



SPECIAL  
8-PAGE  
SUPPLEMENT



**woodWORKS!**  
Project of the Canadian Wood Council

# PROMOTING HEALTH AND WELLNESS

SUMMER 2013 – VOLUME 1, ISSUE 4



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## WOOD – THE NATIONAL HEALER

Being “healthy” is often synonymous with making the right food choices, staying active and maintaining a good balance between home and work life. One aspect of our health that is often overlooked is the influence of our surrounding environments. Architecture has evolved throughout the years to encompass this unique relationship. An example can be seen in hospitals, which are now morphing from their otherwise cold and institutional looks to embracing more of a health and wellness aura. This result is often achieved when designs are able to articulate the structural and aesthetic benefits of building materials such as wood. With its warm undertones and unique texture, wood is not only a building material that is familiar, it is natural and feels right.

A study carried out by the University of British Columbia and FPIInnovations has confirmed the value of wood attributes. The research found that the visual presence of wood in a room lowered Sympathetic Nervous System (SNS) activity, part of our nervous system which is the defense mechanism of ‘fight or flight’ response and can lead to changes such as increased blood pressure and heart rate, in occupants. Wood also has the ability to control

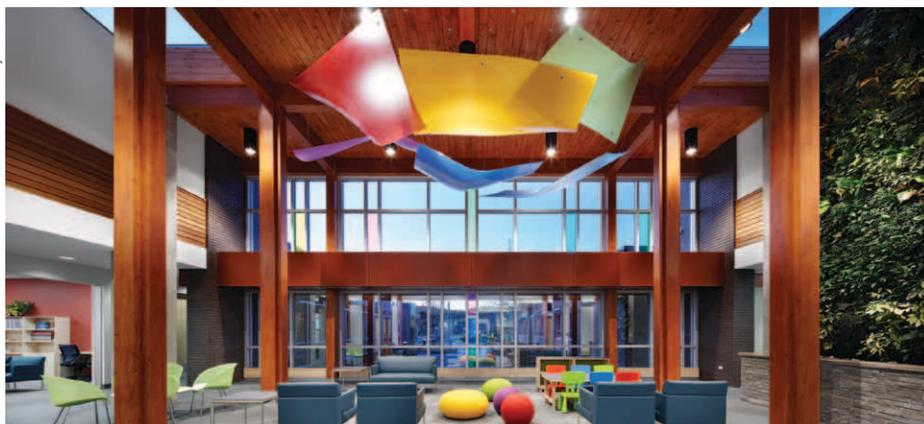
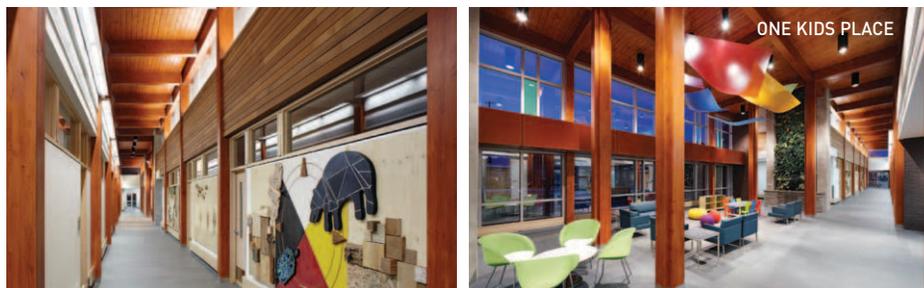
humidity through the absorption of moisture within the air, and contributes to the control of airborne contaminants through wood finishes - which are easily maintained and dust-free after installation. These are some of the many qualities that ultimately establish the positive link between wood and human health.

The Wood WORKS! team is responding to society’s need for healthier buildings and positive healing environments by assisting design teams throughout Canada in achieving buildings that are not only functional, but appealing. This fourth insert will take us on a journey of some of the examples of these buildings throughout Canada and the U.S., as we explore the inherent health and wellness-related benefits of wood and delve into Canada’s long love affair with its only renewable building material.



