advise them individual step by step so to answer your question. Wonderful. Just to get through the end of it here, after you execute the contract, you'd go into construction. The contractor would have given you the entire project management schedule. They'd meet with you, you know, probably weekly or bi-weekly, give you several weeks of what's coming up ahead, go over everything, single daily item that they would do. And when they

[00:51:06] finish that, the first day after of the month, after substantial completion, measurement of initiates. Measure verification is mandatory for the entire duration of your project. Measurement of verification does have a cost. So when you utilize the program, this is a permanent cost that you will have to pay into your project.

[00:51:26] So you have to understand the larger the scope, the more costly this will likely to be. On the right hand side you can see the four measurement of verification options with a brief understanding of how they operate. This is an international protocol and is quite detailed in its effect. Every year in an annual reconciliation meeting your partner will meet with you and go over the details of all of your savings generation and how they met up with the model guaranteed. Of course as mentioned before if it fails it will be liable for

[00:52:05] the rectification of that situation. Additionally our agency offers access to the eProjectBuilder eProject Express platform that is a platform developed by the Lawrence Berkeley National Laboratory specifically for the data capture and storage and analyzation of measurement verification this is a platform that allows you to more easily digest that information and we help you access that system and store the information over time following that here is just some summary of the program in general go over it is a

[00:52:43] truncated procurement process you don't need to go out through the entirety of a normalized procurement you can go through that procurement in just a few months you know three months pretty fast all the contractors are pre-qualified and scrutinized continuously by our agency as well as the DGS Department of the state you would you have access to their detailed audits from the early stages again at no cost they're coming to bid on your project through these audits we've assembled a step-by-step five project progression pathway for each user to not move in mystery as they wander through this project all backed by our performance guarantees so you know once

[00:53:21] you sign the line here that's the savings you're going to generate for the next X years and of course our agency will comprehensively support you in every possible way through each step on the right hand side you can see all the components of the Code of Virginia that directly apply to this program any final questions would your organization be involved in contract review as well so we do not submit any scoring or any points or considered a part of your scoring committee but if you had just the actual contract because I'm sure

[00:54:01] there's plenty that you've seen and there's do's and don'ts yes we'd help you review contracts and all the documents as you move through yeah well thank you so much I really appreciate you coming and speaking to us today and sharing this valuable information and again there will be more school board members and staff and I'm sure folks from SCPS as well watching this presentation online and we'll definitely can look forward to a continued partnership with you thank you so much for coming in person we really appreciate it thank you for inviting me it's great to talk to you all today and have a

[00:54:36] great day thank you thank you okay we'll go ahead and get started again so do you

[00:58:07] mind introducing yourself and just make sure to turn on the microphone yes there we go very good thank you welcome for having us you may want to bring the microphone a little closer yes all right tonight with me I'm rod fry with Gilbert architects and we have Greg Guniski from ModLogic as well as Brianna Blackaby who's also with Gilbert architects so thank you for having us and

[00:58:42] we want to talk about volumetric or a quote non-traditional way of putting together school facilities for you folks. So I'm technologically challenged so if I go back and forth I apologize but you'll notice that I handed out airplanes so we're going to use a metaphor as we as we go through today's presentation and basically I want to say you know stop building planes on

[00:59:10] tarmacs. Do we build planes on tarmacs? Not necessarily. So anyhow as I said I'm rod fry one of the principals at Gilbert architects and has many many years of architectural experience and some of that is strongly in permanent off-site construction I'm gonna let the other team members introduce themselves sure I'm Greg Onisky with mod logic out of Pennsylvania we work with Gilbert

[00:59:45] architects since 2006 building schools together so we didn't just meet in the parking lot and I think you'll learn that as we go through our presentation today so happy to be here yeah and I'm Brianna Blackaby I'm an architect and project manager with Gilbert all right what we're going to talk about what is

it what is modular construction as some people say or as we refer to it as volumetric construction we're gonna walk through a business case give you an example of something this is one of mine you know did you ever watch the the cable show Mythbusters with guys are out in the desert blowing things up we're

[01:00:24] not blowing any things up but we do want to you know break some of the myths myths that come around this type of construction methodology and then last of all how it all works how it works with you guys as part of the team and so forth so let's build a plane you guys can build these if you want you can take them home for your children you can throw them in the trash it's just kind of like I said a little metaphor would we be building a school or an airplane on the tarmac with the planes coming and going. You know you have the snow one day,

[01:00:59] you have the nor'easters another day, and then of course all of the travelers coming and going in and out. Preferably you build your your school or airplane in an enclosed facility, climate-controlled, doesn't have the weather to get into, you know, into the way and all that, so on. So I'm not sure how long this this is actually an example a time-lapse of a project one of my pet projects but it was for the University of Maryland Baltimore County where they

[01:01:34] needed a wellness center and it needed to be constructed within that small area looks out over the the Cummins green area and so forth and the dorms that are behind it are for what I want to say masters program students and stuff and And they were actually in the building while this was being set and the big thing was keep it quiet, keep it clean because the students are still here studying.

[01:02:03] We want to talk about public school systems as well. So here you can see some of the things going through. The building is actually being built within the ModLogic facility, but while that's being built, the structure to actually support these units is being done and the site work is being done simultaneously.

