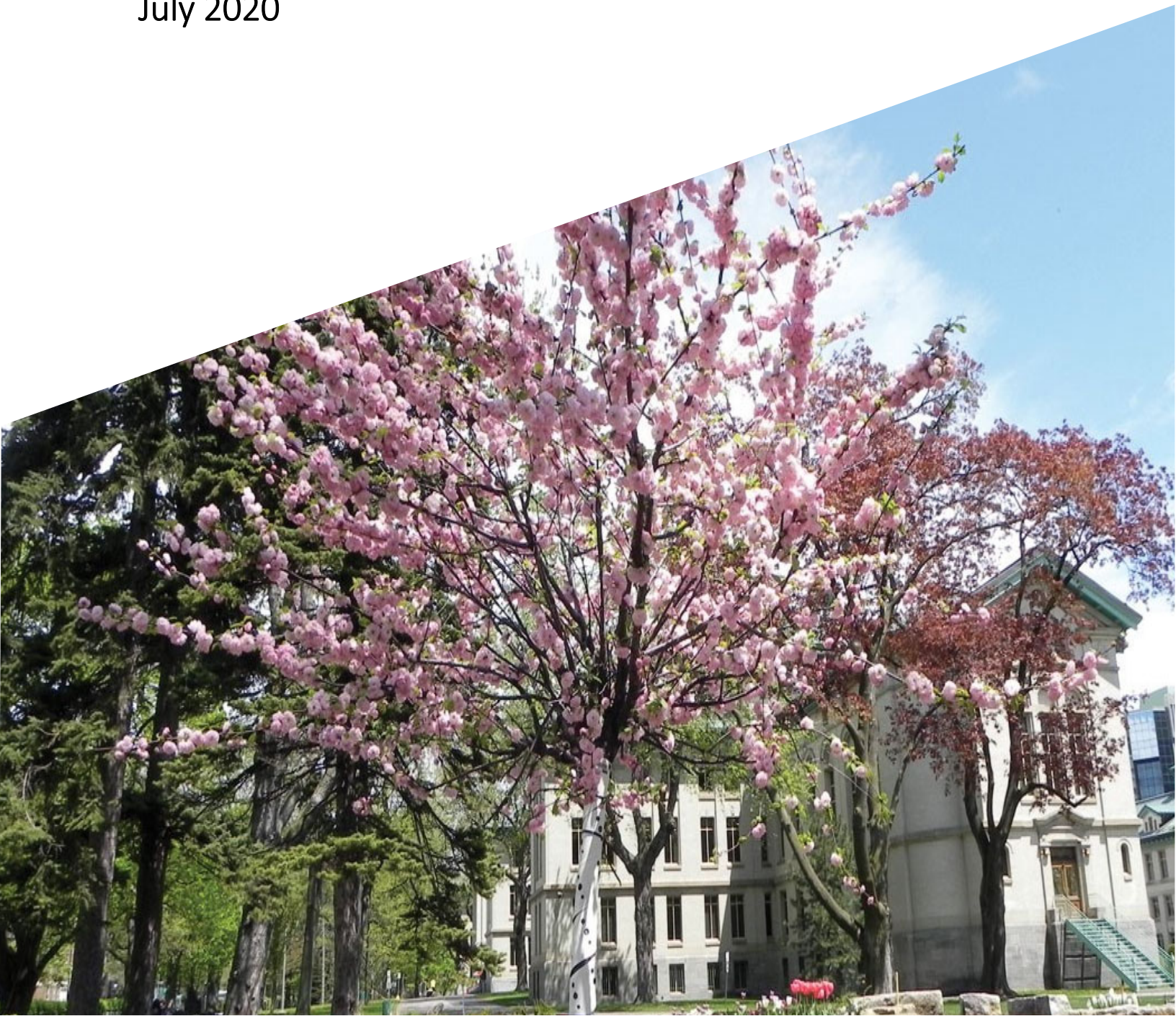


# **LANDSCAPE MANAGEMENT GUIDELINES**

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Facilities Management

July 2020





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# Landscape Management Guidelines

Dawson College

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## 1. Introduction

These guidelines are intended to be a resource for creating and maintaining a sustainable campus, which reflects the college's values, encourages education, and ensures that landscape developments are pertinent, functional and esthetically pleasing. Our goal is to weigh and balance land use issues with maintenance and sustainability principles, in order to make careful and guided decisions that affect our grounds.

