

The Canadian Museum for Human Rights

DESIGN THINKING // UNIVERSAL DESIGN CASE STUDY

Winnipeg, Canada

KEY PROJECT INFORMATION

PROJECT TYPE
MUSEUM

FOUNDER
ASPER FOUNDATION

SPECIALIST CONTRACTORS
PRIME ACCESS AND DESIGN FOR ALL

TOTAL FLOOR AREA
24,155 m²

ARCHITECT
ANTOINE PREDOCK ARCHITECT

GROUPS INVOLVED
INCLUSIVE DESIGN RESEARCH CENTRE AT
ONTARIO COLLEGE OF ART AND DESIGN
(OCAD)

ROHE/LOCATION
WINNIPEG, CANADA

OWNER
CROWN CORPORATION GOVERNMENT
OF CANADA

(PROVIDED ACCESS TO EVIDENCE BASED
RESEARCH AND DATA)

COUNCIL OF CANADIANS WITH
DISABILITIES (CCD)

YEAR COMPLETED
2014

PARTNERS
GOVERNMENT OF CANADA
GOVERNMENT OF MANITOBA
GOVERNMENT OF WINNIPEG
FORKS RENEWAL CORPORATION
FRIENDS OF THE CANADIAN MUSEUM OF
HUMAN RIGHTS

(ARRANGED CONSULTATIONS WITH
DISABILITY ORGANISATIONS)

PROJECT DURATION
8 YEARS

IN-HOUSE ADVICE
INCLUSIVE DESIGN ADVISORY COUNCIL
(IDAC)

PRICE BAND
\$351 MILLION (CAD)

(COMPOSED OF 11 EXPERTS, ADVISORS
AND ACTIVISTS IN THE FIELD OF
DISABILITY RIGHTS)

