

Construction Specifications Canada is an organization representing diverse interests in the construction industry and related professions. It is dedicated to improving the quality and flow of information between these interests, whether in the form of specifications, contract administration or marketing.

April 2021 Edition

Editor: Tracey Stawnichy



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Monday, April 19, 2021; Noon – 1pm

5 Most Common Mistakes Made in the Façade Industry

Presented By: Jeff Ker, Senior Technical Advisor, Engineered Assemblies

Looking at the façade industry today and for the future, there is a progression toward lightweight/low-mass solutions. Over the last decade, more of these solutions are being employed with success, both in function and form. While largely developed in Europe, these solutions have either made the transition to the North American environment seamlessly or with small augmentations in the assembly design. These contemporary and future-friendly façade solutions of both skin and substructure have best practices to follow, and through this, promise good performance with long lifespans. Presented by Jeff Ker, this presentation will address some key success factors to follow in addition to the five most common preventable mistakes, as it applies to the aforementioned future-friendly façades.

Visit our website for more information!

<http://edmonton-csc.dcc.ca>

2020 / 2021 Edmonton Chapter Executive		
Director	Tracey Stawnichy	780 994 3699
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Architect	Kevin Osborne	780 717 1007
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Engineer	Position Open	780 669 0504
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FOR FURTHER INFORMATION

Contact any member of the Executive, attend one of our Chapter Meetings, send your name and address to CSC Edmonton Chapter, PO Box 35093 Mid Town PO. Edmonton, AB T5J 0B7, or go to edmonton.csc-dcc.ca for additional contact information.

GOALS OF CSC

Construction Specifications Canada is a multi-disciplinary non-profit association dedicated to the improvement of communication, contract documentation, and technical information in the Construction Industry. CSC is a national Association with Chapters in most major Canadian Cities.

To this end, CSC pursues the study of systems and procedures that will improve the coordination and dissemination of information relevant to the construction process.

We seek to enhance the quality of the design and management aspects of the construction activity through programs of publication, education, and professional development, believing that by so doing, we can contribute best to the efficiency and effectiveness of the construction industry as a whole.

OBJECTIVES OF CSC

To foster the interest of those who are engaged in or who are affected by the compilation or use any forms of specifications for the construction industry.

To publish literature pertaining to the construction industry.

To engage in activities to improve procedures and techniques related to the construction industry.

The opinions and comments expressed by the authors do not necessarily reflect the official views of Construction Specifications Canada. Also, appearance of advertisements and new product or service information does not constitute an endorsement of those featured products or services.

Announcements:

Congratulations to Bob Spenst on being awarded CSC Life Membership!

SAVE THE DATE: Annual Chapter Meeting (ACM) Tuesday, May 4, 2021; Noon – 1:00pm

Chair's Message



Andrew Brassington, CSC Edmonton | Chapter Chair

Hello Chapter Members,

I appreciate your attendance at last month's virtual event "Designing Your Project for Hot-Dip Galvanization". We have another one in April, make sure to check out our events page for more information.

If there are any topics you would like to hear, please let us know. Collaboration is what we are about, so don't hesitate to share ideas.

Enjoy the nice weather. Be and stay safe."

Membership in CSC

Joseph Trivellin, CTR



In the construction industry's fast-paced environment, the need for and value of Construction Specifications Canada is greater than ever. CSC brings together individuals from all segments of the construction industry. All who have a vested interest in Canada's largest industry are invited to join CSC. When you join CSC, you become part of the only association that brings together professionals from all aspects of the construction industry.

DESIGN TEAM

CSC offers members of the Design Team the opportunity to meet with other members and exchange information. It also affords you the chance to help improve technology and its management, and the means to improve ways in which your ideals are translated into clear, concise, and complete documentation.

BUILDING TEAM

If you are a member of the Building Team, CSC offers you the opportunity to become involved in formulating specifications. Your valuable input into the programs can help generate time and cost savings, as well as improve performance.

SUPPLY TEAM

The multi-disciplinary composition of CSC allows members of the Supply Team to meet with other members of the construction team. CSC programs in data filing and information retrieval are geared to present convenient and concise information on your products for proper evaluation and specification.

THE STUDENT

If you are a student of architecture, engineering, or construction technology, CSC will provide you with a greater exposure to, and a better understanding of, the construction industry, giving you an excellent opportunity if you plan a career in the construction field.

People and Places – Welcome to our new CSC Edmonton Chapter Members!

Fresh Faces (New Members)

Mr. Michael Stringer, CSP

General Manager

Stringer Sales Inc.

PO Box 59036 Stn. Mayfield

Edmonton, AB T5P 0V8

Tel: (780) 782-4436 Fax: N/A

Email: michael@stringersales.com

Website: www.stringersales.com

Yes, We've Moved (Contact / Mailing Address Update)

None this month.

