**Lessons from the DBFM Trenches**

**David:** Good morning, and welcome to the morning session. My name is David Bostwick. I’m a justice planner with HDR Architecture in Dallas. This morning, I have with me David Clusiau and Joe Moro, who are with NORR Architects, based in Toronto, Canada. They’re here to talk to us about Design-Build-Finance-Maintain and some of their experiences pursuing those types of work in Canada.

Both David and Joe have a lot of experience with justice work. In fact, last night, they received a citation for the Waterloo Regional Consolidated Courthouse. Congratulations on that.

Without further ado, I’m going to turn it over to David and Joe.

**David:** Thank you. Before I get going, I always try to ask a couple questions about the audience. Is there anybody here who is a client who’s thinking about doing DBFM projects as a delivery process? There’s a couple. The other question would be: how many people have been involved in a DBFM? Put your hand down if that experience is all Canadian. There’s one.

This segues into my comment about the cover of the title slide for everybody’s presentation and how we’re all in canoes here. I don’t know if you know that one of the defining characteristics of a Canadian is that they can make love in canoe. I think it was Pierre Berton who said that. I’m not sure I qualify as a Canadian based on that criteria.

But I did think that this slide, in my opinion, didn’t really accurately represent the DBFM – or for that matter, most P3 processes – because you’ll notice the architect and the contractor aren’t in the same canoe, and the owner doesn’t have an architect in his canoe. We had a different idea about what kind of boat a P3 really should be. At the end of my part, I have another vision for what kind of water transport really represents a P3 pursuit.

In the brochure, in terms of our expertise, what we bring is we have done about seven justice-related pursuits, and of those, we’ve won five. We have a pretty good ratio, at least in the justice sector.

We have done some other pursuits beyond the justice field, and our overall ratio is running at about 66% win, so that means somebody is losing more. This is a painful process to lose in. I think Michael was saying the other day in his presentation that you need to win a third of these if you’re going to stay in business.

We are actually a lanyard company internationally.

We have divided the presentation into two phases. One is the pursuit phase. I’ll talk to that, and Joe’s going to pick up on what happens after you’ve won and some of the experiences that we’ve had and what we’ve gained in the way of knowledge.

Before I launch into that, I want to go over some terminology. I have a tendency to fall back into the terminology that we use in Canada, or at least in Ontario, and it may be a little opaque to somebody else if I’m rattling along pretty quickly.

Essentially, there is a lot of terminology for this process. I’ve seen PPP, P3, PFI, AFP, and the specific version that we’re talking about here is Design-Build-Finance-Maintain. All of those acronyms are really about an alternate procurement model, typically for public infrastructure. Of course, the big thing is that you’re transferring from potentially the public delivery process. All the design, build, financing, and maintenance gets transferred onto the private sector. So when I say DBFM, that’s really what I’m talking about.

PSOS is a part of the RFP that comes out. It is the section that delivers all of the description of the building that you are supposed to deliver. While you get an RFP that defines the process and some of the legal agreements and whatnot, there’s a portion of it that describes what you as the pursuit architect are concerned with. We call it the Project-Specific Output Specifications (PSOS). It’s pretty important to understand that or you’ll be very confused.

PDC is another term we talk about, although not too much in this presentation. That’s the Planning Design and Compliance. This concerns the other architecture group that’s involved in this process, because it’s really split into two.

Why does anybody do this process? There are a bunch of reasons. If you’ve been to these presentations, this is going to be old hat. It’s really about transferring the risk of cost increases and schedule delays typically associated with a traditional project delivery.

The slide in the top left corner is an analysis that the government does after they run a project of this type in Ontario, where they essentially try to quantify that savings. They evaluated the cost of Waterloo Courthouse in this case as, “If we had done it the regular way, it would have been a $304 million project.” In some manner, they have been able to provide a value for the risk that’s associated with the owner for that traditional Design-Bid-Build method of delivery. They’ve created a number: $235 million. I don’t know how they do that, but there is a formula that they use to analyze it. I think Deloitte Touche or some other organization comes up with that.

This is what happened. In this case, the actual hard costs that the government is paying is quite a bit higher, but the risk that remains in their hands for this process is a much smaller number, and there is this delta, which is what they call the value for money for having done this. They have done this analysis where they say, yes, not only is it transferring that risk, but the risk is quantifiable, and they see a savings in it.

I can’t argue for this or not, because I just don’t understand it, but this is one of the arguments that’s made within another forum. The people who advocate for this do this.

I think there are two other things that also drive this. They’re not spoken about so much. One is the process of funding that the government typically goes through. The flow of money is not always guaranteed on these projects, so this is a method where the money is determined. You get to a certain point, and it’s a go. There’s no issue of flow, as you’ll see later.

The other thing is that there is a challenge, at least in the Ontario circumstance – I think it’s typical of government processes – where the government organization responsible for trying to deliver the facility has to try to manage a group of users, and there’s a challenge with one government organization trying to herd another one.

This is another reason why I think this method is going to stay with us – even if we have challenges as architects with it – as it really helps the government deliver the process and deliver their projects. The other thing is that in Ontario, it’s really the only show. If you want to do infrastructure of any significance – build big buildings – this is the delivery method that’s on the table.

There are some other advantages that are used to sell it. This chart is from one of these P3 conferences where they show how you transfer more and more things over to the private sector. You go to a Design-Build competition and you’re getting multiple designs, and of course, you’re supposedly getting extra innovation from each individual submission. As you add in Maintain to the private pursuit, then the aspects associated with that issue of maintenance start to get folded in, because you want to be innovative in providing an overall package, and you are now responsible for some maintenance of that building over time.

Similarly, with operations. That starts getting into life-cycle costing savings, and then there’s financing, where eventually in some – we’ve never done one – the ownership is retained by the private company beyond the 30-year period. But in theory, even with the risk that the government may not need that building after 30 years, if the ownership was retained by the private organization, they would suddenly have that risk that the tenant would disappear and they would have to find somebody else to lease the building. So in theory, you can keep this going even beyond just Design-Build-Finance-Maintain.