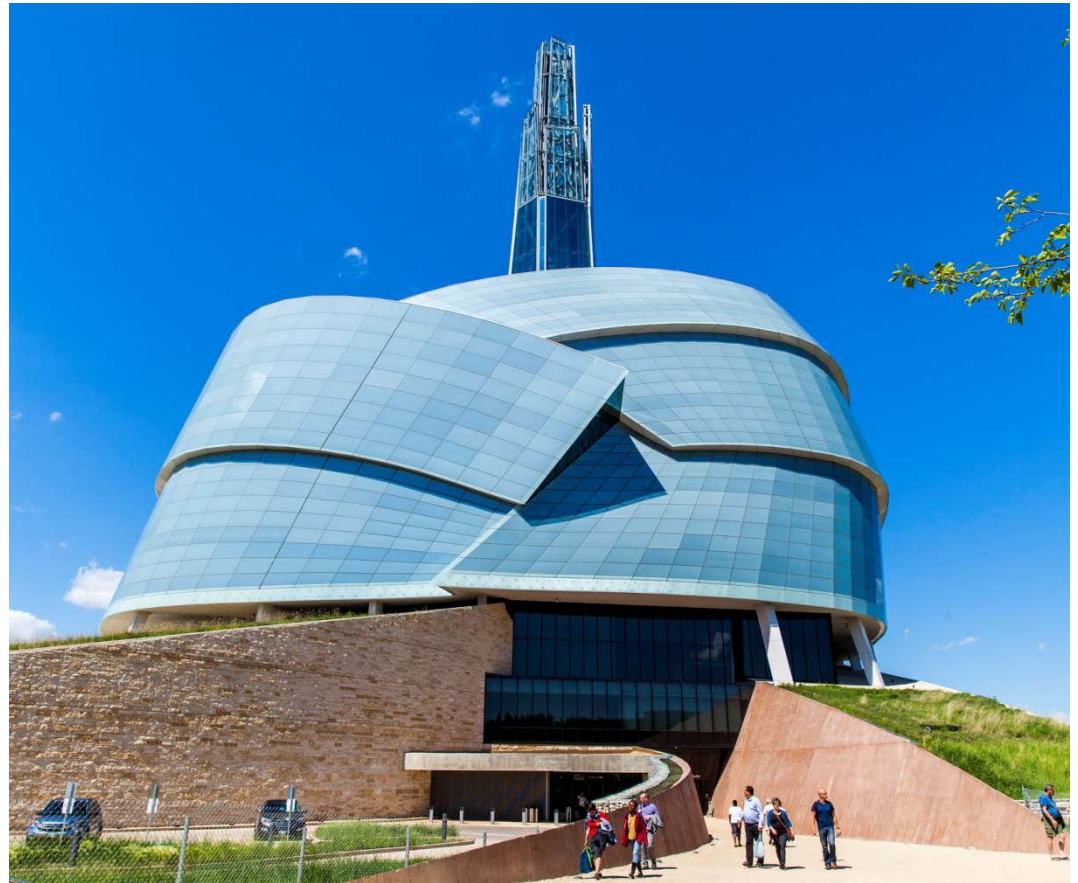
OVERVIEW

The Canadian Museum for Human Rights (CMHR) sets new international benchmarks for universal design. Beyond providing universal building accessibility, the museum delivers its exhibitions in innovative ways, ensuring people of all ages and abilities are able to engage with and experience museum content in a meaningful way.

The museum's exceptionally design was developed with nationwide input from the disability community. It utilises cutting-edge technology and pioneering Canadian accessibility research. The result is an architectural masterpiece, that extends beyond the purely aesthetic to integrate world-class wayfinding, physical accessibility, visitor services and universally interactive digital and non-digital exhibition content.

"...disability will not be treated as a special condition, but as an ordinary part of life that affects us all."

Stewart Murray (CEO of CMHR)



Northern façade of the Canadian Museum for Human Rights (Sourced from the CMHR online gallery).

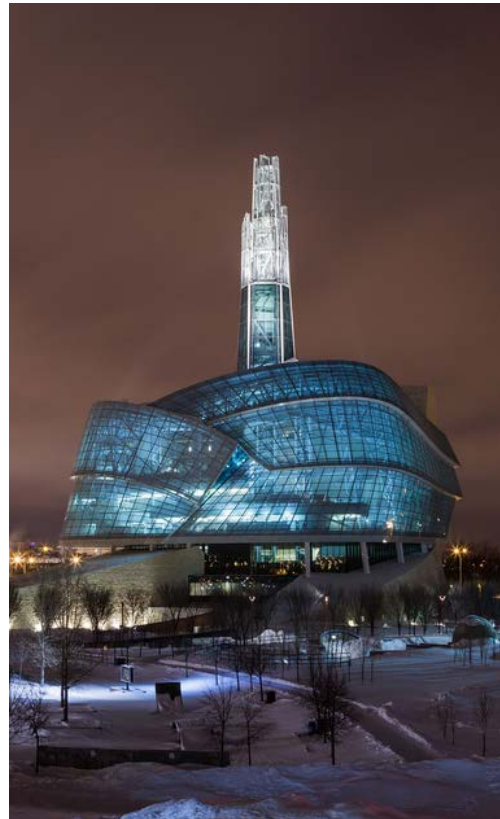
THE DESIGN OF THE MUSEUM

The Canadian Museum for Human Rights is the first museum dedicated to the history and future of human rights. The design of the museum is an experiential journey upwards, moving from dark spaces to light, as a reflection of the evolution of human rights.

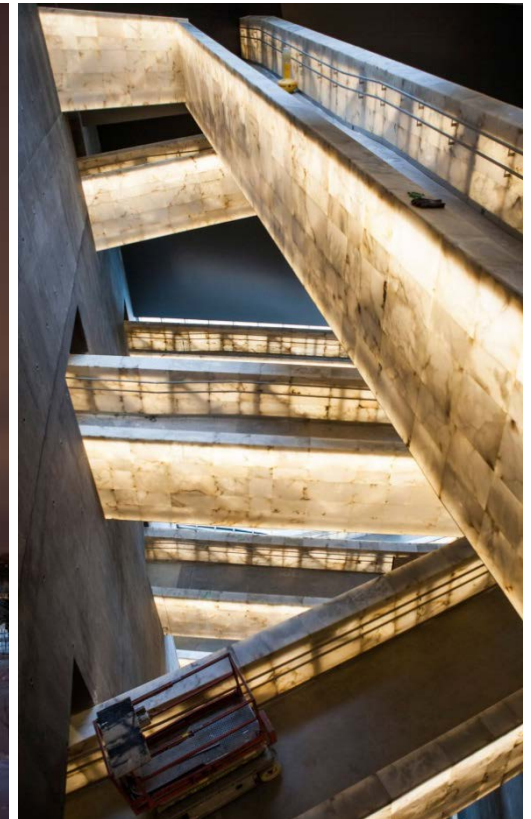
The heart of the building has been designed to resemble a giant cloud. The cloud is constructed of glass sheets, which curve around the northern side of the building and symbolise the wrapped wings of doves.

