

# LANDSCAPES NORTH

## NEWSLETTER

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## Sustainable Landscapes by Jay Lazzarin, LMBCSLA, LMCSLA, ASLA

What are sustainable landscapes? Sustainable landscapes actively contribute to the development of healthy communities in a variety of ways ranging from cleaning the air and water, increase energy efficiency, restore natural habitats, reduce maintenance and create value through significant economic, social, and environmental benefits.

This can be achieved in varying degrees, from large-scale master plans and community projects to small-scale residential gardens, parking lots and green streets. The quantity and type of sustainable measures implemented vary from project to project and is usually a reflection of the Owner's / Developer's desire and objectives as well as funding. To implement several sustainable initiatives comes with a financial cost. However, the benefits are exemplified in the ongoing operation and maintenance of the landscape, restoration and protection of natural habitats, improved energy efficiency, more efficient use of domestic water supply, cleansing of the air and storm water, as well as replenishing the ground water.

Various low cost initiatives to consider when developing a sustainable landscape include:

1) *Install deciduous shade trees close to building(s) to reduce heat buildup and air conditioning costs in summer months. In the fall and winter months, the leaves are dropped allowing more sun to shine in and help reduce heating costs. In addition, trees deliver more than cost savings, they are important carbon sinks and improve air quality with the absorption of pollutants.*



2) *Install primarily indigenous and drought tolerant plants that require minimal and / or no irrigation. Native plants are also better able to resist pests and diseases.*

3) *Reduce the quantity of well groomed lawn / turf areas. Substitute with a more natural landscape such as a 'rough' grass and wildflower mix. (Rough grass is a mixture of drought tolerant, low growing, grass species), that require less water, chemicals, fertilizers, and mowing.*

4) *Collect and harvest rain water in barrels, thus minimizing the use of valuable, domestic water. Parking lot storm water can also be collected onsite and dispersed within 'bioswales' and temporary holding ponds reducing the stress on municipal storm drain systems and replenishing the ground water.*

5) *Collect and compost organic kitchen and garden waste products, reducing the amount of waste sent to landfill sites and when redistributed onto planting beds, produce rich organic humus, improving the soil nutrients.*

6) *Rather than using exotic materials trucked in great distances, consider using local stone / boulders, growing medium, mulches, and wood products that create a more natural landscape and reduce shipping and fuel costs.*



7) *Consider the incorporation of more edible plants in the landscape that add beauty as well as food.*

8) *In new developments, retain / preserve as many existing plants as possible, reducing potential runoff and erosion, as well as assist in retaining existing ecosystems and bird habitats.*

9) *For new developments, adopt an erosion and sedimentation strategy that minimizes erosion and sediment transported and carried offsite with storm water.*

More expensive strategies include:

- 1) *The development of porous parking lot surfaces, such as interlocking concrete pavers over a porous gravel base, that permits water to infiltrate into the ground rather than transported and deposited in traditional catch basins / storm pipe system. In northern climates little or no infiltration occurs when the ground is frozen, therefore other supplementary measures are developed such as 'recharge chambers', where large volumes of water are dispersed into the soil, below the ground frost level.*
- 2) *The installation of underground storage tank(s) to collect seasonal storm water. The captured storm water is then used in hot, dry weather to irrigate plants, when necessary. Depending on the scale of the landscaping, several large sized storage tanks maybe required to provide sufficient source of water.*
- 3) *Reduce 'heat islands' that increase heat buildup and impact the microclimate and wild-life habitat. This can be achieved with (i) the development of 'green roofs'. Green roofs also have the benefit of minimizing storm runoff as well as increase aesthetic values; and (ii) the development of landscape medians with shade trees, in large parking lots to reduce heat absorption in typically dark colored, non-porous surfaces.*



Note: Photograph is Not from a LSA Project

## Preserving Our Night Sky

by Vincent Hosein, MLA

From the stars spreading across the sky like an ocean; to the aurora borealis flowing like a river of light - the night sky is full of natural beauty. One only needs to leave the city limits to rediscover the wonders of the night sky. But why is it that we need to leave the city at all? What has changed in the last one hundred years that now impedes our view of a starry night sky? The reason lies solely on what is known as "sky glow", a result of light pollution.



Photo collage showing the true night sky over Prince George.

Sky glow is created when light sources are allowed to shine upwards into the atmosphere. This light reflects off dust, gas, and water particles in the air, creating a dome of light which is commonly seen above cities, towns, and other clusters of populated areas. Certain ground covers such as light grey concrete or asphalt also contribute to this effect by reflecting light off its surface into the sky. This is most notably seen in parking lots lit by multiple bright lights that stay on throughout the night.

Landscape design has a unique opportunity to help mitigate sources of light pollution. One instance is through properly directing light from luminaries. Full cutoff luminaire shielding can be used to direct light only to where it is needed - providing a properly lit space without spilling excess light into the atmosphere.

Another instance would see the use of trees to help mitigate light reflected off surfaces. A great precedence of this can be found in how parking is designed at "Place des Quinconces" in Bordeaux, France. In this parking lot, a grid of trees have been planted between every other parking stall, creating a dense forest canopy as shown in the photo. This precedence not only helps shield light from escaping into the atmosphere, but also adds immense visual value to the landscape as a whole and creates a habitat for birds and other fauna.