Previous Members Re-Joining / Re-Activated

None this month.

CSC Education:

Mike Ewaskiw, CTR



Principles of Construction Documentation

The PCD course is an introductory course that will enable the student to have a better understanding of construction documentation (specifications, drawings, and schedules), products, bidding procedures, and contracts. **It is also a prerequisite to all the other CSC education courses.**

Specifier 1

Specifier 1 is an intermediate level course that will take the individual beyond the concepts previously introduced in the PCD Course. Although some of the same topics are included, the depth of comprehension and explanation exceed that of the PCD course. The Specifier 1 is a prerequisite for the **Certified Specification Practitioner (CSP)** designation from CSC. Successful completion of the course may be credited toward the experience component requirements for the Registered Specification Writer (RSW) designation.

Technical Representative

The TR course provides a better understanding of contract documents and bidding procedures, product representation, professionalism, and ethics, and will provide a new depth of understanding and explanation of concepts beyond what was previously introduced in the PCD course. The course is designed for the individual involved in the supply section of the construction industry, such as manufacturer representatives, agents, or distributors of products. The student will have successfully completed the PCD course.

Contact Mike for all your education needs.

Mike Ewaskiw, CTR, Manager

Architectural & Engineering Services

P: 780-237-7844 E: mewaskiw@stonhard.com

EDUCATION COURSES

Upcoming Classes:

- [Principals of Construction Documentation \(PCD\)](#) – TBD
- [Specifier](#) – TBD
- [Construction Contract Administration \(CCA\)](#) – TBD
- [Technical Representative \(TR\)](#) – TBD

Upcoming Classes Online:

[Principles of Construction Documentation \(PCD\)](#) – TBD
[Technical Representative \(TR\)](#) – TBD

Upcoming Workshops:

[Principles of Construction Documentation \(PCD\) 5 Day Workshop](#) – January 15, 2021 (5 weeks)
[Construction Contract Administration \(CCA\) 5 Day Workshop](#) – January 15, 2021 (5 weeks) /
March 5, 2021 (5 weeks)
[Specifier \(SP\) 7 Day Workshop](#) – February 22, 2021 (7 weeks)
[Technical Representative \(TR\) 5 Day Workshop](#) – February 26, 2021 (5 weeks)

Social Media:

Check us out:



Articles of Interest

Alberta Prompt Payment Legislation Planned for June 2021

Sourced from: <https://canada.constructconnect.com> / Russell Hixson



Proposed prompt payment legislation for the construction industry is expected to go into effect this June, construction industry leaders said.

Terry Parker, executive director for the Building Trades of Alberta, said the legislation would be implemented following an awareness campaign that is to run from now until March 2021.

Parker and other industry stakeholders believe the changes will make for a healthy industry.

“It’s a positive step. We are very excited to see them move in this direction. (Late payment) directly impacts our contractors and in turn has the potential to impact our members,” said Parker.

He explained when companies don’t get paid or go bankrupt, union worker pay and benefits can get tied up. Parker said the unions worked closely with the province and other industry stakeholders to guide the legislation.

“There was a lot of unity in the industry,” he added. “I want to thank the government for moving forward on this legislation. It makes for a healthy industry and we are glad to see the government be proactive in helping all contractors in the industry.”

Bill Black, president of the Calgary Construction Association, also praised the province, noting officials took the stakeholder consultation process seriously.

“We are deeply appreciative of how much they listened to what the industry had to say,” said Black. “They did an incredible job of listening and interpreting. The end result is something we believe is very good for our members, owners, contractors, jobs and for the flow of cash so people can keep

their businesses operating.”

Black added that for Alberta, which has been hit with slumped oil prices as well as the COVID-19 pandemic, the legislation is a bright spot.

“A lot of the trades and other companies in our industry in Alberta really need some good news,” he said. “This is an old issue and at least it’s some news that progress has been made and it’s nice to be able to share good news in such tough times.”

The legislation has the support of many other major industry groups, including the Alberta Construction Association (ACA), Calgary Women in Construction, the Alberta Trade Contractors Coalition, Concrete Alberta, the Alberta Roofing Contractors Association (ARCA) and the Electrical Contractors Association of Alberta.

“The Alberta Roofing Contractors Association appreciates the open and dynamic consultation process which included participants from the entire construction community,” said ARCA executive manager Karen Rutherford in a press release. “ARCA is looking forward to seeing this legislation enacted, which we believe will be an important tool in assisting independent contractors to manage their businesses effectively.”

Frederick Vine, chair of the ACA, stated in a release that the association’s members are supportive of the changes.