Rising 100m from building's centre is the Israel Asper Tower of Hope, an illuminated beacon for enlightenment and the realisation of universal human rights. Visitors can climb or take an elevator to the top to take in views of the surrounding city.

Within the building, internally lit alabaster ramp bridges cross a central void, creating a connection of glowing pathways between galleries. The ramp bridges are places of contemplation, their criss-crossing across the void act as a reminder that the path to human rights is often not a straight one.



The Cloud wrapped in glass sheets, and the Israel Asper Tower of Hope illuminated (Sourced from the CMHR online gallery).



Criss-crossing alabaster ramps connecting galleries (Sourced from the CMHR online gallery).

THE PROCESS

As a part of its development, the Canadian Museum of Human Rights built on existing museum accessibility efforts by the Smithsonian, London Museum of Science, and Musée de la Civilisation.

The Council of Canadians with Disabilities (CCD) were engaged to discuss and collaborate on the early stages of the museum's design. A four year process of iterative prototyping, testing and critiquing of universal accessibility solutions by different disability groups followed, informing the project's development.

Much of the CMHR's success in universal accessibility can be attributed to the undertaking of consultation early in the design process. This allowed accessibility solutions to be integrated into the museum in a comprehensive, seamless and efficient manner, rather than retrospectively added late in the design process.

The engagement process was not only influential in identify gaps in the building's design, it also resulted in the inclusion of features, such as Universal Access Points and Universal Keyboards. These elements were instrumental in forming a museum experience accessible to all.



Opening of the museum (Sourced from the CMHR online gallery).

OUTSTANDING FEATURES Mobile App

The first of its kind for any museum in the world, the CMHR and Acoustiguide developed a mobile app that provides self-guided tours and an interactive accessibility map of the museum.

Self-guided tours are location aware and available in American Sign Language (ASL), Quebec Sign Language (LQS), audio with closed captions, and text-based transcripts in French and English. The tours also provide [audio descriptions](#) for people who are blind or have low vision.

The interactive map of the Museum's public spaces provides visitors with their current location. It can display floor level plans and provide directions to exhibitions.

The mobile app also enables visitors to enlarge details of artefacts and provides digital content beyond what is available on display.

CMHR lends devices to visitors who do not have access to a smartphone, with the app already downloaded and ready to use.



Mobile app for the CMHR (Sourced from CMHR website).



An augmented reality feature of the mobile app (Sourced from Manitoba Hot).

OUTSTANDING FEATURES Universal Access Points

Universal Access Points (UAPs) help to convey physical exhibitions to the visually or hearing impaired.

Exhibition content is assigned a unique UAP number, which is displayed next to exhibition items in high contrast tactile-embossed numbers and braille. Cane stop floor strips alert visitors of the location of nearby Universal Access Points.

Visitors enter UAP numbers into their mobile museum app to access relevant exhibit information, which is delivered in English or French via audio or sign language. For those unable to manually enter UAP numbers, a location enabled playback feature can automatically stream content as visitors travel through display spaces.

The UAP system is extremely scalable. When temporary exhibitions created by other institutions are brought in, text content can easily be placed into the system, immediately making those exhibitions more accessible.



*Cane detectable tactile strip
(Sourced from CMHR, Ian McCausland).*



*Tactile embossed and braille coded UAP marker
(Sourced from CMHR, Ian McCausland).*

OUTSTANDING FEATURES Universal Keypad

The CMHR is a digital museum, with important and interesting exhibition information often located on touchscreen kiosks. Visitors who are blind, have low vision, or have physical impairments can access kiosk contents through a Universal Keypad (UKP).

