



PUTTING THE **ECO** IN INDUSTRIAL

Beyond green building, eco industrial parks can create green industrial lands.

By Clay Braziller

Over the last 20 years, manufacturers and other businesses have migrated from city centres to outskirts, often to what were once wooded areas or productive agricultural zones. This expansion has been, for the most part, welcomed by cash-hungry municipal councils looking to diversify their tax bases.

But a lot has changed in the last two decades. Cheap land doesn't exist anymore; the cost of servicing industrial parks has continued to rise faster than the taxes they generate. These are vast, dreary stretches of land that offer little in the way of public access or amenities. Layer on the cost of oil, the green rush and NIMBYism and it's easy to see why municipalities are feeling

pressured to do a better job when developing industrial lands.

At a very high level a better industrial park will meet the needs of the businesses occupying while having a positive financial and social impact on the community. In practical terms, this means it shouldn't create new air quality problems or burden the wastewater management systems, and it should allow the public to continue to enjoy the open space.

For a lot of municipalities, the first stage in improving a park is to ask developers to choose green buildings or plant more trees—rarely will they do this of their own volition. Less obvious, and more effective for a large park, is to consider the impact that

the infrastructure has on the environmental footprint of the park. Traditional infrastructure is designed with a single purpose in mind, whereas the design process for “green” infrastructure begins with a much wider scope. For instance, considering how a wastewater system interacts with other planned development projects, industrial water use or a community energy plan. Or how changing a building's location can reduce the amount of truck traffic or emissions produced by the park.

With the help of the rising price of oil, plus modern bylaws and zoning, we can give industrial parks a well-deserved makeover and turn them into financial, environmental and socially positive public amenities.



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York Region

The concept plan for Innovista, in Alberta.



Credit: Eco Industrial Solutions Ltd.

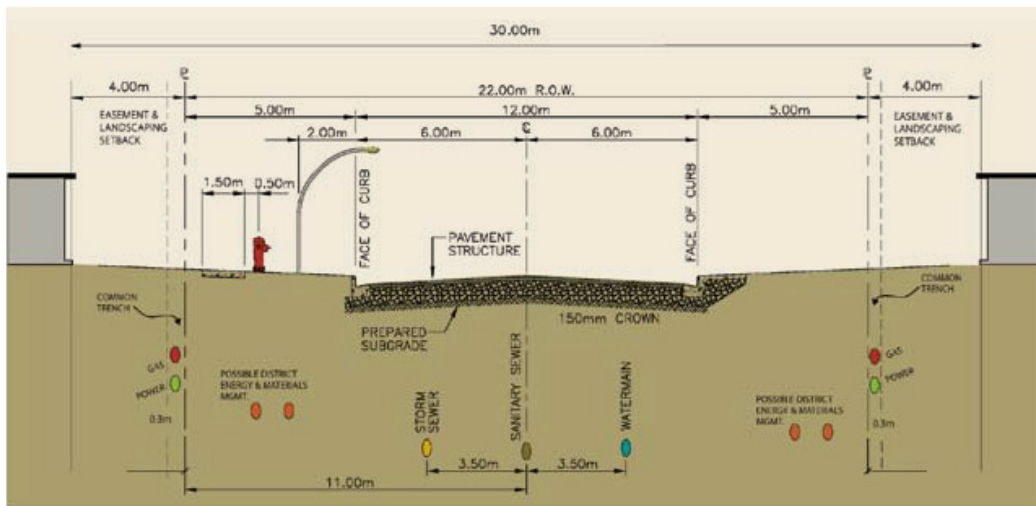
Innovista

Located in Hinton just outside of Jasper National Park, Innovista will include natural walking trails with 56 per cent of the area remaining treed—only 7 per cent of the development will be covered in roads as compared to 12 per cent in a regular industrial park.

Innovista makes use of an innovative sanitary sewer system called a small-bore sewer (SBS) system. The system, designed by Ontario-based Clearford Industries, allows each property to have an individualized primary treatment facility (a clarifier tank). The tank separates the solid and liquid components of the sewage and then gravity takes the liquid effluent through fused-joint high density polyethylene pipes to the final treatment plant. The company claims the pipes have a design life of 90 years, compared to the 35-year lifespan of conventional polyvinyl chloride pipes.

For even more information about Innovista, visit eip.hinton.ca.

A cross-sectioned road in TaigaNova, in Fort McMurray.