Our campus grounds are an important part of our College. The 12 acres that surround Dawson College are a big part of our educational, recreational and leisure activities where students, staff and external visitors frequent the grounds.

### **Dawson College's campus is a testimony to its institutional past.**

The campus provides a green sanctuary in a busy urban area that holds an abundance of biodiversity. The nature areas provide a space of tremendous value and afford the opportunity to view wildlife, study nature and enjoy a link to nature.

### **Dawson College's grounds are a testimony to its living heritage.**

The grounds are managed to reflect the College's core value of well-being for all, anchor sustainability, and provide a restorative landscape for students, staff and visitors by defining a Living Campus.

## 2. Dawson's Commitment to Sustainability

The [2016-2021 Dawson Strategic Plan](#) emphasizes Dawson's mission statement to educate, engage and enrich all students to develop as active and engaged learners. The gardens and grounds around the College contribute to these objectives, as well as help us meet the College's core values of teamwork, well-being for all, innovation, creativity, social responsibility and community engagement.

## 3. Heritage Site

The Québec government recognizes Dawson College the former "Maison-mère des soeurs de la Congrégation de Notre-Dame" as a heritage site under its *Heritage Cultural Act* (Loi sur le Patrimoine Culturel).

Dawson College has a legal obligation to preserve the aesthetics of the site. When developing projects that involve landscaping, the College has a responsibility to consider its heritage value.

## 4. Environmental Ecosystems

### 4.1 Biodiversity

Dawson College offers a unique setting and has been involved with promoting biodiversity for over 10 years. Record keeping has played an integral role in the logging of any changes in our biodiversity. Dawson's Sustainability Office in collaboration with the Biology department keeps these records.

Dawson College is increasing biodiversity through of microhabitats. Information about our studies and sites are available on the [Sustainable Dawson website](#).

### 4.2 Promoting Biodiversity

A variety of plant species should be maintained and protected to promote native biodiversity. A variety of different natural environments should also be provided to attract different insects, birds and animals to our grounds to create valuable living labs for curricular and extra-curricular activities.



Dawson's Sustainability Office is responsible for the maintenance of microhabitats on our grounds (e.g. meadow, forest floor, decomposition area, monarch nursery, snags and pond).

### 4.3 Bioremediation

Bioremediation is currently being implemented in a few areas of the campus grounds. This method uses specific plants and their associated microorganisms to break down or remove the targeted chemicals that pollute the soil.

### 4.4 Insects

More than over 100 species of insects alone have been identified on [Rooftop Habitat Restoration Project](#). The presence of insects is indicative of a healthy ecosystem. The "insect hotel" is a feature that attracts insects to Dawson's rooftop garden and is designed for pollinators to nest in. Decomposing logs and a diversity of plants are maintained to promote insect life as the basis of our vigorous ecosystem.

## 4.5 Organic Practices

The College's gardens are planted with organic gardening practices in mind. Our lawns are managed with the same level of care as the gardens using, whenever possible, organically produced seeds or seedlings. Dawson College uses natural methods of fertilizing.

## 4.6 Pesticide

The Province of Quebec passed the *Environment Protection Act* in 1986, which aims to reduce and rationalize the use of pesticides. Montreal City Council passed a by-law that prohibits the use and application of pesticides (including herbicides) outside buildings, except in the case for an infestation. We cannot use pesticides on our grounds unless we have exhausted all other options for combating the issue.

## 4.7 Native Species

The College encourages the planting of site-appropriate native species. This promotes biodiversity that is local to our ecological zone, conserves water and increases survival rates. The College's goal is to ensure that a least 50% of the garden's species planted are native. Invasive species are monitored, kept at desired levels and removed if needed. Non-native species are maintained to preserve the heritage value of the grounds.



## 4.8 Trees



The College has many trees that vary greatly in age, size and function. There are approximately 40, 100-year-old trees, including maple, oak, hickory and basswood that are part of our heritage designation and add enormous value to the landscape, visually and ecologically.