*Etienne Lalonde*

Etienne Lalonde  
National Project Director



## Mark your CALENDARS 2013 EVENTS

### SEPTEMBER

#### Sept. 17

Wood Solutions Fair  
Minneapolis, MN

[www.woodworks.org](http://www.woodworks.org)

#### Sept. 30

International Conference on  
Timber Bridges  
Las Vegas, NV

[www.woodworks.org](http://www.woodworks.org)

### OCTOBER

#### Oct. 15

Wood Solutions Fair  
Portland, OR

[www.woodworks.org](http://www.woodworks.org)

#### Oct. 16

Wood Solutions Fair  
Edmonton, AB

[www.wood-works.ca](http://www.wood-works.ca)

#### Oct. 24

Structural CLT Design Workshop  
Calgary, AB

[www.wood-works.ca](http://www.wood-works.ca)

#### Oct. 25

Structural CLT Design Workshop  
Edmonton, AB

[www.wood-works.ca](http://www.wood-works.ca)

#### Oct. 29

Wood Solutions Fair  
Vancouver, BC

[www.wood-works.ca](http://www.wood-works.ca)

### NOVEMBER

#### Nov. 12

Wood Solutions Fair  
Toronto, ON

[www.wood-works.ca](http://www.wood-works.ca)

#### Nov. 13

Ontario Wood Design Awards  
Toronto, ON

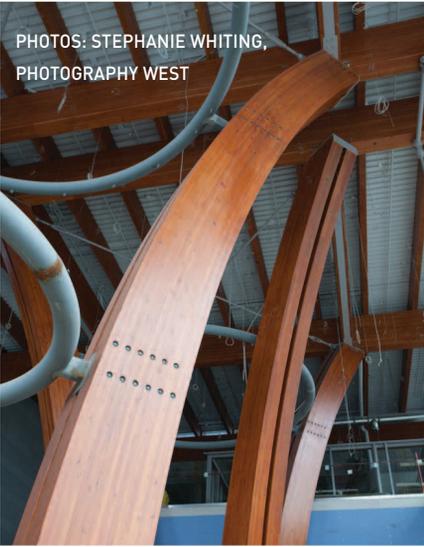
[www.wood-works.ca](http://www.wood-works.ca)

#### Nov. 27

Prairie Wood Design Awards  
Edmonton, AB

[www.wood-works.ca](http://www.wood-works.ca)

PHOTOS: STEPHANIE WHITING,  
PHOTOGRAPHY WEST



COURTESY: CEI ARCHITECTURE AND PARKIN ARCHITECTS

BRITISH COLUMBIA



## Surrey Memorial Hospital Emergency Department and Critical Care Tower Redevelopment

PROJECTED COMPLETION DATE: SEPT. 2014

*“Wood is one of the most sustainable, natural and renewable building materials on the planet. We will consider the use of wood in all city-funded capital projects wherever it makes economic and practical sense. It’s one way that we can create healthier communities across the city.”*

Mayor Dianne Watts, City of Surrey

*“It has been proven through evidence-based design that creating connections with nature facilitates healing. Specifically, natural environments can help restore a body’s balance and expedite the healing process. The use of exposed wood in a project is one of the ways that we can improve conditions for our patients. Wood conveys a sense of warmth and comfort that supports the healing environment and improves the overall patient experience. The Surrey Memorial Hospital Critical Care Tower, with its unique use of wood, is a good example of a facility designed with patient care in mind.”*

Peter Goldthorpe, Vice President  
Capital Projects, Real Estate & Facilities  
Fraser Health | Providence Health Care |  
Provincial Health Services

Surrey is B.C.’s largest center to date to adopt a Wood First Policy (adopted in November 2010) – and now has the distinction of showcasing the largest scale Wood First project in the province. The Surrey Memorial Hospital project has been designed to embrace an innovative and appropriate use of wood. This aligns with the B.C. government’s *Wood First Act* requirement to use wood as the primary building material in publicly funded projects within the B.C. Building Code, and a desire by the City of Surrey, the jurisdiction in which it is located, to lower its carbon footprint by using wood in its buildings.

The project will feature a new state-of-the-art critical care tower constructed on the hospital campus, and a new Emergency Department which will be nearly five times the size of the current facility.

### Wood First

The innovative design of the project features many visible wood elements, structural and architectural, resulting in a

warm, natural aesthetic that supports the form and function of a facility dedicated to healing. Wood is used as a structural component, as an exterior cladding, and as interior wall, millwork, and acoustic panel treatments.

