5 March 2013

From: Sonia M. Barrantes and Jacob P. Staub
To: Portland Planning and Urban Development Department

Subj: PROJECT SUMMARY

Ref: (1) Passive House International's "passipedia"

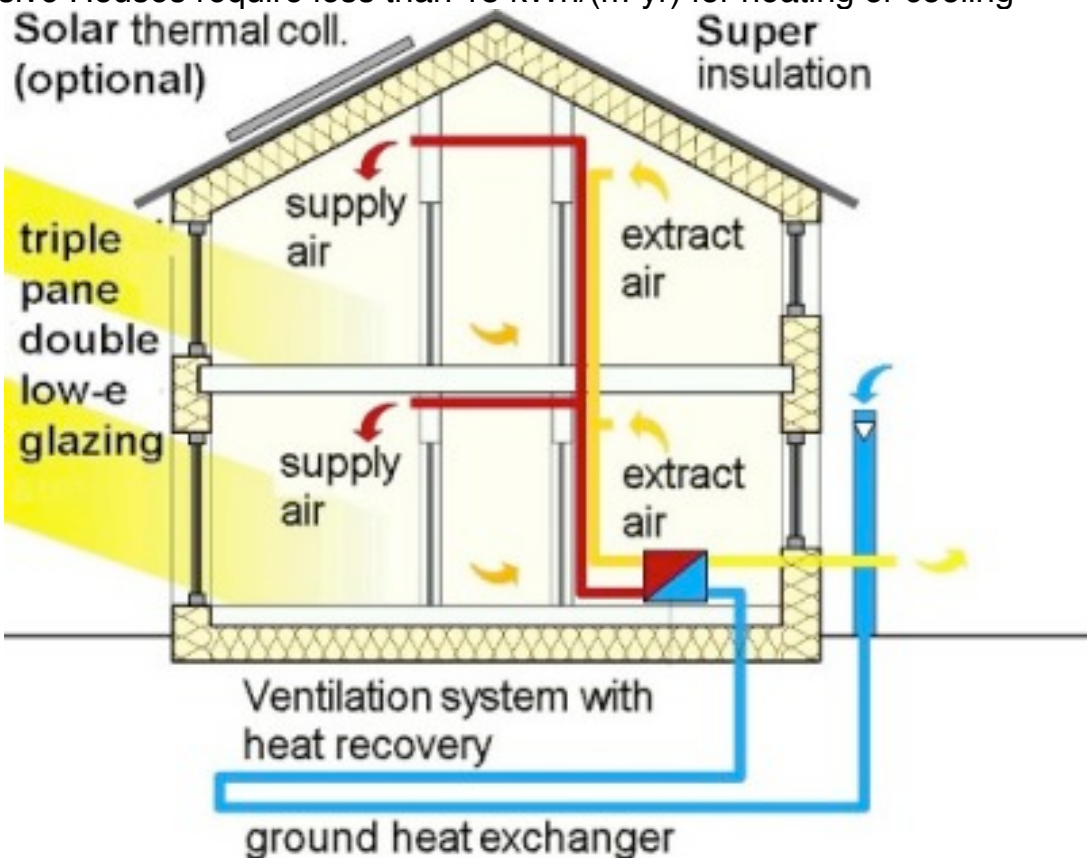
Encl: (1) Active for more comfort: The Passive House

1. The proposed residential development is intended to achieve certification through Passive House Academy, an internationally recognized certifying agency, as a Passive House. 760 Ocean AVE makes extensive use of Passive House design methodology. This methodology conforms with Maine State codes requirements but goes far beyond thermal performance and hygienic requirements.

2. For those unfamiliar with Passive House design, a short description excerpted from reference 1, Passive House International's web based information portal, follows:

"The Passive House is the world leading standard in energy-efficient construction: A Passive House requires as little as 10 percent of the energy used by typical central European buildings – meaning an energy savings of up to 90 percent. Owners of Passive Houses are barely concerned with increasing energy prices.

Passive Houses require less than 15 kWh/(m²yr) for heating or cooling



(relating to the living space)

The heating/cooling load is limited to a maximum of 10 W/m²

Primary energy use may not exceed 120 kWh/(m²a).

Passive Houses must be airtight with air change rates being limited to n_{50} = 0.6/h.

In warmer climates and/or during summer months, excessive temperatures may not occur more than 10 % of the time.

The Passive House is a sustainable construction concept that provides for affordable, high-quality buildings as well as comfortable, healthy living conditions. And its principles are quite easy to understand:

As newer buildings are increasingly airtight, ventilation through joints and cracks alone is not sufficient to provide for fresh indoor air. Opening the windows as recommended won't do the job either. Fresh air is not merely a matter of comfort but a necessity for healthy living. Ventilation systems are therefore the key technology for all future residential buildings and retrofits.

Even though ventilation systems do require an extra investment to begin with they will end up saving considerable amounts of energy costs, provided that they are highly efficient systems. Passive House quality ventilation systems will reduce the operating costs of any building.

This is where the Passive House concept comes in: As large amounts of fresh outdoor air need to be supplied to the building anyway, why not use this air for heating? - Without any extra amounts of air, without any recirculation of air, without any inconvenient noise or drafts? This way the ventilation system pays off twice.

This "supply air heating" concept only works in extremely well insulated buildings – that is in Passive Houses. In expert terms: The transmission heating load must be less than 10 W/m² to make sure that the required heat can be provided by the supply air."

3. A comprehensive document that thoroughly explains Passive House from development, contracting, and home owner perspectives is included digitally as enclosure 1. It can be found on the included CD using the file path: Planning Division File/C-Building Permit 760 Ocean AVE/1-Proposed House/2-Design Information/A-Passive House Explained.

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