TaigaNova

Another Albertan eco-industrial park success story is TaigaNova. The Regional Municipality of Wood Buffalo, Alberta, has embedded the concept of green infrastructure into bylaw requirements for one of Canada's newest eco-industrial parks. Fort McMurray, not known for being green, is actually a leader in the area. Bylaws for the park address a private utility's future allowance to

provide electric power, sewage disposal, steam and nearly a dozen other services on the site. The site's infrastructure design, a layering of service corridors underneath roads and pedestrian trails, is in synch with the bylaw focus on future allowances. Bylaws in the area also mandate the use of permeable paving materials and give preferential parking to energy-efficient cars. To keep traffic to a minimum, the stacking of

industrial buildings and joint logistics facilities are being mandated.

Narrower than traditional roads, paved areas accommodate a nine metre-wide utilidor (five metres within the road and four metres within an easement along lot fronts) to future-proof the site for eco-industrial opportunities like district energy or by-product synergies between businesses. Though unusual in an industrial park, sidewalks and pedestrian trails (separated from the roadways) are also required.

To deal with stormwater and snow melt, surface runoff management is integrated into the landscape design—a retention pond was designed to allow for the distribution of stormwater or wastewater to displace potable water in certain industrial applications.

For a full description of all the bylaws and infrastructure improvements at Fort McMurray's eco-industrial park, visit taiganova.com.

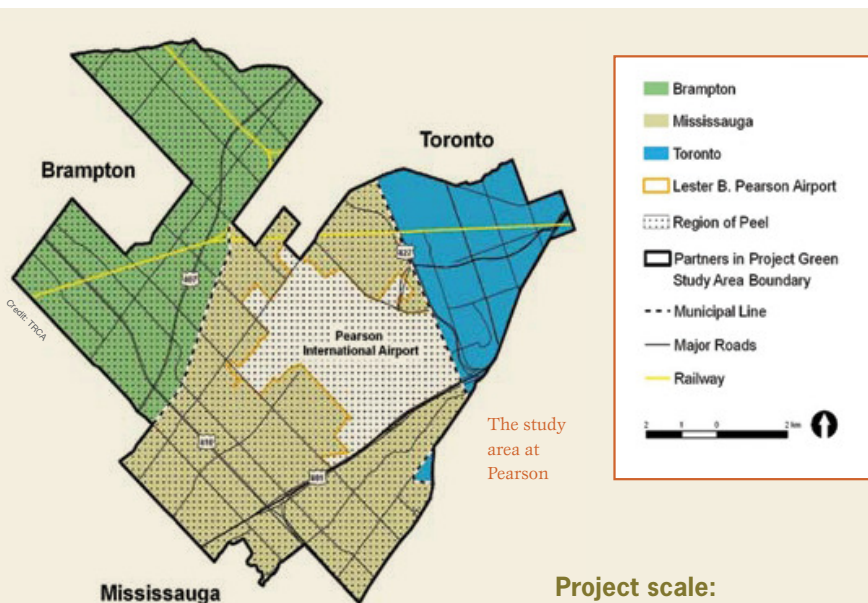
Through the project's consultation process, a number of initiatives were identified by the business community. Those being worked towards include:

- Green Building Retrofit Program (targeting large property owners and multi-tenant facilities)
- Green Purchasing Block Program (multi-stakeholder procurement of green technologies)
- Regional by-product exchange program (one company's waste becomes another's feedstock)
- Regional Green Economic Development Strategy

The official launch of the project will be in October 2008. Details at partnersinprojectgreen.com



Clay Braziller works with Eco Industrial Solutions Ltd. in British Columbia.



The study area at Pearson

Update: A Pearson Eco-Business Zone

In our July/August 2007 issue, we featured the development of North America's largest eco-business zone, in the Greater Toronto Area. The partnership between the Greater Toronto Airports Authority, Region of Peel, City of Toronto, City of Brampton, City of Mississauga and the Toronto and Region Conservation Authority is moving forward. Partners in Project Green aims to transform the business area surrounding Toronto Pearson into an internationally recognized community known for its competitive, high performance and eco-friendly business climate.

Project scale:

- Over 12,000 hectares of industrial and commercially zoned lands surrounding Toronto Pearson
- Over 350,000 jobs and more than 12,500 businesses, making it Canada's largest employment zone, with logistics, aviation, automotive and food processors being the largest sectors
- Over 25,000 people already employed in green economy jobs
- Over 5.8 million megawatts of electricity-use and more than \$563 million spent on energy-use a year, with manufacturing and logistics sectors being the largest consumers