

# BUSINESS PULSE

MAGAZINE

FALL 2017



**MR. DOWNTOWN**  
Bob Hall, helps  
revitalize Bellingham  
business.

## \$1.4 BILLION INDUSTRY

### Innovative Agribusiness More than just crops and cows

Why the Nov. 7  
election is imperative?

**WBA MEMBERS**  
lead environmental  
stewardship by example

Meet the Professional Business  
Women of the Year Finalists

The Northwest Plant Company lab and  
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The Publication of The Whatcom Business Alliance

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**MARK BUEHRER**

Is homey-casual before his desk of repurposed wood at 2020 Engineering where he envisions the latest in low-impact, restorative design concepts. (Photo courtesy of 2020 Engineering)

### 14 '2020' VISION IN 1994 COMES TO FRUITION FOR MARK & JESSIE BUEHRER ALL OVER THE WORLD

**BELLINGHAM CIVIL ENGINEERING AND LED** lighting firms' latest consults stretch from Bellingham Downtown Waterfront Granary project to Tokyo, Japan, with a Belize-area resort by Leo "Titanic" DiCaprio in between. Mark carved a leading-edge niche before 'green building' was a phrase, and he leads the LEEDers.

### 38 LOCAL COMPANIES FIND MANY PATHS TO ENVIRO-CONSCIENTIOUSNESS

**REUSED EQUIPMENT AVOIDS LANDFILL.** Centralized dispatch easier on roads. Toxic-free cleaning. Weed abatement. Local sourcing makes less travel. Toward Zero Waste (TZW). Whatcom Smart Trips. Doing their all to eliminate carbon footprint.

### 30 BOOM!-TOWN: NO DOWNTURN FOR DOWNTOWN... RATHER, IT'S A BIT OF A REDUX RENAISSANCE

**WHEN SOME FORMER LONGTIME** Bellingham companies closed their doors, it left one to wonder if a trend had set in. Quite the contrary. Thanks to some spiffy internal do-overs of old, old Bellingham buildings by Bob Hall, and enough uptick in the economy to inspire some new companies to open, the city center is alive and well.

### 84 GUEST COLUMNS: WASHINGTON POLICY CENTER WONKS WEIGH IN

**MEATY FOOD FOR THOUGHT** addresses state income tax (illegal), state travel tax (illogical), state mandated benefits (ill effects), and trifling attempts to thwart climate change (ill conceived). With a little agribusiness analysis thrown in for good measure.

# 2020 Engineering Pioneers Sustainability and Green Building Movement



**Nature inspires company  
founder Mark Buehrer's  
vision for sustainable design**

by Tamara Anderson-Loucks



Living wall watered by treated greywater. (Photo courtesy Arch Nexus Architects.)



THE RECEPTION DESK in the foreground exemplifies the approach to design at 2020 Engineering and 2020 LED Lighting, whose owners stand behind the desk, Mark and Jessie Buehrer. To wit: Mark explained the details, we used blow down lumber with its natural edges to build the reception desk, and also used it (repurposed wood) in trim work such as window sills. We refinished wood recovered during demolition of some rooms we removed, shaped it, and used it for trim. (Photo courtesy of 2020 Engineering)

**A** passion for nature and a belief that civil infrastructure and design can enhance the environment provided the inspiration for 2020 Engineering, founded in 1995 by Mark Buehrer. And 17 years later Mark and his wife Jessie started LED Lighting.

An early adopter of sustainable design and green building, 2020 Engineering in Bellingham pioneered the sustainable construction and low-impact development movement here in the Evergreen State.

"When I named the company, 2020 referred to the beneficial impacts I believed sustainable design could have on water and transportation systems by the year 2020," Buehrer said.

Early in his career Buehrer, a professional engineer, worked for the Ohio Department of Transportation. He then moved to Juneau, Alaska, where he helped design the downtown street corridors near the cruise ship dock built for the World's Fair in 1986. He moved to Bellingham in 1987 and worked as a consultant for land developers and engineering firms.

"Over the years I grew frustrated with conventional designs I didn't think protected the environment or had any visual appeal," Buehrer said. "Civil engineering impacts what you see, from roadways, bridges, and parks to water and sewer systems. I had a creative bent to my civil engineering vision – an architect's perspective for creativity in design – and I felt we should use nature as a guide for design, particularly in terms of water and transportation systems."

Buehrer started 2020 as a small-scale company, designing residential projects and small wetlands systems



Example of typical residential cistern to capture rainwater. Cisterns may be a feasible alternative to wells for properties affected by the Hirst decision. (Photo courtesy of 2020 Engineering)

when "sustainability" was not yet part of the language of the era. Today, he said, "Our name has widespread recognition, both in the U.S. and in other countries...." as a civil engineering firm specializing in sustainable, low-impact design.

#### CHALLENGES OF EARLY ADOPTION

At its inception 2020 Engineering was the only civil engineering company in Washington focused on sustainable design, yet, Buehrer said, clients weren't flocking to its doors. Sustainability, low-impact design, and green building weren't the

norm in the '90s, so it took time to find willing clients for his concepts and grow the company.

