PART 1
PROJECT DESCRIPTION

Use for all categories. Projects are judged based on criteria of sustainable design, architectural merit and innovation. **Please submit Part 1 and Part 2 as separate pdf files.**

2025
CANADIAN GREEN BUILDING AWARDS
THE NATIONAL PROGRAM OF SUSTAINABLE ARCHITECTURE & BUILDING MAGAZINE SABMag

PROJECT CATEGORIES

Identify which Award category you are entering

☐ **1. Residential [small]**
Open to new or renovated buildings less than 600m² in area, of which a minimum of 75% is dedicated to single-family or multi-family residential uses.

☐ **2. Residential [large]**
Open to new or renovated buildings [typically multi-unit buildings or groups of related buildings] greater than 600m² in area, of which at least 75% is dedicated to residential uses.

☐ **3. Commercial/Industrial [small]**
Open to new or renovated buildings up to 2,000m² in area, of which more than 75% is dedicated to commercial or industrial uses.

■ **4. Commercial/industrial [large]**
Open to new or renovated buildings [or groups of related buildings] greater than 2,000m² in area, of which at least 75% of the floor area is dedicated to commercial or industrial uses.

☐ **5. Institutional [small]**
Open to new or renovated buildings up to 2,000m² in area, of which more than 75% is dedicated to institutional uses.

☐ **6. Institutional [large]**
Open to new or renovated buildings [or groups of buildings] greater than 2,000m² in area, of which at least 75% of the floor area is dedicated to institutional uses.

☐ **7. Mixed Use**
Open to new or renovated buildings [or groups of related buildings] of any size, in which no individual use exceeds 75% of the overall floor area.

☐ **8. Existing Building Upgrade**
Open to buildings of any size or type in which the primary focus of the work has been to enhance the performance or extend the life of an existing structure. Entries in this category are required to respond only to the submission criteria appropriate to the project.

☐ **9. Interior Design**
Open to interior design projects of any size or type. Entries in this category are required to respond only to the submission criteria appropriate to the project.

An award will be given in each category at the discretion of the jury.

PROJECT DETAILS

Project name: Lakeridge Logistics Centre
Address: 537 Kingston Road E., Ajax, ON
Year completed: 2024

PROGRAM AND CONTEXT

Project type: [Identify all uses occupying 10% or more of gross floor area]

Industrial

Project site: [Check all that apply]

- [X] Previously undeveloped land
- [ ] Previously developed land
- [ ] Urban
- [■] Suburban
- [ ] Rural

Other Building description: [Check only one]

- [■] New
- [ ] Renovation
- [ ] Both [If both, list __% new and __% renovation]

STATISTICS* Provide the following metrics as applicable to your project.

- Site Area: 280,713 m^2
- Building gross floor area: 112,850 m^2
- Energy Intensity: 78.72 KWhr/m^2/year [Include both base building and process energy]

[optional: report energy intensity separately as follows:

- Energy Intensity, base building: 66.37 KWhr/m^2/year
- Energy Intensity, process energy: 12.35 KWhr/m^2/year

- Reduction in energy intensity: 26 %.
- State the reference standard on which the % reduction is based: MNECB, NECB or ASHRAE 90.1

[include version]: NECB 2017

- Recycled materials content: 25 % by value
- Construction materials diverted from landfill: 70 %
- Regional materials by value: NA
- Water consumption from municipal source: 5,345 litres/occupant/year

[Include both base building and process consumption]

- Reduction in water consumption: 42 % INDOOR ; 100% OUTDOOR
- State the reference on which the % reduction is based: [■] LEED or other [ ]

*NOTE FOR PART 9 RESIDENTIAL PROJECTS: PROVIDE THE STATISTICS ABOVE IF AVAILABLE. Include in the Executive Summary [see next page] the EnerGuide or the Home Energy Rating System [HERS] ratings if available, and the WalkScore rating [see www.walkscore.com]. Also, a qualitative assessment of project performance should be included in the appropriate sections of the narrative.

