Sustainability Narrative

Sustainable Sites:

Construction Activity Pollution Prevention (Required): To prevent pollution during construction activities we will be installing Turf Reinforcement Mats. These are synthetic mats intended to cover soil and seedbeds to protect them against raindrops and wind erosion. These mats also supply permanent supports for vegetation growing in swales such as those along Highway 441.

Site assessment (1 Point): Before cut and fill activities we hired an environmental surveying company to conduct a phase 1 Environmental Site Assessment for our parcel of land. Results confirmed that our site did not contain any environmental contamination.

Site Development - Protect or Restore Habitat (2 Points): When dimensioning our site plan for our proposed project, we situated our building in an area of the parcel that will allow for approximately 120,000 square feet of trees to not be disturbed by construction activities. We plan to restore 30% of all portions of the trees on site that were disturbed by construction activities. We will achieve this percentage through tree relocation on-site, installation of landscaping, and the placement of tree areas in our proposed parking lot.

Rainwater Management (3 Points): To manage the annual increase in runoff volume we will be sloping our building using cut and fill requirements before installing our foundation. This will allow for the rainwater to flow off the site due to gravity down, running off to the storm drains located along Highway 441.

Water Efficiency:

Outdoor Water Use Reduction (Required): To ensure outdoor water use is reduced, we plan to monitor and limit our outdoor water use for our site. We plan to set timers for our irrigation systems and to fuel our irrigation systems we will use reclaimed water captured by our roof rainwater drainage system.

Indoor Water Use Reduction (6 Points): Pictured below are the baseline water requirements for the indoor water fixtures and fittings. The only fixtures that apply to our projected building are toilets, urinals, and public lavatory faucets. To achieve these baseline consumption numbers we will be implementing three separate systems. First will be installing waterless urinals for the men's bathroom. Next, all toilets will be low-flush or eco-flush toilets. Lastly, we will be using low-flow faucets for all of our restroom sinks.

Table 1. Baseline water consumption of fixtures and fittings

Fixture or fitting	*Baseline (IP units)*	*Baseline (SI units)*
Toilet (water closet)*	1.6 gpf	6 lpf
Urinal*	1.0 gpf	3.8 lpf
Public lavatory (restroom) faucet	0.5 gpm at 60 psi** all others except private applications	1.9 lpm at 415 kPa, all others except private applications
Private lavatory faucets	2.2 gpm at 60 psi	8.3 lpm at 415 kPa
Kitchen faucet (excluding faucets used exclusively for filling operations)	2.2 gpm at 60 psi	8.3 lpm at 415 kPa
Showerhead*	2.5 gpm at 80 psi per shower stall	9.5 lpm at 550 kPa per shower stall

Water Metering (1 Point): To receive credit for this point on your LEED accreditation you need to install permanent water meters for two or more of the six water subsystems that pertain to your site. We plan to install water meters to monitor water use by the landscaping irrigation and the indoor plumbing fixtures and fittings.

Energy and Atmosphere:

Fundamental Commissioning and Verification (Required): To complete this prerequisite there must be a commissioning process for all MEP utilities as well as any renewable energy systems. These systems must abide by the ASHRAE requirements regarding water, durability, indoor environment quality, and energy. The commissioning process must be conducted to fit within the guidelines of the ASHRAE qualifications. We also plan to develop an operations and maintenance plan that will be maintained per the requirements.

Minimum Energy Performance (Required): To abide by the minimum energy performance prerequisite, we will be complying with the mandatory and prescriptive provisions of ANSI/ASHRAE/IES standard 90.1-2010. The areas of focus for compliance will be in our design process strategies, core performance requirements, and enhanced performance strategies. Since the proposed building footprint is under 100,000 square feet, we are eligible for this compliance option.

