

# BUILDING THE WEST

2020 Fall/Winter Edition



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*Building the West Since 1871*

# In this **ISSUE**



Message from the President [page 3](#)

We've Moved! New Headquarters [page 4](#)

Vancouver Central Library Revitalization [page 6](#)

Facing Adversity: COVID-19 [page 10](#)

Commercial Broadway SkyTrain Station Upgrades [page 12](#)

The Procore Advantage [page 14](#)

Our People [page 15](#)

Kitsilano Pool Remediation [page 16](#)

The Spirit of Giving [page 19](#)

# Message from the President

It has been a most unusual year. 2020 will be remembered as a tumultuous journey, challenging us to rise and innovate to overcome the global pandemic COVID -19 has brought on us.

**Innovation** was required to remove the obstacles that the virus has put in place. We adapted technology to **collaborate** and communicate virtually. We **adapted** to put in place social distancing and hygiene measures to work safely at our sites, and we re-sequenced work and processes so that we could carry on the essential work required to ensure that many jobs continued to be supported by our industry. We kept our **commitments** to our clients, consultants, trade partners and employees to ensure no one was let down or left behind.

Finally, our industry gathered, and we **shared** best practices, regularly communicating to ensure we **continuously improved**. When difficulties were encountered we emphasized **acceptance and understanding** to overcome. I think the best of us emerged through the hardship and challenge.

While we look forward to better, normal days ahead, we have pride in the way we have worked with our clients, consultants and trade partners.

Over the years SBW has faced turbulent times, but have always overcome through our Core Values remain as guiding principles:

## INNOVATION

## COLLABORATION

## ADAPTABILITY

## COMMITMENT

## CONTINUOUS IMPROVEMENT

At Smith Bros. & Wilson, our goal is to exceed your expectations and build consistent and long-lasting relationships through our project performances.



Our team will collaborate with you to translate project ideas into reality. Our goal is to work together at the earliest stage possible to be able to add value by building every project in the most cost-effective way, while maintaining our best-in-industry quality workmanship.

We utilize our extensive experience combined with leading edge technology to provide comprehensive solutions and value to our clients. We are committed to remaining a company known and trusted for high quality work.

– Jeff Musialek, President

“ You can use **an eraser** on the drafting table or **a sledgehammer** on the construction site.

– Frank Lloyd Wright

# WE'VE MOVED! New Headquarters



SBW moves into new corporate head office located in Surrey just North of 96<sup>th</sup> Avenue at 186<sup>th</sup> Street.

After completing the land acquisition in the Spring of 2016, the next year was spent on the design.

The goal was to perform all aspects of the construction with a dedicated focus on highlighting the company's attention to detail, expertise in exposed concrete structural elements and showcasing our in house preparation of mass timber component assembly and NLT details.

The result is a perfect example of our talents for our clients to see upon their first visit.

Upon arrival our visitors are welcomed into a large foyer and comfortable waiting lounge. The remainder of the 1,160 sq m (12,486 sq ft) interior space allows our departments to be divided across three floors of the building. Executives and Project Managers reside on the top floor. Our in-house Estimating and Pre-Construction teams make the lower floor their home alongside our tender closing room (affectionately known as the engine room). In addition to the lounge, our main floor houses our Reception and Accounting teams, as well as multiple meeting rooms.



Top: SBW's new corporate head office. Bottom: The interior features of the new headquarters showcase SBW's attention to detail.

This new location also boasts a large 465 sq m (5,005 sq ft.) warehouse on the same property. It has been specifically designed to provide a heated area for pre-assembly and preparation, logistics prep, for all of our project sites year round. This space was used to assemble our NLT sections for the construction of the office itself.

Our history in Vancouver has been spread over 3 primary office locations.

Originally our office was located in the downtown peninsula at 1267 Richards Street and was home to the first Vancouver based office in 1929-1978.

From here we took over a large corner lot on Aisne Street, just south of SW Marine Drive.

This one acre lot was home for the next 42 years, from 1978 to 2020 and was comprised of multiple offices and boardrooms, a large outdoor yard, covered storage, and a construction services pre-fabrication area for our custom formwork.

The original sign had been a fixture for many years at the Aisne location, when it was time to move, the yard foreman was instructed to remove it.