PART 1
PROJECT DESCRIPTION

**Your firm, and others involved in the project,
should not be identified in the Part 1 Project Description.
Please submit Part 1 and Part 2 as separate pdf files.**

PROJECT SUMMARY

In 200 words or less, describe:

- The project program and function, building type, and context
- Any special features or constraints that influenced the design.
- The sustainable design strategies [up to five] that are important to the success of the project.
- If your project is designed to any LEED Canada or Passive House rating systems, or other rating systems.

For Part 9 residential projects, include the EnerGuide or the Home Energy Rating System [HERS] ratings if available, and the Walkscore rating which can be determined at www.walkscore.com.

MAIN PROJECT DESCRIPTION

Fill in each section below that applies to your project. A description is provided for each section as a guide. Each section of the project description may be accompanied by up to four graphics or tables illustrating the key sustainable principles or data. The total project description [sections 1 - 10] should not exceed 1,000 words in length.

1. Strategic Decisions

Sustainable design embraces the ecological, economic, and social circumstances of a project. Explain how these circumstances influenced decisions such as site selection, building placement and orientation and program organization. Describe the passive design strategies at work in the building, and how active systems are employed to enhance their performance.

2. Community

Describe as appropriate, how the project enhances the public realm,, encourages community interaction and supports community resiliency. Explain how the project reduces automobile travel, including choice of location; use of any alternative local or regional transportation strategies; as well as any successful efforts to reduce locally mandated parking requirements.

3. Site Ecology

Describe how site design strategies work to preserve, rehabilitate or enhance natural ecosystems including details of the approach taken to groundscape, water management, planting and habitat creation. Indicate whether these strategies are contained within the project site, or extend beyond the site boundary. If appropriate, include a brief description of how these strategies fit within the scale of a neighbourhood, community or regional plan.

4. Light and Air

Describe the day lighting and fresh air ventilation strategies, and how the building design and operation maximizes the effectiveness of both. Indicate the percentage of the occupied floor area that is within 7 metres of an operable window. Describe the devices/technologies used to reduce the energy consumption of the lighting system, and the projected annual energy consumption of the system in KWhr/m^2. Quantify the provision of fresh air in air changes per hour.

5. Wellness
Describe how the design of the project addresses our understanding of how buildings can support both the physical and psychological health of their occupants. This may include material choices, introduction of biophilic elements, provision of social spaces, support of physical activity through design etc.

6. Water Conservation
Describe how building and site strategies conserve and manage water supplies, including measures to capitalize on renewable sources such as rainwater, and reusable sources such as building grey water. Indicate the strategies and technologies used for water conservation, and the projected potable water consumption per m^2/occupant/annum for the building from municipal or other centralized off-site supply. What percentage improvement does this represent over the water consumption of the reference building?

7. Operating Energy Present and Future
Describe how the building's mechanical, electrical and related control systems complement passive design strategies such as orientation, thermal mass and building cross section. Explain how these systems contribute to energy conservation, reduced GHG emissions, improved building performance and comfort. What is the annual energy intensity for heating and cooling the building in KWhr/m2/yr? Indicate what percentage of the energy consumed is from renewable sources [site installations, district heating systems, waste heat captured from adjacent buildings, or green power certificates], and how the building could respond to a future reduction in, or elimination of, fossil fuels.

8. Materials and Resources
Describe how the selection of materials for the building addresses concerns for occupant health and comfort, durability, and building performance. Indicate how the materials chosen were assessed for their environmental impacts, (including embodied carbon) and provided transparency, such as through health or environmental product declarations. Indicate any life cycle analysis conducted, the percentage of recycled materials used in the building, and the percentage of waste materials recycled during construction.

