

# GRIMSBY GOES GEOTHERMAL



Mark Mitanis

A four-storey condominium project slated for development on a vacant property in downtown Grimsby will include a geothermal heating and cooling system, a sustainable building feature that town staff and project proponents hope will encourage a green renaissance across the region.

DeSantis Homes obtained planning approvals from the **Town of Grimsby** last year to redevelop a vacant property at 21-25 Main Street East and 6 Doran Avenue into a four-storey condominium development containing a maximum of 87 dwelling units. Earlier this year, DeSantis Homes participated in the town's first-ever urban design review panel, which was organized with architects and urban designers across **Niagara Region** to help ensure that the building would be compatible with the historic main street of downtown Grimsby.

The Century Condos project will be the first of its kind in the town to incorporate a geothermal heating and cooling system into its development. DeSantis Homes is partnering with **Subterra Renewables** on the sustainable energy aspect of the project,

which is expected to save 134 metric tonnes of annual carbon dioxide emissions, save over one million litres of water, and to reduce energy costs for future residents.

Geothermal technology replaces traditional heating, ventilation, and air conditioning (HVAC) equipment with heat pumps connected to a series of buried pipes. Geothermal systems utilize the natural stable temperature of the earth just below the ground to heat buildings in the winter and to cool buildings in the summer. A refrigerant pumped through the underground pipes absorbs the warmth from the earth in the winter, and in the summer, the pumps run in reverse to help cool the building.

"Geothermal energy is a sustainable and renewable

resource that requires significantly less energy, and therefore costs much less to operate than a conventional HVAC system," DeSantis Homes president **Gabe DeSantis** told *NRU*. "This includes the savings of a great deal of water that would otherwise be required to run conventional chiller and cooling tower systems. With few moving parts, geothermal exchange systems are extremely reliable and require little maintenance."

DeSantis said a utility agreement at Century Condos will ensure fixed utility prices for residents for three decades.

"DeSantis Homes strives to remain ahead of the curve and is always looking at opportunities to 'green' our buildings," DeSantis told *NRU*.

"We had been considering geothermal for a while, but were waiting for the right fit with an industry partner, and we found that with Subterra. With their expertise in the geothermal space coupled with the Town's enthusiasm for this technology we knew it was the right project for our inaugural geothermal integration."

Since becoming the Town of Grimsby's director of planning, building, and by-law in July 2020, **Antonietta Minichillo** has been exploring how the town can actively encourage environmentally-conscious developments. In the absence of local green building standards, Minichillo and town staff have been connecting local developers to other developers who have deployed geothermal

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Map showing the location (yellow) of an approved four-storey condominium development for the property at 21-23 Main Street and 6 Doran Avenue in the Town of Grimsby. The development will include a geothermal heating and cooling system which will replace traditional heating, ventilation, and air conditioning (HVAC) equipment. The geothermal system will use the natural stable ground temperature of the earth to heat homes in the winter and cool homes in the summer.

SOURCE: IBI GROUP

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technology, as well as to companies in the renewable energy industry who can convey other opportunities for improving the energy efficiency and environmental performance of new buildings.

“We want our developers here in Grimsby to think green while we work on longer-term strategies about how we can entrench environmental policies and standards into things like our Official Plan,” Minichillo told *NRU*. “We hope that this will inspire people and other developers. But we’re also bringing other developers who have done this successfully to [meet] developers here in Grimsby to showcase to them that it’s possible, cost-effective, and doesn’t slow development down in any way. I feel it resonates much more significantly if they’re hearing it peer-to-peer, developer and developer.”

**Ontario Geothermal Association (OGA)** vice-president and **Evolved Thermal Energy** founder **Jeff Hunter** said geothermal technology helps municipalities achieve their goals around climate change mitigation and the reduction of greenhouse gas emissions. Hunter said more and more multi-family residential developments and commercial developments

are exploring the benefits of geothermal technology, a trend he partially attributes to the adoption of green building standards throughout municipalities in the Greater Golden Horseshoe.

“Where we’re seeing success is in examples like the Toronto Green Standard, [examples that] are continuously ratcheting up requirements for greenhouse gas reductions and moving away from fossil fuels for space conditioning and water heating,” Hunter told *NRU*. “That really provides that momentum for developers to look at these other options and learn about them.”

Subterra Renewables chief executive officer **Lucie Andlauer** said geothermal technology is the single strongest carbon reduction

feature that can be introduced to a building. But Andlauer acknowledges the upfront costs of implementing a geothermal system can be a barrier to widespread developer adoption.