Upon closer examination, we discovered the old, tarnished letters were actually made from brass and weighed almost 10 lbs per letter. It turned out these letters had started in our original location on Richards street but had been there so long, everyone forgot this history.

This was a major discovery and immediately the decision was made to refurbish these letters and incorporate them into the new office.

We look forward to calling this new building home for the next chapter of the company, 80% of our staff has reduced commuting times by 50% or more with this new location.

Our company barbecues have been a long-standing tradition on Fridays before long weekends, and our new outdoor patio next to our kitchen and lunch room has been designed to be the venue for these and other staff events (temporarily on hold during the COVID-19 pandemic).



Top: The interior features of the new headquarters showcase SBW's attention to detail. Bottom: The original SBW sign's brass letters were refurbished and incorporated into the new office.

# Vancouver Central Library Revitalization

**VRCA**

**Awards of  
Excellence**

**2019 GOLD WINNER**

General Contractors  
— Tenant Improvement

VRCA  
Awards  
of Excellence

OWNER  
City of Vancouver

GENERAL CONTRACTOR  
Smith Bros. & Wilson (B.C.) Ltd.

ARCHITECT  
DA Architects & Planners

STRUCTURAL CONSULTANT  
RJC Engineers

MECHANICAL CONSULTANT  
Rocky Point Engineering Ltd.

ELECTRICAL CONSULTANT  
Nemetz (S/A) & Associates Ltd.

LANDSCAPE ARCHITECT  
Cornelia Hahn Oberlander /  
Connect Landscape Architecture

TOTAL SIZE  
43,540 ft<sup>2</sup> (interior renovation)

TOTAL PROJECT COST  
\$15.5 million

With a 20-year lease coming to its end in 2015 & \$15.5M funding, Vancouver Public Library decided it was time to expand the Central Library's two top floors & rooftop to provide flexible spaces for public use.

SBW was selected as General Contractor for the Vancouver Public Library Revitalization project. The project involved removal of 8,000 square feet of the upper level to create a rooftop garden, as well as the opening up of the floor between levels 7 and 8, and connecting those levels with two new escalators.

The additional 35,000 square feet of programmable library space now includes a two-storey public atrium, a quiet reading room, community use spaces, administrative offices, and multi-purpose rooms with a catering kitchen. A striking honey maple feature stair connects the upper levels.

Existing terraces on both the north and south sides of Level 8 were also updated to allow public access.

### Hoisting Challenges

SBW addressed the difficulty of accessing the top two storeys of the building through a value engineering approach. One of the biggest challenges was planning how to perform the necessary lifts in the busy downtown area surrounding the Central Library.

SBW's pre-construction team collaborated to establish which type of crane would be best suited to address the hoisting requirements.

It was determined that a luffing jib tower crane was the best choice to get the job done efficiently and with minimal impact to the staff and public.

The crane's compact base design allowed foot traffic to walk by on all sides to access the library facility and surrounding businesses.

The crane stood on top of a large concrete "plus-shaped" pad which was only in contact with the ground at the four outermost points. This ensured that the loads applied by the crane were transferred directly into the building support columns below which are part of the parking lot.

This required very accurate placement of the re-shoring, utilizing survey data from the parking structure below to ensure that the supporting structures were correctly aligned. >>



Left: The luffing jib tower crane used on the project.  
Right: The feature stair connecting the upper levels.



## Extensive Demolition & Concrete Removal

From a building envelope perspective, the project required approximately 40% of the existing roof to be removed and converted into the public outdoor space.

Approximately one million pounds of concrete and rebar were demolished and removed from the top of the library so that the new rooftop garden could be created. Removal of such a large quantity of concrete from the roof of such a high use public building in the heart of the city was a challenge that SBW met through innovation.

SBW made use of several concrete demolition robots. Two small jackhammer robots were hoisted to the roof using the tower crane to work on the demolition. These robots were controlled remotely by workers on the roof.

The crane was a key element to successfully removing the concrete from this highly visible, and very active public site with constant pedestrian foot traffic below. Most of the construction waste was removed using small waste bins hoisted by the crane. Waste material could not be staged due to the very small laydown areas for the project.