9. Building Life Cycle Considerations
The environmental impact of buildings begins with material extraction, and continues through fabrication, transportation, construction and operation, before ending with disassembly, reclamation and/or disposal. Life Cycle Assessment influences material selection as well as the choice of building systems. Describe how life cycle issues were incorporated into the design approach including: designing for the anticipated service life of the building, the measures that have been taken to ensure flexibility in use, adaptability to other functions and demountability and recyclability of building components.

10. Education and Information Sharing
The ultimate success of sustainable design will require both a top down and bottom up approach. It will depend on transforming the cultural attitudes among building owners, and disseminating information among professionals to push the envelope of best practice standards. At the same time, public education will raise the awareness and expectations of building occupants and users, and encourage market transformation. Describe how the project addresses these concerns.

PROJECT SUMMARY

Lakeridge Logistics Centre is a 112,850 m² industrial building located in Ajax, Ontario, completed in December 2024. This facility features a 40-foot clear height logistics area, over 200 truck-level doors, and more than 250 trailer parking spaces. Designed with sustainability in mind, the building targets LEED Gold and has achieved Zero Carbon Building Design (ZCB-Design) certification. The sources of carbon emissions for this building include operational (direct and indirect) and embodied carbon. The project exemplifies a strong commitment to sustainability through its innovative design, incorporating an electrified mechanical system, renewable energy solutions, advanced energy efficiency features and a thoughtful selection of materials to reduce both operational and embodied carbon.

Owned by a leading provider of industrial real estate in Canada, the logistics center will offer high-quality, adaptable industrial space to meet various business needs. This building is the largest Zero Carbon Building Design certified industrial building in all of Canada. We are proud to be the first of this size and aim to continue pushing the status quo, especially in the industrial asset class, which historically has not seen a demand for sustainability in construction.

MAIN PROJECT DESCRIPTION

1. Strategic Decisions

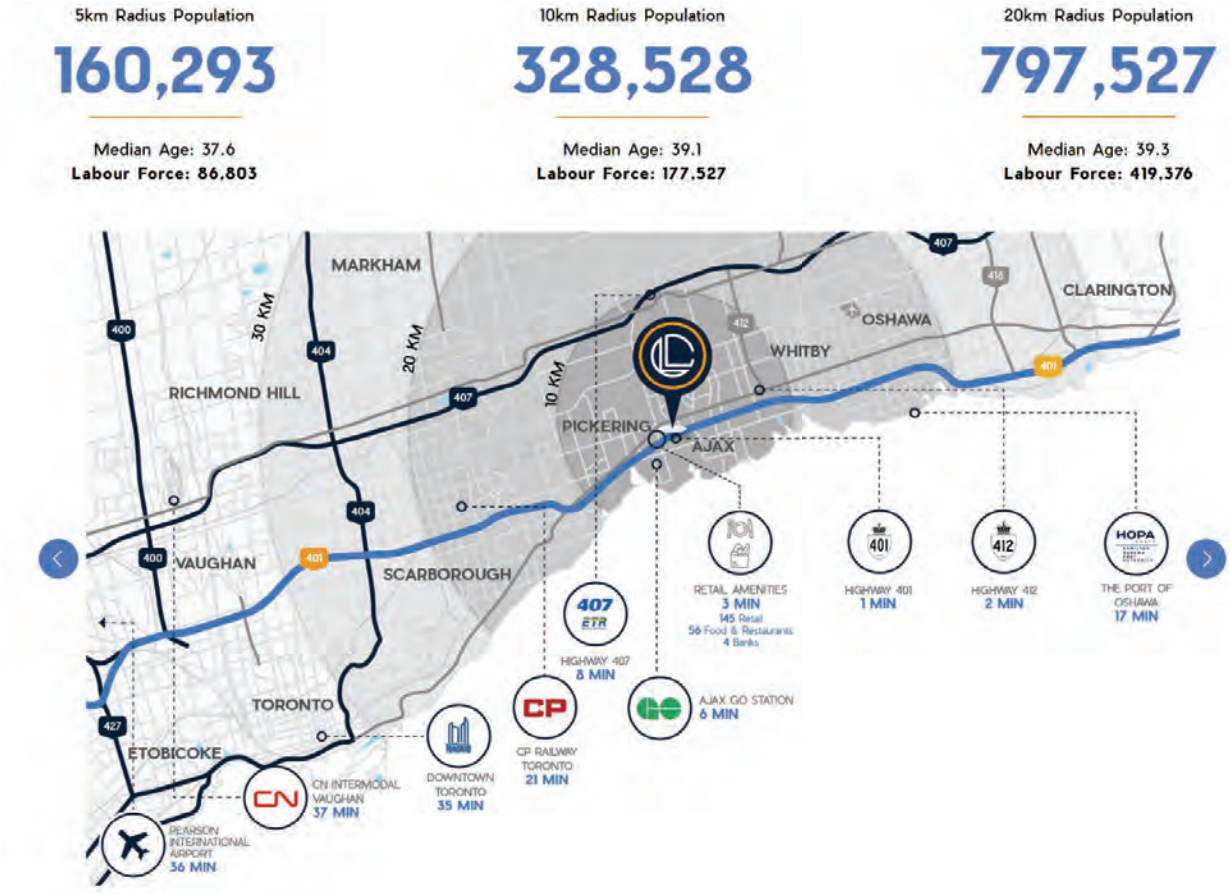
We went beyond Zero Carbon “Ready” and LEED Silver, typical of the current industrial market, to develop the largest industrial building in Canada designed to zero-carbon and LEED Gold standards. We also wanted our tenants to be able to achieve their own performance certifications for their operations.