“These mechanisms help timely completion of construction projects, ensure our employees are not impacted by payment delays and provide better value for taxpayers on public infrastructure projects,” he said.

The proposed legislation, which transforms the Builders’ Lien Act into the Prompt Payment and Construction Lien Act, would require payment within 28 days, extend lien filing deadlines, prohibit “pay-when-paid” clauses and establish a system to adjudicate disputes.

USGBC Expands LEED Earth Campaign to Houses, Communities, and Cities



Sourced from: <https://www.architectmagazine.com> / Press Release

The USGBC aims to make its LEED standard more accessible and further encourage green building practices.

The U.S. Green Building Council (USGBC) announced it is expanding its LEED Earth campaign to homes, communities and cities. LEED Earth is designed to bring LEED to countries where green building is still emerging and offers certification at no cost to the first project to certify. USGBC will also extend LEED Earth benefits to the first LEED

Platinum project in any country to certify using LEED v4.1, the newest version of LEED. New projects will be considered for LEED Earth starting in March 2021.

“LEED is a global language and a catalyst for change. We are committed to bringing LEED to every country to make it accessible to as many people as possible, while also continuing to foster innovation and achievement in existing global markets,” said Mahesh Ramanujam, president & CEO, U.S. Green Building Council. “With the expansion of LEED Earth to LEED for Residential, LEED for Cities and Communities and Platinum LEED v4.1 projects we can accelerate our healthy economy strategy and truly fulfill our vision of raising the living standard for people around the globe.”

USGBC believes that healthy people in healthy places is the fastest way to build a healthy economy. The pandemic has made those beliefs that much stronger and the mission that much more vital.

Launched in 2013, LEED Earth has enabled significant global growth of green building, taking LEED from 140 countries to nearly 200 today. LEED Earth has incentivized project teams in countries where green building is not as prevalent and encourages them to take steps and adopt better building, construction and operations practices.

“The economic, health and environmental challenges we are facing are substantial and now is the time for project teams around the world to take steps to curb emissions, enhance resilience and support health, especially within our most vulnerable populations,” added Ramanujam. “LEED provides the framework that will help companies, communities and governments make progress toward those goals.”

LEED is the most widely recognized green building rating system in the world and supports USGBC in bringing the environmental and human health benefits of green buildings to all. USGBC is committed to accelerating the uptake of LEED in new and existing markets. Project teams interested in participating in LEED Earth can view the rules and regulations to get started (<https://www.usgbc.org/resources/leed-earth-affidavit-campaign-rules>).

The Architecture of Social Interaction – new

Sourced from: <https://www.archdaily.com> / Andreea Cutieru

Denise Scott Brown once said: “Architecture can’t force people to connect; it can only plan the crossing points, remove barriers, and make the meeting places useful and attractive.” Although it cannot control the outcome, architecture holds the potential to set the stage for chance encounters and social interactions, thus nurturing community building and influencing the fabric of our social culture. The following explores how architecture can improve the social capital of its surroundings through design strategies and thoughtful programming, creating the fertile ground for social interaction among different groups of people.

Social capital refers to the relationships established between social groups in heterogeneous societies, through shared values, trust and reciprocity. Substantial social capital means increased cooperation among citizens, less friction and a keen awareness of the common grounds and entwined fates. Architecture can help build social capital, and numerous design strategies can generate fertile ground for social interaction and various unplanned activities. For a variety of reasons, from fostering social cohesion, promoting social justice, to tackling loneliness and mental health, architecture that encourages social interaction is a topic of great interest. In light of architecture’s (re)acknowledgement of its potential to nurture community building, it is worth examining different ideas and projects that could help define a design method focusing on creating social interaction.

Programming for Social Intensity

Sometimes, architecture’s potential to bring people together lies more in the programming of the building than the spatial form itself. In this case, space is a container for whatever function suits the collective; therefore, the careful assemblage of activities is the driver for social interaction. One such example is Absalon Community Centre in Copenhagen. The former church has been converted into its neighbourhood’s living room by Arcgency architects. In the course of a single regular weekday, the church’s central nave is the setting of a great number of activities, from yoga classes to ping-pong, movie screenings, theatre performances, music events, while also serving as a cafe and a great dining hall. Sharing a meal around long dinner tables, with almost 200 of your neighbours, from all kinds of backgrounds is undoubtedly an element of cohesion within the community.

The vast array of activities create a vibrant place, complemented by its informal setting.

Challenging Spatial Expectations

What could better provoke people's imagination and create a path to dialogue than the unexpected? With a brief that required neither more nor less than the design of a building that brings people together and improves the quality of life, MVRDV and ADEPT developed a new building typology centred around movement. The Ku.Be House of Culture in Movement blends theatre, sports and learning spaces into an architectural promenade, where activities are informing one another and where a diverse range of visual and physical connections are established between the different functions. The spatial typology of the building and the design strategies employed here create the fertile ground for interaction, stimulating links between people that wouldn't otherwise connect.