[01:02:24] right out of it so it can be done in parallel essentially you're building the school rather than foundation and then stick building up or rather than doing phased renovation as we currently do you're creating both at the same time achieving time savings that's correct and does that also achieve cost savings it does it does we'll get into that in a little more detail but yes to your point Matteo it does short because you have a shortened construction period you don't have people and and what I see from there you built it all together but then you took it apart like Lego bricks and then you just put it on trucks to

[01:03:01] reassemble on site like Lego bricks under what I understand is can just a couple weeks you can build a whole school because you're just stacking it all together and and you know connecting the different pipes or HVAC together that is correct that is correct and I see no concrete block in any of that so that's a higher quality build than I guess a concrete block building yes these are all I don't want to steal Greg's thunder but they're all steel structures the units themselves the modules themselves are all steel structural

[01:03:35] steel they're structurally stable within their own component we do have we do end up with some concrete block or cement block in the structures stair towers potentially elevator shafts and so forth but typically that is not a built-in product that that's used for this type of construction so you got a little taste of what's different with off-site construction versus traditional on-site construction I'm gonna let Greg expand on the perception of sure yeah this is the perception of modular and this is a big part of the industry is you know

[01:04:14] kind of like the trailer modulars and it's a big part right 80% of the industry you probably use portables relocatables they're sometimes called you know on-call trailers is where I got speech therapy in the third grade out at the school parking lot to learn how to say my R is right but in fact you know we're building a little bit differently as Rod showed you know this is the the final picture that you'll see in a moment here from UMBC so that options are really limitless on the facade but this was a hundred percent built at the factory reinstalled within three days it was set and then it was finished up over

[01:04:51] the summer for before the students to arrive in in August for 24,000 square foot two-story building so we'll talk a little bit how it works in the process which really as you mentioned is pretty simple here the three phases right the off-site construction and then we're basically deconstructing it shipping it and reassemble it so we'll talk through that they're built off-site in a controlled environment steel concrete we'll go into that and a little bit on the makeup of the buildings but it's the same systems that you do typically use we ship our modules then in the second phase on double drop deck trailers with

[01:05:29] air ride suspension so the modules are the center of mass going down the road to the location and once they arrive on site you know we do extensive route surveys prior to shipment really even prior to design or early in design where we'll look and say okay where's the excess roads where's the lay down area is it feasible to do a modular project at the at the location that we're we're working towards and feel free to interrupt me as they go if you have questions that come up everyone and then the buildings reassembled so it's been built it's been tested it's been shipped and it's reassembled its final site so

[01:06:07] through you know as I mentioned we work together a lot and this is a is a great example really here of the design on the left which is Gilbert's design of UMBC of the first floor and then our modular overlay on the right side where we're taking that layout your design your program your ed spec we're breaking that building into shippable modular units so that we're burying columns within our modular system in the adjacent wall so that it's a clear span condition we're looking at monumental stairs at the center core where there's restrooms so that we can do all those you know critical items within one shippable

[01:06:43] module so that for areas like restrooms we can do tile grout fixtures partitions mirrors on the wall all the way down to the soap dispensers and other items that's their design assist it's really a conventional approach to modular off-site constructions we like to call it off-site construction because this is generally how you'd build conventionally we use W steel members floor assemblies similar roof assemblies tube steel going up the second floor and then we actually pour concrete floors at the factory just as you would traditionally except for

[01:07:20] there's poor stop at the mate line breakpoint areas and that's scarified so that it's easily flashed on site this is just a very early stage post-immune construction with light gauge framing very traditional materials going through that same project it's framing stage and then you can see the the interior fit out all the duct work sprinkler systems light fixtures are installed at the factory and tested what you see in the middle there is a 1200 square foot room for a gathering space and we have some temporary columns there that'll come out after the building is set that helps protect the concrete during

[01:07:56] transportation but it's finished all the way down to tape spackle paint glazings installed at the factory ceilings installed at the factory and then once you're in the building it looks feels acts and really because it is built in a conventional manner I'm gonna skip through that again one yeah and we could yeah we could skip through that it does show the set so this was a this was a open book guaranteed maximum

price was an RFP through the state of Maryland awarded on best value for the project so waiting turn was construction

[01:08:36] manager I was 18 month design build guaranteed maximum price think around 17 million may know the exact number 17 to 18 million dollars that we had to really design within that budget produce within that time and give the university their specifications that they wanted in a building that you know blended in but also stood out on campus and there's something innovative as rod mentioned you know this is a busy bustling part of campus there's a pedestrian thoroughfare that goes right next to the building there's cafeteria next door there's dormitories it's really a busy part on UMBC's campus we were able to design in

[01:09:12] some two-story high-hat areas where where the front canopy is there a good job of bringing out the faux wood detail on the feature wall out front the canopied overhang modulars cantilevered over the over the first first floor but This was designed at nine months, built in the factory in five months, set, and then it was finished, as I mentioned, over the summer after it was set in two and a half days.

[01:09:39] All right, the business case for offsite construction. I'm going to give you three reasons why offsite construction makes more sense for schools, strictly from a business perspective. These three reasons are faster schedule, more cost predictability.

[01:09:57] As Greg had mentioned, it was open book the whole way through the process. So it was a check and balance. Unfortunately, I wasn't given free reign to design at will. But we had a good experience and reduced risk.

[01:10:13] Faster schedule. This is looking at a traditional construction schedule where you have your design and engineering. Then you go to your permits and approvals. Site development and foundation is the next step in your traditional construction. And then the building actually starts to come out of the ground.