Not only did we consider the surrounding biodiversity and community, but we also carefully selected each aspect, from the materials to the types of fuel being consumed with sustainability in mind. We went beyond considering the content of materials, to who our suppliers were, aiming to select local vendors wherever possible. This becomes a case study to all industrial owners that industrial can be holistically sustainable. This is one of the most unique and sustainable industrial buildings in all of Canada and we are proud to have our name on it.

2. Community

This location was strategically chosen. A rapid transit line was being built nearby, in addition to many existing transit lines. Dedicated bike lines offer a safe and convenient way for occupants to commute. The site is located directly off the 401 highway, providing quick and easy access. The intention was to reduce commute times and carbon emissions for both employees and companies that are receiving and distributing goods.

We worked with one of our tenants local to the area to provide the insulated metal panels. We also selected a local HVAC manufacturer to provide the 30 air-source heat pumps and ERVs. It is important for us to not only be thoughtful about the design, but also the construction process, and eventual operations, making sure that our decisions positively impact the surrounding community. Together this makes a thriving community.



3. Site Ecology

The building's exterior lighting enhances visibility while minimizing impact on the night sky and local wildlife. The lights are shielded and directed downwards, preventing light from spilling outside property lines.

White concrete sidewalks, dolly pads, and aprons, along with a bright, highly reflective white roof minimize heat absorption and reduce the impact of heat island effect. Landscaping was maximized, providing more green space to cool the environment naturally.

Windows also include a Bird-Friendly design, with patterns and coatings to help prevent bird collisions and protect local wildlife.

4. Wellness & Air

The property is located near conservation areas, providing occupants with invaluable access to outdoor space for fresh air and activity, something not typical of an industrial property. Dedicated bike lanes along with 66 bike storage racks, including covered space for long-term storage, offer a sustainable way to commute and connect to nearby amenities, while promoting healthy living.

The building is equipped with an air-conditioned warehouse, optimizing thermal comfort year-round. The advanced ventilation system provides ample fresh air, while filtration media actively reduce indoor pollutants, promoting a healthier environment. Most industrial buildings only heat warehouses, which is a health and safety concern as our world becomes increasingly warmer.

The paints, coatings, adhesives, sealants, and insulation materials were carefully chosen for their low-emission properties. These products are third-party tested to minimize indoor air contamination and enhance overall indoor air quality, ensuring a healthier environment for all occupants.