There are approximately 150 trees that are in the 30 to 60-year-old range and another 50 that are younger and have been planted more recently. Dawson College is committed and devoted to maintaining the heritage value of these trees for the community's well-being.

Our trees need to be maintained to make sure our grounds are safe. Our mature trees need a lot of attention and care. They require different treatment than younger trees, but still need regular watering, pruning and protection. We ensure that our tree canopies are thinned. When replacing trees, we ensure that our tree population varies in age.



Dead trees and the holes they harbour provide shelter for numerous insects, birds and mammal species. These habitats are protected if they are located within the boundaries of our heritage areas.

Dead trees or branches are used as nurse logs and may be left on site to promote biodiversity on the property.

## 4.9 Hedge

The hedge supports wildlife and creates a barrier between Dawson College and the surrounding streets. According to the City of Westmount's [Landscape Design](#), hedges must be no higher than two meters. Retaining walls, fences and hedges at the corners of streets or lanes must be located behind the building line at a height that will not obstruct views of traffic. The hedge is managed as a biodiversity zone.

## 4.10 Gardens

One of our main objectives is to provide a teaching and learning outdoor environment.

Dawson College has invested a great deal of effort in developing educational and experiential gardens on its property and on our rooftops as part of the Living Campus educational platform. These gardens serve as the foundation of our sustainability principles and authentic experiences at Dawson College.



They provide a fundamental link to our urban campus and are crucial in implementing the College's [Strategic Plan](#), including the [Graduate Profile](#).

The College's natural areas are key to meeting the College's mission and goals. Any management decisions about our grounds, landscaping or gardens, must be kept within our sustainability objectives. Dawson's [Sustainability Plan](#) outlines all the major strategies and success indicators that collectively lead to well-being for all.

## 4.11 Soil

Soil is the basis of our gardens. Land and soil maintenance are practised with organic techniques and limited chemical inputs. Soil testing is done on a regular basis to monitor its health. The Sustainability Office in collaboration with academic departments keeps records.

Because of unknown past land-use and various copper compounds from rooftop runoff, no gardens with edible plants are to be created without a preliminary soil test. Our gardens should not receive rooftop water runoffs. Raised box gardens are created to avoid contaminated soil and vegetable gardens near rooftops should be covered to prevent melting snow from entering the soil.



## 4.12 Rainwater Management and Storage

A large portion of the College's grounds is covered with soil and vegetation. This helps to slow down the runoff of storm water, mitigate flooding and release clean water back to the atmosphere.

To avoid flooding the city's rainwater infrastructure, the College built a reservoir along Atwater Street to help slow down the water from our drainage system. Following a flood, work was also carried out on a second retention basin that is beneath the De Maisonneuve Boulevard entrance.

Bioswale efforts have been attempted to slow down storm water and help to mitigate flooding of our buildings. These types of projects should be encouraged as they promote educational learning on campus and use eco-friendly features to promote environmental stewardship and increase biodiversity.

Copper on rooftops reacts with the elements creating concentrations of various copper compounds, which may be toxic. Therefore, gardens that produce edible material should not receive water runoff from copper rooftops and should be raised from any contaminated soil.

Snow removal from our campus roads is cleared and piled on our property. Melting our own snow is encouraged and saves on transportation costs.

The location of where the snow is piled must be designated to minimize damage to vegetation and to prevent any potential contamination.

There is a risk of contaminating the soil beneath the melting snow piles. These piles could contain parking lot pollutants from cars and salt. The soil beneath the piles should be tested and action should be taken if contaminants are found to be of an unacceptable level.



This photo illustrates green coloration caused by copper contamination from roof runoff.

## 4.13 Regeneration

If an area of the grounds needs help to recover from overuse or other disturbances, its use will be shut down for a limited time to allow recovery. Dawson's Sustainability Office and Facilities Management department take this decision.



## 5. Landscape Maintenance

### 5.1 Leaf Removal

Every year in the fall, the fallen leaves are picked up and brought to be composted off-site. The College measures the volume or weight of the leaves before they are carted away by an external contractor. This is a mutually beneficial arrangement for both parties.