Designing the Common Ground

The potential for social interaction is not reserved for community centres and public amenities. Intergenerational housing projects are starting to emerge across Europe and involve people of different ages living together, sharing their skills and time. The mutually beneficial arrangement caters to the increased sense of loneliness of the senior generation, as well as the lack of affordable housing for the younger ones. Intergenerational living fosters learning and can make an essential contribution to bridging the gap between different social groups. Pilot programs for senior- youth housing have been developed in Finland and Sweden, and several new housing projects like zwei+plus Intergenerational Housing in Wien, Austria have also adopted the idea.

Re-Imagine Civic Assets as Social Connectors

In an interview with Vladimir Belogolovsky, Jeanne Gang, founder of Studio Gang Architects explained her view of the architect as relationship builder: "I think of architecture as a system; how you set up various opportunities for people to relate to one another, and to be empowered. What are the opportunities for people to interact? How can buildings spark new relationships?" On these lines, Studio Gang's research project, Reimagining The Civic Commons, proposes different strategies for increasing the potential for social interaction of existing public buildings and amenities, thus creating more resilient communities. The proposals range from expanding the function of libraries to accommodate gatherings and support digital development, to adapting parks into more activity-oriented spaces with more diverse topographies, or making police station more friendly environments, allowing for much more positive interaction, thus building trust. The research is part of a larger endeavour to re-imagine civic assets across US cities, to foster engagement, equity and economic development. The initiative is a remarkable example of working with the existing built environment and local communities to address specific social issues.

Allowing for Unplanned Activities

As many architects have said before, architecture should also leave room for the unplanned, for spontaneous activities and encounters. The Herstedlund Community Centre designed by Dorte Mandrup Arkitekter is a user-driven community centre commissioned for a then-new residential area in Albertslund, Denmark. The project incorporates unprogrammed spaces, while also creating surprising connections between the different functions of the building. The design allows for people of all ages and with diverse interests to use the building simultaneously while providing the users with the agency to re-programme the building according to their needs.

The social realm and its issues are vast, and so are the architectural means through which the profession can contribute to the creation of a more cohesive society. By devising the spatial relationships and programmatic layouts that spark chance encounters, encourage communication, interaction and consolidate communities, architects take a more active stand in providing the setting for social dialogue.

The Pros and Cons of Design-Build

Sourced From: Sourced from: <https://www.constructiondive.com> / Kim Slowey

For some time, the construction industry has been moving toward design-build as a more collaborative way to deliver a project, one that allows contractors to integrate design into their practices. Advocates tout its cost and time savings, so it's no wonder that contractors focused on traditional delivery methods like design-bid-build (DBB) might be interested in design-build.



But experts say there are major issues contractors should consider before leaping into design-build.

Understanding the Risks

In the design-build delivery method, contractors become the single point of contact and responsibility for both the design and construction phases of a project, said Lisa Washington, executive director of the Design-Build Institute of America. This means that contractors whose experience has primarily been in DBB, for instance, need to have a clear understanding of the risk that goes along with that.

Design flaws and other issues related to plans and specifications, for instance, now are the contractor's responsibility, a shift from more traditional methods where the owner and contractor expect the architect to assume liability for any design errors.

"The concept of a single point of responsibility can seem very straight forward," said Washington, "but you have to understand what it means so that you can manage the expectations and ... work with the owner to properly allocate the risks."

Having the Right Mindset

Developing a successful design-build program, Washington said, usually requires a significant mental shift on the part of team members who are not used to working so collaboratively.

"You have to have the right mindset, the right personalities and [participants who] are team-oriented, not individual-oriented," said Greg Gidez, corporate director for design services at general contractor Hensel Phelps.

This can be difficult for those who have spent a career working on DBB projects where there is a clear hierarchy and players who can be a bit territorial regarding their respective roles.

"It's possible to make the shift, but are they curmudgeons who are intolerant to change? If so, then it's going to be an uphill climb," Gidez said.

If those team members can change, however, which is made easier once they taste success with design-build, they should find the transition much smoother, he said.

Some contractors, said Bill Godwin, partner and senior project manager with Bacar Constructors Inc. in Nashville, Tennessee, have a leg up when it comes to integrating design into their businesses, like those that have assisted owners in the design process and helped to establish costs as part of negotiated work or value engineering.

"I think if you have that kind of background and culture," Godwin said, "you have the opportunity to make a good transition into design-build. If all you've ever been in is the hard bid ... rip-them-and-read-them type of work, it's not impossible, but that's a heavy lift moving straight from that into this idea of team and cooperation and trust."