LOCATION & TRANSPORTATION
• Alternative transportation options reduce pollution and land development impacts from automobile use.
• Project is located within walkable and bikeable locations, enhancing occupant health by encouraging daily physical activity and increasing happiness and productivity.
66
BICYCLE PARKING SPACES
Promoting bicycling and transportation efficiency using nearby cycling network
38
EV "READY" SPACES
To accommodate future EV charging infrastructure for tenants
OVER
100
PUBLIC TRANSIT RIDES/DAY
Encouraging the use of public transit by occupants within walking distance
INVIRO


INDOOR ENVIRONMENTAL QUALITY
• Superior indoor air quality (IAQ) to protect the health and comfort of building occupants.
• Enhancing productivity and improving the building's value.
VENTILATION & MONITORING
Contributing to the comfort and well-being of building occupants by establishing minimum standards for IAQ and monitoring fresh air intake
LOW-EMITTING FINISHES
Using interior finishes with low volatile organic compounds (VOCs) to reduce concentrations of chemical contaminants that can damage air quality
IAQ CONSTRUCTION PRACTICES
Promoting the well-being of construction workers and building occupants by minimizing IAQ problems during construction
INVIRO

5. Water Conservation

Most Canadian industrial buildings are distribution centres with exceptionally low water use intensity. Where we see substantial water use is in the irrigation consumption. Industrial buildings often have significant land, which may either be landscaped or paved truck bays. The landscaping for the site was carefully planned to align with sustainability goals and local environmental conditions. All selected plants are drought-tolerant and native to the region, ensuring they thrive naturally without the need for irrigation. By eliminating the need for an irrigation system, we reduced outdoor water consumption by 100% while fostering a low-maintenance, eco-friendly landscape.