Building-Level Energy Metering (Required): New building-level energy meters will be installed to collect data regarding the building's total energy consumption. We commit to sharing this data with the USGBC for five years starting on the date our project accepts LEED certification or until the building changes ownership. We hope to discover energy savings opportunities through the collection of our data.

Fundamental Refrigerant Management (Required): To reduce stratospheric ozone depletion, we will not use any chlorofluorocarbon-based refrigerants in new heating, ventilating, air conditioning, or refrigeration systems. We will ensure that any small HVAC/R units will never contain more than half a pound of refrigerant.

Optimize Energy Performance (18 Points): To achieve all 18 points credited to your building you must achieve ***50%*** improvement in energy performance. The proposed performance target must be established before the schematic design phase and must be measured in kBtu per square foot-year of source energy use. To achieve this 50% threshold our areas of focus will be in regard to our HVAC-related strategies as well as load reduction for our building. Before any testing commences regarding our integrative process, we will conduct a basic energy analysis to use as a benchmark before administering the energy simulation test.

New Construction	Major Renovation	Core and Shell	Points (except Schools, Healthcare)
6%	4%	3%	1
8%	6%	5%	2
10%	8%	7%	3
12%	10%	9%	4
14%	12%	11%	5
16%	14%	13%	6
18%	16%	15%	7
20%	18%	17%	8
22%	20%	19%	9
24%	22%	21%	10
26%	24%	23%	11
29%	27%	26%	12
32%	30%	29%	13
35%	33%	32%	14
38%	36%	35%	15
42%	40%	39%	16
46%	44%	43%	17
50%	48%	47%	18

Materials and Resources:

***Storage and Collection of Recyclables (Required)**:* When it comes to new construction in retail centers, there must be dedicated areas for the building occupants for the collection and storage of recyclable materials for the entire building. There will be recycling bins located in multiple locations around the floor area and restrooms for employees and customers to dispose recyclable materials. For the storage of recyclable materials, we will have designated recycling bins located near our dumpsters for typical waste. The recycling bins will have separate slots for the 5 different recyclable materials: mixed paper, corrugated cardboard, glass, plastics, and metals.

***Construction and Demolition Waste Management (2 Points)**:* Before breaking ground with construction activities, we plan to develop a construction and demolition waste management plan. This plan will feature goals regarding the following materials for diversion: any materials containing asbestos, heavy metals containing lead, paints or paint thinners, fiberglass materials used for insulation, and any wood treatments used for the exterior cedar wood siding. Materials will be disposed of in separate dumpsters based on their physical properties, the OSHA-certified safety personnel on site will be in charge of monitoring the disposal of dangerous materials.

Indoor Environmental Quality:

***Minimum Indoor Air Quality Performance (Required)**:* To achieve this prerequisite, you must meet the requirements for both ventilation and monitoring of indoor air. Since we are using mechanically ventilated spaces, we will abide by the minimum outdoor air intake flow stated in ASHRAE 62.1-2010. To test our systems, we will use the ventilation rate procedure. To monitor our mechanically ventilated spaces, we will install an airflow measurement device capable of measuring the outdoor air intake flow. Once we gather results, we will ensure the accuracy of the readings is +/- 10% of the ventilation requirements. An alarm system will be installed to notify management if the airflow value varies greater than 10%.

***Environmental Tobacco Smoke Control (Required)**:* To complete this prerequisite you must prevent exposure of building occupants, indoor surfaces, and ventilation air systems to environmental tobacco smoke. Smoking or vaping, in any form, is strictly prohibited within our building and violators will be banned from returning to the retail center.

Enhanced Indoor Air Quality Strategies (2 Points): The purpose of this credit is to promote occupants' comfort and experience while within the retail center by improving indoor air quality. The following requirements must be achieved to earn the credit for enhanced indoor air quality strategies:

Comply with the following requirements, as applicable.