Leaves can be mulched and left on the lawn. Mulched leaves will biodegrade and provide nutrients to the grass. Mulch helps keep the soil moist and reduces erosion and prevents undesirable invasive plant species. Mulch can be produced from branches and spread on the base of certain trees to help protect them.



Facilities Management is responsible for the maintenance and landscaping of the campus grounds.

### 5.2 Lawn

Our lawns provide a large amount of green space and create a playing surface for people to move, play, relax and enjoy the outdoors.

Lawn care is handled by an external contractor. The contractor is made aware of our sustainability standards and practices, as well as the care we put into developing a healthy and resilient ecosystem. Lawn care should be treated with an ecosystem approach and lawn care companies must understand our minimal lawn care treatment policy in terms of fertilization, herbicide use and pest control.



The contractor's equipment must be kept safe and properly maintained. Hand tools and/or electric tools are used rather than gas powered equipment.

The grass is cut on a weekly basis, starting from the month of May until October. Grass clippings are to be left on the ground and recycled back into the soil. It is not advisable to cut wet grass. Mowing while wet leads to clumping, cuts less cleanly and risks damaging the lawn.

While certain flowering species on a lawn may be a nuisance, they can have major benefits. Many attract butterflies and caterpillars and provide pollen and nectar to bees and other pollinators. Over the early summer, the College lets the clover flower grow for a week for it to proliferate and provide nourishment to our bees.



The frequency of our grass cutting will be taken into consideration to promote a balance between biodiversity and integrate aesthetic value.

### 5.3 Tree Care and Disposal

The Facilities Management department manages tree-pruning services. As biodiversity is a concern, large branches or trees must not be removed without approval. Tree pruning is done annually. An inspection is done on every tree and the Facilities Management department keeps a log.

### 5.4 Branches/Mulch

Branches that are cut from trees are mulched and composted. On-site composting is considered first according to the capacity of our on-site composting.

### 5.5 Snow Removal

Over the winter months, snow removal and de-icing start early in the morning and continues throughout the day. Work is done by an external contractor. Our maintenance workers are responsible for clearing walkways. Snow is piled in designated areas around the College away from the gardens and left to melt. Trees, which are near pathways of snow-clearing equipment are protected.

The Biology department is testing the soil beneath these piles of snow as part of a microorganism biodiversity study.

### 5.6 Salt

On slippery or icy days, salt is applied to our parking lot, entryways, pathways and sidewalks to melt the snow so that pedestrians and vehicles can circulate safely. Dawson uses the safest product possible and considers ecological and safety concerns.

### 5.7 Waste and Cleanliness on Campus

Keeping our campus clean is a priority. Waste bins are spread throughout the grounds to maximize waste disposal. The College's maintenance workers are responsible for the cleaning of external waste bins. Waste bins are emptied daily and kept clean to encourage people to use them.

### 5.8 Benches, Tables and Other Outdoor Furniture

Benches and tables must be maintained and kept clean and functional to attract students, staff and faculty to use them. The design of our outdoor furniture must be chosen for functionality and to complement the architectural richness of Dawson College and its grounds.

## 5.9 Pest Management

The College deals with invasive species (plants, animals, insects or birds) on a regular basis and problems are dealt with individually. Problems need to be anticipated and attractants to pests removed. Recurring problems that are known are mainly dealt with through preventative maintenance. Humane control mechanisms are used when a threat is constant and would cause problems. Exterior pest control happens when a specific species risks damage to property or to other species.

**Dawson has a four-tiered Integrated Pest Management (IPM) approach by which we:**

- 1) set action thresholds,
- 2) monitor and identify pests,
- 3) prevent or remove conditions that attract pests,
- 4) control.

## 5.10 Sprinkler System

A sprinkler system exists to water certain parts of our grounds. The sprinkler system is on a timer. This system is located outside the “A”, “C” and “D” wings of the courtyard, along De Maisonneuve Boulevard and the Dawson Daycare. The Facilities Management department operates the sprinkler system and an external company services it.

## 5.11 Maintenance Schedule

The Facilities Management department is responsible for the maintenance of the grounds and to ensure that they are kept looking healthy. A yearly-recommended checklist is created and completed with the help of external contractors.

## 6. Budget

The Facilities Management department in collaboration with the Sustainability Office are responsible for the College’s landscape management.

