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FCM SUSTAINABLE COMMUNITIES AWARDS

FCM Sustainable Community Awards 2011 Winner – Integrated neighbourhood development

City of Burnaby, British Columbia and the
SFU Community Trust
Population: 223,000



Green roofs are part of a comprehensive stormwater management system
Credit: Chris Hartman/SFU Community Trust

UniverCity Community at Simon Fraser University

Summary

In 1995 Simon Fraser University (SFU) and the City of Burnaby began working together to create a compact, mixed-use and transit-oriented residential community, founded on sustainability principles. City staff, the university and the public undertook a cooperative planning process that led to City Council's adoption of the SFU Official Community Plan (OCP) and new zoning district in 1996. The OCP allows for up to 4,536 residential units in two distinct neighbourhoods, on approximately 65 hectares of land to the south and east of SFU's campus. Each neighbourhood has its own elementary school and park, while a commercial core, recreational and child care facilities, and an extensive network of pedestrian and bike paths serve the entire UniverCity community. Innovative transportation demand management initiatives mean that only 50 per cent of UniverCity residents commute by car, compared to 67 per cent in Metro Vancouver. Other environmental successes include a system to return nearly 100 per cent of stormwater to the ground at pre-development quality, and home designs that use 13 per cent less energy than the Metro Vancouver average.

Background

The UniverCity community is currently home to about 3,000 residents, with plans to accommodate more than 10,000 when fully built. Located on Burnaby Mountain, within walking distance to SFU and only a 25-minute drive east of downtown Vancouver, the community is also served by several public transit routes.

The original 1963 architectural plans for SFU envisioned a dense residential community surrounding the new university. However, it was not until 1995 that SFU agreed to transfer more than 320 hectares of university-owned land to the City of Burnaby. In return for more than doubling the size of the Burnaby Mountain Conservation Area, the city approved the SFU OCP, allowing development of the residential community to begin. The SFU OCP is part of the Official Community Plan for the City of Burnaby. Burnaby itself is centrally located within the Greater Vancouver Regional District and home to more than 200,000 residents. The city has won awards for its commitment to integrating environmental protection, economic development and community livability.

A primary goal in developing UniverCity was to create a complete community with a diverse range of housing choices, services and amenities to serve both new residents who wanted to live near campus, as well as the existing campus community. Another motivator was that the residential community would create an endowment fund to support teaching and research at SFU.

The city and the university also wanted to generate international acclaim for incorporating best practices of environmental stewardship in the community's design, respecting the sensitive ecology of Burnaby Mountain and demonstrating the financial viability of green building technologies and practices.

Project Development

A vital first step in creating UniverCity was the City of Burnaby's adoption of the SFU OCP, along with a number of zoning bylaw amendments. Adopting the OCP involved an extensive public consultation program, including several open houses, while the bylaw amendments followed conventional legislative steps. In 1997, following the land transfer and the development of the SFU OCP, the Burnaby Mountain Community Corporation was established as a forerunner to the current SFU Community Corporation. The SFU Community Corporation oversees the planning and development of the UniverCity community, as Trustee for the SFU Community Trust, and manages the provision of sites to private developers on a long-term leasehold basis. The Corporation is governed by an independent Board of Directors made up of key SFU stakeholders, faculty and student representatives, and real estate and development experts.

In 2001, the SFU Community Trust undertook work to describe the desired composition and character of the new community. The resulting Community Character and Social Composition document identifies goals related to housing types, commercial and community services, and has guided development for the past ten years. The document is updated annually to SFU's Board of Governors.

Throughout the development stage, city staff, SFU and the Trust met on a regular basis. Burnaby's Planning Department has managed overall planning and coordination, zoning regulations and development approvals. Community infrastructure, including roads and stormwater management, has been handled by the city's Engineering Department, while the Parks Department has overseen green space development and worked with the school district on community use of UniverCity's new elementary school.

Public and external stakeholder input has been critical to the development. Along with the Trust, the SFU Board of Governors established a Community Advisory Committee (CAC) to ensure broader community input. The Trust also consulted with developers regarding the green building requirements included in the current zoning bylaw, and groups such as the Stoney Creek Streamkeepers Society have been highly involved throughout the development process.

Project Implementation

The SFU OCP is one component of the Official Community Plan (OCP) for the City of Burnaby, which in turn provides a broad framework for environmental planning efforts in the city as a whole. Within this broader context, the SFU OCP governed the development of a self-sustaining, model community that exemplifies best practices in environmental stewardship. It planned for up to 4,536 residential units, as well as commercial and community services, developed in a way that maintains the Burnaby Mountain ecosystem.

In 2001, work began on the site to the east of SFU campus. This included the construction of new roads and major infrastructure for the first two project phases: the East Highlands residential developments — a mix of mid-rise towers and family-friendly townhouses, a park, and the University Highlands Elementary School ; and the development of the commercial core along University High Street — an extension of SFU's main pedestrian artery into the new community. The buildings in this pedestrian-friendly neighbourhood house cafés, shops and services at street level, with residential units or offices above. Most buildings were designed to match or complement the existing SFU architecture. High Street also features a public plaza that hosts events, festivals and concerts for students and residents, helping to link the campus with the community. Thanks to policies in the Community Character and Social Composition document, the commercial core is mainly comprised of smaller, local businesses; many of which are owned and run by SFU alumni and employ a staff of mainly SFU students. The community is now entering into its third phase of development, with an even greater mix of housing types as well as a childcare centre to serve the community.