The fundamental aspect of this, though, is the real deliveries focused on time and cost. The model is all about managing schedule and cost. Quality is not an inherent driver of the way that this model is built. If you want quality within the product that you’re producing out of this process, you have to embed it another manner within the process, rather than the inherent structure of DBFM. You have to insert it elsewhere.

It’s done. I think it’s been successfully done in the Ontario market through the IEO model, but it’s not fundamental to the system. Certainly, I don’t think any of us are interested in being involved in projects where architectural quality and quality design excellence isn’t part of it.

Just to get a little bit further into explaining an AFP project, for those people who aren’t familiar, the public sector agency, which might be the Ministry of Attorney General – in Ontario, it’s Infrastructure Ontario, which is the specific ministry responsible for delivering the projects, and their client is actually the Ministry of Attorney General in this case – contracts with a selected winner of this process (the pursuit phase), who sets up a specific company that owns the building or is responsible for the delivery of it. They don’t pay any money until the building is built, and then they start paying a lease payment over the 30 years.

This company has to build the building, finance it, and maintain it – so of course, they have to finance the construction. They end up going out and having a long-term equity partner who helps them pay for the architects during that process, and stuff like that. They also, of course, go out and get a design and construction team to deliver the product, and they have to get a facility management group. These are all people who start building this team.

Just to get into that team a little bit more, the relationship with the client is obviously a little more complicated. You are now part of a risk adventure, so as the architect, you are integrating with the contractor in a team, and in the end, you’re sharing some of that risk.

Just to compare that to the traditional, I think there’s some value in understanding the impact of the realignment of the structure. The architect is in an immediate relationship with the client-owner, and his fellow consultants are typically working with him pretty directly.

As we go to a simple Design-Build, of course, a general contractor comes in in between you and the owner-client. It’s a little more complicated in terms of that information. As well, typically the MNE sub-trades become the direct report for the mechanical and electrical. They have a more intimate relationship, and your relationship to those traditional sub-trades is a little more complicated, as well.

When you get into a Design-Build-Finance-Maintain scenario, of course, there’s this Project Co., which is another layer. Sometimes the general contractor flows into that. You get into, essentially, a more and more distant in your relationship to the owner.

This model shows an actual diagram for a particular project that we’ve done. Here’s the user way up here, and here’s the architect and some of the subs down here. You can see that the relationship and, obviously, the communications are a little more elaborate.

In order to make this work, there is a compliance architect role that’s created here in order to extract the information that’s necessary to produce a building, so you end up actually having an architect-architect relationship, instead of just a client-architect relationship.

That compliance architect has the contract directly with the user, while the pursuit architect has the contractor as a client. The compliance architect creates this PSOS, the pursuit documents. The pursuit architect is governed by those pursuit documents.

I would argue that the compliance architect has an opportunity – and I would say a fundamental obligation – to embed design quality as a requirement within that project-specific output spec. If they do not have it, then it’s really a challenge for the pursuit architect, given that his strategy grows out of the PSOS and the team strategy that’s developed around that.

Of course, the compliance architect has this role of review, feedback, and adjudication of the submissions and is an advisor to the owner throughout the whole build process, while the pursuit architect, the one who develops and presents the design submissions, is the architect of record.

In terms of design authorship, this is a little more ambiguous thing. You might assume that it’s the pursuit architect, but that really is determined by the degree of development of the PSOS. In some cases, that PSOS goes all the way to something like a bridging document, where there is a scheme on the table that gets executed by the pursuit architect.

For the most part in the courthouse pursuits that we’ve been doing, there is no even illustrative scheme. It’s essentially just a written document. You would argue that the pursuit architect in that case is essentially the same as the design architect. But you can see that in some cases that it’s quite blurry.

If you’re interested in pursuing these ones, the first thing is that you have to get invited to the party, because only three teams end up as a pursuit architect pursuing the project. The first thing in terms of establishing yourself on one of these teams is that you really have to look forward and see these opportunities before they really come on the street, because typically, the contracting teams are formed much in advance, and if you want to be on one of them, you almost have to be on a team before it comes out on the street.

The other thing is, in order to get on that, we’re not selling ourselves to a potential client now, we’re selling ourselves to a developer, and somehow their interests and contractors are a little different.

The other thing is that not all the contractors are completely familiar with this process, either. It’s relatively new in some markets. A situation can arise where if you really want to win and be one of those three shortlisted, you really have to step up and take over the submission of that prequalification, because the contractor, in some cases, is not up to it.

In Ontario, it’s a pretty mature market because we’ve been doing it for a while, and there are really two contractors who win the majority of the work, and then the third position on the team typically rotates through a third tier team.

Regardless, when these contractors are looking for a participant on the team, they are typically looking for the firms that have the key subject expertise – you are the courthouse expert in that area – and ideally, you have had experience in P3, and ideally you’ve had an ideal win record. You don’t want to hire somebody who’s losing a lot.

It’s not simply necessarily just a single architect. The buildings are complicated enough that it seems that with a lot of these teams, you’re ending up with a multi-headed consultant organization in order to deliver all of the requirements that the PSOS seems to require.

Sometimes the prequalification even sets obligations to pull together a team that’s maybe not completely necessary to do the pursuit, but in order to get onto a team, you have to hit some checkmarks on the prequalification process. You need a super-team.

That’s to get on the prequalification. I think that as a I get into explaining the actual process, for those who aren’t familiar with it, that need for the top-notch team – the best individuals from each participant – becomes even more clear as you go through the whole pursuit phase.