[01:10:30] And then when that's all said and done, you have your site restoration. Looking at the off-site construction schedule, you still have your design engineering, permits and approvals. But what's interesting, as was mentioned earlier, the site development and foundation work is being done simultaneously as the building's actually being constructed off-site.

[01:10:52] Then the next step, where traditionally we still be building, constructing the building, we're actually installing it onto the site and restoring the site as we move. So the last block is the time savings in this type of construction.

[01:11:08] Traditional construction takes months to pull the building together. Offsite construction, it takes weeks. One of the interesting things with the UMBC project was the building was set itself within three days.

[01:11:24] Site work was continuing. Some of the other work that was done that we don't see in these images is they actually come in, patching and taping. don't even want to say patching but sealing up the floor joints and the wall joints and just putting all the materials back together that it's a seamless installation cost predictability great you want to talk about that one yeah so any guests you probably all know this back in napkin what what percent of construction projects exceed their budget it's close

[01:12:02] so 80 85 percent that's that was it you got it Melanie got it so how does that work with with offset construction right with offset construction especially if you have your manufacturer you know working in tandem through the design through the budgeting you're gonna see limited change orders so virtually a lot of projects we do we come out of it and there's no change orders right unless it's an owner driven change at the end but really you know we're maximizing the efficiency through the design we say low labor rates but we're in Lancaster

[01:12:41] County right it's Amish country it's a it's an area where there's a lot of skilled trades still there's a relative low cost of labor towards markets that are have higher prevailing labor rates so it's a lower relative cost of labor and a higher relative availability of later labor where we're at and we're located in Lancaster County I think strategically because we can ship to the tip of Maine down to the tip of Florida in a day from here we're about two and a half hours I made the drive just this afternoon so we do a lot of work in the area and then it's it's a safer it's a safer way to build it's a controlled environment you know when you're controlling student egress throughout a

[01:13:21] construction site I know that's that tends to be a challenge right and with off-site construction you're taking the whole building aspect that you can do volumetrically off-site out of mind deliveries parking for contractors I mean the list really goes on and on as it relates to that so reduced reduced wet risk as I kind of kind of talked about a lot of these items but reduce weather shorter schedule factory controls we have a factory approved process that we have with each state so it goes through redundant review not only with local HJ but also with the state authority so we handle that submittal with Gilbert

[01:14:00] where the drawings get reviewed and then we have a QA QC manual that we follow in the factory and it will also say like it's it's an open-door policy you all facilities folks anybody wants to come to the factory and do tours multiple tours throughout the build. We have an open door policy. UMBC was similar to that because they, you know, they act as their own AHJ. So they had certain hold points and check areas that they wanted to come see during construction. Great. Thanks, Greg. Myth busting. When it comes to myth busting, a lot of people, when you say modular, that's why I, you know, I'm trying to

[01:14:38] say this volumetric construction, not modular. It looks cheap. It's expensive. Maintenance is harder and there's procurement issues, problems with procurement. We're going to start with it looks cheap and I'm going to turn this over to Brianna to kind of talk us through how we as designers make it not look cheap. Absolutely. So earlier when we were talking about the reality versus what it isn't, I saw a bunch of faces scrunch when we said modular because you think of that particular type of building, right? But if you didn't know any better, I know we've kind

[01:15:17] of snuck some photos in earlier but would you say that this is a modular building what you're looking at right it looks traditional we can use anything that we want on the exterior if we know in advance we can have brick we can have anything you want and we can do anything from more traditional work to more modern work like the UMBC building and I've seen some very interesting things come through ModLogic since we've been working with them and angled facades in the whole nine so really it's traditional design with an architect and

[01:15:55] dreaming big for that and we can make it work as you're probably aware this is a new build so I'm going to let Brianna talk to you folks about this is an addition to a an existing 1940s elementary school in Redding Pennsylvania yeah so this one was interesting again we had to connect those two buildings

make sure everything came in flush and not wonky at the mate lines all that good stuff and really I can't tell where one starts and the other stops it just flows that easily between the two because it is traditional

[01:16:33] construction just kind of built differently in that Lego fashion one of the interesting things if I can add to this also this was in a very tight neighborhood this was a traditional neighborhood school in the Y missing municipality where literally I don't know how the trucks from the shop got into this site and set the buildings I mean there was literally room for two cars on the street if I may say everything I've read indicates two things one there's a lot less waste because you're building in a factory so

[01:17:09] you're building to certain dimensions and and so there's more planning and I don't know if Greg has thoughts on that but I've also read that it's a better quality build that you know the insulation all the aspects of it because it isn't a factory in controlled settings and you're you know you've got everyone trained working in that factory environment you're going to get a better quality work product so it's not just that it doesn't look cheap that's a negative you're saying it's the negative isn't true but I think it's the positive is it's actually a better quality school at the end of the day because then you're dealing with all steel right all around and and it fits

[01:17:45] tightly together and if it doesn't you've got a QC process in the factory to work things out rather than on-site where you might need to bring back skilled trades multiple times and you know that's expensive yeah no it's a good point and because we have to ship these down the road we have to add a lot of steel so that they're protected over the road with tile grout finishes it's very we're shipping very expensive you know finishes a lot of times and we need to make sure that they they arrive in good position and then to the quality aspect like we have subcontractor network in Lancaster County and it's a lot of the same subcontractors coming in to do the fit out time in time out again that have