**"You can now build a LEED Platinum-certified building... at the same cost as conventional construction methods."**

*—Mark Buehrer, Founder  
2020 Engineering/2020 LED Lighting*

In the late '90s, LEED certification came about, and 2020 Engineering immediately stepped to

the fore of the movement. Buehrer and 2020 were integral to the development of Seattle's first Leadership in Energy and Environmental Design (LEED)-certified green building. Developed by the U.S. Green Building Council (USGBC) in 1998, LEED is a national certification system established to encourage the construction of energy- and resource-efficient buildings that are healthy to live and work in.

"From there, architects started sharing our name when projects came up that required expertise in sustainability, though that word wasn't used in the '90s," Buehrer said. "That led to projects through-

out the USA, and eventually internationally as well. Today, 80 percent of our projects are located outside of Whatcom County.”

Moving into the 2000s, as acceptance of sustainable design and green building practices continued to grow and technologies developed, permitting did not keep pace with advancements.

Buehrer explained why. “Early regulations were put into place to prevent bad designers and builders from doing bad things, because they often caused roadblocks for alternative projects,” he said. “We’ve spent a lot of time working with agencies to help develop new standards that pave the way for sustainable practices and low-impact developments.”

As of Jan. 1, 2017, Washington state law requires that developers follow low-impact development standards for all new projects, which, among innumerable benefits, decreases water and energy use.

### IT PAYS TO GO GREEN

Twenty years ago sustainable building was more expensive and benefits weren’t as recognized as they are now. In the last five years the industry has caught up, and services and construction supplies are affordable. Buehrer says you can now build an LEED, Platinum-certified building – the highest rating for green buildings – at the same cost as conventional construction methods.

Buehrer noted that less apprehension exists today for developers and builders, particularly those who retain ownership of their projects, to incorporate sustainable alternatives into creating them.

“Some projects realize cost savings on both ends,” he said. “During the construction phase with lower building costs and permitting fees, and afterwards in terms of lower utility bills from reduced energy and water use.

“For example, it’s less expensive to build an onsite water treatment system that will recycle the water

back into the same building than to build the mechanical systems to pipe water out to wastewater treatment facilities. Potable water can be filtered and reused. Non-potable can be reused for irrigation.”

A prime example among 2020’s projects over time was when Wilson Motors in Bellingham completely

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overhauled its property on Iowa Street several years back. They had to address critical issues next to a stream, Buehrer said. “It used to be at one time an old, contaminated scrap yard,” he said. “We performed a low-impact development (LID).”

Rather than design a conventional water treatment system, 2020 incorporated pervious concrete (porous concrete that allows rainwater to soak through), rain gardens, and water fountains into the property design, eliminating the need for a detention pond. By implementing sustainable, low-impact design, the dealership saved over \$150,000 in construction costs.

“We also included work on Nevada Street, the entry leading into the dealership,” Buehrer said. “The project received the

Award for Excellence in Concrete Construction. We’ve done acres and acres of pervious concrete pavements projects at schools and other sites.”

Energy-efficient lighting also plays a key role in green building practices, and has benefits beyond lower power bills. Around 2010 when a recession was affecting the economy and the costs of doing business Buehrer read studies that documented how proper lighting increases productivity and the overall health of employees in the workplace.

Further research uncovered that Puget Sound Energy (PSE) offered rebates based on energy savings for businesses that used LED lighting. His interest piqued, in 2012 Buehrer and his wife Jessie founded 2020 LED Lighting.

“Hospitals, schools, municipalities, and corporations were all realizing the health benefits of good lighting,” Buehrer said. “We recognized there was a good business model there. 2020 LED Lighting was the first U.S.-based company that focused on lighting – both for new construction and retrofits.”

Unlike 2020 Engineering, which provides only design and consulting services, 2020 LED Lighting offers both consulting and general contracting services. The company has installed LED lighting systems for several Whatcom County businesses, including a retrofit for the downtown YMCA, the Community Food Co-op, and Dewey Griffin Subaru. Buehrer explained that the LED Lighting cost benefits include an average savings of 80 percent on energy bills, plus recuperation of up to 70 percent of the installation cost through rebates offered by PSE.

### THE FUTURE OF SUSTAINABLE BUILDING

Over the last 20 years sustainable design and construction has been an ever-evolving industry, with seemingly no limits to where it can go.

Buehrer foresees sustainable water systems as a key focus. He said it’s possible to create an efficient infrastructure and building that uses very little water resources by implementing mechanisms like low-flow features, rainwater harvesting systems, and recycling of both potable and non-potable water.

Development of sustainable water systems is becoming increasingly important as water rights continue to be a fervent societal, political, and legal issue. A headliner example is the Washington Supreme Court’s Hirst Decision; it requires property owners to prove that not a single drop of water would be diverted from instream flows in order to receive a permit to dig a well on their property, thereby rendering many properties unbuildable.