Waste had to be carted away via truck immediately after removal from the building, which required frequent coordination with the waste trucks. SBW removed 1,650 tons of waste from the project, of which 1,544 tons (93%) was diverted from landfills to be reused and recycled. >>



## Archive Area & Server Room Protection

Water had to be used to control the dust caused by the demolition and concrete cutting activities, so extensive planning was necessary to waterproof the slab demolition areas in order to avoid risk of damage to the document archive area and server room on Level 7.

The entire floor slab in the demolition area was waterproofed with peel and stick membrane, and temporary curbs were installed.

The waterproofing layer was then protected with a wooden crash deck which ensured that the temporary membrane was not damaged during the demolition works.

Frequent monitoring of the lower floors ensured that no leaks affected the archive or server areas.

## Escalator Integration

The existing skylights were to be removed and replaced as part of the upgrades. SBW identified this opportunity to add value and cost savings to the project by utilizing this opening for access to “drop in” the two new escalators for the project.

A large opening was cut into the existing skylight framing to allow for the escalators to be hoisted into the building using the crane. Each of the two escalators arrived on the site in three pieces, which had to be individually hoisted into the building. SBW lowered the individual escalator sections through the skylight openings before the new skylights were installed.

The escalators were then assembled inside the building, placed on roller dollies on the floor slab, slid towards the slab opening, and then hoisted into place utilizing multiple chain falls.

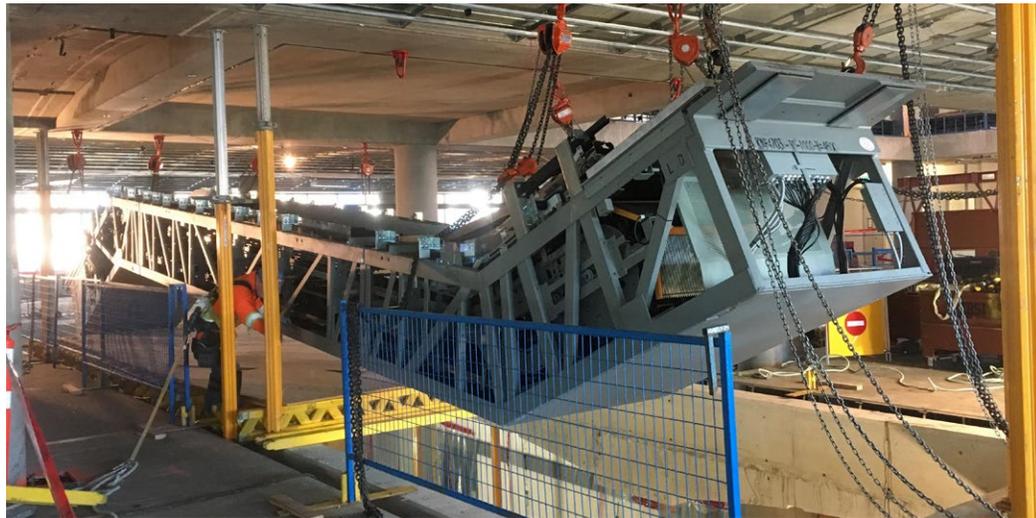
This strategy eliminated the need to remove existing curtainwall assemblies, access flooring and expensive underfloor mechanical and electrical systems in order to transport the escalators horizontally through existing occupied spaces.

Not only was this a large cost savings to the project, but it was a much less invasive process and it minimized the disruption to existing operating areas of the library.

## LEED Gold

The project was built to LEED Gold requirements, which meant that SBW had to track all waste leaving the project and record how much was diverted, as well as keep track of the cost of all new materials installed on the project.

We also needed to track all potential VOC emitting materials such as solvents, glues, paints, etc., to ensure that they met the LEED standards for sustainability and emissions.



After being lowered through the skylight openings, the escalator sections were assembled inside the building then hoisted into place utilizing multiple chain falls.

# Facing Adversity: COVID-19

In mid-March of 2020, the Government of BC announced that it was declaring a State of Emergency and Public Health Emergency due to the COVID-19 virus.

As part of the declaration, essential services including the construction industry was permitted to continue to operate during such restrictions.

Just like any other industry, we faced numerous challenges and hurdles during these restrictive phases. The restrictions and infection risk had negative impacts on our business and personal well-beings. We had to learn to be patient, redo all impacted plans, and somehow minimize the hardship felt by all.

