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October 7th 2024
Planning and Building services/Infrastructure, Development and Enterprise
City of Guelph
1 Carden Street
Guelph, ON N1H3A1

Attention: Chris DeVriendt | Senior Development Planner, City of Guelph

Re: Affordable Housing Project, 280 Claire Road, Guelph.

This letter is to outline our Newton Group Ltd. commitment to design building an energy efficient community as our commitment to the City's Community Energy Initiative and contributing to the goal of Net Zero Carbon Community by 2050.

Newton Group Ltd (NG) has developed a building system called the Kiwi Precast Building System. It is a concrete panelized integrated building system. The building components of concrete are integrated as to the architectural, structural, electrical and mechanical components that may exist on that element of the building will be designed into the element in the factory. The system is inherently energy efficient as the entire structure consisting of concrete walls building around the building perimeter offers are solid protection from the elements of nature. Furthermore all of the exterior concrete panels surrounding the building perimeter are insulated with R25 insulation bringing forth the best most energy efficient envelope. The envelope is a straight R 25 with minimal thermal disruption as the outside is thermally broken by the stiff, rigid insulation cladding on the concrete and façade elements are supported by the stiff insulation and anchored back at intervals to the wall by stainless steel fasteners of 6mm diameter thickness. Our buildings not only offer the R Value that exceeds Passive House minimums but also it has the thermal massing of the concrete structure of floor and walls all insulated and thermally engaged to the interior of the building.

Windows of high quality, Low E will be utilized to enable sufficient light transmission to the spaces and sized to comply with Passive House principles of window to wall ratios saving energy by the building envelope quality and not relying on mechanical and electrical means to stay steady. The building with its concrete thermally activated core will store energy for those cold nights and days and stay steady in rising and falling temperatures taking pressure off the HVAC system to not have to react to sudden temperature changes. These buildings will be net zero ready when technology enables the on site generation of the reduced energy needed on the site. The buildings will last into the future being of solid concrete construction using in floor energy distribution for heating and cooling the energy source can be changed over time it is just a matter of heating or cooling the water running through the floors.

The building envelope will be very tight being a concrete envelope with grouted joints as a solid constructed envelope leaves little space for leakage. Testing reports to support our system have shown that we can keep air leakage to approximately .2 cfm/ft² or better at 74 Pa test pressure.



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Air to water heat pumps will be utilized in the design to heat or cool the buildings with heated or cooled water distributed through the structural floor slabs, thermally engaging the structure within the insulated envelope.

Solar photovoltaic will be incorporated onto south facing facades, roof and parking structure to generate on site power and connected net metered to the grid helping reduce the draw on the grid. The amount of solar will depend upon the agreement of Alectra Utilities as well the economic side if incentives are available this will be maximized on every area possible on the buildings.

Hot water will be heated using cylinders electric in each unit to store some hot water energy enabling heating of water at less peak times if needed.

To lower embodied carbon Newton Group Ltd is currently working with C02 concrete additive as well using lime cement with a 10% reduction in the lime cement plus further any gains or reductions with the use of the C02. It is intended that concrete walls on the building will have some amount of C02 added back into them during manufacturing.

All showers, faucets and toilets will be of low flow types to reduce water wastage.

Recycled and Low VOC materials will be utilized for interiors.

There will be no gas heating.

All lights will be high efficiency LED type. Outside lights will be set up to not cause light pollution and to automatically shut off when sufficient day light exists.

Advanced Radon Measures utilized.

Waste collection will be set up with all recycle bins and green bins and garbage bins as required by best practice at the City of Guelph. Building occupants will be encouraged to sort waste properly and place it into the select bins.

Drought resistant landscape plants will be selected for the majority of plantings to enable a water free landscape maintenance.

Provisions for electrical vehicle chargers will be enabled on site.

Site trees will be planted during site plan development under the strict guidance of City Planning and our Landscape architect.

Public Transportation at the site is available as it is on an existing city bus route.

Promote outdoor activity on site by leaving natural areas, people can walk the forest on site.



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During construction a waste management plan will be developed to ensure the recycling of any possible construction waste as well as recycling any concrete or steel in separate bins and to minimize any mixed waste that has to be land filled.

During construction using the Kiwi Precast pre manufactured system resources are saved by using factory equipment to make the parts reducing greatly the number of workforce needed on the job site to erectors only rather than form setters, rodmen and all support staff. Transportation to site is minimized by a local manufacturer being used for this project.

Numerous amounts of other materials are saved during construction using the Kiwi Precast System such as no drywall is required on the inside of the outside walls, no plastic vapour barrier required, no external water proofing membranes required all due to the high quality of concrete walls and method of system manufacture.

For any further questions or a plant tour please contact me anytime at enewton@kiwinewton.com. For information on Newton Group please visit our website at www.kiwinewton.com.

Yours Sincerely
Newton Group Ltd.
Signed:

A handwritten signature in black ink, appearing to read "Edwin Newton", with a long horizontal flourish extending to the right.

Edwin Newton, President/CEO.