*Parking space at "Place des Quinconces". Bordeaux, France.*

There are also ecological reasons why reducing light pollution is beneficial to more than our ever decreasing view of the stars. Light pollution negatively affects the ecosystems of plants and animals that rely on the Earth's natural cycle of day and night. An example of this can be found in the migration pattern of birds which use cues from the natural cycle of the seasons. Light pollution can cause them to migrate too early or too late which in turn leads them to miss their ideal breeding times. Additionally, they are attracted to light as they fly and is not uncommon for many to die each year by colliding into brightly lit buildings.



*Photo collage showing the true night sky over Prince George.*

As we continue to expand our foot print on the Earth, we should take care to be mindful of not only how we change the ground, but also on how we change the sky. I leave you with this as a final thought:

The night sky. In more ways than one, it connects us all together. It cycles across our planet as the earth rotates around the sun, sharing its view with anyone who simply looks up on a cloudless night. Poetry, books, art, music, religion, science, philosophy, culture; all these things have been influenced by the simple act of looking up at the stars.

# Feature Project | LAKES DISTRICT HOSPITAL

(Burns Lake, B.C.)

Client: Northern Health Authority  
Architect: HDR CEI Architecture  
General Contractor: PCL Westcoast Constructors, Ltd.  
Landscape Contractor: L & L Landscape & Design Ltd.  
Landscape Architect: Lazzarin Svisdahl Landscape Architects  
Completed: Spring 2016



The landscaping is a collection of attractive, functional outdoor spaces that strive to achieve Northern Health’s objective of minimum maintenance. The majority of the open spaces consist of self-sustaining native grasses and plant material on a relatively steep site. More formal, colorful planting beds are strategically located in high profile areas such as the hospital’s main entrance, lot parking entry and the respite garden.

Onsite boulders were utilized to develop a ‘natural’ 12’-0” high retaining wall, supplemented with low, cascading shrubs installed in the rock cavities. As the shrubs grow and mature, the retaining wall will increase in aesthetics providing four season appeal.

The ‘respite garden’ adjacent to the main entry is a value added highlight of the landscaping. The 1,250 square foot space is enclosed with a dense planting of colorful shrubs and shade trees, providing a tranquil, intimate space for patients, visitors and staff to relax and reflect.

A 400 sq. ft. architecturally designed wood gazebo that compliments the hospital design, provides shelter from the rain and hot sun. As requested by user groups, different height benches have been installed providing easier egress for the less agile.



# SHADE GARDENS | What to plant in that shady corner?

by Laurelín Svisdahl, MBCSLA, CSLA

There are several wonderful shrubs and perennials that thrive in the shade, some of the popular ones that come to mind include; Ferns, Hostas (featured in our last issue), Lupine, Astilbe, Huckleberry & Snowberry.

Another common problem of a shady yard is finding an alternative to lawn. Consider using shade loving groundcovers. Even in colder climates there are several options which thrive in the shade, looking quite striking many are easy to grow and low maintenance once established.

- Thyme is a wonderful choice, with fragrant foliage and pink or white flowers. There are several varieties to choose from, Thyme can handle part shade or sun and it won't need mowing!

One of my favourite being Elfin Thyme (*Thymus praecox*)



- Moss and Moss-like plants create a soft carpet to walk on. It can be a bit tricky to get going but once established it is virtually maintenance free and never needs mowing!

There are several different varieties, some can be purchased at garden centres or try relocated from other areas of your yard and transplanting it. One tip to get moss going is to crumble the moss into a blender, add equal parts buttermilk & water, Blend it up and pour the mix over your desired area, mist regularly with water until established.



Note: Photographs Are Not from LSIA Projects

- Epimedium (several varieties)  
Very low maintenance plants they can handle a fair amount of dryness and work well under conifer trees. Certain lower growing varieties will form a good groundcover, with early spring flowers & beautiful fall colour.



Some other shade tolerant groundcover gems include;  
Bunchberry (*Cornus canadensis*), Japanese Spurge (*Pachysandra terminalis*) & Creeping Phlox (*Phlox subulata*)

# Featured Plant | **FERNS**

Ferns are a beautiful and generally low-maintenance addition to any shade garden. Rarely suffering from pests and diseases, they offer trouble-free elegance, beautiful colour, texture and unique structure to the landscape.

## **A FEW HARDY FERNS TO CHECK OUT:**

### **Ostrich Fern**

Matteuccia struthiopteris

Zone 2-9

Height 90-120 cm

Spread 60-90 cm

One of the most common native ferns, with large, upright clump of big green fronds. In spring unfurling fiddleheads are often harvested as gourmet treat.



### **Northern Maidenhair fern**

Adiantum pedatum

Zone 2-9

Height 30-60 cm

Spread 30-60 cm

With a delicate lacy foliage overall this fern has a circular shape. The leaf-stems are a striking black colour with light green leaflets.



### **Cinnamon Fern**

Osmunda cinnamomea

### **Interrupted Fern**

Osmunda claytonia

### **Royal Fern**

Osmunda regalis

### **Japanese Painted Fern**

Athyrium niponicum var.

### **Northern Lady Fern**

Athyrium angustum  
forma rubellum

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