Adopting this collaborative philosophy, however, might aid in recruitment as well.

“What I keep hearing,” Washington said, “is that young professionals who are graduating from college and entering the workforce – it’s natural to them. They don’t understand why you even have to learn how to be collaborative.”

Owners also have to have the right mindset, she said, and just like all the other team members on a design-build project, understand that moving into a more collaborative relationship isn’t as easy as flipping a switch. Contractors need to recognize which owners will make good team members and which will not, she said.

Recognizing Design-Build Not For Every Project

“Most contractors that are engaged in design-build have a pretty formal process for making a go or no-go decision,” Washington said, “and it takes into account everything from how much work they have on their plate right now to how many team members they have available ... to how many other firms might bid on the project.”

There is a cost to compete, she said, so every team must make a decision as to whether the project is worth the effort financially.

“Design-build done right is very professionally and personally rewarding,” Gidez said. “But if you don’t understand the nuances, you’re going to end up doing it wrong.”

Some of the questions contractors should ask before taking on a design-build project are:

- Do you have a designer on your team that understands scheduling, budgets, and what they have to do to deliver on time?
- Did you thoroughly vet your partners and choose wisely?
- Does the owner understand design-build practices?

Partnering with Architects and Engineers

Contractors that want to jump into design-build might be concerned at the prospect of hiring and investing in an in-house design team so that they are able to compete for projects, but Godwin said they shouldn’t be.

“It’s much easier to partner with an [architectural-engineering] firm than it is to go out and hire an architect to be a part of your staff,” he said.

Projects are so varied, Godwin said, it would be a challenge to decide which type of engineer or architect to take on full time.

“Do you hire an engineer? If so, what kind – structural, mechanical electrical? I would venture to say that the overwhelming majority of design-builders do it this way,” he said. “They partner with a firm that has the experience and background and résumé for the type of project that you want to pursue.”

This is the strategy that even the biggest contractors take, Godwin said. “We refer to firms that have the in-house capabilities as integrated design-build firms. There are some out there, and they are excellent, but they are a distinct minority.”

Being Proactive Versus Reactive

Contractors, Godwin said, need to realize that they will lead most design-build projects and must adjust from reactionary mode – waiting on owner-hired architects and engineers to produce designs so that they can price and build them – to developing that design themselves, with the ultimate responsibility for meeting the expectations of the owner within the established budget.

The biggest contractor challenge in all of that, he said, is probably how to manage the design team –

how to be a good team leader and allow them to do their segment of the project. “There’s a lot of finessing that has to go on between your design partner and you as a general contractor.”

Keep Your Heads Down: See How This Iconic Roof Was Erected in Hong Kong Without a Single Crane

Sourced From: <https://www.globalconstructionreview.com> / Richard Aylwin



Builders could not use cranes to erect the roof of Hong Kong’s new Passenger Clearance Building because it is just 2m below the allowable ceiling that guards flight paths into the adjacent Hong Kong International Airport. So, Robert Bird Group devised a pioneering method of slotting 81 prefabricated segments horizontally on rails into place to get around height and other serious space constraints.

Robert Bird Group (RBG) was appointed during the tender phase by Leighton Asia with its joint venture partner, Chun Wo Development Holdings, as the specialist construction engineering consultant for the Hong Kong Boundary Crossing Facilities - Passenger Clearance Building (PCB, pictured), designed by Aedas International and Rogers Stirk Harbour & Partners.

The Highways Department of the Hong Kong Special Administration Region Government is the PCB project promoter.

RBG was required to design and develop in close consultation with the Leighton-Chun Wo Joint Venture the construction methodology and erection sequence (CMES) for the construction of the building’s iconic roof element.