The architect can’t win on their own, and you really are only as good as your weakest player. Given that’s Design-Build-Finance-Maintain, there are people who you don’t regularly interact with and may not know who the strongest players are in your area – for facility maintenance, for example – and they can become the key person who causes you to lose what was otherwise a winning scheme.

There’s a huge amount of risk. You don’t just have to choose the best developer. You have to evaluate everyone on that team and really ensure that they are the best that you can get for that particular project that you’re pursuing.

Now, we’re moving into the pursuit. This represents an example of the kind of documents we would be getting for a courthouse typically. That also represents how many documents you’re getting, so you’re having to absorb all of that and come back with a competition.

This pursuit is typically about six months. It involves multiple workshops where you’re actually interacting with the compliance architect and some of the key representatives from the client group. It’s incredibly intense. You have to put your best people on it, and they work full-time on it for six months, pretty much. It’s a collaborative environment where you’re working with all the other team members. The FM guys are all their, ideally in a dedicated war room-type environment for the exercise.

Typically, the contractor sets the win strategy that you’re working towards. He strikes an attitude in terms of how compliant he and his strategy will be towards this process. Even though the contractor and the developer are the key people in it, there’s no question that the architect is the leader of this pursuit process, because the understanding of all of the compliance processes and the voice to describe the scheme in these presentations is typically architect-led. There’s a real balance, and I wouldn’t say that the architect is necessarily a lowly figure within this process.

In terms of the quality of documents that we are experiencing within this, we have done a number of different pursuits in other sectors, and I would day the courthouse ones seemed to be the best documents that are coming.

I think that’s partly because the Ministry of Attorney General is one of the few repeat clients within this process. The other delivery processes are typically a little bit more of a one-off, like hospitals, which are actually doing it individually as opposed to the Ministry of Health.

I think that the ministry came into this process maybe a bit reluctantly, and to protect themselves because of their objective to deliver something of high quality, they really drove an idea of excellence in terms of general principles and embedding it in the actual requirements. They essentially set the compliance bar very high, because as you’ll see, the scoring is very sloped towards price, so you want to make sure that all the submissions achieve a certain amount of performance. Unfortunately, not all the pursuits have documents as good as the ministry’s.

Here’s an example of the addendums that were issued on a single RFP pursuit that we were involved in, and that illustrates the kind of hairy experience it could be when essentially the thing is not issued in a complete manner.

This is a big risk, and you have to analyze those documents as soon as you get them to try to pull out where the contradictions and inconsistencies are, because they can really bite you in the end if you don’t figure those out and get those RFIs out quickly, because you can be going down the wrong road – quite easily to a dead end – and can discover that there’s a contradiction in the documents that gets clarified in the process and you have wasted a huge amount of effort and the whole team has run down the wrong alley. The importance of clarity is incredible.

Another thing that happens in the pursuit phase is that the compliance architect has the desire – and I think the system has a desire – to essentially achieve three compliant schemes that are all potentially winners. That’s the objective, so they get the best price and they’re not concerned with which of the three wins.

In the process, you may have an innovative idea that requires some degree of modification of the documents. You’ll put in a confidential request to change something to allow this brilliant solution that’s seen as a win-win, and if it requires a change, typically they’ll say, “We’re not going to respond to that unless you make that non-confidential requirement,” and that enables them then to answer the same question for everybody.

You get these changes back – because this will inevitably happen – where you’re trying to forensically figure out, “Why is that change being made? This is changing something, and somebody has probably initiated this on one of the other teams. What is their big idea? We’re missing something. We have to figure it out.”

There’s a whole process of strategy and gaming that’s going on as to when you ask these questions. It’s an interesting process, but having been involved in a number of them, I would say it’s the most intense thing I’ve done since I was in architecture school. There’s no question that it is pretty exciting, and if we could get paid well for it, it would even be better.

The other thing that varies from jurisdiction to jurisdiction is the scoring. I’m going to go mainly through the Ontario one, but there are other places and they have different scoring. This is very particular, so I don’t know how applicable the scoring will be outside this area.

In Infrastructure Ontario, they started in the early days with 300 out of 1000 points in the evaluation process – and now, it has settled out closer to around 250 in the most consistent ones. There’s a number that they use for project management and construction facility management. They split it out, and eventually it comes down to about 25% These vary even now between pursuits. There’s a little tweaking. The financial submission – which is really the net present value, so you’re looking at the overall price when you take in that 30-year lease and everything – is about 50%.

The other thing that’s part of it is compliance. You have to achieve a certain number of those points in the design. Typically it’s about 70%, so that means that 175 of the 250 you have to get or else you’re non-compliant. If you’re non-compliant, you might not even get your honorarium, so all of this will be for naught. It has occurred – not with us, but we know other people.

When you look at that, that means that if you’re playing and you’re in the game, your minimum is 175. The maximum you can get is 250 points, which means that the variation between a scheme that’s just compliant and one that’s perfect is 7.5% of the total points there. That doesn’t seem like a lot out of 100 points percentage-wise for design as the differentiator.

But it’s actually less than that, because they have another aspect in terms of the way that they look at the financial price. They take the lowest price that’s given and they give them the full 500 points for the lowest price, and then for every percentage point that your price is higher than the low price, they take off 30 points.

If you’re working with a score of 1000 and you’re taking off 1% and everything was equal, that would only be 10 points. 30 points means it’s actually three times, so it means that the actual financial price is worth three times what you think it is in the initial analysis, so it’s worth 1500 points.

Design, actually, as a total number is only worth 12.5%. That means that the delta is only down to 3.7% for the design as a differentiator. That’s why it’s crucial that the documents have to have design in them, because the process, at least in the IO example, doesn’t really give a lot of credit for design.

There is another model that’s used out on the west coast: the BC partnership model. It’s been exported to some other jurisdictions. It’s essentially a DBFM model, as well, and sometimes they don’t actually don’t do the maintaining part, even in Ontario.