Mechanically ventilated spaces:

A. entryway systems;
B. interior cross-contamination prevention; and
C. filtration.

Naturally ventilated spaces:

A. entryway systems; and
D. natural ventilation design calculations.

Mixed-mode systems:

A. entryway systems;
B. interior cross-contamination prevention;
C. filtration;
D. natural ventilation design calculations; and
E. mixed-mode design calculations.

A. Entryway Systems

Install permanent entryway systems at least 10 feet (3 meters) long in the primary direction of travel to capture dirt and particulates entering the building at regularly used exterior entrances. Acceptable entryway systems include permanently installed grates, grilles, slotted systems that allow for cleaning underneath, rollout mats, and any other materials manufactured as entryway systems with equivalent or better performance. Maintain all on a weekly basis.

B. Interior Cross-Contamination Prevention

Sufficiently exhaust each space where hazardous gases or chemicals may be present or used (e.g., garages, housekeeping and laundry areas, copying and printing rooms), using the exhaust rates determined in EQ Prerequisite Minimum Indoor Air Quality Performance or a minimum of 0.50 cfm per square foot (2.54 l/s per square meter), to create negative pressure with respect to adjacent spaces when the doors to the room are closed. For each of these spaces, provide self-closing doors and deck-to-deck partitions or a hard-lid ceiling.

C. Filtration

Each ventilation system that supplies outdoor air to occupied spaces must have particle filters or air-cleaning devices that meet one of the following filtration media requirements:

- minimum efficiency reporting value (MERV) of 13 or higher, in accordance with ASHRAE Standard 52.2–2007; or
- Class F7 or higher as defined by CEN Standard EN 779–2002, Particulate Air Filters for General Ventilation, Determination of the Filtration Performance.

Replace all air filtration media after completion of construction and before occupancy.

D. Natural Ventilation Design Calculations

Demonstrate that the system design for occupied spaces employs the appropriate strategies in Chartered Institution of Building Services Engineers (CIBSE) Applications Manual AM10, March 2005, Natural Ventilation in Non-Domestic Buildings, Section 2.4.

E. Mixed-Mode Design Calculations

Demonstrate that the system design for occupied spaces complies with CIBSE Applications Manual 13–2000, Mixed Mode Ventilation.

We will focus on these calculations, filtration systems, and entryway systems to ensure our customers are comfortable within our establishment.

Indoor Air Quality Assessment (2 points): The requirements for an indoor air quality assessment are as follows: Install new filtration and perform a building flush-out by supplying a total air volume of 14,000 cubic feet per square foot of outdoor air (4 267 140 liters of outdoor air per square meter) of gross floor area while maintaining an internal temperature of at least 60°F (15°C) and no higher than 80°F (27°C) and relative humidity no higher than 60%. We plan to conduct this building flush-out and air quality assessment before declaring our building open for consumers, towards the close-out portion of our construction process. Once the results are gathered, we will ensure we fit within the range of safe air quality provided by LEED.

Interior Lighting (2 points): To fall within LEED standards for interior lighting for retail centers and sales areas, you should provide controls that can reduce the ambient light levels to a midlevel (30% to 70% of the maximum illumination level not including daylight contributions). To achieve this, we plan to install dimming switches for all of our lighting fixtures, with preset light level settings (between 30% and 70%).

Daylight (2 Points): Through the installation of skylights lining the roof of our building and windows, we will achieve the desired percentage for daylit floor area. For retail areas, it is required that 55% of regularly occupied floor areas be exposed to daylight.

Acoustic Performance (1 Point): The interior Partition walls for our building will be comprised of a Wood partition, 5/8” fire-rated gypsum board face, with ¼” sound-deadening gypsum board, 2 x 4 @ 16” O.C. framing with sound attenuation insulation. The entirety of the interior partition walls will be lined with sound insulation to allow for minimizing sound to the producer and receiver.

Innovation:

LEED Accredited Professional (1 Point): The projected general superintendent from the general contractor team is a LEED accredited professional who has over 20 + years of experience in sustainable construction.