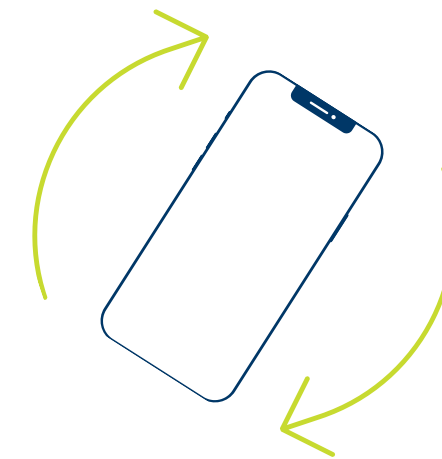


# GREEN BUILDING TOUR: HMC B-WING

# Sheridan

**Did you know all buildings at Sheridan's Hazel McCallion Campus are Leadership in Energy and Environmental Design (LEED) certified?**

Use this Self-Guided Tour Map to explore 30+ informational signs across HMC B-Wing, highlighting sustainable features of the building's design, construction, and operation as part of Sheridan's Living Laboratory initiative!



**Rotate your phone for a better experience!**



**Sheridan**  
mission zero

# LEVEL 1

## 1. Water Room

The water room contains the building's incoming domestic and fire water service piping and associated equipment.

## 2. Low Emitting Materials: Paints

On average, Canadians spend 90% of their time indoors, where pollutants are typically 2-5 times higher than they are outside. To ensure a healthy and pollutant-free environment, all paints applied to the interior of the building had a low VOC (volatile organic compound) content.