The maintenance of the teaching gardens, other than the Ecological Peace Garden, falls under the responsibility of the Sustainability Office. If one of these gardens cannot be maintained by the Sustainability Office, Facilities Management will take over and reinstate it to its natural state.



Because of its size, The Ecological Peace Garden is the responsibility of the Sustainability Office in collaboration with the Facilities Management department and must be supported by a separate budget to ensure its upkeep and longevity.





## 7. Landscape Design

Our goal is to contribute to the beauty of the site and the richness it offers. The Landscape Management Guidelines were created to ensure a balance between ground use and esthetics while respecting its historical value. Facilities Management is responsible for the landscape and design of our college grounds.

### 7.1 Energy-Efficient Landscape Design

Dawson College will consider integrating landscape design that reduces energy use and urban-heat island effect. Energy-efficient design contributes to the absorption of greenhouse gases and reduces the impacts of high winds over our grounds.

The College will continue its Night-Sky initiative to preserve darkness. Lighting fixtures should only direct light to needed areas for safety reasons.

### 7.2 Garden Trail Design

Our Peace Garden trails are designed for easy access to take in the beauty, compliment the landscape and limit heat retention and water runoff. When needed, locally quarried rocks will be chosen to maintain the geological integrity of the gardens. Any other garden-related permanent items (e.g. plaques, benches, etc.) must be screened by Sustainability Office and/or Facilities Management.

## 8. College Campus Users

### 8.1 Events

Outdoor events allow us to share with our visitors our campus ground's beauty. Spaces must be reserved and the following rules must be respected and followed during any College outdoor event:

- The use of trees as support or anchors can be permitted with prior approval from the Facilities Management department. The tree must be solid and healthy.
- Anchoring directly on the tree is prohibited.
- Event organizers are to bring standard portable recycling units and be as close to zero waste as possible.

## 8.2 Garden Bookings

The College grounds are used for events during the spring, summer and fall sessions. Our events are planned and booked to minimize potential conflicts. As outdoor events in our Peace Garden increase, booking of the Peace Garden through our room bookings system should be considered.

As use of our gardens continue to grow and wildlife is encouraged (plants and animals), there will invariably be space use conflicts (i.e. space for activities, microhabitat & species protection) and potential conflicts with certain species (i.e. invasive plants, nesting birds, etc.).

Conflicts arising from such uses either between educational uses or between educational and managerial objectives must be dealt with on a case-by-case basis between the Sustainability Office and Facilities Management, taking in consideration this guideline and existing laws.

A land-use inventory will be undertaken by the Sustainability Office every two years to assess progress and help anticipate potential conflicts.

## 8.3 Public Use of the Grounds

The College grounds are open to the public during College hours. The security guards patrol the grounds and buildings regularly. If disruptive behavior occurs on the college grounds, security will ask the person to leave immediately.

## 8.4 Feeding Wild Animals

Under municipal by-law, it is forbidden to feed wild animals on the College grounds.

## 8.5 Animals on College Grounds

Dogs are not permitted on the College grounds, except for police or certified guide/assistance/service animals.

## 8.6 Parking

Parking is limited. The College currently has a parking supply of approximately 80 parking spots. The College is in the process of looking into possible solutions in providing parking to new types of transportation to preserve and promote our greenspace.

## 8.7 Bicycle Parking

Our landscape management choices have an impact on modes of transport. Dawson College aims to promote the use of active transportation by walking or cycling to the campus. Bicycle parking encourages bicycle use and promotes a healthy and active lifestyle. The College currently provides approximately 100 bicycle parking spaces on the campus grounds and is looking into installing additional bicycle racks and providing accessible and secure parking for all users.



## 8.8 Signage

As part of the ecological integrity and commemorative aspects of the garden and landscape, signage should be kept to a minimum. Requests for memorial plantings (trees), plaques or artwork or other “mementos” are made through the Sustainability Office to be carefully considered by appropriate College committees.

Requests for other signage are made through the Facilities Management department.

## 8.9 Security

The College’s security department is contracted to an external security company. This company is responsible for ensuring the safety of staff and students on the campus grounds and for creating a safe campus environment. Our grounds are patrolled daily.



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