Subterra Renewables is helping to break through this barrier by absorbing the upfront installation costs of geothermal systems. Those costs are repaid by the building owner and residents via a monthly fee, which is equal to or less than what residents would have paid to operate and maintain conventional HVAC systems.

“We’re trying to do whatever we can to educate developers and the public that there are options that they can go to [for geothermal technology],” Andlauer told *NRU*. “That’s been the big education piece for me—trying to get that information out there that there are ways to get help to go green.”

Hunter said the OGA has been working intently on outreach and educational initiatives to communicate

the benefits of geothermal technology with municipal governments. The OGA is currently working with **The Atmospheric Fund** on geothermal drilling and aquifer protection guidelines that municipalities can use in their review of development applications that involve geothermal technology. Hunter said city staff can consult the guidelines to identify any measures that may be necessary to ensure local aquifers and water supply systems are protected during the drilling work required to install geothermal infrastructure.

Andlauer hopes municipalities like the Town

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Rendering showing the Century Condos development approved for the property at 21-25 Main Street and 6 Doran Avenue in the Town of Grimsby. The Town held its first urban design review panel earlier this year to ensure the building’s compatibility with other features of the downtown Grimsby streetscape.

SOURCE: DESANTIS HOMES  
ARCHITECT: KNYMH INC.



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of Grimsby will adopt green building standards that will facilitate the development of more sustainable and environmentally-conscious buildings.

Town of Grimsby planning director Antonietta Minichillo said the Town is updating the requirements for information and materials that must be submitted by a developer before a development application submission can be considered to be complete. For taller building proposals, that may mean requiring proponents to submit studies measuring the impact the proposed development would have on migratory birds, for example. Minichillo said the Town will be looking at ways to strengthen green building and environmental policies as it begins its Official Plan review next year.

The Town is also looking at making an urban design review panel a permanent element of the development review process. Minichillo hopes that sustainable community development guidelines can be coordinated at a regional level to enable a consistent approach to the development of more environmentally sustainable communities.

"I would like that to be introduced to the Niagara

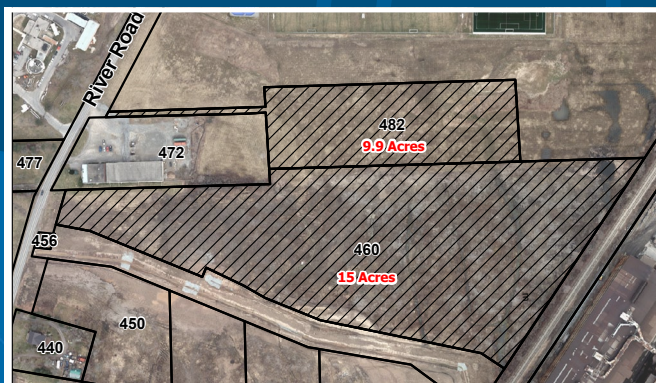
Region so that we have uniform environmental standards that people have to look at," Minichillo told *NRU*. "And it would include everything from how walkable a neighbourhood is . . . to how the streets are designed."

The Century Condos development may already be inspiring other municipalities in Niagara Region to explore how sustainable building technologies may be incorporated into new developments within their municipal boundaries. Minichillo said the Town of Grimsby has received phone calls from the **Town of Lincoln** asking how green building technologies like geothermal systems can be encouraged in the absence of firm green building standards.

"It's wonderful when the municipality's goals are aligned with those of the development industry, and we can make something special happen for the community," Minichillo told *NRU*. "We do hope this will be the first of many green initiatives here in Grimsby, and hopefully, other places are inspired by it as well." 🌱

## Corporation of the City of Welland INDUSTRIAL LOTS FOR SALE

### RIVER ROAD



**AREA:** One parcel is comprised of 9.9 acres and the other parcel is 15 acres in size (24.9 acres total). Parcels are available individually or combined together to create a larger footprint.

**ZONING:** GEC – Gateway Economic Center – including but not limited to heavy and light industrial use.

**SERVICING:** This site is serviced to the lot line with water, waste water, gas, electricity and telecommunication.

**ACCESS:** Excellent transportation access with highway 406 being only .75 km from the site as well as the lot having frontage on River Road.

**TRANSPORTATION:** Site abuts an existing rail spur. Welland Transit Bus Service is available on River Road.

**INCENTIVES:** These parcels are shovel ready and subject to several financial incentives for development: 1) Tax Incentive Grant which provides the property owner property tax grants between 40% and 100% for 10 years based; 2) Development Charge Exemptions / Grants which provides 100% exemption on Regional industrial development charges (the City of Welland does not have industrial development charges) and 3) a Planning Application Fee Grant which provides eligible projects with a grant of 100% of the applicable City of Welland Planning Application Fees.



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