[01:18:24] been vetted by us and and do this work all the time so you're you're dealing with the same quality and consistency on every prod project and we've vetted them out and intend to hire the same folks for each project and I do appreciate the you made earlier that an electrician plumber HVAC etc in Lancaster County is probably going to be cheaper than it is in Northern Virginia mm-hmm I just had a question I'm sure the answer is it's fine but I just can't help but think if it's built in a controlled environment that when it does get out into the elements how does it deal with the weather yeah so acclimation and things

[01:19:02] of that nature so when we're installing flooring that he's acclimated we still acclimate it right and a lot of you like your LBT plank it's more than these acclimate to be level right if it's on a shelf somewhere and they take it off may not be level if it's a true acclimation product like a like a hardwood flooring for example that would likely be site installed element but general finishes like drywall tape speckle paint will we will heat and cool the buildings just as you would conventionally on a temporary conditions basis at the factory so we'll pump air conditioning when it's 90 degrees and humid and when it's cold will we'll heat the building as well as do humidity control over the road and

[01:19:40] monitor so it's that quick question is there anything we should be thinking about or planning ahead of when it comes to permitting this type of work with our local agencies and on the back end to things like closing inspections and getting it final inspected sure yeah so with the local AHJ and Rod might want to weigh in as well but it's good to have that conversation and let them know hey we're thinking about doing a volumetric construction project now it's we've done a lot of projects through the state of Virginia so the state certainly is familiar with it was there part two to your question no have you

[01:20:16] actually done any work in Fairfax County and you know locally that's a great question and I looked it up we did a private school and I got to look at the name of it we did a private school in Fairfax County because I was wondering I wonder if it gets permitted once pinecrest school Annadale Virginia oh yeah so and that was probably some time ago we've been doing work for a while we've done several schools in Virginia I mean it would be great if we could get it permitted once right as a unit because that's one of our biggest

[01:20:50] time lags is the permitting we ran into some trouble getting permitting done for our modular bathrooms and Janice can speak to that yeah we were doing some auxiliary facilities restrooms on some of our high schools and I think because the local municipality had not really worked through some of that and needing like to understand who stamped the drawings and there's just some challenges we experienced trying to obtain the permit at our local level so just didn't know if you had any lessons learned or any advice or things that we should be thinking about as owners when we're going down this road where our local

[01:21:29] government might not be as familiar with this from a permitting standpoint yeah I don't know that specific experience or the factory that used some factories kind of do their own design I think in our case we're very much following a traditional design approach and submittal to the AHJ and in addition to the state program so we have a third party certifies our factory PFS Tico and they're a resource for you as well to connect the AHJ with and say hey this is the process this is the inspection process anything that permitting

[01:22:03] with with permitting one of the big things that I found is you know Fairfax County decides to go down this this road for this type of construction pull your team together early bring in your municipality and say this is what we're looking at do you have concerns do you have questions invite them to the table early so they're not saying oh you know there's 200 drawings that to look at what is this it's been very helpful to to get them on board so that they can actually learn as they're going through the whole process and makes the

[01:22:38] permitting a little less painful mm-hmm it should be an easier lift on them because you know the state modular program the state industrialized building program is really taking responsibility for the off-site work and so what we do with Gilbert is we gray out on the drawings what's going to the state versus what's conventionally and being reassembled on on-site as far as the scope of work goes as they know okay these items are being inspected after it arrives when the buildings put back together and that's within their purview and then we can talk about what the state does through PFS TECO and that review process that would be handled off-site and furthermore I know Maryland

[01:23:18] state agency is very happy with what we do and wants to go out on the road and talk about it so he could be a resource as well oh yes Kathy no question about warranties sure I think from the factory side it's kind of negotiable we typically offered a one-year standard warranty but your warranties on your materials like your mule hide you know brand roof for example or your train HVAC unit or whatever that looks like has a standard factory warranty right that they'd offer if it's a 25 year roof or 30 year roof that would still hold

[01:23:57] true same with the HVAC and it's specific to HVAC because I know that's that you know tends today the controller broke whatever control board typically we work with your local HVAC company to do the startup testing balancing fly in the rooftop unit to the to the startup so that you have your warranty

through your local local branch for on-call maintenance as well okay and I have a follow-up question actually it's completely separate what makes a good what makes a project a good fit or a better fit for this type of construction

[01:24:32] I mean we do a lot of K-12 we do a lot of government work you know what doesn't make a good fit as it relates to like k-12 gymnasiums cafeteriums big expansive open areas which is we might have some slides on it we can speak to it now is like those big expansive areas like you can't really modularize that you're not going to do a 45-foot clear span gymnasium for example and that's where the hybrid comes into play where some is being conventionally done so say you're you're laying up traditional block or insulated concrete forms for

[01:25:08] those larger expansive areas and then the classrooms the administrative areas make a great fit for off-site construction because the elevations are perfect for for how we build and the shipping limitations that we have over the road and there again it goes back to the simultaneous construction you know while the classroom let's just say the classroom units are being fabricated you know in the factory the gymnasium or the cafeteria larger volume spaces are coming up out of the ground to staff you know as they would traditionally but at the same time the rest of buildings being constructed so myth number two

[01:25:44] it's expensive probably the second most common comment we hear just to keep in mind it's fair looking at you know all the different information so the question you know that comes up is what does cheaper actually mean there's a hypothetical number that represents the overall initial cost up front. An off-site constructed project might be 5% more than a traditional build. Looking at