In that case, they actually tell you what the price is at the beginning. They give you the budget, and all of the teams have to work to that budget, so they’re trying to put everything in that they can get within that, which sounds like it’s a model for who you would deliver design excellence in this process.

Actually, at the end of the pursuit, which is similar – it goes through a series of workshops and there is interchange between – you actually submit your technical review before you submit your price. There’s a report that comes back to you saying, “You’re non-compliant in all of these ways. Are you going to change? Are you going to do these things?” Of course, everybody says, “Yes, of course.” You have to then go back and think, “Okay, now that we’re going to do that instead, we’ll adjust our price.” After it’s all done, you go back with a price. Of course, that price has to be lower.

In principle, it sounds there’s a possibility for real design. As it turns out, once you’re compliant, there are no more points in the BC model for design, so then it really is just an envelope – whoever has the lowest price.

In theory, you could have a great design and put in a lot of good stuff, and of course, your price will be higher, but if the other guy is compliant, you would lose to them. I’m not sure why it’s that way, and somehow I think, “Can’t you take the IO and BC and figure out something that combines the best of one and the best of the other?”

I can’t say I have a huge amount of experience in this model. I had experience where we made a presentation, and I asked, “You have all this design stuff at the beginning in the documents. How are you ranking that? I don’t see it.” They said, “Basically, low price wins.” So that was depressing. But you talk to contractors and they will say, “No, in this method, everybody is producing something within the price, so the design can make a difference.” I just don’t understand how it does.

During the pursuit phase, there’s a huge investment. The typical pursuits are close to $2 million when you add in everything – at least this is what our developer-contractors tell us when they’re beating us down. But all these other people are spending all this other money, too.

This is something I analyzed for this conference. Some of these won, so we didn’t actually get the stipend, which went to the losers. We looked at, if we had lost all of these, what was the stipend versus what our hourly investment was – and looking at our hourly investment just at cost, with no profit in this picture at all – and how would we have done?

When we first did Calgary, if we had lost, we would have actually done okay. We would have covered our cost. But since then, with Waterloo, Thunder Bay, St. Thomas, and OPP modernization, we would have really lost our shirts on those ones. Unfortunately, we lost two, and I think that’s related to the fact that we were struggling on those two. We were pouring more hours into trying to do better, but we lost.

Basically, you have to win some of these or else you’re going to hurt, and the stipend is not sufficient to cover your cost.

There’s another thing that’s flowing down through this model that’s not a happy thing for architects, and that’s liquidated damages. If you don’t deliver this project on time, the Project Co.’s financing doesn’t kick in, plus there are maybe some penalty clauses that are there for the client, who has embedded the penalty clauses in lack of delivery.

So there is some risk there, and the attitude that the various developer-contractors take to this varies from contractor to contractor. There’s a huge variation in terms of their attitude towards liquidated damages.

In some of the pursuits, the developer just says, “No, you guys are so small fry, we’re not going to pass any liquidated damages onto you. We recognize that you have no resources. It’s not part of the conversation.” That’s great. As an architecture firm, our business model isn’t like a contractor who’s regularly bidding projects and losing them and who is used to liquidated damage. It’s not so common up in Canada, but it’s not completely unheard of.

At the other end of the scale, others are saying, “You guys have skin in the game. We want you to put in 50% of your fee, potentially, on risk.” Then in some cases, they say, “And you’re picking up all of the sub-trades – the engineers and S&E and their 50%.” So in essence, you’re risking 100% if they fail in some way. That’s the worst case. In between, there are some other ones.

Basically, we would encourage anyone who enters into this not to leave this to the end. In addition to sorting out your fees, sort out the bloody liquidated damages before you have won and then he’s horse-trading with you at that point. Try to get your liquidated damages to be low – like 10% of your fee. We’re getting some success at that level, and obviously, we’re not offering it to the one who doesn’t want us to do it. This is a key thing.

Now I’m going to just go through some of our pursuits. We’ve done five. We’ve won three of the five courthouses. I’m just going to talk about the courthouses.

The first one was the largest one in Canada, and it really required a complex team. We had four architects involved. We were an associate architect. The local architect was Kasian, and they’re the principal architect. There was an old NORR partner Carlos Ott, who was the design consultant, and we had Spillis Candela as a courthouse consultant.

This was in reaction to what we saw as the coming prequalification. We made the team years in advance, so we were in a good position to run. As I say, the pursuit was ten years ago. It was completed in 2007. It’s about one million square feet, with 73 courtrooms and 1370 square feet per courtroom. The courtroom cost is just under $4 million per courtroom. I think part of that is pretty effective cost because of the scale with the 73 courtrooms.

It was the first P3 pursuit courthouse in Canada, and the structure of the adventure was fairly early. We had three meetings at the court. The judges were there, over the table. There were lots of conversation and feedback. It was pretty relaxed. There was a fairness monitor, but it was like you were getting away with something, I have to admit.

That’s all changed. It’s much more regimented in these other BC models, in the IO. There’s a fairness monitor. The amount of communication is much more controlled, and there’s a real concern with fairness and not giving team any advantage. Everything is pretty prescribed in terms of that interaction and how informal information can travel, which I can understand the reason for, but it really stifles the ability to figure out a normal relationship.

I had triple glazing as an idea. It was the one thing that was really an eye-opener, because we had never done a triple-glazed building. Because the requirement for operations was part of the delivery here – you had to include that in your envelope in terms of price – the energy analysis said, “Look, we have to do this. It’s way cheaper than paying for gas.” All the windows on this building are triple-glazed. The main atrium is double-glazed, but the ones around the courtrooms are triple-glazed.

I’m not going to get into any other details in terms of how that impacted the building, but I would say this was a very positive aspect of how DBFM can actually drive building improvements through the inclusion of maintenance and operations within the envelope.

After the pursuit, it changed to Design-Build for other political reasons. In Alberta, they concluded that they had a ton of money sitting around and they could use that way cheaper than getting it from some private thing. Also, they had to bring the project back on budget a bit.