Recently, Buehrer made a presentation for the Whatcom County Council on sustainable water resource management concepts. He illustrated how rainwater catchment systems, rather than wells,

can collect sufficient water to sustain small residential and even large commercial projects.

These catchment systems, such as cisterns, make ideal alternatives to wells, he said, which could help property owners whose lands are

**“We need to think about sustainability for the long term. From the aesthetics – the enjoyment we can receive – to the health and environmental benefits, because what we do today is what we will leave behind for our children.”**

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currently undevelopable under Hirst. He spoke of a property in Skagit County, appearing as undevelopable due to Hirst, that recently received a building permit by sub-

mitting plans for a rainwater catchment system in lieu of a well.

Urban agriculture is also a beneficiary of sustainable water systems. Advancements in aquaculture and hydroponics allow the growing of fresh, organic food in new ways – including within commercial buildings, on rooftop gardens, or in the middle of a thriving downtown corridor, Buehrer pointed out.

“Today you can walk down a building’s hallway and pick strawberries grown on living walls. As the population grows, and land becomes more scarce, alternative systems to grow food will be imperative,” he said.

“Cities will need to grow enough food within city limits to feed its population.

“It’s less expensive and takes less energy than to ship food from 5,000 miles away. The U.S. has the ability to develop technologies that can be shared with Third World countries struggling to feed their populations.”

### BRINGING SUSTAINABILITY HOME

2020 Engineering focuses on many local projects, working with architects in this region to incorporate sustainable design, and consulting on the Bellingham waterfront redevelopment.

“I’ve enjoyed travelling and have been blessed to see how projects we’ve been involved in throughout the U.S. and internationally have come together,” Buehrer said. “But I live in Bellingham – the greatest place to live. I want to take what I have learned and apply it here.

“We need to think about sustainability for the long term, from the aesthetics – the enjoyment we receive – to the health and environmental benefits, because what we do today is what we will leave behind for our children.” **BP**

## Actor Leo DiCaprio eco-resort among 2020’s global works

Articles over the last couple of years have appeared in the *Wall Street Journal*, *The New York Times*, and elsewhere about what 2020 Engineering founder Mark Buehrer termed “a deep green resort” scheduled to open in January 2028. The resort is on an island near Belize, and Buehrer & Co. are contributing to the project.

Actor Leonardo DiCaprio and a partner bought the island for \$1.75 million and partnered with architects and designers to create the resort, called Blackadore Caye: A Restorative Island.” The *New York Times* quoted DiCaprio, “The main focus is to do something that will change the world....groundbreaking in the environmental movement....a showcase for what is possible.” That article said that a stay at the resort would range up to \$2,295 a night.

On the 2020 dossier of projects, many are in Canada, and others as remote as New Zealand, Belize and Tokyo.



2020 ENGINEERING Aquaponics Urban Farming Rendering

## From farm-to table in 12 hours or less

### Proposed Bellingham Organics would provide organic, locally-grown food year-round

If approved, the proposed Bellingham Organics urban aquaponics facility on ugly Bellingham property in disrepair would bring a whole new perspective on “farm-to-table fresh” food. The company would serve up fresh, locally-grown organic fish, vegetables, and herbs harvested in the morning, placed on store shelves by afternoon, and on your table that evening for dinner.

Project developer Paul Schissler of Paul Schissler Associates Inc. along with Aquacare Environmental, 2020 Engineering, and Westgate Design|Works – all Whatcom County businesses – designed this urban aquaculture facility with the intent of providing an energy-efficient means to grow and supply organic foods locally.

The state-of-the-art complex would feature a 40,000-square-foot, solar-powered commercial greenhouse with a closed-loop aquaponics system, fed by harvested rain water and capable of producing organic food year-round.

Mark Buehrer, the founder of 2020 Engineering, said: “The goal is to construct a self-sufficient, net-zero building, which means it runs on solar power and harvests enough rain water to sustain operations, netting zero draw from the energy grid and city water systems.

“Aquaponics is a combination of fresh water aquaculture (fish/shrimp – protein production) and hydroponics (growing vegetables, greens, and herbs without soil). The nutrient-rich water from the aquaculture tanks is used to irrigate and fertilize the plants, and then the water is recycled back to the fish tanks, which creates a closed-loop system.”

The project is currently proposed for construction on Holly Street property that once served as the city dump and is now a remediated brownfield. Project proponents submitted a request to the City of Bellingham to lease the land. Once approved, they can start the permitting process.

The developers explained that while they could do this project anywhere, the proposed site would get rid of an eyesore and become a showcase project, exemplifying what could be done on a piece of land that is not feasible for most types of development.

“The benefits of this project reach far beyond simply supplying local organic foods to the area,” Schissler said. “It adds to the tax base, provides jobs, offers educational opportunities, and has potential for commercial spinoffs, like packaging. It was conceived as a social venture, providing multi-layer benefits to the broader community.”