Wood has been showcased in areas where it makes practical sense to use materials that are conducive to rigorous maintenance procedures, resistance to weather and UV damage, infection control and code compliance issues related to flame spread and combustibility. Simply put, wood is used in an appropriate manner conducive to the use of the building, as both an exterior and interior architectural expression. The structural use of wood in the facility is most significant, through the use of glulam (glued-laminated timber) beams in areas of public interface. A visitor is immediately struck with awe and wonder when entering the facility, with a sensory experience of walking into a West Coast rain forest.

Credit: CEI Architecture and Parkin Architects

**ARCHITECTS**  
CEI Architecture and  
Parkin Architects

**STRUCTURAL ENGINEER**  
Bush, Bohlman and  
Partners

**BUILDER**  
Kindred  
Construction Ltd.

**CONSTRUCTION  
FIRM**  
EllisDon

**GLULAM  
SUPPLIER**  
StructureCraft

## ALBERTA



### Guru Nanak Dev Healing Garden

"If nature in the form of plants has proven to help in the healing process, then why not wood?" This is a question that David Fell, Researcher with FPIInnovations, asked his audience during a recent Wood Solutions Fair.

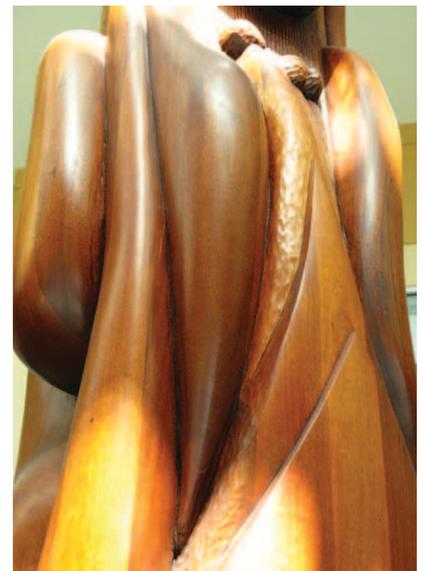
Edmonton's Mazankowski Alberta Heart Institute transformed this question into a practical example with the Guru Nanak Dev Healing Garden. Harmonizing the five natural elements (fire, metal, water, earth and wood), the healing garden offers patients a peaceful environment where they can reconnect with nature throughout their journey to recovery. The warm undertones of mahogany colorfully displayed throughout the 7,000-sq.ft. garden set the tone for a tranquil environment that is enriched with natural elements, quite literally bringing people back to their roots. "All buildings are inherently stress-inducing because they are an environment that humans do not fully comprehend on a pre-cognitive level," explains Fell. "Adding wood to the environment reduces this stress load because it is an element that we are familiar with from an evolutionary perspective. With lower stress load comes better healing."

Located on the fourth floor of the heart institute, the healing garden spans two-stories and offers an environment lush with foliage and wood that serves as a perfect place for solo or accompanied reflection.

A balcony overlooking the first level allows patients to feel as though they are perched within the trees – a welcome change from the stereotype of institutional and otherwise 'cold' designs of health care facilities that offered little to no outdoor lighting, let alone nature scenery.

The healing garden is named after Guru Nanak Dev, founder of the Sikh religion. His philosophy for life was one of compassion and sharing. Wood within the healing garden is representative of this message, in its ability to share the peacefulness and sense of serenity that our forests naturally provide. The wood within the healing garden mimics its role within forests, offering protection from incoming light, is representative of strength and sustainability, and aesthetically blankets an otherwise dull environment.

The irony in the 'new age' discovery of wood's benefit to the healing process is that it is the oldest material society has been surrounded with. Our familiarity with wood is rooted in our ancestry, similarly to the diverse benefits it has to offer. From the creation of medicines, to providing heat and structurally sound living quarters, humans have always benefited from wood. In order to continue to appreciate these positive offerings, we need to remove ourselves from the hustle and bustle of everyday life and remember to stop, take a breath, and smell the wood.



**ARCHITECT/ENGINEER**  
Stantec Inc.

**GENERAL CONTRACTOR**  
EllisDon Construction  
Services Inc.

**ARTIST**  
Mervin Bielish



ONTARIO

NORTH BAY REGIONAL HEALTH CENTRE



THUNDER BAY REGIONAL HEALTH SCIENCES CENTRE

## Ontario Leads in Wood-based Healthcare Architecture

Increasingly, building designers are using wood in hospitals and health centers to personalize and humanize the healthcare environment. This departure from the clinical approach to health-space design has awakened public awareness of what a healthcare environment can be – a nurturing, human-centered investment in infrastructure.

