

Canadian Brownfields Case Study

Atlas Landfill Remediation Project



Source: welland.ca/hottopics/wellandvistapark.asp

PROJECT SUMMARY

The Atlas Landfill Remediation site is located at 685 River Road in Welland, Ontario. Beginning in the 1930s-40s, the site was used to dispose of waste that was created from the former Atlas Steel plant. The disposal of waste from the plant ceased in 2004, along with the permanent closure of the plant. In 2005, the Ministry of the Environment issued an Order to Comply to the property owner at the time when it was discovered that contaminants were seeping into the adjacent Welland River. The owner did not comply with the order, which eventually led to the City of Welland gaining possession of the site⁷. In the years since gaining possession, the City has partnered with Walker Industries, a prominent industrial, landfill and aggregate company, in a lengthy process to redevelop the site. The city has opted to turn the site into a large, elevated park that will offer views of the surrounding landscape. Community consultation sessions have been held to allow the public to have a voice in which amenities the park will offer². This redevelopment project was the winner of a Canadian Brownfields Network Brownie Award in 2016 under the Reinvest – financing, risk management and partnerships category.

Site Characteristics and History

The extent of the Atlas Remediation site is shown in the image below. The total property size is nearly 23 hectares⁴. As shown in the image, the property is adjacent to both the Welland River and Old Welland Canal, which heightens the concern for environmental pollution and impacts.

Additionally, the site stands 220 metres above sea level, and is approximately 40 metres taller than the surrounding area, offering the potential for a future park overlooking the river, canal and the city. The area to the east and south contains big-box commercial uses, a high school and sports complex³.

QUICK FACTS

Location

Welland, Ontario

Project type

Fill and Cap

Land uses

Future Welland Vista Park

Site Size

23 hectares

Website

<https://www.welland.ca/hottopics/wellandvistapark.asp>

Project address

685 River Road
Welland, Ontario

Brownfield Awards

2016 Brownie Awards Winner - REINVEST
Category: financing, risk management and partnerships category

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Case studies were prepared as a course assignment by students enrolled in PLG845: Brownfield Reuse & Development, Cleaning up the Past and Building the Future, School of Urban and Regional Planning, Ryerson University (Winter 2019). Information for the case studies was obtained from online sources, available reports, and, in some cases, site visits and direct communication with stakeholders.

If you are aware of any errors or updates to the case studies, please contact chris.desousa@ryerson.ca.

The opinions expressed in this case study are those of the authors only and do not represent the opinions and views of either Ryerson University, the School of Urban and Regional Planning, or the Canadian Brownfields Network.



In order to give this project some context, it is important to understand why the contaminants are on the property in the first place. Atlas Steel was a major industry in the City of Welland, having a workforce of 3,000 in the 1940s. Atlas was relied on heavily during WWII, supplying various metals and alloys to create weapons and materials for the war. The plant had several ownership turnovers before its closure, causing employees to be displaced or laid off⁹.

Although only wastes from the plant were disposed of at the site, there was a large variety of materials that were being dumped. The waste/contaminants on the site consisted of: “electric arc furnace slag, spent acids, baghouse dust, concrete & refractory brick”⁷. When the plant was still operational, the owner was compliant with orders from the Ministry of the Environment to cease disposing of certain materials. The owner even installed a trench to prevent run-off into the river. However, the site was abandoned by the most recent owner in 2005, when the Ministry issued an order to stop contaminants from leaking into the Welland River. “Because [the owner] failed to comply with the order, the Ministry issued orders to the City & Region to ensure continued operation of the leachate collection/discharge system to prevent discharge of leachate into the Welland River”⁸. With the responsibility for the site handed over to the municipal and regional level, the City partnered with Walker Industries to find a solution to the problems set out in the Ministry order.

Cleanup

The redevelopment of the Atlas site is unique in the sense that it is not necessarily a cleanup, but more of a risk management approach. The partnership between the City of Welland and Walker Industries led to the granting of permission for the site to be used as a temporary landfill by the Ministry of the Environment. The Ministry set out a number of conditions that needed to be met before landfilling could begin, and conditions that had to be continually met in order to allow the landfill to continue operating. Walker was given permission to dispose of no more than 2,207,000 cubic metres of materials on the site and allowed up to 5,000 tonnes of waste per day⁴. This total works out to roughly 113 trucks per hour of waste being disposed of at the site⁵. The Ministry also set out the types of materials allowed to be brought into the landfill.



Source: City of Welland

Property Context

All waste must be from Ontario and the only materials permitted at the site included:

- Soil from brownfield site clean ups;
- Soil from excavations;
- Soil from underground storage tank removals;
- Spill clean-up residue;
- Industrial process waste that is soil-like (foundry sands, slag, emission control dusts, treatment residues);
- Sediment from dredging operations;
- Finished compost that does not meet the - Ministry's quality standards for use as a soil amendment;
- Rubble and fines from construction and

