

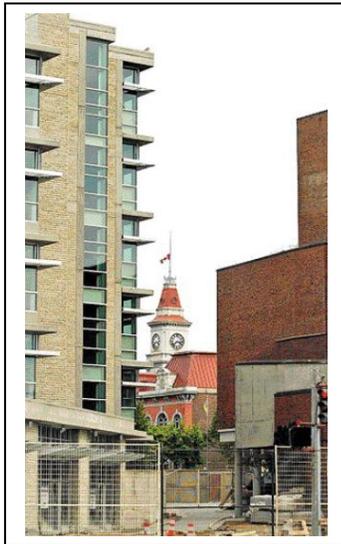
Green ideas take root at new CRD building

Bill Cleverley, Times Colonist

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The new Capital Regional District headquarters could soon be a growing concern. The CRD is applying for \$150,000 in funding to build a demonstration green roof and living wall project at 625 Fisgard St.

A green roof, also known as an eco-roof, as described by CRD staff, is an extension of an existing roof that is covered with vegetation. A living wall is essentially a vertical garden. Plants take root in compartments between two sheets of material anchored to a wall.



No two green roofs are the same but they all include a synthetic, high quality waterproof membrane, a drainage layer, a soil layer and light-weight, medium plants. It's a technology that's taking root locally. Grass was seeded last spring on the roof of the new engineering/computer sciences building at the University of Victoria. While some spots will have to be reseeded this year, the roof performed well through this winter's rains, said Jerry Robson, university executive director of facilities management.

One of the primary objectives of the roof is to reduce runoff to minimize problems for creeks, he said. "The green roof is actually like a big sponge. It will absorb a lot of water and then it releases it rather slowly." Robson said three more green roofs on the campus are planned within the next year. "We wanted to gain some experience early on to see if we needed to rethink the whole concept," he said.

The new CRD building on the corner of Fisgard and Government streets will have a distinctly green tinge to it if plans to incorporate a green roof and vertical garden into the structure bear fruit.

Photograph by: Ray Smith, Times Colonist files

CRD directors have agreed to apply for funding through the Municipal Rural Infrastructure Fund for their project. While final siting of the wall hasn't been determined, the current thinking is to locate it on the wrap-around corner near the entrance to the main reception area and Centennial Square -- between the CRD building and McPherson Playhouse. Native plants are to be used but the exact species are yet to be determined.

"What I hope we will end up with is that during different times and seasons the vegetative wall will have different flowers and stuff out, so it will really brighten up that area," said Jody Watson, the CRD Harbours and Watersheds Co-ordinator.

There are several sections of roof that could see plantings. The hope is to cover the entire Phase One building roof with an extensive green roof and smaller sections of Phase Two totalling about 50 per cent of the roof area. It will stand out to those arriving and leaving via sea plane. "It will basically be this green piece in a carpet of grey," Watson said.

Living walls and roofs are said to provide payback over the life of a building including:

- Longer material life span -- green roofs can be expected to last two to three times longer than conventional roofs;
- Provide savings on heating and cooling due to a lower peak energy demand;
- Potential for reduced storm water;
- Potential for greenhouse gas trading emissions.

Environmental benefits include:

- CO₂/oxygen exchange: 1.5 m² of uncut grass provides enough oxygen for one person for a year;
- Cleaner air: 1 m² of a grass roof can remove 0.2 kilograms of airborne particulates from the air;
- Reduction of ambient air temperature (green roofs do not absorb as much heat as conventional roofs.);
- Cleaner storm water as the roof will absorb 95 per cent of the cadmium, copper and lead;
- Less storm water and a slower water flow;
- Improved waterproofing capacity.

The seeds of living walls and green roofs are just being planted in Victoria but have already taken root in other parts of the world. "They're extremely popular in Europe and most cities in Europe have many, many green roofs," said Jody Watson, Capital Regional District harbours and watersheds co-ordinator. He added that the technology has been used there for decades. "The work done in Canada has been in the eastern provinces, specifically in Ontario and Quebec and they've done a fair bit of research on green roofs." BCIT in Burnaby established a centre for the advancement of green roof technology about three years ago, Watson said.

Victoria Hospice has an intensive green roof (thick enough soil to grow trees and vegetables). The University of Victoria has installed an extensive green roof planted with native grasses on its recently completed Engineering and Computer Sciences building.

The University of Waterloo, an institution on the cutting edge of green technology that boasts the lowest energy use per square foot of university building space in that province, has a couple of living wall/green roof projects growing. The university's new Accelerator Centre, the cornerstone of its research and technology park, is home to one of the largest green roofs of its class in Canada.

The green roof supports masses of a low-growing, water-storing species that are framed by a perimeter planting of ornamental and native grasses. The roof, which cools and filters the air and reduces runoff, provides a cover from UV radiation and is expected to extend the lifespan of the underlying roof structure by a factor of three, says the university's website.

The university's Environmental Studies 1 building is home to three living walls -- one in the interior foyer and two in the adjoining courtyard. The plants work as biofilters -- improving indoor air quality naturally by filtering out contaminants, says the website.

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