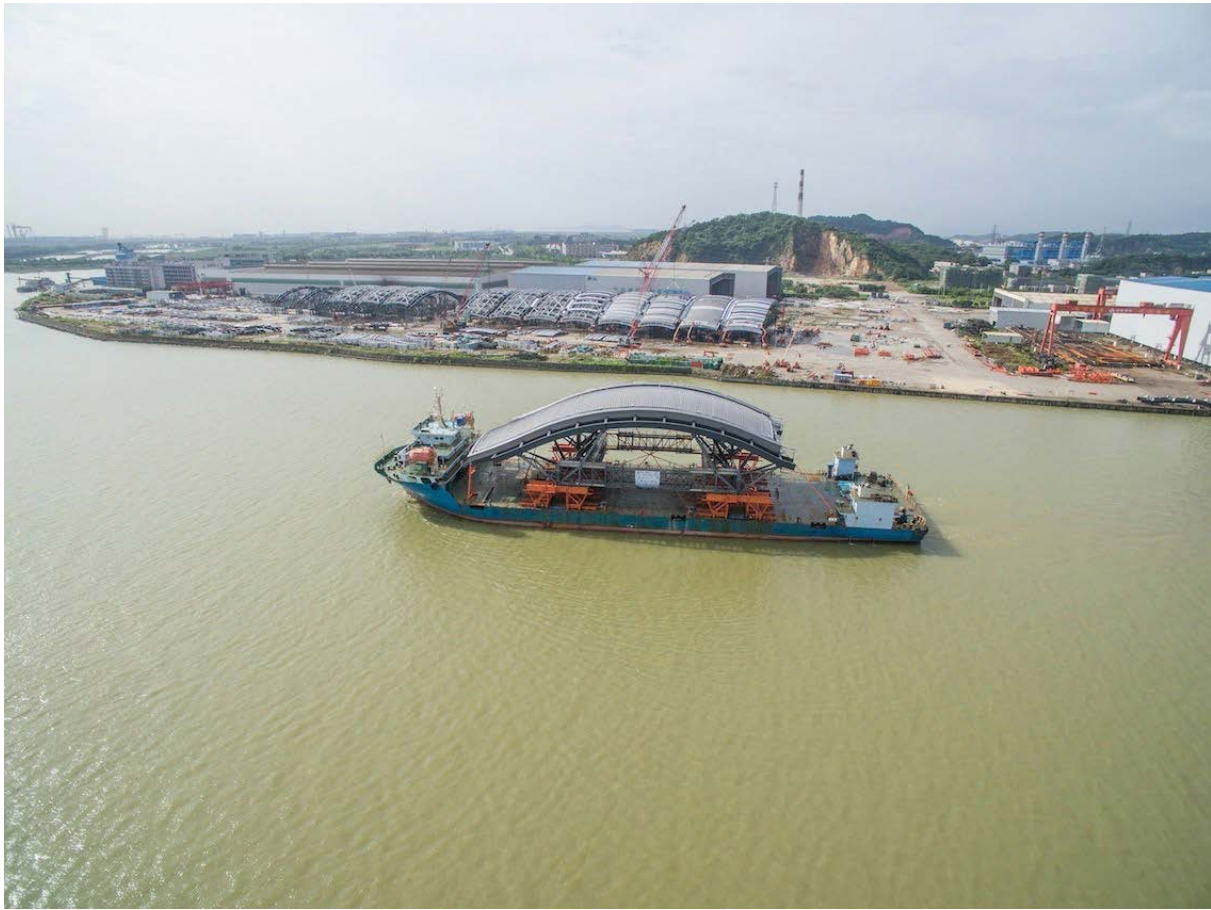
The PCB is a building with a total floor area of over 90,000 sq m, located on a man-made island adjacent to the Hong Kong International Airport. It is the new border crossing point for travellers between Hong Kong, Macao and Zhuhai, China, and serves as an immigration gateway for vehicles and passengers entering and leaving Hong Kong.

The PCB includes a 300m long by 200m wide wave form iconic roof; the roof structure is composed of structural steelwork with the building zoned into a series of structured bays, supported by steel cast nodes with prop arms that support the major structural steel framing elements of the roof.

The roof cladding is a fully integrated cassette system overlaid with a preinstalled standing seam roof sheeting. The facades are all double-glazed, supported by a series of bow-string trusses that span 16m vertically between the floor and the roof.

RBG was tasked to investigate the permanent works design and develop an innovative construction solution that could address the unique constraints associated with construction of the PCB.

The building is located directly beneath the flight path and the emergency flight descent zone into the airport. One of the major constraints to construction was the air height restrictions imposed by the Civil Aviation Department of Hong Kong.



Roads were unavailable, so 81 custom prefabricated roof segments, with temporary transportation frame attached, were barged in sequence to the PCB site's purpose-built jetty

This limited the height to which the building and construction equipment could rise. The roof being just 2m under the air height restriction meant that traditional methods of construction from above using cranes could not be used for the roof construction.

A further constraint was that the PCB would occupy one small part of the reclaimed 130ha island at just over 6ha and be surrounded by the construction of roads, bridges, gates, and ancillary buildings that connect the island to the airport. These were all being constructed at the same time which would have meant sharing the temporary access roads with other contractors leading to serious congestion.

If the roof had been built in the traditional method there would have been the need for large areas for lay-down and on-site preassembly which was not possible because of the limitations of the available site area.

To demonstrate to the Leighton-Chun Wo Joint Venture and the Highways Department the proposed PCB roof construction methodology and erection sequence at the tender stage, RBG utilised Virtual Design and Construction (VDC) to visualise the construction methodology. Still images were produced from the Revit model for the permanent design elements and temporary works which were then transferred into the 3DS Max software for processing.