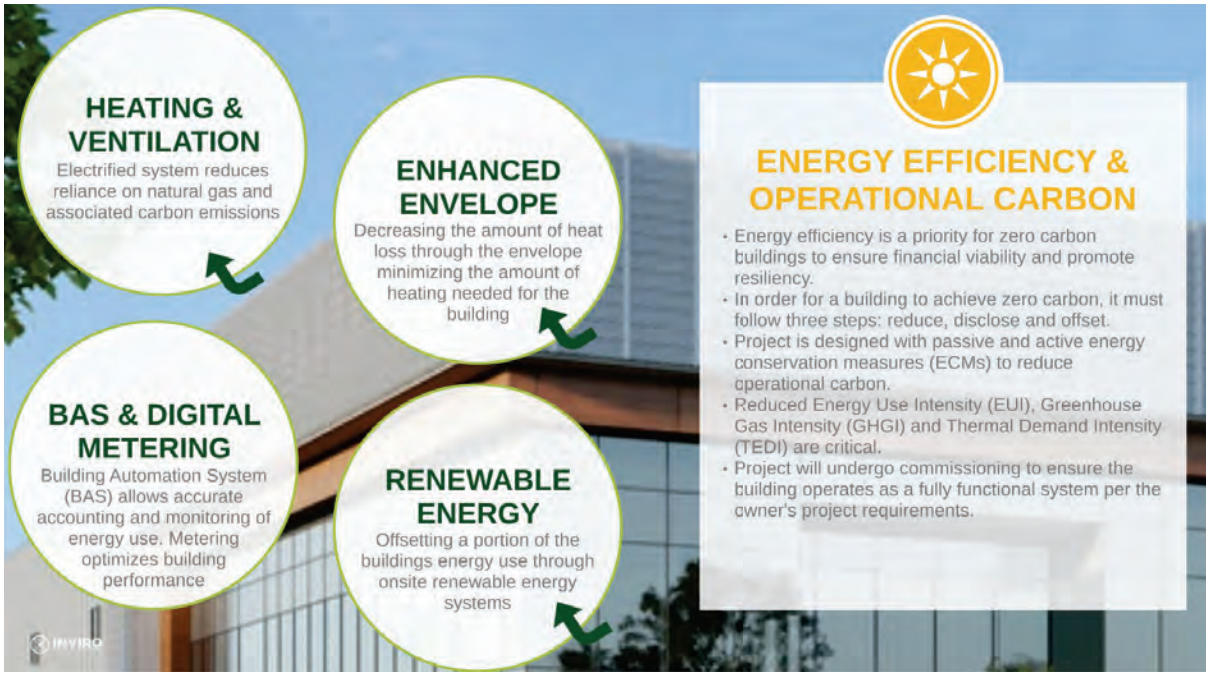
6. Operating Energy Present and Future

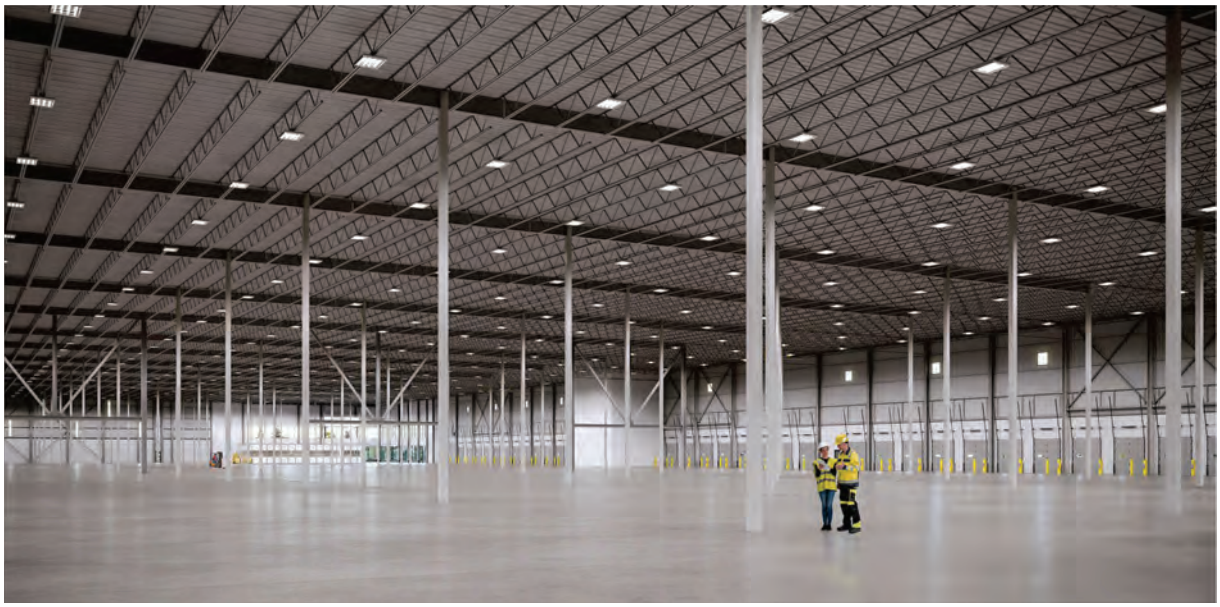
This building is designed with sustainability at its core, featuring a high-performance envelope and ultra-efficient mechanical systems with advanced controls to support the transition to low-carbon energy sources. These efforts contributed to the building's zero carbon design certification, resulting in a 26% reduction in annual energy use and a reduction of 53,500 kilograms of carbon emissions annually – equivalent to the carbon captured by 885 trees over 10 years.

To enhance thermal performance, the design opted for increased insulation and dock leveling technology. The building features R-35 precast walls, R-40 insulated metal panels (IMP), and an R-40 roof. Double-pane, low-e coated glass make up the curtain wall system, complemented by R-20 insulated spandrel panels. Specialized dock door seals and vertical levelers minimize infiltration loss.

