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VANMAR CONSTRUCTORS INC.

WASTECH

Greater Vancouver Regional District

Surrey Waste Transfer Station

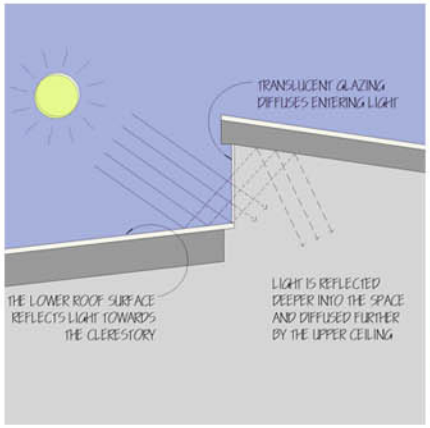
A key component of the GVRD's Solid Waste Management Plan, the Surrey Transfer Station has been sited with construction scheduled for completion by early 2004. The design-build contract is the responsibility of Wastech Services Ltd., one of the GVRD's primary solid waste operations contractors. In keeping with the GVRD's Sustainable Region Initiative and Board policy to use Leadership in Energy and Environmental Design (LEED™) as a discretionary framework for all new facilities, the Surrey Transfer Station will be designed and constructed employing the LEED™ Green Building Rating System for guidance and potential certification.

When complete, the Surrey Transfer Station is anticipated to be one of the first industrial buildings in Canada to be LEED™ certified. This energy efficient facility will incorporate natural light and high-recycled content materials while minimizing construction waste and water use. The innovative design addresses not only the sustainability of the building but also of the site itself, with native and drought resistant plants thereby eliminating the use of irrigation, and the diversion of storm water through a bioswale to eradicate pollutants to the municipal system.

Brownfield

The development of brownfield sites is an important initiative for maintaining a sustainable region. The remediation of these sites reduces contaminates in a community, allowing the productive re-use of the site, thus preserving greenfields and natural areas. The Surrey Transfer Station is being built on a remediated brownfield site, where previous industrial uses released hydrocarbons and heavy metals into the groundwater and soil. Hydrocarbons were treated on-site through bioremediation in biocells, groundwater was treated using a carbon filtration system, and metals-contaminated soil was removed for disposal. The remediation process removed contaminants of concern, allowing the property to now meet or exceed all CSR Industrial Land soil quality standards.

Construction Site



Clerestory Design

Lighting

One of the challenges with a 60,000-ft2 structure is the provision of daylight to the interior spaces. The solution came in the form of a clerestory, which runs the entire 250-foot length of the main transfer building.
This design provides high overall space luminance, and diffuses a more uniform lighting pattern than skylights or windows. Clerestories, unlike horizontal skylights, also have the desired effect of collecting more light and heat in winter than in summer. To further increase energy efficiency and take advantage of the natural light, the interior lighting fixtures will be sensor-controlled to engage only when the ambient light drops below specified levels.
The exterior lighting has been designed to be responsive to the community by preventing both intrusion of light onto neighbouring properties, as well as upwards, helping to preserve the nocturnal ecosystem, save energy and permit unhindered observation of the night sky.

Transportation

Options for alternative transportation have been fully integrated into the Surrey Transfer Station. Bicycle storage and changing rooms are available for staff, parking capacity is minimized to encourage both the use of the nearby public transit and carpooling, and an alternative-fuel vehicle refueling station has been incorporated into the complex. Realizing the potential for emissions pollution from vehicles waiting to enter the facility during peak hours, an innovative traffic design was created to minimize the time spent in queue for the facility. The result is a design that eliminates entry/exit traffic crossover and bottlenecks.

Traffic Pattern