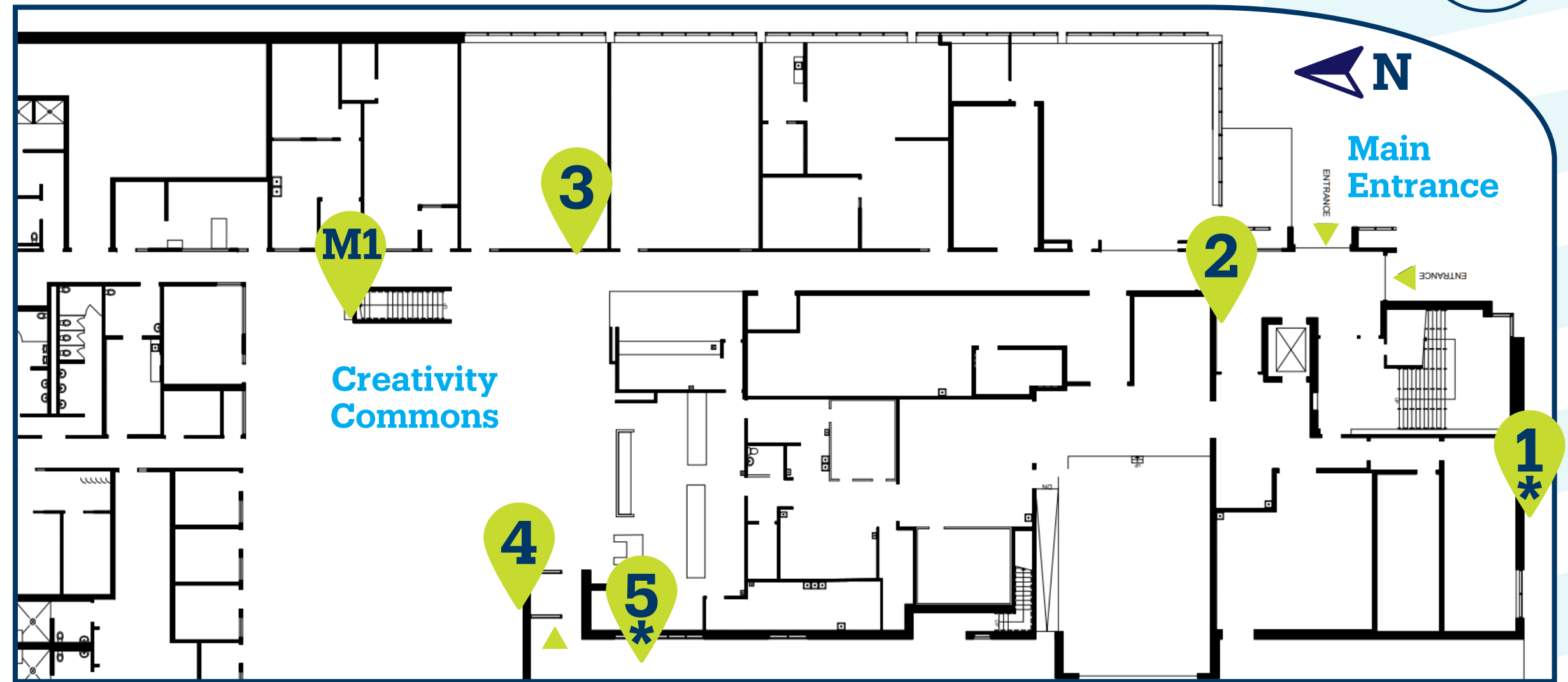
## 3. Acoustics & Noise Reduction

Sound-absorbing materials have been placed on the ceiling and wall surfaces of the Creativity Commons to trap acoustical energy. These assemblies reduce ambient noise levels, and help eliminate echoes and sound reflections that muddle or distort amplified music and speech.

## 4. Manifold Station 1

The floor of the Creativity Commons contains embedded loops of cross-linked polyethylene pipe connected back to manifolds such as this one. Intelligent building controls automatically circulate hot or chilled water through these pipes to provide highly-efficient, radiant heating or cooling of the space.

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## 5. Rainwater Harvesting

Rainwater from all roof drains is collected in a 35,000-litre storage cistern buried under the service area driveway. This harvesting system captures over 90% of the average annual rainfall on the building. Collected rainwater is used for flushing toilets and urinals via the building's grey water system.

## M1. Feature Stair

The feature stair is one of the main sculptural pieces of the building, winding its way through the atrium providing an intuitive way finding point and meeting space, as a sculptural piece, the HSS structure is concealed within in order to maintain the monolithic look.

# LEVEL 2

## GREEN BUILDING TOUR: HMC B-WING



### 6. Snow Melt Manifold

This building uses a snow melting system to keep walking surfaces clear of snow and ice. The system provides safe walkways without snow piles to obstruct pathways or contribute to blowing snow, and minimizes the need for salt compounds that can adversely affect nearby aquatic environments.

### 7. Sustainable Materials

Each of these panels consists of a high density bakelite core, with a natural wood veneer. The surface is treated with a synthetic resin and protective film to shield the panel from solar radiation, pollution, dirt and chemicals.

### 8. Sustainable Materials

The carpet tiles used in this facility are made with a total of 80% recycled content, 35% of which is post-consumer. The carpets' fibre is made of 100% recycled content. Part of the recycled content comes from reclaimed carpet, which reduces the material entering landfill.

### 9. Plumbing Fixture Efficiencies

The sustainability of freshwater supplies is a growing concern in Canada where the combined impacts of urbanization and climate change stress water supplies and threaten to adversely affect the health of aquatic ecosystems.

### 10. Thermal Comfort

Heating, ventilation and air conditioning (HVAC) systems have been designed to maintain temperature, humidity and air purity at levels that most occupants will find comfortable and healthy.