The ultra-efficient, electrified mechanical systems incorporate ERVs and heat pumps to provide optimal ventilation and air conditioning for the warehouse. Destratification fans are strategically placed throughout the warehouse, redistributing heat from the ceiling to ground level. The warehouse is illuminated with high-bay LED fixtures paired with occupancy sensors. These systems are managed by a centralized BAS, ensuring efficient operation.

Solar panels on the roof generate over 5% of the building's energy needs, providing a clean and renewable source of electricity. The roof has been thoughtfully designed to be solar-ready, creating opportunities for expanding renewable energy systems in the future.


HEATING & VENTILATION
Electrified system reduces reliance on natural gas and associated carbon emissions
ENHANCED ENVELOPE
Decreasing the amount of heat loss through the envelope minimizing the amount of heating needed for the building
BAS & DIGITAL METERING
Building Automation System (BAS) allows accurate accounting and monitoring of energy use. Metering optimizes building performance
RENEWABLE ENERGY
Offsetting a portion of the buildings energy use through onsite renewable energy systems
ENERGY EFFICIENCY & OPERATIONAL CARBON
• Energy efficiency is a priority for zero carbon buildings to ensure financial viability and promote resiliency.
• In order for a building to achieve zero carbon, it must follow three steps: reduce, disclose and offset.
• Project is designed with passive and active energy conservation measures (ECMs) to reduce operational carbon.
• Reduced Energy Use Intensity (EUI), Greenhouse Gas Intensity (GHGI) and Thermal Demand Intensity (TEDI) are critical.
• Project will undergo commissioning to ensure the building operates as a fully functional system per the owner's project requirements.