Our typical worker PPE, cleaning supplies, building material and 3rd party inspections were suddenly unattainable due to manufacturing, importing and government impacts.

Fear and concern was the utmost thought on everyone's minds; whether it was about contracting the virus, the health of our business, or the ability to maintain performance when everything else was on hold.

Often, we felt as if we had to hold our breath as we watched each update released by the governing authorities; determining the next obstacles we had to face. Ultimately, we strived to keep our employees working, morale high, clients supported, and risks low.

Provided with very little guidance and information at the beginning, SBW quickly developed informal procedures, information notices and sanitization plans within days of the emergency announcements.

As a Prime Contractor, not only did we have to ensure the safety of our own workers, but we had to ensure the safety of our Subcontractors and clients also. We kept transparency with all personnel, while trying to find solutions for the unprecedented territories, and rapidly changing circumstances experienced by the rest of the industry.

Our main focus at the time was to ensure everyone was safe and protected; by securing enough sanitizing/cleaning supplies and PPE, adhering to strict cold/flu isolation requirements, using site ledgers for traceability, and permitting only mandatory personnel in the office and project sites.



Top: Physical distancing and masks were implemented in job trailers. Bottom: SBW following COVID-19 protocols while providing a team lunch to workers on our Peace Arch Hospital Expansion project.

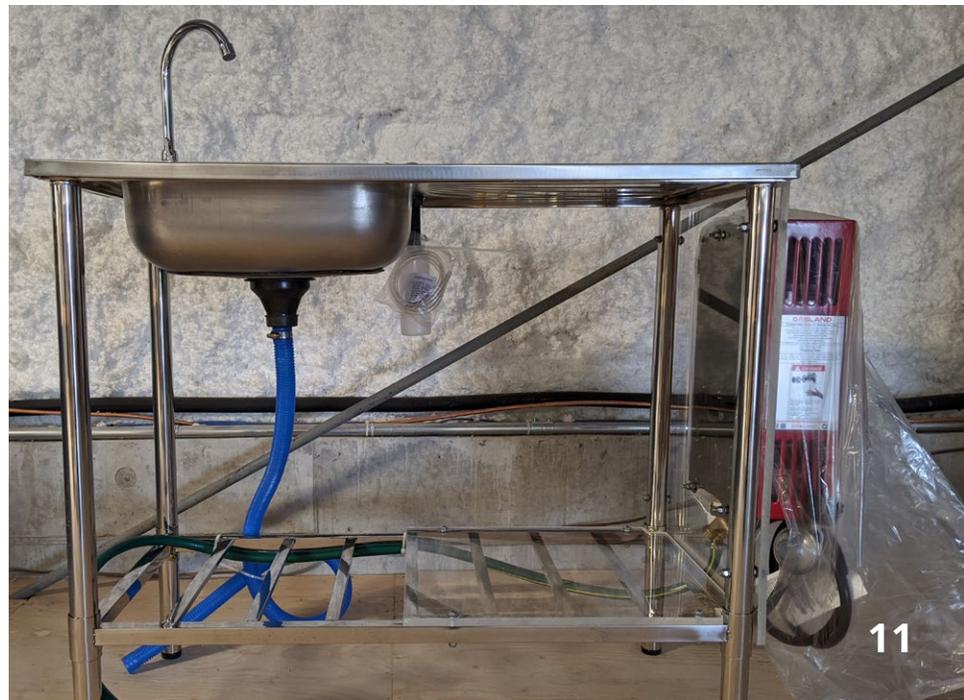
Our team even designed and built efficient non-porous handwash stations with hot water provisions, specifically for the project sites. We also had to quickly adopt new technology measures to maintain our quality and performance standards, that was promised to our clients. All these initiatives were implemented well before WorkSafe BC or the BC Government developed their guidelines and requirements for worker protection.

The input and feedback from our employees was a huge contribution to the success of our developing procedures. Tremendous efforts were put in by numerous teams pulling together to successfully maintain the safe operations of over 15 project sites, when all the cards were stacked against us.