### 11. Regional Materials

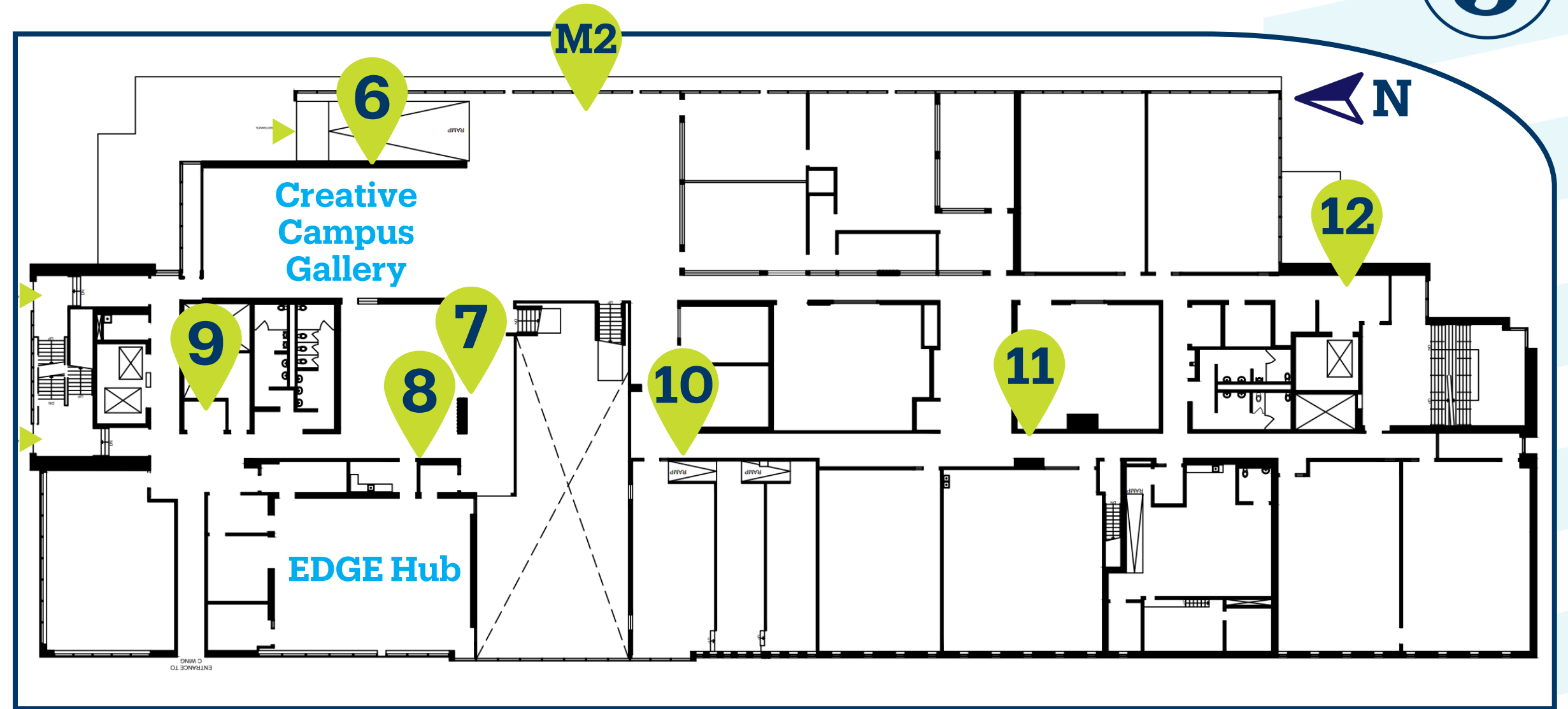
This stone feature-wall is made up of limestone from the Owen Sound region of Ontario. It is an example of a regional material that is extracted and manufactured within 850 kilometers of the project site. Using regional materials lessens the environmental impact of transporting them to site.

### 12. Building Envelope

The building envelope is the physical separation between the interior and exterior of a building. Components of the envelope include walls, floors, roof, windows and doors.

### M2. Soffit

The soffit condition at level 2 is an important intersection in the building, denoting the separation between the clear glazed first 2 stories of the east façade and the upper 3 floors of aluminum rainscreen above.



# LEVEL 3

## 13. LED Lighting

Lighting is provided by an LED solution that uses advanced micro-optics to bend, disperse and direct light, providing even distribution of light with very low energy consumption and low glare. This lighting technology consumes less than 40% of the lighting energy of a conventional building.

## 14. Low Emitting Materials: Sealants and Adhesives

Go ahead and take a deep breath of fresh and clean air. Even the materials within the walls and the floor were taken into consideration to create this healthy indoor environment.