It won an AIA award, so I think it was successful from a design point of view. It was the first indication that things could be delivered through this process, which seemed a bit painful but actually achieved quality.

The next one that we pursued was the Durham Regional Courthouse. We had a new team in terms of the contractor and some of the finance and operators and whatnot. We lost. It was very sad. It is really sad when you lose, because you just poured it out – it’s really intense.

This was in 2006, three years later. It was less than half the size of Calgary, less than half the number of courtrooms. The area was little lower per courtroom. These costs are a record for the winning one. The guys on our team wouldn’t tell us what they actually bid, so we’re just guessing.

The other thing is that you really don’t know construction, so you have to take some of this price stuff with a grain of salt, because it’s hard to figure out what the real construction cost is.

There’s an increase in the cost per courtroom, but time is passing and there’s more technology and things are started to get more complicated.

In this one, we got quite an extensive debrief. We were first in some areas in design, but generally, we were second in design. We had delivered the lowest cost, which in this process really should have made us the winners.

But in actual fact, this is where the lesson about the other team member who you’re not really paying attention to… It was the FM guys. Even in the debrief, they said, “We blew it. We’re sorry.” They were so bad. They have a differential in the thing, and they were below third place, even though there were only three teams competing. They blew us out of the water.

It became apparent that the IO guys were saying to the finance guys, “You guys weren’t quite as clever as the other team on the finance,” but it clearly wasn’t a differentiator. The real killer here was the FM. There might have been other things going on in. They don’t tell us all in these debriefs, but that was pretty useful information.

When we went to the team, we had a new operator, but otherwise it was pretty much the same guys. This was another three years later. We just finished. We got the award. It’s pretty similar in size and the number of courtrooms as the Durham one, but it’s a bigger cost per courtroom, unless I made a mistake in my math. The area per courtroom is bigger.

This is the first one where the full blast-mitigation requirements got added into the program that is the impact of the 9/11 stuff. There was also a specialty courtroom in the basement for multiple-accused high-security individuals. It was like a courtroom in a courtroom. There was a bunch of stuff that started to get added onto these things that made it a bit more expensive.

Obviously, in this one – because we won – we had the right balance of design, cost, operation, and finance. Of course, we were working with the same guys. We had just lost one and we were determined to win. I think that having worked with the same team really made a big difference. You really start to make those connections, particularly with people like the contractor, who you never really worked with in that relationship.

I would say that we were more familiar with the RFP documents. I think there had been some tweaking from Durham that maybe made it a little better. It was the same group on the other side that had done the Durham RFP documents as these, so we knew them a little better.

We also had a very strong architectural party, if I don’t say so myself, which really helped focus the team as an idea. The contractor got behind it, and he agreed with some of things that maybe cost a little more, as well as the landscape architect and the other players. There was a vision. They could all walk out of the room and knew what they were doing. Everybody fell in line. I thought that was good.

Once we won – this is the first time we had done it in Ontario – there was a process after you win, where you go through a negotiation phase where the areas where you’re not quite compliant get straightened out. In this case, we had done some earlier schemes with the contractor that showed a more straightforward façade and whatnot, but he had said, “No, crank it down. Get every ounce of square footage out.” So we came back with this nasty north side that was complicated.

In the process, they said, “There are a few things you have to fix, and that’s one of them.” Then there were some internal things that I think we had misunderstood some of the relationships. We had read the documents in one way, but it became clear that they wanted us to do it in a slightly different way. But it was not something that was a problem for us. We agreed with the strategy internally in terms of where some of the support rooms outside of the courtroom could be moved to the end of the corridor.

I think in the end, there were a number of smaller little things, and I think it’s pretty typical of the process. It turns out that you normally go through a negotiation phase to straighten these things out. We won, so I think it was pretty much a success on that front.

The next one was Thunder Bay. It was the same team. The only issue was that the pursuit was not three years later. It was the same time. Waterloo has just kicked off, and the kickoff, as Joe will talk about, is a pretty big experience. We lost this one. There are a variety of reasons, but I think internally, part of it was just the load on staffing and shifting it over to then pursue another one at the same time as you were executing and just had done one – I’ll get back to staff burnout later – it was a challenge.

Going through the statistics, it was a smaller court facility. Again, the cost per court is going up, but it’s amortized over a smaller court. We were second place in design, which is not an uncomfortable place to be if you’re actually the low bidder, but we were second place in cost, as well, so we lost.

It was interesting one. It had this aboriginal content. Another aspect was it was a new compliance team and new compliance documents. There was variation from the ones that we were familiar with, and we didn’t necessarily catch onto those variables. We assumed we were going with the same documents and maybe didn’t catch some of the subtleties, so we were maybe behind the ball a bit on that.

I think part of it was being right on the heels of the Waterloo competition, and in hindsight, I don’t think that we convinced the team who was evaluating that we were the preferred team they wanted to work with.

That’s a nebulous thing, and it’s a soft aspect of the pursuit, but I think that’s another part of being the winner. You have to not just produce a great scheme with all checkmarks. They’re meeting with you three times, so they’re creating an attitude about your team and whether you are the ones they want to work with. Within the scoring, you can imagine that there is some ability for subjectivity. I think another part of being the winner is convincing them that they want to work with you. When it all comes down to the end, that’s pretty key, as well, when they’re close.

That was another lesson for us there, and I think it stood us well in the next one, which is St. Thomas Courthouse, which is just under construction. In this case, we added another partner here, who is a heritage architect because there is a major heritage component within the project. Otherwise, the rest of the team is pretty much the same.

It was right on the heels of Thunder Bay, and we were still building Waterloo. It is going to be completed next year. It has nine courtrooms, and the cost per courtroom is really high here, but also the area per courtroom is very high, and there’s this heritage thing that’s pretty steep, and all of those extras to do with blast mitigation and whatnot is amortized over a much smaller number of courtrooms. I think these are some of the reason why it’s so high.