In the last decade, the province of Ontario has shown considerable leadership incorporating wood into new hospital designs. The current trend began in Thunder Bay where structural wood was used in the main public corridor of the Thunder Bay Regional Health Sciences Centre. Subsequently, the Credit Valley Hospital and Carlo Fidani Peel Regional Cancer Centre also used structural wood elements in key public spaces. The innovative design of the Credit Valley hospital atrium introduced new fire suppression technology, originally designed for boats and submarines, which set a precedent for wood use and greatly expanded opportunities for the use of wood in hospitals.

Taking the use of wood one step further is the North Bay Regional Health Centre, considered a new model for healthcare in Canada, thanks in part to the generous use of structural and decorative wood elements to help create this beautiful, welcoming healing environment. The building, which co-locates a 275-bed

District Hospital and 113-bed Regional Mental Health Centre, was the first to use heavy timber in a B-2 Occupancy (care and treatment) under the Ontario Building Code. This required special provisions related to fire safety, such as the use of two-hour firewalls to separate the complex into smaller buildings for the purpose of design. Among its other innovations, the center was the first hospital to provide 100 per cent fresh air to every room with one complete air change per hour and was the first LEED-registered healthcare centre in Ontario.

Marianne Berube, Executive Director of the Ontario Wood WORKS! Initiative, is excited by what is happening in the healthcare sector. “These large, regional hospitals set incredibly important precedents that have expanded opportunities for wood design in this type of building, making it easier for other designers to pursue wood options. Research has shown that natural elements, such as wood and sunlight, have a positive impact on worker productivity and patient recovery. Since buildings can significantly influence the well-being of people, it’s essential that healthcare facilities pursue human-centered design. Wood elements in healthcare environments help foster healing by generating positive feelings, reducing stress and increasing overall patient comfort and staff productivity.”



NORTH BAY REGIONAL HEALTH CENTRE



CRÉDIT PHOTO : BFN ARCHITECTES

QUÉBEC

## Tortue de bois à wendake

### Un projet à échelle humaine

Une légende huronne dit que la vie naquit sur le dos d'une tortue. Comme cet animal légendaire qui soude la Nation huronne-wendate, le projet TORTUE « Yändia'wich » se veut rassembleur. Comprenant un centre de santé, un centre de jour, un hébergement supervisé pour personnes âgées et un CHSLD, le projet tire profit des qualités esthétiques et chaleureuses du bois afin d'offrir un environnement agréable à ceux qui le fréquenteront.

#### Le bois, un matériau à dimension culturelle

Le projet, conçu par Louis Faille, architecte chez BFN architectes, emprunte plusieurs références à la culture huronne-wendate. C'est notamment en référence à la Mère-Terre que la Nation huronne-wendate tient à construire ce projet en bois. Le bois, c'est la sérénité, le bien-être, évoque René Gros-Louis, responsable de la santé et des services sociaux. « Il faut pouvoir le voir et le toucher », ajoute-t-il.

La forme hémisphérique du projet, où les bâtiments se présentent comme des pointes de tarte légèrement espacées les unes des autres pour former ensemble un grand arc de cercle, est une autre référence

à la légendaire tortue. Encore là, le bois se prêtait bien à la forme particulière du projet. « Le cercle, explique le chef René Gros-Louis, assure l'unité, le respect entre tout le monde ». Le cercle n'exclut personne.

#### Sobre et créatif

Financé par Santé Canada, le centre de santé est le premier des bâtiments du projet à sortir de terre. Il comporte une salle d'accueil, une salle d'exams médicaux, des bureaux, une salle polyvalente et une cuisine. Sur le plan architectural, l'édifice est un exemple de sobriété et de créativité. « Il n'y a ni porte-à-faux ni terrasse, seulement deux étages bien droits », décrit Louis Faille. Mais les façades avant et arrière en arc de cercle assurent l'originalité du projet.