In the initial stages of the post award design phase the Leighton-Chun Wo Joint Venture finalised the model of the permanent and temporary works in Revit and produced a BIM model incorporating the input from all subcontractors including RBG's temporary works, the roof permanent works from the steel contractor as well as the transport frames all done using BIM and Navisworks.



Self-propelled modular transporters (SPMTs) were used to get the roof segments off the barges and to location.

The construction methodology adopted by the Leighton-Chun Wo Joint Venture and RBG was to use off-site prefabrication and preassembly with the roof built in segments as part of a full-scale outdoor roof assembly line in Zhongshan, China.

The roof segments would then be horizontally launched into their final positions above the constructed concrete structure.

The roof was broken down into 81 segments: 45 primary and intermediate roof segments and 36 infill segments. The segments were preassembled complete with structural steel elements, roof cassette cladding, architectural builders' works and finishes (ABWF) and MEP. They were then transported by barge to the Hong Kong site.

Due to the congested waterways around the island, including the Macao ferry terminal connecting the island to the mainland, there was only one possible barging point that could be used.

A temporary jetty was built on the reclaimed island to receive each barge carrying a roof segment mounted on its temporary transportation frame. Naval architects working with RBG determined the forces that the barges would be subjected to in crossing the Pearl River delta, including the impact of wind and waves, which was then used by RBG for the design of the transportation frames and barging temporary works.

Self-propelled modular transporters (SPMTs) were used to get the roof segments on and off the barges. The SPMTs were also used to navigate the segments around the project site including the offsite assembly yard.

Heavy lift contractor VSL lifted the segments in sequence using their purpose-built heavy lift hydraulic platform located on the road outside the building. The segments were lifted with the use of strand jacks to a height where they were aligned with the temporary elevated rails supported by the reinforced concrete columns and temporary towers, horizontally launched along the rails into position and then connected to concrete mega columns and the adjacent roof segments that were already in place.



In conclusion, the horizontal launch erection sequence solution designed by RBG and developed with the Leighton-Chun Wo Joint Venture proved to be the right approach for the project, with the process being extremely time efficient so that the entire roof was erected in just over nine months from delivery of the first roof segment.

Due to the success of the modularisation, off site preassembly and horizontal launch erection process, it has now become part of the CMES for the Third Runway Concourse building that is to be constructed for airport.

Roof segments arrived onsite c/w structural steel elements, roof cassette cladding, architectural builders' works and finishes and MEP.

RBG expects that in future design modularisation, off site preassembly and horizontal launch CMES will become the game changer for the delivery of large and public assembly buildings at locations like airports and other constrained sites around the world.

ASSOCIATION LINKS

- **Alberta Construction Safety Association (ACSA)**
www.acsa-safety.org
- **BuildingSMART Alliance** (North American Chapter of BuildingSMART):
www.buildingsmartalliance.com
- **BuildingSMART International (formerly IAI)**
www.buildingsmart.com
- **Biomimicry Guild**
www.biomimicryguild.com
- **Canadian Green Building Council (CaGBC)**
www.cagbc.org
- **CCDC Documents**
www.ccdc.org/home.html
- **Construction Specifications Institute (CSI)**
www.csinet.org
- **International Construction Information Society (ICIS)** www.icis.org
- **OmniClass**
www.omniclass.ca
www.omniclass.org
- **Uniformat**
www.csinet.org/uniformat
- **Institute for BIM in Canada (IBM)** www.ibr-bim.ca
- **Architecture 2030**
www.architecture2030.org
- **Building Information Modeling (BIM) Forum**
www.insightinfo.com/bimforum
- **Biomimicry Institute**
www.biomimicryinstitute.org
- **Canada BIM Council**
www.canbim.com
- **Canadian Green Building Council (CaGBC) – Alberta Chapter:** www.cagbc/chapters/alberta
- **Construction Specifications Canada (CSC)**
www.csc-dcc.ca
- **buildingSMART Data Dictionary**
bsdd.buildingsmart.org
- **MasterFormat**
(<https://secure.spex.ca/siteadmin/freedocuments/images/1.pdf>)
- **buildingSMART Canada**
www.buildingsmartcanada.ca
- **Ace BIM**
www.acebim.ca

ASSOCIATION LIAISONS

Alberta Association of Architects (AAA)

<http://www.aaa.ab.ca/>

Alberta Painting Contractors Association (APCA)

www.apca.ca

Alberta Wall & Ceiling Association (AWCA)

<http://awca.ca>

Alberta Roofing Contractors Association (ARCA)

<http://www.arcaonline.ca>

info@arcaonline.ca

American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE)