[01:26:20] a lower 15% overall though and where we're going with this is back to Mateo's comments about schedule. Construction cost is not just the tip, you know, it's not just the tip of the iceberg. What happens is you get into the actual cost of owning the building and operating the building after it's actually constructed it's the operations the energy the disruptions to the site for the construction change orders swing spaces I mean so many school systems that we work with was like we have no place to to send our children while we're

[01:26:56] renovating an existing facility so it's you know how do you you know build into your budget those swing spaces you're running the traditional modulars that they're stacking on the site and then that's taken up even more space maintenance you know the house the building maintained and so forth so that's where you know looking at the savings they come from precision everything's being put together in the in the factory and it's also being tested there you know Greg was saying you know like they'll put the fire protection system in everything it's all piped it's all pressure tested and everything

[01:27:33] that it could actually function in the factory as a as a building that would provide the exit requirement for folks to get out of a structure. Time, there again, going back to the simultaneous construction. And then the hidden cost.

[01:27:52] Well, time also. You get your building quicker, so that saves you in that time as well. And then the hidden cost. Can I ask just to clarify, so I see three scenarios, but just wanted to get your reaction and see if I'm missing anything.

[01:28:09] so three scenarios when you might want to use and I caught factory construction because you know I think you want to just for simplicity especially with the public you want to convey it's in the factory and we're building in the factory right volumetric I feel that's a math term and then modular I think you

just want to toss that out the door immediately because people think right I mean that's negative connotations yeah so so as we've been talking about off-site construction which isn't bad but off-site doesn't convey factory right off-site can just mean like down the road I think we've been using the term

[01:28:47] factory construction just for simplicity of conveying what what this is all about and I think we would continue to use that terminology just for again simplicity of clearly conveying what what we're talking about but I see new build obviously if we have a school that we want to build from scratch this might make sense not for the gym and the cafeteria as you mentioned but you know for most of it a second scenario I can see is if you have an existing school that it's just going to be too expensive to renovate and you might be

[01:29:23] able to do more cheaply as a new school you might just as in that photo you shared earlier you might have a separate part of empty land you build a brand new school on and then maybe you demolish the old one right once you're once you're done because it seems like a pretty quick process a year or so and then the third scenario I can see from what Brianna mentioned is you have an existing school but maybe for whatever reason you just want to demo half of it or some part of it and then do you know or you want to add on to it and you do a modular edition but you could also I guess demolish part of it if you think

[01:30:00] renovating those parts you know built different times you know there might be be asbestos or whatever might just be easier just to bulldoze half of it and then build up a modular section so those are the three scenarios you see or are there others that we should have in mind I'd like to say you've basically hit three large ones okay you know the significance from my opinion Greg it feel free to interject no that's that's really it I mean we do a lot of additions we do a lot of new builds right and I know Brianna could probably tell you what we're doing a cool spring right now which is kind of kind of unique in

[01:30:39] itself right I was gonna say option number two currently working on one of those projects where it's very tight site we've got an existing school that has to remain operational there's a lot of communities services that have to remain operational and so modular really became kind of the only way to do it is in front of the site on the corner we can build the on-site stuff and then come in and place really quickly and not have to worry about disrupting any of that activity on site and then they can come back and don't demolish that existing building and give back you know parking and play structures and things

[01:31:18] like that after the building is on site and occupied and all that good stuff so if we have a project where it's looking like it's going to be forever years and years before it's going to be completed this would be a speedier approach through one of these methods to actually get that done probably for 15% less and that's the 15% figure that's studies and your guys experience or can you how did you validate that 15% overall savings sure combination of everything but Greg if you want to help me out here that'd be great yeah I mean we we typically see

[01:31:57] it about cost-neutral at least in Prince George County Public Schools where Cool Springs is and I know that was their scenario was you know they it was inefficient to renovate Cool Spring because of the asbestos because of some of the issues from when that was built so that's exactly what they're doing I like to say it's about cost neutral but you do save general conditions you do have a lower relative cost of labor so it all kind of comes down into what do schools cost to build here right so that's maybe a general general what we

[01:32:30] see great maintenance is harder I'm gonna say it's not you're getting a traditional built building just in the factory one of the interesting things is we're using the same materials and methods the same

pipng the same valves the same Armstrong flooring or target flooring the same ceiling tiles from USG and so on it's all the same stuff that's being used during your traditional you know stick-built and it's what facilities folks are used to

[01:33:08] maintaining you know whether it's drywall that has you know a ceramic tile wainscote on it it's all things that are familiar and even going to the mechanical systems in the units I know the question was asked about warranties and so on we're using the same type of mechanical and electrical devices and equipment that are done in a traditional build so it's a system that the end users are familiar with and can maintain oops here we go additionally you're not

[01:33:46] getting proprietary systems it's not something that's coming right out of Greg's shop that they're the only ones that can do it these are typical standard systems that everybody's familiar with quality control inspections and testings well Greg kind of stole my thunder on this already so there is a third-party inspection the systems like I mentioned before are pressure tested and done before they're right before they actually leave the factory then they're put back together and test it again and there's quality control processes both

[01:34:20] at the factory and on-site and they go through all the various inspections by the governing agencies so again it's very similar sometimes it's even more scrutinized than your traditional stick built projects Cherokee Lane, again, just to kind of reiterate, the building itself is just under 96,000 square feet, 65, just under 65,000 square feet of that was the factory-built modules, 175 of those modules were put in place.