Des poutres et colonnes en bois lamellé-collé, partout apparentes, structurent le bâtiment et divisent les espaces intérieurs. Dans les deux couloirs en arc de cercle qui traversent le bâtiment, les colonnes ponctuent et rythment la courbure. Dans les espaces communs, les plafonds sont de platelage de bois apparent. Ailleurs, des



plaques de gypse couvrent les poutrelles ajourées tout en laissant toutefois les poutres apparentes. Présent également à l'extérieur, le bois habille les façades avant et arrière, se mariant avec les briques formant des motifs amérindiens sur les façades latérales du bâtiment.

L'utilisation du bois comme matériau de structure et d'apparence dans ce projet démontre non seulement la flexibilité de ce matériau, mais également la volonté d'une communauté de se doter d'un bâtiment reflétant ses besoins et ses valeurs.

**ARCHITECTE**  
Beudet Failles  
Normand architectes

**INGÉNIEUR EN  
STRUCTURE**  
Cime consultants

**INGÉNIEURS**  
LGT ingénieurs conseils

**FOURNISSEUR**  
TECOLAM

**AMÉNAGEMENT  
PAYSAGER**  
Groupe Espace Vie



U.S.



## Herrington Recovery Center

Located on a picturesque lake in central Wisconsin, the Herrington Recovery Center at Rogers Memorial Hospital is a three-story, 21,000-sq.ft. facility that harmonizes with nature to offer a serene and spiritual healing environment for patients with alcohol or chemical dependency. A recipient of a US WoodWorks Green Building Award, the center makes ample use of natural cedar and stained wood to create warmth inside and out. Helping patients to feel more comfortable while on their journey to recovery is the flow of wood ceilings throughout the recreation room and entrances, leading to the individual rooms. Exposed glulam beams allow soaring ceilings and complement the clerestory windows, which provide abundant natural light. The wood floor system creates a comfortable and strong surface, reminding patients that they possess the strength required to heal emotionally, mentally and physically.

"It's amazing how well this project has been received—by patients, the surrounding community and by the healthcare and design communities," explains John Curran, ALA, Senior Vice President for TWP Architecture. "Wood

provided so many benefits in terms of creating a warm, healing environment." Curran adds, "From the very beginning, and for many reasons, we knew wood-frame construction was the best choice for this project." Making the most use of locally available wood products, the contractor reportedly used more than 100,000 board feet of Douglas fir dimension lumber.

With an increased desire from the design community to create healthcare facilities with less institutional appearances, the Herrington Recovery Center is an example of the benefits of incorporating natural materials, such as wood, in an environment which fosters healing and wellness. Studies surrounding biophilia, the innate attraction humans have to living organisms and life-like processes, supports the use of wood and natural building products within healing environments. The use of wood throughout the Herrington Recovery Center is reminiscent of materials present in the patients' homes and natural settings—ideally contributing to a relaxed sense of familiarity, allowing patients to focus on their healing rather than stress about a new and unknown environment.

**ARCHITECT**  
TWP Architecture

**STRUCTURAL ENGINEER**  
Pujara Wirth Torke, Inc.

**GENERAL CONTRACTOR**  
VJS Construction Services

# NATIONAL PARTNERS

Canadian Wood Council  
Conseil canadien du bois



Natural Resources Canada  
Ressources naturelles Canada

**BSLC**

British Softwood Lumber Council

**FPIInnovations**



**StructureCraft**



**STRUCTURLAM**  
structurlam.com

**western archrib**  
structural wood systems

**Weyerhaeuser**



## WOOD WORKS! REGIONS IN CANADA

### National Wood Works!

c/o Canadian Wood Council  
99 Bank Street, Suite 400  
Ottawa, ON K1P 6B9  
Tel: 613-747-5544

### British Columbia

3760 Gates Road  
West Kelowna, BC V4T 1A3  
Tel: 1-877-929-WOOD (9663)

### Alberta

900-10707 100 Ave.  
Edmonton, AB T5J 3M1  
Tel: 780-392-1952

### Québec

1175, avenue Lavigerie Bureau 200  
Québec, QC  
G1V 4P1  
Télé : 418-650-7193

### Ontario

60 Commerce Court,  
P.O. Box 5001, North Bay ON P1B 8K9  
Tel: 1-866-886-3574

### Atlantic

c/o Maritime Lumber Bureau  
PO Box 459 Amherst, NS B4H 4A1  
Tel: 902-667-3889

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