During this challenging time, we have proudly adopted many experiences to apply forward, including:

- Providing all project sites with high-quality handwashing stations and sanitation supplies
- Encouraging good habits and behaviours that reduce the transmission of infectious diseases
- Supporting our workers' physical and mental health with ample resources, tools and processes
- Providing clear lines of communication capable of reaching everyone from office staff to the field workers about COVID updates and changes

From this experience, SBW is confident that we are prepared to handle any challenges and obstacles that the pandemic creates.



Top: Physical distancing stickers were installed at SBW's new head office. Bottom: SBW-designed non-porous hand wash stations with hot water provisions, for the project sites.

# Commercial Broadway SkyTrain Station Upgrades



**VRCA**

## Awards of Excellence

**2019 SILVER WINNER**

General Contractors  
— \$15 to \$50 Million



OWNER  
TransLink

GENERAL CONTRACTOR  
Smith Bros. & Wilson (BC) Ltd.

CONSULTANT  
AECOM

CONTRACT VALUE  
\$42 million

Commercial Broadway is the busiest rapid transit station complex in Metro Vancouver's SkyTrain system, seeing approximately 150,000 transit users every day.

The station at the intersection of Commercial Drive and Broadway serves both the Expo and Millennium Lines and is a major transfer point for the 99 B-Line rapid bus and some of the city's busiest trolley bus routes.

This multi-phase project included the construction of an additional platform for Expo Line trains, a widened crossing over the Grandview Cut, and a new pedestrian walkway over Broadway. Changes included new elevators, an expanded Broadway concourse, wider entrances, new retail spaces, lighting, replacement of mesh panels with glass, and a bike parkade that can accommodate 50 bicycles.

### Numerous Stakeholders

The project involved multiple stakeholders including TransLink, BCRTC, Coast Mountain Bus Service, The City of Vancouver, CN Railways, BC Hydro, Telus, and various retailers.

Stakeholder communication protocols were established to keep all Stakeholders informed on current and upcoming construction activities. SBW worked with stakeholders to ensure accurate and relevant information could be communicated to the public during key stages of the project.

The dual crane lift used for the installation of the Passerelle is one of the most complicated lifting techniques

### Passerelle Installation

The installation of the 270Ton "Broadway Passerelle" required months of planning with numerous stakeholders. The dual crane lift used for the installation of the Passerelle is one of the most complicated lifting techniques. The work was successfully completed in 24 hour shifts over a weekend to minimize disruption to traffic. The overall length of the Passerelle structure was approximately one meter longer than the actual opening, so the Passerelle had to be lifted into place one end at a time.

### Ensuring Safety & Minimizing Disruption

Through careful planning, SBW ensured the station remained operational during construction, with minimal impact to train and passenger movements.

SBW worked to minimize disruptions and restrictions to access by conducting much of the work in the evening and during off-peak hours. Strict safety protocols were required to maintain the safety of the public, staff and site workers.

Six active lanes of vehicle traffic, and Metro Vancouver's busiest bus route were located directly below the working area. A unique scaffold platform was immediately hung from the Passerelle to allow finishing work to continue while eliminating the risk of falling materials to the roadway below.

The existing pedestrian bridge over the Grandview Cut was required to remain operational throughout construction. SBW developed a unique hoarding tunnel complete with temporary waterproof roof. This tunnel allowed the dismantling of the existing bridge structure without impacting passenger movements.



# The **PROCORE** Advantage

SBW is always looking for exciting opportunities to adopt emerging technologies and trends in the construction industry.

One such technology that SBW has been an early adopter of is Procore – a cloud-based project management software system that connects to every aspect of a project. We were the first company in British Columbia to adopt this software in its earliest version and have been involved in its evolution over the past several years working directly with the developers of this powerful tool.

Procore is easy to use, transparent and collaborative. We use Procore for our Pre-construction, Project Management and Financial Management activities, integrating all three seamlessly and collaboratively, with a focus on transparency to all project stakeholders, including the client. This aspect of Procore stands out as a great fit for SBW, matching up with our corporate philosophy and results-oriented ethos.

## So why did we choose Procore?

First, Procore keeps all project activities up to date, synchronized and viewable by all stakeholders. Version control is applied to drawings so that anyone can easily access the latest drawings with a click of a button without worry that they are looking at an out-of-date document.