[01:34:58] And looking at the images that we've shared with Cherokee Lane, again, just want to reiterate, these are products and materials systems that your facilities folks are already familiar with. So it's not like we're giving them the golden egg that they have to polish daily.

[01:35:17] Millmont, this was our first factory-built project. Again, it's in Redding, Pennsylvania. It was a very tight site. What's interesting with this is you'll see on the front the sandstone color, and there's some little gargoyles sticking out of that.

[01:35:39] there was actually a remove and replace with this where they salvaged the gargoyles and then the neighborhood said we want a brick building so you can actually put standard brick as a veneer on to the modules once they're set we do not recommend putting standard brick on the modules as they're coming down the highway but again what's really interesting with this project we can definitely make make it available for for visits it's all but 20 years old it

[01:36:15] has a green roof in the center over some of the modules and down where the structure is it's actually a parking garage there was no there was not enough space on the site outside of the building to provide the required parking so there's actually a parking garage underneath for the facility for the faculty and staff to use procurement issues Greg okay so some of the ways to to procure modular different than what you traditionally probably have co-op

[01:36:50] person's agreements for for modular buildings and I'd say that is a route sometimes for smaller projects for larger projects typically what we see is a CMAR or design build being best because at that rate you know the the factory is doing the construction whether it's mod logic whether it's anyone can help guide the design and the architect that you select and the CM that you select the team is working on it

from the beginning we're like a design bid-build and sometimes there are procurement methods at least in the state of Maryland I know that are used for fast procurement for additions to

[01:37:28] small projects the one that we don't really do is a bid-build scenario where the design is done and it's kind of being mindful of the conventional approach and then you're trying to modularize it that rarely works there's kind of a an off-ramp point where you get so far in design that structurally it won't accommodate volumetric factory construction without a lot of redesign on his collaborative design process you know that's why Gilbert's here that's why you know my first call when I hear about a project is to bring the right

[01:38:04] designers to the table who've done it who understand it I've seen in the past where you know architects get it they want to do it they they don't want to do it though at the end of the day they think it's risky they think they're the first ones to do it they think their portfolio can't handle it and kind of get shied away from it because to them it's new obviously we've been doing it almost 20 years now with Gilbert here for k-12 because it when you were on from the beginning when the factory can be on board from the beginning you're gonna get a lot of efficiencies in the design and constructability and value in

[01:38:41] the in the pricing as well that goes into it so and to Rod's point about a tour I talked to Prince George's County my contact there today and he said October 9th he said he's planning a tour so if anyone wants to come and see how it's built and see how it's aged I think it's about six years old now since we since we landed those modules it probably started building them in 2018 or 2019 you know it's that's welcome to tour when the students aren't there happy to do that as well for you all the great boots thank you one of the great things with this type of

[01:39:18] of construction is strongly encouraged that all the stakeholders are brought to the table early what's interesting with the projects I've been involved in is it's collaborative and we have we want feedback from everybody from the beginning so the decisions can be made timely and we can move forward with the design that everybody's comfortable with these are two schools for Prince George's County as well the one Greg helped me out with I get a mixed up the

[01:39:50] the one that has the the the white ramp on it is Thomas Johnson got me the one on the left is 7,100 square foot single-story edition Thomas Johnson that's that's our factory being built right now you're welcome to tour that as well it's near completion actually it's complete and it's waiting on the site to be ready so oftentimes we can get started ahead of even a shovel and dirt So the buildings they're complete ready to be deployed as soon as that foundation's ready and that'll be set in that probably in a day

[01:40:30] The building on the right surrendering that's also under construction. It's a two-story addition To a I think a 1980 school if I'm not mistaken It's around 20,000 square feet, but they've designed it Gilbert designed both of these and they're both you know mirror the existing school one has a connecting corridor as you can see on the left side and then the two-story it is adjacent so there's a fire separation wall the corridors on the second floor in the first floor both just transfer perfectly we did a 3d pin point we call that a 3d point a cloud point scan to make sure everything no no the 3d point

[01:41:08] point cloud scan yeah well to see the existing elevations and make sure everything's plumb level and square once we get the building to site so that all in the second floor is is ideal we we do a lot of these multi-story editions and pretty critical that's also under construction near completion I think that's going to be set in December January when the site's ready for us okay maybe we can go tour it there in PG

County yes I would be a nice Sarah Sarah will follow up to an email to all the CPDC members and to the board

[01:41:44] generally to see if we can schedule time I think you said October 9th October 9th That's pretty soon. I looked at their school district calendar and sometime later, October as well, there's an in-service day or something of that nature.

[01:42:01] And then, of course, around Thanksgiving or Christmas break would be an opportunity if you want to put it out a little further. Cherokee Lane. Cherokee Lane Elementary School would be available to be toured. And since they built their first factory construction school in P.T. County, they've decided to build additional ones.