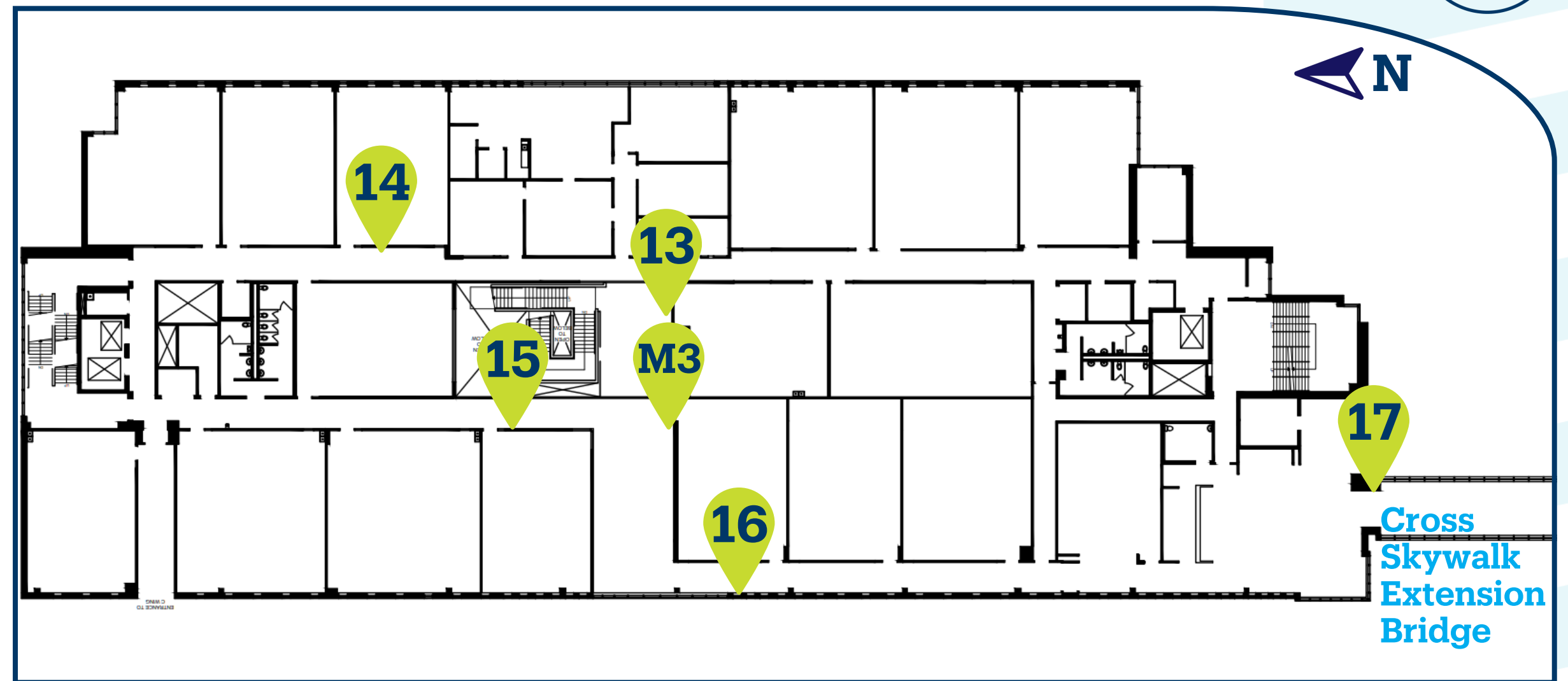
## 15. High Efficiency Heating and Cooling

Space heating and space cooling are provided through a highly-efficient mechanical design, which conveys energy to individual building area by water-based (hydronic) systems. Such systems include radiant ceiling panels to warm the building perimeter, in-slab heating and cooling to condition spaces without blowing air, and active chilled beams.

## 16. Ventilation Heat Recovery

In order to maintain a healthy indoor environment, a steady volume of stale, contaminated building air must be replaced with filtered, fresh air. Most buildings exhaust air-conditioned or heated air, and draw in outside air that must be cooled, heated and adjusted to building humidity levels. This process discards a great deal of energy.

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## 17. Exposed Structure

A truss is an assembly of axial force elements that creates a framework for transferring loads across a span. The design of a truss uses top and bottom chords to carry bending forces, and web elements between them carry shear forces. The configuration used for the bridge minimizes the number of web elements to allow for maximum transparency.

## M3. Ceiling Services

The mock up display demonstrates how the services within the corridor spaces are expressed to provide an understanding of the inner workings of the building, this serves to create the narrative around the 'Living Lab' component of the building.

# LEVEL 4

## 18. Cooling Tower

As the building's air conditioning systems extract excess heat from the building, it must be rejected to the outside. This is the job of the cooling tower, which evaporates a portion of the water passing through it to remove heat energy.

## 19. Sustainable Materials

The raised access flooring used throughout the facility, including each classroom, is made up of 58% recycled content with 9% post-consumer content and 49% post-industrial content. The access flooring is also 100% re-useable and is designed for easy disassembly and movement from one space to another, eliminating waste on future reconfigurations of the space.