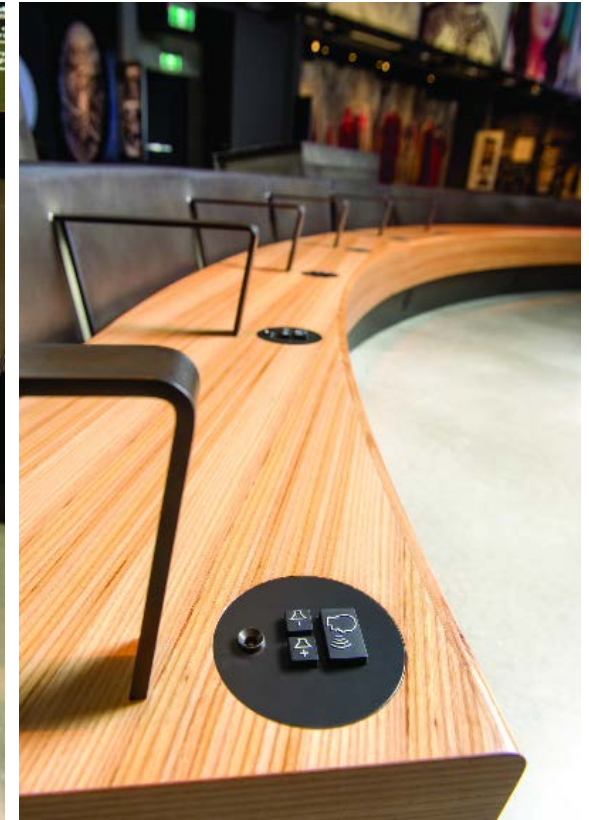
Present on every kiosk, the UKP is a tactile keypad that uses simple symbols and audio instructions to help visitors navigate and access kiosk information. They include a headphone jack with individual volume control to provide audio in different languages.

The UKP is also utilised for other audio and digital interfaces throughout the museum, creating a consistent user interface.

The CMHR provides headphone sets to visitors at the ticketing and Information desk.



UKP applied to a touchscreen kiosk (Sourced from CMHR, Ian McCausland).



UKP applied to seating (Sourced from CMHR, Ian McCausland).

OTHER FEATURES Universal Accessibility

Good design choices are as important as new and innovative technology. The CMHR considered universal design early in the design process, resulting in cohesive integration throughout the museum. Some key universal accessibility features include:

Font size, weight, paragraph alignment, line-lengths and other graphic standards are carefully considered to increase the legibility of information for all visitors.

Height plays an important role in accessibility. The placement of exhibition content considers viewing distances and angles for people with lower lines of vision, such as wheelchair users. Kiosks and information desks are designed to be accessible to people with different reach heights. Ramps provide two handrails at different heights to offer physical support for visitors with different reach heights.

"We would employ an inclusive design methodology, versus designing something and then adapting it to be accessible."

Corey Timpson (Director CMHR Exhibitions & Digital Media)

*Handrails at different heights on the ramps
(Sourced: Inclusive Design, 2017 NAEA presentation by C. Timpson).*



*This table is designed to be an appropriate height for different users
(Sourced: CMHR, Ian McCausland).*



OTHER FEATURES Universal Accessibility

Colour contrast is used to accommodate visitors who have low vision, colour blindness, or dyslexia. Care is taken to ensure text and background colours are sufficiently contrasted for clear legibility.

Light plays a significant role in the museum beyond its symbolism in the journey of human rights. Lighting is used outside of the museum for wayfinding to the entrance lobby. Inside the museum, lighting is kept even and transition spaces between light and dark areas are provided. These assist those who have low vision, giving their eyes time to adjust to changes in lighting levels.

Amenities such as wheelchairs, strollers, sticks and portable seats can be borrowed for free from the coat check area on the main level.

The colour contrast between the exhibit and the wall enables visitors to identify where content is located. (Sourced from Gagarin.)



The colour contrast between the exhibit and the wall shown through changing the image to grayscale. (Base image sourced from Gagarin.)



OTHER FEATURES Universal Accessibility

Seats in the theatres and exhibits are varied to provide choice. They include bench seating and seating with backs and arms for people who may need support standing. Universal Keypads are integrated into seats where applicable.