All data is tracked and archived automatically, meaning there is no need for consultants, clients and SBW to maintain their own logs or tracking systems.

Instead, Procore allows all stakeholders to generate reports as needed and review them whenever they please on whatever device they choose.

## Procore's design philosophy is all about keeping everyone on the same page.

Procore also helps foster accountability. Ball-in-court tracking makes team members aware of expectations for deliverables and responses, notifying them of overdue tasks and automatically progressing to the next step of the workflow once complete. Any user can see at a glance who is responsible for what action, how long an item has been outstanding, and who is the next person or group to receive the ball for the next action.

User-friendliness is also a big feature of Procore. From old-school senior superintendents and foremen to tech-savvy new college graduates, Procore is accessible to everyone. If you can use Facebook you can use Procore, which has made it easy to get buy-in from clients, consultants, and our own staff.



Each module of Procore integrates with the other modules, meaning issues can be linked and tracked through project drawings, RFI logs, change management logs and so on seamlessly. Did that RFI have a cost implication? Then link it to the Changes module. Did that Site Instruction revise a drawing? Then link it to the Drawings module.

Procore also lends itself well to collaboration and transparency. Everyone is working off the same set of data, allowing them a birds-eye-view into the project's status and wellbeing. Anyone stakeholder can interact with the project from any device, meaning working from home or on site is hassle-free, which has proved an asset in the COVID-19 era.

By adopting Procore early, we have an advantage over our competition in delivering better project experiences and outcomes to clients and consultants. Also, because Procore is so easy to use, it reduces the time spent on mundane tasks like pushing paper, freeing the team up to act pro-actively on more important tasks.

# Our People



Last year, SBW said farewell to Tim Harrington, President, who retired from SBW after **40 YEARS**. Happy retirement from your SBW family, Tim!

It truly is the end of an era; after 40 years of dedicated service with SBW, Tim Harrington officially retired in August 2020.

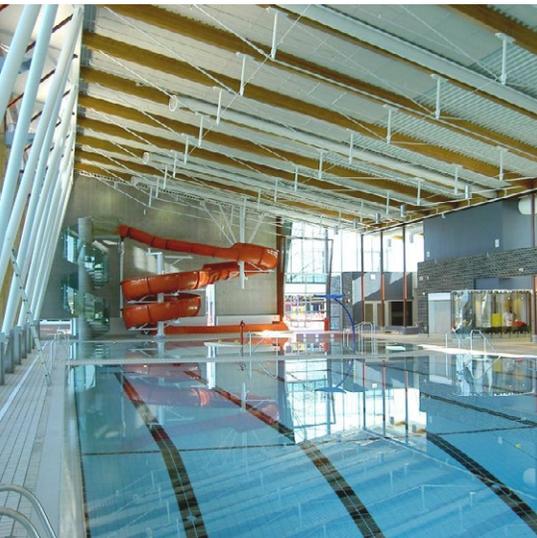
Tim worked in the construction industry for 45 years, starting first in residential construction. He joined SBW in 1979 as an Estimator, working his way up to Project Manager, and then serving as President from 1988 to August 1, 2019. He remained on the SBW Board of Directors until August 2020.

Throughout his Presidency, Tim always maintained direct involvement with all of SBW's construction operations. In later years he provided Director oversight on select projects, such as the recently completed, award-winning Commercial-Broadway Station Upgrades for TransLink.

Tim was a key contributor on many of SBW'S projects over the years, including:

- Chilliwack General Hospital
- Howe Sound Pulp & Paper
- Richmond City Hall
- Chinatown Millennium Gate
- Vancouver Shipyards
- Killarney Community Pool
- Burnaby Pedestrian Bridge

In addition to his dedication to SBW, Tim was actively involved with the local construction industry for many years, serving as Board Member and Chair & Executive Committee member of the Vancouver Regional Construction Association.



Counterclockwise from top: Former SBW President Tim Harrington; Killarney Community Pool; Burnaby Pedestrian Bridge; Commercial-Broadway Station Upgrades.



# Kitsilano Pool Remediation



**VRCA**

## Awards of Excellence

**2019 SILVER WINNER**

General Contractors  
— Tenant Improvement

OWNER  
City of Vancouver

GENERAL CONTRACTOR  
Smith Bros. & Wilson (BC) Ltd.