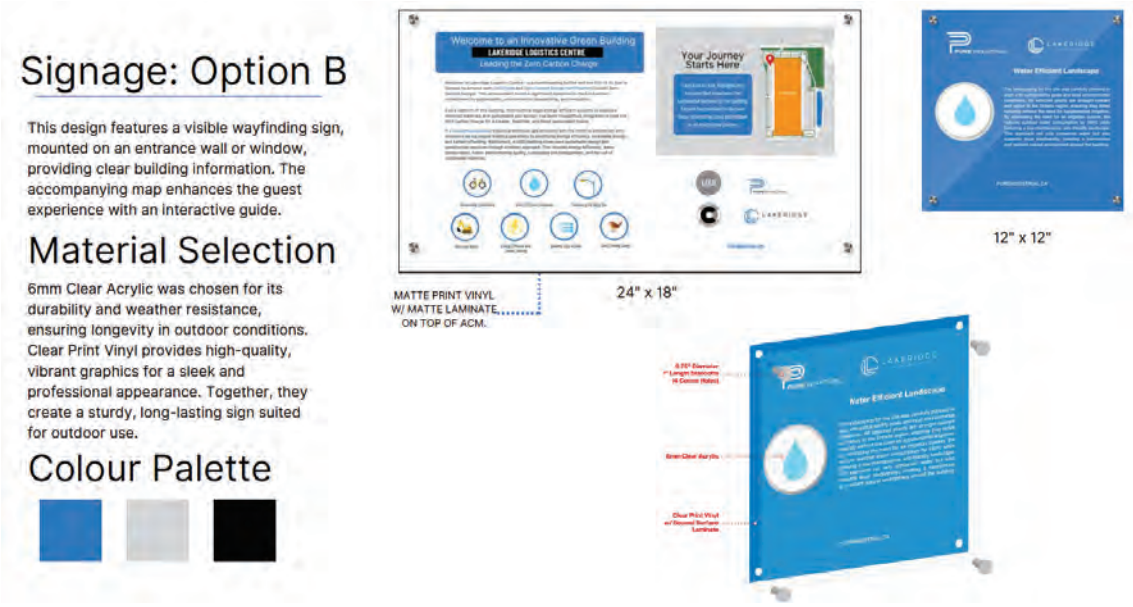
7. Materials and Resources

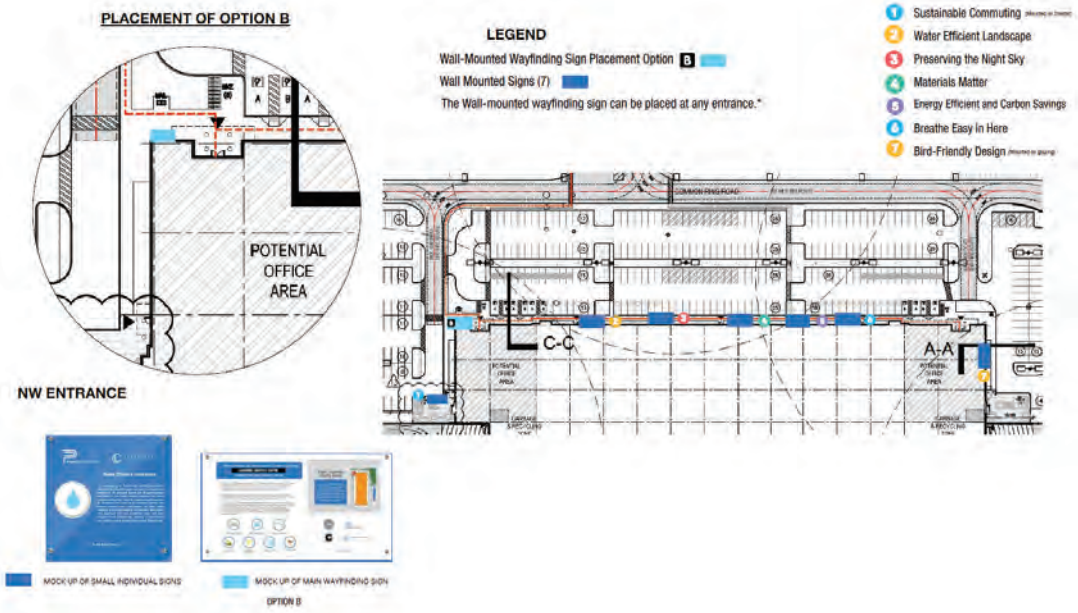
With great intention, we carefully selected materials with lower embodied carbon sourced from local manufacturers. Over 25% of materials, by cost, were responsibly sourced during construction. Concrete for the building was reduced upfront by choosing insulated metal panels (IMP) in lieu of concrete panels. In fact, their carbon emissions are 28% lower than traditional concrete walls. The building foundations use concrete with over 30% recycled content, reducing demand for raw materials and minimizing waste. By repurposing industrial by-products, concrete not only maintains its strength and durability but also lowers its embodied carbon.

We also selected a local HVAC manufacturer and distributor for both heat pumps and ERVs. This helped reduce emissions tied to transporting goods, as well as provided jobs and support for local businesses.

8. Education and Information Sharing

This is property designed to achieve zero carbon performance from day one of occupancy, with no additional investment. We wanted our incoming tenants to have the tools and support to achieve ZCB performance or LEED certification for their operations. We created signage located throughout the property to educate occupants on the features of the property. We also created a tenant manual to provide sustainable best practice guidance for their fit-outs, as well as to support them in future certification goals.





LAKERIDGE LOGISTICS CENTRE

537 KINGSTON ROAD EAST, AJAX, ON

THIS CERTIFICATE ACKNOWLEDGES THE DESIGN OF THE PROJECT MEETS THE REQUIREMENTS OF THE ZERO CARBON BUILDING – DESIGN STANDARD V2

THE CANADA GREEN BUILDING COUNCIL HEREBY CONFERS CERTIFICATION UNDER

ZERO CARBON BUILDING – DESIGN

JANUARY 31, 2025

AWARDED

THOMAS MUELLER

PRESIDENT & CEO,
CANADA GREEN BUILDING COUNCIL