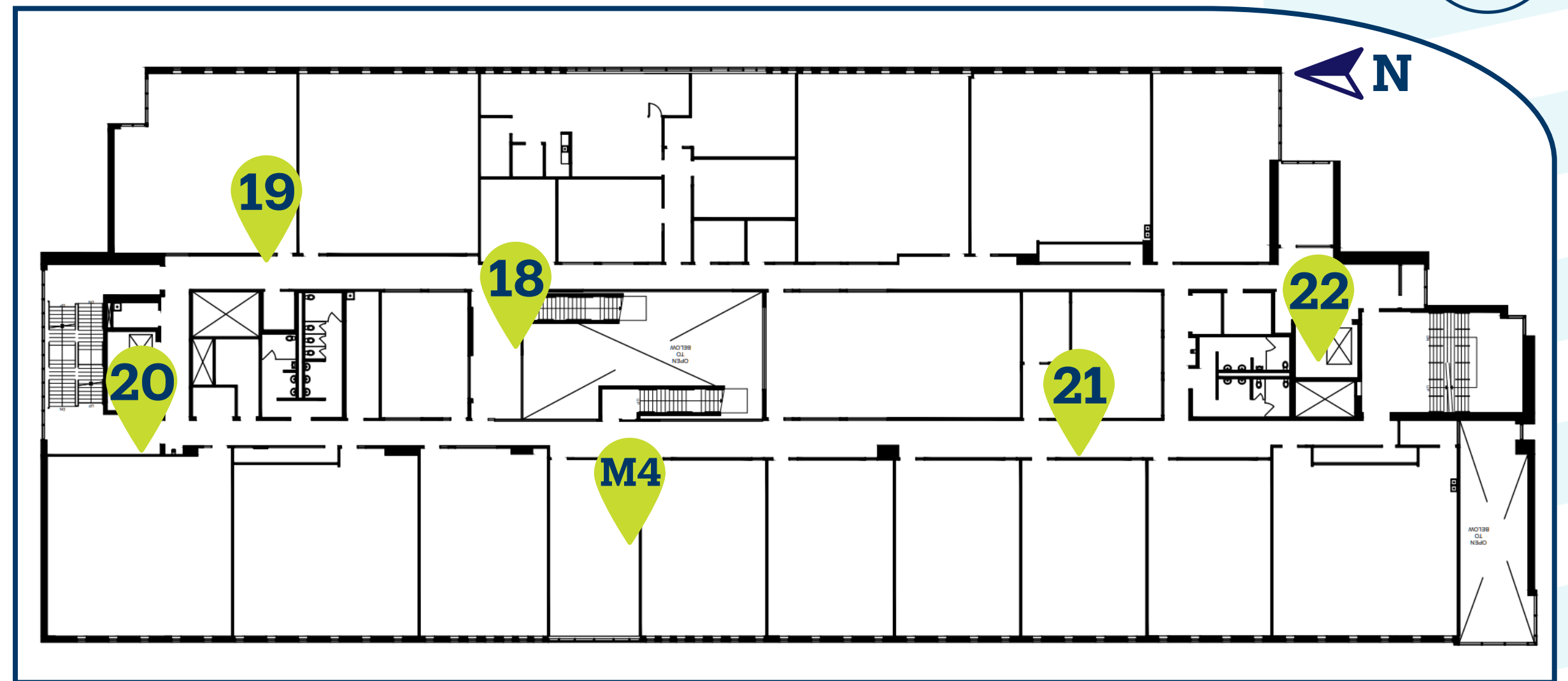
## 20. Vertical Brace

Vertical bracing is made from diagonal elements located between columns, and are used to provide lateral stiffness and stability to the building. It is primarily designed to carry axial forces (tension and compression), which provides an efficient load path for transferring horizontal forces such as wind and earthquake to the foundations.

## 21. Lighting Controls

Each lighting fixture is controlled by a state-of-art DALI (Digital Addressable Lighting Interface) control system. The system uses occupancy sensors, natural light sensors and schedules to determine optimum light output for each fixture throughout the day and night.

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## 22. Sprinkler Valve Box

This cabinet contains the zone control valve for the sprinklers serving this floor, and the zone control valve for the window sprinklers that protect certain windows on this floor.

## M4. Curtain Wall

As one of the main elements of the building prevalent on many facades, curtain walling has an important part to play not only in the overall expression of the building face, but also its relationship to the interior spaces

# LEVEL 5

## GREEN BUILDING TOUR: HMC B-WING



### 23. Window Sprinklers

Window sprinklers provide protection of tempered or heat-strengthened glass in a fire separation, effectively providing the glazing with a fire rating of 2 hours.

### 24. Parking Lot Drainage

Rainwater from parking lots is gathered into the catch basins and swales that form the campus storm sewer system, where it is slowed down and treated before being discharged into the municipal storm sewer network.

### 25. Acoustics STC

To provide quiet environment conducive to teaching and working, the design team selected materials for interior partitions, ceilings/floors, doors, windows and exterior wall that provide high sound transmission class (STC) ratings.

### M5. Parapet

The parapet condition in any building is a difficult junction where the wall meets the roof, it must meet a number of requirements in order for it to function successfully.