ARCHITECT  
Reid Jones Christoffersen

TOTAL PROJECT COST  
\$2.7 million

Opened in 1931, the Kitsilano Pool is an iconic landmark in Vancouver and is the longest outdoor pool in North America.

The Kitsilano Pool remediation project was designed to significantly reduce the use of potable water (by approximately 430,000 gallons per month) used by the pool. The scope of work included: removal of the existing pool basin membrane; repairs, concrete remediation and replacement of the pool deck structure; sealing and filling all cracks and preparing surfaces in the existing pool basin; application of a long-lasting pool liner membrane coating;

### Innovative Scaffolding System

SBW erected fully sealed scaffolding over the pool and deck area to ensure the pool basin remained dry while SBW worked. Use of Keder high strength panels provided the best protection from harsh weather in the exposed project location.

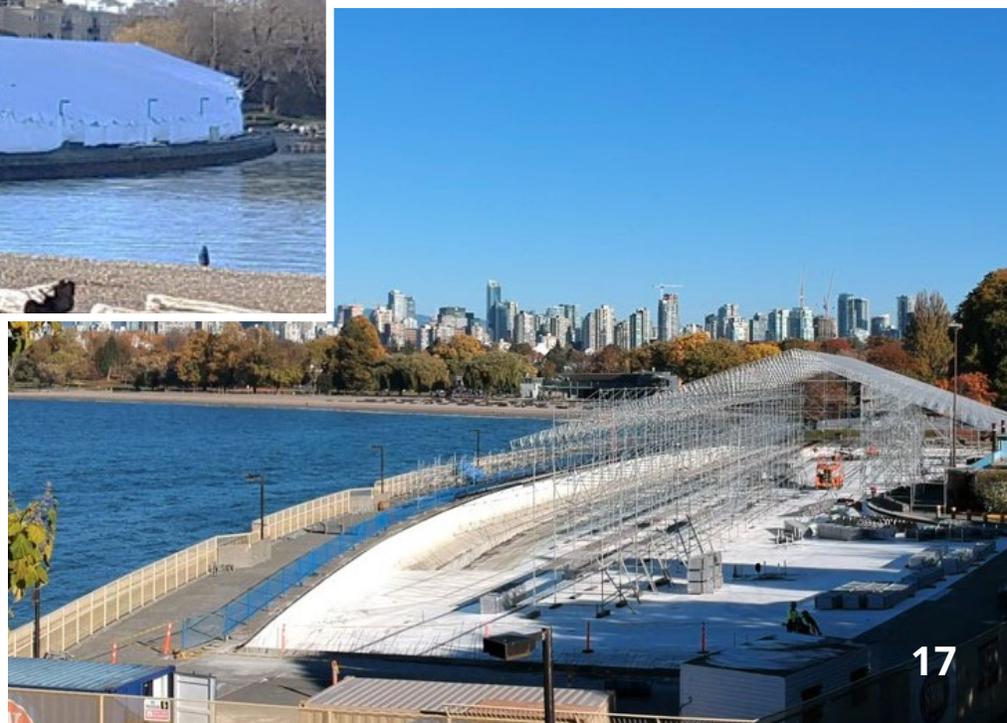
Numerous storms were encountered throughout the project, without the loss of working days to keep project on schedule.

The Keder system also diverted approximately eight 40-yard waste bins of plastic shrink wrap material from landfills by using a reusable system instead of one-time use product.

### Temperature & Humidity Control

Very specific application conditions were required for the correct coating installation, as well as the highly specialized caulking product.

SBW had to implement and monitor special heating and drying equipment in order to control the site environment. In addition, SBW implemented a long product testing program to pre-determine the best option for the final coating system specialty product choice.



SBW erected fully sealed scaffolding over the pool and deck area



Very specific application conditions were required for the correct coating installation for the Kitsilano Pool Remediation. SBW had to implement and monitor special heating and drying equipment in order to control the site environment.

# Happy Holidays

In the **SPIRIT OF GIVING**, SBW continued our tradition of collecting toys for the Lower Mainland Christmas Bureau this year!



# BUILDING THE WEST

2020 Fall/Winter Edition



*Building the West Since 1897*

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