The project has also included several initiatives to generate affordable housing. The Verdant apartment building, developed for faculty and staff of SFU, maintains housing at 20 per cent below market value for perpetuity, while unique zoning allows for legal secondary suites in up to 50 per cent of dwellings. These suites have their own bathroom and cooking facilities and can be legally rented out, often to SFU students, as a means to offset mortgage expenses. This concept has already been adopted by other municipalities such as Vancouver and Kelowna.

From the outset, UniverCity has been devoted to environmental sustainability. The SFU Community Trust worked with a consultant to develop a Neighbourhood Energy Utility biomass system that will provide heat and domestic hot water to new developments. Building on two Burnaby stormwater projects funded by the Federation of Municipalities' Green

Municipal Fund (GMF 5762 and GMEF 2521), UniverCity incorporated a comprehensive stormwater management system that maintains pre-development stormwater runoff quality and ensures the health of downstream aquatic life. The system includes permeable pavers along roads and sidewalks that direct stormwater into underlying infiltration chambers, an extensive network of open watercourses and bioswales, and two detention ponds aerated off-grid by a windmill and solar bubblers. Developers are required to implement on-site stormwater storage and infiltration systems, including permeable paving and landscaping strategies. An Adaptive Management Committee monitors and measures the success of the system, including water quality and flow rates.

The community offers a range of sustainable transportation options, including bike paths, discounted transit passes and a car-sharing program, and UniverCity was one of the first communities in North America to develop a bylaw that mandates green building practices as part of the development process. The Trust also provides a bonus of up to 10 per cent additional density for development projects that either reduce energy use by 45 per cent or use green roofs to manage stormwater. In an effort to make UniverCity replicable, the Trust and the city have employed the most cost-effective green building technologies to demonstrate their viability versus conventional building methods.

Results

- More than 36 per cent of UniverCity residents use public transit, as opposed to 17 per cent of the Metro Vancouver population. Multiple transit options mean that only 50 per cent of UniverCity residents commute by car, compared to 67 per cent of their Metro Vancouver counterparts.
- The zoning bylaw's new green building requirements specify that buildings must be 35 per cent more water-efficient and 30 per cent more energy-efficient than if simply built to code.
- UniverCity's net revenues have generated a \$25 million endowment fund to support teaching and research at SFU, and it is estimated that the completed project will generate \$150–170 million.
- New zoning regulations allow legal secondary suites in 50 per cent of units and increase the community's supply of affordable housing.
- A comprehensive stormwater management system mimics natural processes and returns nearly 100 per cent of stormwater to the ground at pre-runoff quality.
- The SFU Trust is finalizing the design of a Neighbourhood Energy Utility with a biomass plant that would serve all new residential development at UniverCity and provide all space heating and hot water for the campus. The system should be in place by 2012 and will reduce greenhouse gas emissions by an estimated 10,860 tonnes per year.

Lessons Learned

- **DOCUMENT UNDERSTANDINGS AND EXPECTATIONS.** This becomes especially important when multiple partners are working together. From the outset, the city and SFU explicitly stated their joint intention to create a complete and sustainable community that would be a model for others to replicate. According to Burnaby's senior current planner, Robert Renger, "formally documented expectations and open communication have been extremely important to the success of our partnership."
- **EXPERIMENT WITH DIFFERENT AFFORDABLE HOUSING STRATEGIES.** The Verdant apartment building maintains units at 20 per cent below market costs for SFU faculty and staff. "Demand has been excellent," said Mr. Renger. "The first two units came up for resale in 2010, and there was strong interest and quick uptake from a SFU-held waiting list."
- **THE SUCCESS OF A LARGE-SCALE DEVELOPMENT DEPENDS ON SECURING THE REQUIRED LAND.** In the case of UniverCity, SFU provided the land base, but the project was successful because the university shared the city's long-term commitment and vision. Other municipalities could undertake similar projects, provided they can make sufficient land available for development.

Related and Future Initiatives

While currently well-served by transit, UniverCity's mountaintop setting means that weather, road conditions and long wait times can be issues. The Trust is examining the feasibility of a high-speed gondola to connect the community and campus to the regional rapid transit network; a system that could replace over 50,000 hours of diesel bus operations and eliminate 1,870 tonnes of GHG emissions each year.

To date, all development has been to the east of SFU campus, but future plans call for a southern expansion of the community. This South Neighbourhood will likely feature a second elementary school, additional childcare facilities, an employment centre and a similar range of housing options.

Partners and Collaboration

City of Burnaby

Simon Fraser University

UniverCity Community Advisory Committee

SFU Community Trust

Department of Fisheries and Oceans – represented on the Adaptive Management Committee (AMC)

B.C. Ministry of the Environment – represented on the AMC

Stoney Creek Streamkeepers – represented on the AMC

Local developers – consulted during the creation of the Green Building Requirements

FCM's Green Municipal Fund

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