Ramps allow visitors to travel through all the core galleries. Rest stop intervals along these ramps provide a place for visitors to relax. Elevators are also provided, allowing visitors to access all parts of the museum, including the Tower of Hope.

Toilets include at least one universal (gender neutral and barrier-free) washroom on levels 1 through to 7. The universal washroom located on level 1 also includes an [adult-sized changing facility](#) with a motorised hoist.



Seating with arm and back rests, with space beside the seating for wheelchairs and prams. (Sourced from Museumsandheritage.com).

OTHER FEATURES Green Features

CMHR meets the LEED Silver certification and is a high-performance green building. Some of the green features included in the building are:

Green roofs, seeded with prairie grasses and indigenous plants, improve air quality and providing habitat for birds. The green roofs also provide insulation for the building from the heat and cold.

Rainwater is harvested for use in air-conditioning and toilet flushing systems.

Natural light from the Cloud (constructed from glass sheets) reduces the need for artificial lighting. Additionally, occupancy sensors conserve energy by turn lights off when spaces are unused.

Materials for the construction of the museum were sourced from nearby regions to reduce the environmental impact of transportation.



Natural light supplied by the glass component of the Cloud (Sourced from the CMHR online gallery).

INNOVATIVE CONTENT 3D Photography Exhibits

The 2016 temporary photography exhibition, entitled “Sight Unseen”, featured 12 blind artists. The exhibit was unique in that the CMHR worked with 3D PhotoWorks to translate selected works into 3D-sculpted tactile re-creations.

Each of the 3D creations were embedded with touch-activated sensors. When touched, audio provided a description, narrative and context for the artworks. This enabled blind or sight impaired people to “see” and experience the images independently.

3D photography was repeated in 2017 in the exhibition “Points of View”. Building on the learnings from “Sight Unseen”, five winning photos from each exhibition category were rendered in 3D tactile re-creations. The artist themselves providing a narrative description with their photographs.



Pete Haertel, who is blind, interacts with the 3D tactile versions of the award-winning photos in the “Points of View” exhibition (Sourced from CMHR, Jessica Sigurdson).

LESSONS LEARNT

Beautiful architectural outcomes and universal design are not mutually exclusive, provided they are considered together early in the design process. For example, the CMHR's accessible alabaster ramps are a frequently photographed feature of the museum.

Collaboration with various groups at an early stage (well before the finalisation of a design) is a key to success. It provides enough time to modify plans to create a truly accessible experience.

Inclusive environments are created through innovation and collaboration. This includes the use of technology and the creation of physical and social environments that welcome and enable people of all ages and abilities.



Alabaster ramps between galleries (Sourced from the CMHR online gallery).

READ MORE

Wyman, Bruce, Corey Timpson, Scott Gillam and Sina Bahram. "Inclusive design: From approach to execution." MW2016: Museums and the Web 2016. Published February 24, 2016. Consulted September 7, 2017. <http://mw2016.museumsandtheweb.com/paper/inclusive-design-from-approach-to-execution/>.

De Monchaux, T. (2015, January 9). Canadian Museum for Human Rights designed by Antoine Predock Architect. Architect Magazine. Retrieved from <http://www.architectmagazine.com/>

Canadian Museum for Human Rights. (2017, September). Retrieved from <https://humanrights.ca/home>

Murphy, A. (2015, October 12). Canadian Museum of Human Rights: a global standard for accessibility. Retrieved from <https://museumsandheritage.com/advisor/posts/canadian-museum-of-human-rights-setting-a-global-standard-for-accessibility/>



Image of the CMHR in Winnipeg (Sourced from the CMHR online gallery).



The Auckland Design Manual is a comprehensive free resource that's been created to help anybody designing, developing or building. It's a practical guide that sits alongside the Unitary Plan. If the Unitary Plan is your rule book, think of the Design Manual as your how to guide - helping you to visualise what you can build in Auckland.

The Design Manual will help you to avoid expensive mistakes and achieve your goals by giving you the information you need up front, so that you are well-informed and know how to ask the right questions.

The Design Manual can support you at the following key stages in your development process:

- Inspiration for what you could build on your site
- Understanding and working with the rules
- Writing your brief
- Developing a design
- Hiring your design and build team

Go to www.aucklanddesignmanual.co.nz/en/case-studies.html to find out more