This was the first time we were actually given a scheme. Up until now, we had just been working from writing. Why was that decision made to suddenly give us this? It really was because there was this heritage component, so there was a lot of concern with how to ensure that that relationship to the heritage building was correct.

The other thing is that it was in a very residential district, so the volume that we had to deal with required municipal approvals, and in order to have it in line for when we won and got it into construction, that process had to be already dealt with, or at least initiated to a significant point so that the final approvals were easy for the winning team to get.

That created this idea of exemplar, and it was identified as an exemplar within the documents. Once we got the exemplar, as we were comparing the written documents, which were the same that we normally get, as well as this additional document, it became apparent that it didn’t match. Some parts of the exemplar were not achieving the requirements within the documents, and that was a mystery as first as to what that meant. Of course, it’s called exemplar, and to us that means a certain thing: that this is acceptable.

It was a fairly basic massing strategy, but it came with pretty detailed plans of how they thought it would lay out on the site. We analyzed that: “These are the things that we see that are good about this exemplar, and we agree that you seem to be in line with what we’re doing.” Then we did another one where we identified that there seems to be a conflict with the documents. “These seem to be areas where we’re having some questions.”

It became apparent, not unexpectedly, that there was no way that this team could possibly solve the whole thing in the time they had. There were all kinds of areas where they weren’t able to quite solve it. We were thinking at first that this was illustrative of “You can’t really fit it all in the box, so you’re going to have to let some of these areas go.” That certainly was a challenge in this one.

The process was about testing this. What is this exemplar mean? We did some experimenting in the early phases. You have to get these ideas out of your system pretty quickly to establish where the comfort zone is for the client in this process.

We said, “You want to celebrate this thing. What if we move the new building a bit farther back and expose the back side?” This didn’t go very far, so it was very useful to get out there first. “No, that’s not what we’re talking about. When you look at the exemplar, you’ll see they had a different way of doing it. You really should to go down that road.”

As you go, in each one of these presentations, you’re showing a little bit more information and it’s solidifying the design a little bit more clearly. Here was an intermediate design for us, where we got into this idea of two wings on each side. It’s a fairly modern strategy in terms of glass reveals and contemporary quality to it

Afterwards, I went on the Web and I actually found the other competitor’s scheme. It’s interesting. They ended up at a point not all that dissimilar from where we were at that intermediate spot, where they had fairly contemporary, modern strategy towards the building.

But we got a lot of feedback on ours, and our sense was, “That was a mistake. They want something that’s more complementary than contrast than what we had.” We went back and said, “That’s not flying for us” so we modified our scheme to be a little bit more traditional, punched-window kind of relationship between the two, picking up on more of the materials of this.

The basic massing is the same, and in the end, we won. That was something in a way we took from Thunder Bay where we felt we didn’t connect with the compliance, and this time, in the St. Thomas one, we really had to listen. When we started listening, it was coming through pretty clear.

The other aspect of this is that it is an intense thing. I know somebody else presented on this, and they were saying there were divorces and things in their offices. In order to win these, you really have to put your best people on – the most nimble and quick-thinking. They have to be able to adjust to these sudden changes in it.

In the Ontario market, we have a lot of these. It’s like the main source of projects. You have to start developing a stable of players within your office who are able to do this. You can’t have the same people do them over and over again. They will just fry their brains out. You’ll just start losing because of the amount of effort that it needs.

Right now, in our office, we have three of them going on. They’re not courthouses at this point. You start doing enough of these and you’re able to promote other people to lead them and whatnot, and the people who have gone through the pursuit phase are able to be brought into it.

The other thing is that it’s a huge growing and learning experience for people to go through, because you learn so much from working directly with these contractors about how to do these things. Even the contractors say that their staff who have gone through the P3 are now the best in the firm. They rise and they have gone through this type of tempering process. I’d say that it’s a pretty exciting thing. It’s very demanding. In the IO process, we’ve been able to deliver excellence. It’s been very demanding, though.

This is my picture of the boat, of what the pursuit is like. It is that crazy! But I’m just describing the pursuit phase. It doesn’t stop there.

**Joe:** Thank you. I really see the post-pursuit phase of these types of projects as a bit of a chess match, where you have two camps – the client and the contractor – and their respective clients, and these clients are strategically advising their clients.

The builder’s goal, or the contractor’s goal, is to basically stick to the submitted design, its schedule and its cost. That’s really important to them. On the client side, the goal is maximum quality and getting as many of the requirements that their users need as possible.

We’ve been hearing a lot throughout this conference how tough this process is on the architect. But in my personal experience – I’ve done two in a row – you develop a sense of strength and understanding of the process that doesn’t actually make you feel more of a pawn. You’re a bit more in control of the process.

This new relationship in this post-pursuit phase is broken down into five areas: the new contractor-architect relationship; the new client-architect relationship; design excellence and imperfect standards; the transition from pursuit to construction documents; and the challenge of quality control in the P3 environment.

When this winning scheme is dropped in your lap, there’s a big focus shift that occurs. All of a sudden, you’re working for the contractor. The contractor is paying your bills, so you really have to pay attention to his interest. The focus changes dramatically from the pursuit phase, from GFA reduction, where you’re trying to squeeze that building down and win the scheme, and it’s all about cost.

In the post-pursuit phase, it’s all about schedule – meeting schedule and getting compliance approval – because there’s a huge financial risk if you don’t meet those deadlines. In Waterloo, it was a fairly substantial amount if the project wasn’t ready by a certain substantial completion date. So the incentive is for the architect to really guide and navigate the contractor and his team through the compliance process.

Working with the contractor isn’t always a rosy picture. The way we saw it, we were seen as their built-in drafting service. We did a lot of work that perhaps we shouldn’t have been doing. But that was just part of the process.