<http://www.ashrae.org/> / ashrae@ashrae.org

The Canadian Wood Council (CWC)

<http://www.cwc.ca>

info@cwc.ca

Portland Cement Association

ConcreteTechnology@cement.org

Interior Designers of Alberta

www.interiordesignalberta.com

Alberta Painting Contractors Association (APCA)

www.apca.ca

Association of Professional Engineers, Geologists, and Geophysicists of Alberta (APEGGA)

<http://www.apegga.org/> dward@apegga.org

Association of Science and Engineering Technology Professionals of Alberta (ASET)

<http://www.aset.ab.ca/>

Russ Medvedev, russm@aset.ab.ca

Building Owners and Managers Association (BOMA)

<http://www.bomaedmonton.org/> / edmonton@boma.ca

Consulting Engineers of Alberta (CEA)

<http://www.cea.ca/> info@cea.ca

Edmonton Construction Association

www.edmca.com

contact@edmca.com

Terrazzo, Tile & Marble Association of Canada (TTMAC)

<http://www.ttmac.com/>

association@ttmac.com



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Bulletin Board

Message from the Executive:





















We in the Executive are looking for creative-minded individuals who can take on a position and follow through with ideas...if this is YOU, send a message to information@cscedmonton.ca and we will be quick to get back to you!

Open Positions Include:

Officer Engineer
Officer Marketing
Newsletter Editor
Chapter Liaison

You don't need to be a member of the Committee to come and participate in our monthly Chapter meetings but watch out if you do! You may find yourself holding a position...maybe even as Chapter Chair...

The Executive

<p>Director / Newsletter Editor</p>  <p>Tracey Stawnichy, LEED AP, CSC Construction Administrator ACI Architects Inc. P: 780-994-3699 tstawnichy@aci-arch.com</p>	<p>Chair</p>  <p>Andrew Brassington, CTR Western Canada Sales Rep ROCKWOOL P: 587-341-5268 Andrew.brassington@rockwool.com</p>	<p>Vice-Chair</p>  <p>Dylan Leclair, CTR IKO Commercial P: 587-335-9552 Dylan.leclair@iko.com</p>	<p>Treasurer</p>  <p>Catherine Osborne Administrator ACI Architects Inc. P: 780-486-6400 cosborne@aci-arch.com</p>
<p>Secretary</p>  <p>Jessica Prosser Business Development / Sales DAAM Galvanizing - Edmonton P: 587-340-7169 jessica@daamgalv.com</p>	<p>Officer Architect</p>  <p>Kevin Osborne, CET, CSC Associate / Architectural Technologist ACI Architects Inc. P: 780-486-6400 kosborne@aci-arch.com</p>	<p>Officer Specifications & Website Development</p>  <p>David Watson FCSC, CET President NBS (Canada) (formerly Digicon) P: 780-758-4147 David.Watson@theNBS.com</p>	<p>Officer Professional Development</p>  <p>Mike Ewaskiw, CTR Architectural & Engineering Services Manager Stonhard / Fibergrate P: 780-237-7844 MEwaskiw@stonhard.com</p>
<p>Officer Engineer</p>  <p>Position Open</p>	<p>Officer Interior Design</p>  <p>Corry Bent, DID, BA Design cbent@shaw.ca</p>	<p>Officer Contractor</p>  <p>Renee McKenzie, Project Manager Jen-Col Construction P: 780-717-7798 rmckenzie@jen-col.com</p>	<p>Officer Manufacturing</p>  <p>Mike Lafontaine Expocrete P: 780-962-4010 Mike.Lafontaine@oldcastle.com</p>
<p>Officer Technical Program</p>  <p>Kyla Keller Architectural Technologist / PM Planworks Architecture Inc. P 780-643-3233 x 63 KKeller@pwarch.ca</p>	<p>Officer Technical Program</p>  <p>Jessica Prosser Business Development / Sales DAAM Galvanizing - Edmonton P 587-340-7169 jessica@daamgalv.com</p>	<p>Officer Membership</p>  <p>Joseph Trivellin, CTR Technical Sales Rep, Edm Adex Systems P: 587-785-6484 Joseph.trivellin@adex.ca</p>	<p>Officer at Large</p>  <p>David Lawrence Retired P: 780-901-7260 davidlawrence@interbaun.com</p>
<p>Officer Sustainability</p>  <p>Position Open</p>	<p>Officer Marketing</p>  <p>Position Open</p>	<p>Officer Trade Contractor</p>  <p>Position Open</p>	<p>Officer – Owner's Rep</p>  <p>Cam Munro, CTR Alberta Infrastructure P: 780-231-1739 Cam.munro@gov.ab.ca</p>