[01:42:21] they're on their fifth now yep and the fifth one would be the largest one they've done to date so obviously they had a positive experience they did and some of the other examples with reading like they did three or four schools as well so they identify sites you know I was in at Prince George County I don't know three years ago and they identified three sites that are great fits for off-site construction they don't do it all the time and quite frankly we don't have enough bandwidth to build all their schools but you know generally we build as many that makes sense to be constructed off-site. Just an example of

[01:42:57] Cherokee Lane at the factory with a wrap in the roof, the temporary roof, and then what it looks like once it's actually on site. So, you know, I apologize if there were any turbulence, but it's now time to land the plane, ba-da-boom. Sorry about the metaphor. Any questions or any answer, things we can, we're just glad you didn't crash and burn. Thank you I appreciate that. Do you gentlemen have

[01:43:33] questions? Please staff are encouraged. Thank you very much and this was a great discussion. Rod and I have had several conversations over the past six eight months probably about this very topic and ModLogic I was probably through your plants 20 years ago and I believe was in the brick in New Holland

[01:44:06] was just finishing up Wow when we got to tour that as well when I was working with another county in Maryland that was exploring the possibility a couple questions and thank you some of the questions were terrific so it takes a bunch of mine off of the the the plate here I know that local you know familiarity you know it's one of those it's when you're the first one through the wall you're always going to be bloody is I think the moneyball

[01:44:40] expression so it's the expectations going in if we were to go this route it's going to be new for land development services certainly as you referred to the struggles that we had just with the precast six toilet you know buildings for our for our stadiums so that will be a challenge a couple things Cub Run we're actually we're trying very few of our sites are large enough to build new next to the old building Cub Run was one of them and we

[01:45:17] were actually the feasibility study for that by the A&E firm is is starting to wrap up as to is it advantageous what would be the advantage to us both monetarily schedule wise one of the problems that we are encountering is LDS and a far issue they have still not really relented that you have two buildings on the site simultaneously therefore you have exceeded your far which I don't know if you've run into that in other they have a unique view I

[01:45:52] think on on some of the the topics relative to far even if it's temporary even if it's temporary and they just have not they have chosen to avoid the discussion I think is what the team is is experiencing right now do you mind sharing offline just in an email or otherwise like the names of the people who

you're dealing with so I can then do or I can yeah I don't the actual names of the individuals I can I can do just because we counties a lot of yeah so I just I need there's like what department division and I'm not asking for right

[01:46:30] now like on YouTube but just okay for later so then I can work with the board of supervisors because I they're not looking you know there's there's a bureaucratic tussle and it seems like they just need the appropriate guidance from on high so I can work to get that guidance it's the newness and the resistance I guess to newness yeah I think is often the thing I think we all know that that we'd be looking at a hybrid approach to construction you know if we go down this route with the gyms the cafeterias the library things like

[01:47:09] that that don't fit on a trailer yeah a little better okay sorry my apologies we are for a project right now we just got the school board permission to use the CMAR delivery method so this may be the first opportunity where we're going to have that conversation and bringing them on board to do also do a little bit of a feasibility with with the site is it the right is it the right mix and that

[01:47:47] leads me because it is a very tight site what's the number of floors that you can practically you know in a practical manner do we've done basis independent school in New York in Brooklyn that was I think it was seven five over two all right so you know we've done that you could you go hire cool spring is four stories correct then a living roof or three three three and then the living roof one is just I know there's not an answer yet but I know that we paid

[01:48:20] Davis basic and wage rates in Virginia and I don't know how the division of labor works relative to that with Lancaster County sure yeah and we do a lot of projects in New York City and government projects and historically currently we're not subject to pay local you know PLA labor rates at the factory level all the reconnections on site would be under that local labor

[01:48:53] rates the systems that are designed in the mechanical systems it sounds like there's a wide range and you can work with our master specs so our maintenance group seamlessly kind of goes into that since these are built kind of and spaced and modeled very early in the process is there a procurement issue relative to

[01:49:27] you know kind of lack of competition or naming a proprietary product for large dollar vat you know items like mechanical systems I haven't I haven't heard that there has been you know the specified system should be your specified system and I mean that's what we'd get quotes for I guess at the end of it you know that's almost like a bidding process that happens during design yes okay yeah yeah so what we do is as a manufacturer we operate very much like a general contractor would off-site where we'll send it out to bid

[01:50:05] say these are requirements for the system and then they'll kind of deliver their proposal based on those requirements for the MEP systems that are laid out right if it's copper pipe it's if it's a rooftop unit that does X Y and Then they'd price based on that and then we'd model it with the appropriate rooftop equipment That's going to be purchased for the project after construction contracts awarded. Thank you And I appreciate the you know the opportunity to ask a couple questions. My last question is almost like a Organizational question so during design my guess is mod logic or you know the the

[01:50:45] would be a sub consultant of the A&E firm is that that's correct yep and then as you switch over to construction my guess is when the CMAR or the designer and design builder when they give their

guaranteed maximum price that then your your contract kind of switches over to the CMAR or to the you know the design builder that's correct yeah okay so okay thank you I appreciate it yes just one curiosity if we were to do a big project during a very busy season what

[01:51:23] would we expect in terms of queuing time for the factory itself and development yeah so because we we build together so a lot of factory modular companies have an assembly line and they build the same thing every day right they send 12 by 60s down the line and they fit them out etc etc so they create a backlog of orders for trailers for trailer leasing companies right that'll buy hey I want to buy a hundred million dollars worth of product over next 12 months build them whenever you can that creates a backlog what we do is we build the buildings together we've eight and a half acres to build them on so once a projects in

[01:52:02] design and we say okay this is likely gonna go into construction then we kind of map out our plan there on those eight and a half acres and quite frankly like design on a larger project gives us enough ramp up time to secure production space frankly it's not necessarily secured until we have a construction contract but if we know that we're you know a part of the team a partner on the team and working on it then we'll secure space put a hold on space during design sorry is that enough acres is that the big fat the time-lapse we saw is so if

[01:52:39] that's that looks like one big space but that doesn't look like enough acres Do you have multiple warehouses that you build in? So we have one main warehouse where we three-dimensional our modules, right? And for smaller projects, up to three stories, we'll build inside the factory.