One of those things was just having a bigger presence on the site. It’s a fast-track construction process, and you’re basically pouring foundations while you’re still designing the building. You’re in design development, you’re meeting with users and stakeholders, and they’re pouring foundations. You need to have people on site to not only communicate directly and quickly with the contractor, but also it helps reduce the number of RFIs that are generated.

Thousands of RFIs are generated on a daily basis that you have to somehow put a lid on, and the best way to do that is to have some guy on site. In fact, in Waterloo, we had two full-time resident architects there.

As well, the contractor always wanted to have their architect on site whenever the compliance architects were doing their rounds, just to make sure we understood fully what their interests are and so that we were always on top of it. That had a big impact on our bottom line in terms of man-hours.

The other issue was incorporation of the contractor’s preferred construction methods. As soon as they won the award and they’re preparing the site, they’re sending out packages to their subs to get prices. We’re still in design and development, so we’re having to change our drawings to suit the contractor’s idea of what the preferred method of construction is. That actually ends up being a lot of work.

In our recent experience with other projects in P3 with another contractor, there was a better model for this where the contractor had a representative in our office during the pursuit phase. We had a better idea of where they were going with their selection of construction methods and materials, and we incorporated that into our pursuit design, so it wasn’t such a big surprise when you go to the post-pursuit phase.

The new client-architect relationship: as David mentioned, all of a sudden there’s distance between us and the client, the stakeholder. But when the post-pursuit phase starts, we do get to meet the stakeholders, but it’s in a very managed environment.

The compliance architects are managing the stakeholders – the judiciary, the police, and the court service staff – and basically, we have a project or a design that’s more or less 80% there. So there’s still another 20% to go and there’s a promise to achieve the sign-off with the users. This creates an environment of negotiation.

This is where the relationship between the client’s architects – us – and the compliance architects is very important. If we understand that we’re in it for the same purpose, which is doing great architecture, it will go a lot smoother.

This compliance process takes the form of negotiation framework – what we call the “puts and takes list” – which means there’s a bartering of design issues or items. For example, if there’s a column that’s in the wrong place, or we’re not getting a specific width in a corridor, that could be bartered off with perhaps some extra millwork in the staff lounge somewhere. That kind of stuff happens. It gets into a big list, and at the end of the project, it gets all factored out by the contractor and the client.

When we can’t meet a specific prescriptive standard that’s in the PSOS – the compliance document – we have to go through this process called deviation. We have to ask for a deviation.

The number of deviations is very important because all these deviations are appended to the final document, so at the end of substantial completion, when the compliance surveyors come on site, they may not have any connection with the project at all. They could be completely separate people, and all they have is a set of as-built drawings and this list of deviations. That’s the only way that they can certify and acknowledge. For example, a corridor isn’t the prescribed width, they will have to go through the deviation list and find out that it’s in fact accepted and approved. That’s really important.

It gets more important even beyond substantial completion, because when the clients and stakeholders move in, there are always minor issues. It’s really good to have the directors to go back to and lessen all the finger pointing that the contractor sometimes does.

David spoke about the PSOS. The PSOS is basically a compilation of standards and the requirements that are built up over time. Each PSOS is a compilation of other projects, and it’s put together by the compliance team. The compliance team, in our experience, is basically two parts. The Ministry of Attorney General (MAG) has their own salaried architects. As well, there are contracted architects that really put together the PSOS. Together, this PSOS document is their main tool in achieving their goals.

It’s been described as designing a building with words, basically. It’s a very difficult task to do. As David mentioned, we think that the documents in P3s that have been produced by MAG are probably the most thorough. As David mentioned, it’s because there has been a lot more of them and they have dedicated architects on this process. But there are always problems, and there are always things that fall through the cracks –inconsistencies and the imperfect nature of the PSOS.

I broke the that into these topics: mandating design excellence, the courtroom security measures, STC partition design, acoustics, and the PSOS versus local requirements.

No tool is stronger I think for the compliance architect than the term “excellence in design.” It’s a fairly vague statement, and it’s in the design brief, but it’s usually pulled out when the contractor’s architect – us and our team – finds a gap in that compliance wall. This is their main defense to maintain and to argue for better quality.

These are some examples of that issue. For example, that’s a prisoner door that leads to a secure circulation from the courtroom. There is no real prescriptive description of what that door should be, so the contractor would have liked to just paint it a complementary color to match the wood, but the compliance team wanted it to be clad in wood, and that would have voided the fire rating on the door.

In this process, we came to a good compromise where we found a really talented painter who could paint the door to look like wood. That was approved as achieving the level of excellence that we want.

Another issue was the concrete finishes, which is another counterpoint. Typically, concrete wasn’t seen as a noble material in public spaces, but we argued in the pursuit phase that it was if it was done right. Unfortunately, the contractor’s construction methods didn’t necessarily lead to the best quality of concrete, so we had to go through a fairly expensive remediation of the concrete to meet that design excellence standard.

The main time-consuming program item is the courtroom and all the standards and all the guidelines that govern the courtroom. It’s an evolving thing. It’s a living thing, in a sense. Every time there’s a new courthouse, the courtrooms are slightly better. There’s always an advancement. It’s inherent in this process.

One of the main issues with the courtroom is that what is written and what is prescribed in the PSOS in words is different than the room layouts we would get. The basic courtroom that we are prescribed in the PSOS in Ontario is based on a courtroom design that had its inception in the ’80s in Ontario.

During the pursuit phase, the contractor wants us to build to the minimum requirements of room dimensions, so we have to build to those minimums. But there’s an increasing amount of stuff that goes into these courtrooms that keeps changing and has an impact on the layout of the room, the millwork, and how it all works.

The biggest impact is accessibility and the A/V technology. That has a huge impact. Ideally, each courtroom should have been a little bit bigger, but unfortunately, that’s not the case, so it takes a lot of massaging to get these courtrooms to work.

