

The Board of HSCC550 (“Appleby Woods”) provides the following comments as to how Latch Residential Developments’ current proposal to develop 1989 Appleby Line will have a seriously negative impact on the owners of units in Appleby Woods.

Appleby Woods was completed and had its first occupants in 2009. The building has six storeys above grade, and is a model of energy conservation and efficiency. It is heated and cooled by geothermal energy, and generates electricity from a photovoltaic solar panel array on its roof. It is the largest and most successful exemplar of multi-family residential energy efficiency and sustainability in Burlington, with 101 family units.

Negative Impact #1 (Loss of natural light and privacy):

The proposed conceptual rendering provided by the developers shows an east tower (oriented in an approximate north-south direction) to be built within 11 metres of the south-west property line of Appleby Woods. In addition, that tower appears to extend near to the southern limit of the site. This will result in a loss of natural light and loss of privacy to all the units on the south-west side of Appleby Woods for all but the earliest hours of the day.

Negative Impact #2 (Loss of electricity generation):

We have already mentioned the loss of natural light to units at Appleby Woods. There is a corresponding technical negative impact of this loss of natural light: the impact on our photovoltaic solar panel array and loss of electricity generation. It does seem odd that the apparent emphasis on sustainability of the new development should lead to a substantial loss of sustainability in electricity generation at Appleby Woods. This collection of 180 solar panels generates significant amounts of electricity delivered under contract to Burlington Hydro. The developers’ own shadowing study noted that from the end of October to the beginning of March, all of the solar panels on the roof of Appleby Woods (i.e. on top of the sixth floor) would be in shadow for most of the day. Throughout the year, we estimate that half of our solar panels will be in shadow for half of all daylight hours. None of the existing neighbouring buildings presents a shadowing problem for Appleby Woods.

The significance of “shadowing” is its deleterious effect on power output:

- If only 1% of a photovoltaic solar panel is in the shade, it is possible to lose 50 – 80% of power production from an entire solar array. For this reason, it is hugely important that the solar energy system remains out of shade throughout the day. <https://couleenergy.com/solar-panels-effects-of-shading/>
- Shading just one out of 36 cells in a small solar module can reduce power output by over 75%. (Masters, G. *Renewable energy and efficient electric power.*). Note: Appleby Woods has 180 photovoltaic panels.
- When a full cell is shaded, it can act as a consumer of energy produced by the remainder of the cells, and trigger the module to protect itself. The module will route the power around that series string. If even one full cell in a series string is shaded it will likely cause the module to reduce its power level to ½ of its full available value. If a row of cells at the bottom of a module is fully shaded the power output may drop to zero. (<https://mcisolutions.ca/effect-of-shade-on-solar-panels/>)

For these reasons, we believe that this development proposal as it has been presented by the developers, contradicts their promotion of sustainability.

Negative Impact #3 (Traffic congestion):

It is hard to believe that Latch Developments has planned a building that is so limited in its design of access to and egress from the structure. Because 1989 Appleby Line has no access from the north via Appleby Line; or from the east via Upper Middle Road; or to the south via Appleby Line, the traffic problems that will be generated by this building will be huge. Even access from the building to the west (Upper Middle Road) will be problematic for traffic flow because it requires vehicles to immediately cross two lanes of northbound traffic to reach the left-turn lanes. Residents who attempt a “rat run” through Imperial Way and Ironstone Drive will find a route that is frequently a single lane because of parked cars, delivery vehicles, and ambulances on those streets. This is particularly the case at the intersection of Ironstone Drive and Appleby Line, where there are frequent traffic interruptions because of ambulances and other vehicles attending the Williamsburg Retirement Residence and delivery trucks at 1940 Ironstone Drive. Traffic using this route is already congested from four high-rise buildings (The Ironstone, The Williamsburg, Millcroft Place and Appleby Woods) and a sizeable subdivision of single family homes and townhomes (Sheldon Creek).

The alternative to this “rat run” is, from 1989 Appleby Line, north to Upper Middle Road (requiring an immediate crossing of two lanes of traffic as mentioned above), west to Heron Way, south to Ironstone Drive, and east to Appleby Line.

The problem can be identified simply as an attempt to place a high-rise building on a unidirectional divided roadway, with no access to a signaled intersection. This differs in a major way from the buildings being proposed for Ironstone Drive (at the location of Turtle Jack's restaurant). All of these buildings will access Ironstone Drive, thence to Appleby Line (north- or southbound), or to Heron Way and Upper Middle Road (east- or westbound).

Negative Impact #4 (Educational facilities):

No evidence has been presented by the developers of the necessary additional schools that will be required to service such a substantial increase in the number of family units in the area. Indeed, the Park City development on Upper Middle Road near Walker's Line has posted notices from both school boards that local schools are not available for any families moving into that development. The combination of 1989 Appleby Line plus the "Turtle Jack's" development will exacerbate this problem immensely.

In summary, the Board of HSCC550 (Appleby Woods) is not in favour of the planned development at 1989 Appleby Line, because of:

- Loss of natural light and privacy for our residents;
- Loss of sustainable solar electricity generation capability caused by shadowing;
- Traffic congestion caused by the proposed location of the building; and
- Absence of schools to support the increased population of the area.