[01:52:57] And then for larger projects like Cherokee Lane, like Cool Spring, like maybe some of the projects you guys are talking about, we have eight and a half acres of controlled space exterior of our factory to assemble the building as well. I'm curious to learn if you've had any affordances or pros on like the long lead time items Have you gained anything there given the environment we're all in? Yeah, I mean we're we're in a similar place and

[01:53:32] Something with offset construction is like the whole schedule the whole procurement all shifts to the left as I mentioned We're we're building a building off the time for schools before shovels in the ground So we design like hey, we've identified these these items, right? Sometimes it's switch gears sometimes it's roofing like we go through the trough the same way everyone would and we procure per project like we don't just procure products and specify them in the building so we identify long lead items just like anyone would look to procure them early sometimes we'll get a long lead time contract in advance to procure them so that we're ready for them but we're

[01:54:10] moving pretty fast so sometimes it happens sooner than you traditionally otherwise would is there any any other like think think about any particular difficulties you've had with any especially K through 12 or educational buildings like what's what's the worst case issues you may have encountered and how have you resolved those like I'm just trying to think through any any questions we haven't asked but maybe you should be thinking about that might

[01:54:46] arise in the worst case scenario some of the items that kind of slow us down or like specifying you know low voltage systems more we're like hey we're ready to close in the walls what are you using again because we're we're so far to the left on the schedule than you're used to and then being ready to receive the building like it's it's happened I know Cherokee Lane we were we stored the building for like

three or four months before the before the site was ready so it's just conditioning the building you know during those three to four months and and waiting for the site to be ready so those are you really want to

[01:55:22] of identify that and have a in an ideal world that foundation is ready you know 30 days before ready to ship it so we can go survey the foundation make sure everything's level and ready to receive the building so it's you make decisions a lot sooner too so as an owner you have to realize like hey you know I'm picking paint colors before the shovel goes in the ground right because we're we're moving pretty fast and I think Sarah had shared like our ed specs or FCPS ed specs with you and you looked at those and didn't think there was an issue to meet those for any projects that might be now I mean if I can

[01:56:02] interject with that when we did the UMBC project first off it was my first university project and they said yeah here's our standards here's our specs this is what and it's like okay and you know it was it was a quick learn but we were able to take that information and plug it in to create the the building that they're now using so you know I don't want to trivialize it it's you know the ed specs are great we really like to work on the adjacencies make sure that you know the technologies you know the low voltage is in place you know daylighting

[01:56:38] you know for example was one of the big things that we hear especially in Maryland because new school new buildings new public buildings need to have LEED certifications I don't know if that's something that you folks would look at. We use green globes. Are you familiar with green globes? We are familiar with green globes. And so it's those challenges that, again, it's just educating the end users of what's available. And I think one of my biggest struggles was on the broader spectrum of basically educating

[01:57:15] the folks that were making the decisions when this is really a good, it's a safe, it's a sturdy project it's not cheap it's just getting everybody on board it's just a different way to to build something and there again just making the decisions and being collaborative at the beginning I mean you've designed and built both ways right in your career so I mean between the two which which is the better mousetrap oh wow I feel like I'm one of those sticky mousetraps now that I can't

[01:57:47] get either foot up now I think it's it's relevant to what the requirements are you know if it's a tight site you don't have a lot of lay down and you have a tight schedule definitely modular you know it's it's a lot of preference I find them both to be intriguing and challenging so I mean we did one a project it was in addition to an elementary school in Lower Marion School District which is suburban of Philadelphia where they were the original building was one story and

[01:58:26] it had it was all stone and it was the old stonemason laid stone and so on and they said okay we need four classrooms and the Historical Society is saying it has to match and we were actually able to once the modules were set once the units were set we were actually able to have stonemasons come in and put stone on that that it looked like it had been there forever so each one has their own intricacies and I think it's all based on what fits the the owners needs best but it seems like cost and time advantage benefits factory construction

[01:59:06] so sure yeah I'll just I'll just I'll just say it you know some some folks just aren't as forward-thinking and I know we've run into some challenges where well you know if you do that you know to Greg's point you know there is a savings because of doing work in Lancaster you're not subject to the wage rates in your local area some people like well now we're taking jobs away from folks and it's like no you're really not what was interesting is for

[01:59:42] the UMBC project the university actually had a mechanical contractor that was from the Baltimore area that came up to New Holland to do the installation so it's you know a whole bunch of different ways to to land the plane sorry all right well thank you so much for your time you've been really appreciate your presentation I'm sorry Melanie did you have something yes okay thank you thank you thank you appreciate it and I think I have some magic words

[02:00:17] to say to let's see the September 28 20 26 meeting of the Fairfax County County School Board CPDC is adjourned at 6:29 p.m. right on the dot. The next meeting of the Comprehensive Planning and Development Committee will be held on November 16, 2026 at 4:30 p.m.



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