As I mentioned, accessibility is a major issue. Of course, when you’re going through the PSOS standards, you’re always looking for the most stringent guideline or standard. In the case of St. Thomas, I’m pretty sure this the most accessible courtroom in Canada. It has a barrier-free accessible juror box, which is a first. There’s a fold down ramp. Both the witness box and the jury box are barrier free.

But this happened in the post-pursuit phase. This wasn’t part of the pursuit design, so to get there took a long time. It’s a great thing for both counts. It’s a great thing for excellence and courtroom design. But it took a lot of time and effort on our part, and a lot of frustration on the contractor’s.

Halfway through design-development, there was an edict from the Ministry of Attorney General that all 12-person jury boxes now had to be 14 seats. All of a sudden, we had to make the jury box even bigger. We felt that that wasn’t necessarily a fair issue that we should be dealing with at that point, so we got compensation for that – a couple of hours.

Another issue that is a challenge in this process is modularity and how to deal with flexibility for future accommodations. An example is the prisoner boxes. In America, you probably aren’t familiar with our prisoner boxes. We put glass in our boxes. The issue is there’s a contradiction between mobility in moving these things around and making them robust, because they’re all in sections.

If it was one object, it can be a lot less heavy, but because these are expandable, you have three sections in these prisoner boxes, and to make all the connections stronger and more robust to pass the police standards, you get a prisoner box that’s a lot heavier and a lot harder to move around. It’s a catch-22 situation.

Security is another important item that impacts the post-pursuit design-development. Of course, as David mentioned, Waterloo was the first courthouse in Canada to get the full brunt of all the new standards coming out of the States from 9/11 and Oklahoma – a redundant design and blast standoff.

This picture is one of our beams over our parking structure. It’s amazing how much rebar we have. Basically, these beams are a design where the column could be removed and they’ll still stay strong.

The ceremonial court’s concrete face on the street face wasn’t incorporated in the pursuit phase, but after our analysis in terms of blast standoff, it was within that 20 ft. standoff, so the only way to deal with that and protect that room was to give it a concrete shear wall. That’s an extra that we had to factor in, and it affected the overall room dimensions.

Security measures included security walls whose standards didn’t meet the prescribed wall construction. The standards are really meant for steel walls and not concrete block walls, so our walls that were following PSOS standards failed miserably. We had to add a lot more rebar.

Another big item is how the PSOS deals with local user requirements. With the MAHS courtroom that David was talking about – the courthouse within a courthouse – the police had an issue with the travel time from the sally port into the cellblock area and demanded that be changed. This ended up being a $2 million change order. This is all going on while the foundations are being poured. A lot of the columns are there. That was a big issue.

In Waterloo, the police wanted a camera in the cell. The PSOS and MAG didn’t want that for reasons of privacy. In St. Thomas, we followed the MAG’s description or requirements, and we just made our cell doors a little more glazed, and we raised this privacy panel to allow the camera from the corridor to view what’s happening behind that privacy panel.

In Waterloo, having glass between the court service staff and the patrons was a new thing, but it was accepted by the court service people. But in St. Thomas, they’re a little bit more small-town. They really resisted having the glass in between their customers.

Another counterpoint to this meeting of local requirements is that MAG did provide – and this is very unique – the first appearance courtroom, which is typically one of the largest courtrooms in the building. It was transformed and made into the smallest courtroom, and all the seating was placed outside. That was to accommodate the users’ desires.

With GFA expansion, the floor plates got 70% bigger as soon as we got them. In St. Thomas, that was a problem. We couldn’t expand. We had heritage and property lines on both sides. All the compliance issues had to be done through deviations.

The other big issue is proper site documentation. In St. Thomas, our floor plates were already below the courthouse standards to line up with the heritage floors. When we got the as-built drawings, the second form was off by two feet, so that meant all these new accessibility ramps had to be introduced into public spaces.

It would nice to be able to have more control over our sub-consultants. In fast-tracking construction, it’s important that the architect understands what the contractor is building so that we can schedule our user group meetings and get compliance approval as quickly as possible in the areas that are affected by the construction.

The most important thing, and the biggest definer of quality, is the mockups. These are full-sized mockups. Everything is functioning. A/V is functioning. They’re built in warehouses. This is where stakeholders are brought in and all the requirements are met. We also have to build part of the hallway facades and the public **[1:23:39 inaudible]**.

**Participant:** What kind of level would you say you get to at the end of the pursuit stage? Would it be 80% DB?

**Joe:** 50%.

**David:** But some areas are way more and some are way less.

**Participant:** How much of that changes once you get into the post-pursuit and now you’re meeting with the clients?

**Joe:** We’re finding it varies by contractor, and we’re getting better at managing that. I’ll put it that way.

**Participant:** Is the price of a courtroom a percentage of the whole price?

**Joe:** No, just construction.

**Participant:** In your projects, you mentioned at the very end there that you wished you had more control over your consultants. Were you part of that selection for your consultants, or are they engaged separately?

**Joe:** The main contractor has in a sense his subs, who are the mechanical and electrical subcontractors, and they control the consultants.

**Participant:** So you’re not putting together a traditional construction team.

**Joe:** No. That’s a big issue because the contractors filter your directions to the consultants based on their desires.

**David:** The relationships change by team. Some of the large contractors have the sub-trades directly contracting with them during the pursuit, and then turn around, and once we win, they become seconded to us directly. Sometimes the relationship remains with the mechanical or the electrical contractor. We found different ways that different developers and contractors want to arrange. Mainly it’s about risk transfer and their control over different stages of the project.

**Joe:** In Waterloo, the structural engineers were our in-house engineers. That was great because they’re down the hallway and we can interact with them fairly quickly. But, as usual, the main issue is mechanical. We find that that’s always the most challenging relationship with our subs.

Thank you.