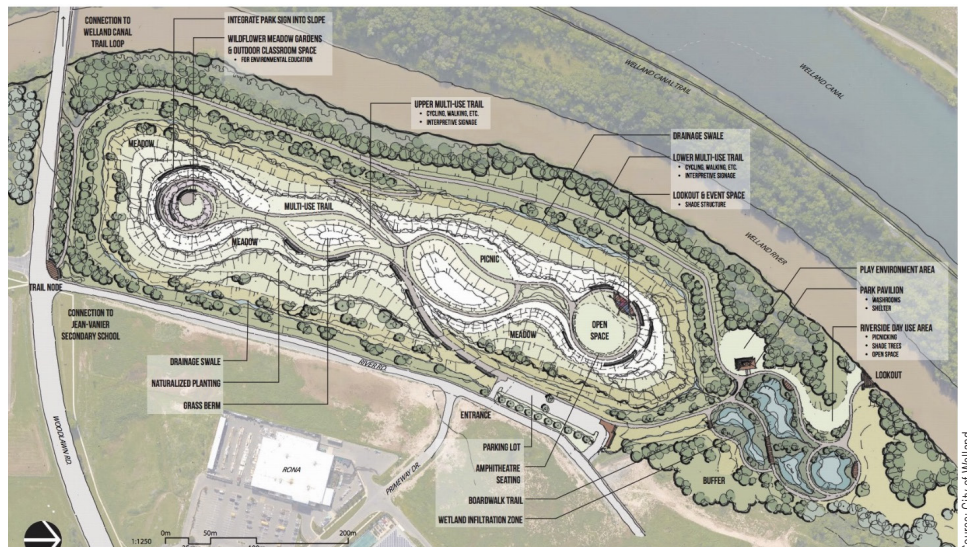
demolition projects and/or recycling operations;

- Concrete and brick; and
- Asbestos waste.

All materials brought into the site need to be cleared by an engineer as non-hazardous and in compliance with the Ministry's requirement⁵.

Once the site reaches capacity, a final and vegetative cover had to be applied to the entire site as stated by the Ministry. A layer of soil at least one metre thick has to be placed across the extent of the landfill site. In addition to this, a vegetative cover consisting of vegetation suitable

Welland Vista Park Concept Plan



Source: City of Welland

for local conditions has to be planted, which prevents erosion of the site⁴. Following these and many other additional conditions, the city will be able to begin redeveloping the land into a public park.

Planning and Regulatory Framework

The City of Welland has completed community consultation sessions that began in 2017, to allow the public to have a voice. This includes meetings where residents may ask questions and make suggestions about what they want to see for the park. The most recent meeting took place in June 2017. At this meeting, a presentation was given to the public outlining the project background, strategy, the City's creative approach, project study process, study objectives, and opportunities. The public was given the option to make suggestions verbally at the meeting or by submitting an online survey. Through the information collected at public meetings, the City, in partnership with Dillon Consulting and Niagara College, was able to come up with a concept plan for how the potential park could look¹.

Financing

The financing of this project is quite unique to the City of Welland, as the owner of the site has gained money through this redevelopment. After the city acquired the land through tax arrears, the land was leased to Walker Industries to complete the landfilling operation⁵.

Through the lease, Walker has saved the City of Welland millions of dollars, as remediation costs were estimated to be \$8-10 million. Walker also recognizes the fact that after the project is complete, the land will be turned back over to the City. This means that the City of Welland will be responsible for:

- Maintaining the environmental control systems;
- Repairing settled or eroded cap;
- Maintaining vegetative cover and landscaping;
- Cleaning ditches;
- Maintaining and operating the leachate collection system;
- Conducting the routine monitoring program;
- Paying sewer and electricity charges for pumping and treating leachate.

Because the above-listed actions require funding, Walker Industries has provided the City with an endowment fund by collecting a certain percentage from all of the waste entering the site⁶.

Buildings

The site has only been used as a landfill and has never been developed previously. Therefore, no buildings required demolition before starting this project. However, in the future, the City is open to the idea of building small amenities to support the park and open space. Some ideas that have been brought up at public meetings include various trails, picnic areas, shelters,

BMX tracks, washrooms, lookout structures, wayfinding signage, an amphitheatre and an outdoor classroom¹.

Key Challenges, Benefits, Lessons Learned

There have been a few major challenges that all parties involved needed to overcome to make this project a success. The City of Welland essentially had this site and all of the problems associated with it forced upon them. The City knew that remediating the site completely was not really an option for them, due to a lack of funding. As such, the City came up with the creative solution of partnering with Walker. This partnership has saved the City millions of dollars. Also, because Walker has the right to set the prices for waste disposal at their site, they were able to offer disposals from the City of Welland at a discounted rate. The idea here was that it would encourage owners of other brownfield sites across the City to clean up their properties⁸.

Walker Industries likely encountered challenges with the conditions of the operating permit from the Ministry of the Environment. The document sets out over 100 conditions that Walker Industries and the City must comply with. A lot of the conditions are quite stringent, meaning that Walker would require an extremely organized operation⁴.

Overall, this project has offered a lot more benefits to the City of Welland than it has negatives. This project should be used as an example for other large brownfield sites encountering problems such as this one.



Source: City of Welland

Endnotes

1. City of Welland. (2017, June 28). Welland Vista Park: Public Meeting. Retrieved from <https://www.welland.ca/hottopics/WellandVistaParkProject-PublicMeeting1.pdf>
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3. City of Welland. (n.d.). Welland Vista Park Concept Plan. Retrieved from <https://www.welland.ca/hottopics/VistaPark-Atlas-FinalConceptPlan.pdf>
4. Ministry of the Environment and Climate Change. (2017, February 3). Amended Environment Compliance Approval. Retrieved from <https://www.accessenvironment.ene.gov.on.ca/instruments/0543-9YXGEZ-14.pdf>
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8. Walker Industries. (2014). Atlas Remediation: What waste will the Atlas Landfill accept? Retrieved from <http://www.walkerind.com/wp-content/uploads/2014/01/Walker-Atlas-factsheet-WhichWaste-final1.pdf>
9. Welland Library. (n.d.). Atlas Steels History. Retrieved from <http://www.welland.library.on.ca/industry/Factory%20Pages/Atlas.htm>