

109 KING AVENUE

MIXED-USE DEVELOPMENT

BARRY BRYAN ASSOCIATES

PROJECT DESCRIPTION

109 King Avenue is an example of a modern urban infill project, that aligns with the regional official plan of land intensification, in a small, but growing community. Located in the Town of Newcastle Village, within the municipality of Clarington. The six-storey mixed use development at 109 King Avenue reclaims an existing commercial parking lot and vacant lot to create a modern urban development for residential, medical office and commercial uses. 109 King Avenue aligns itself with the 150 yrs old existing Massey Ferguson Factory Building, in addition to the residential development (20yrs old on the adjacent site). The development also completes a neighbourhood mixed-use precinct block of the area, by contributing to housing and commercial needs for Newcastle Village.

IMPACT

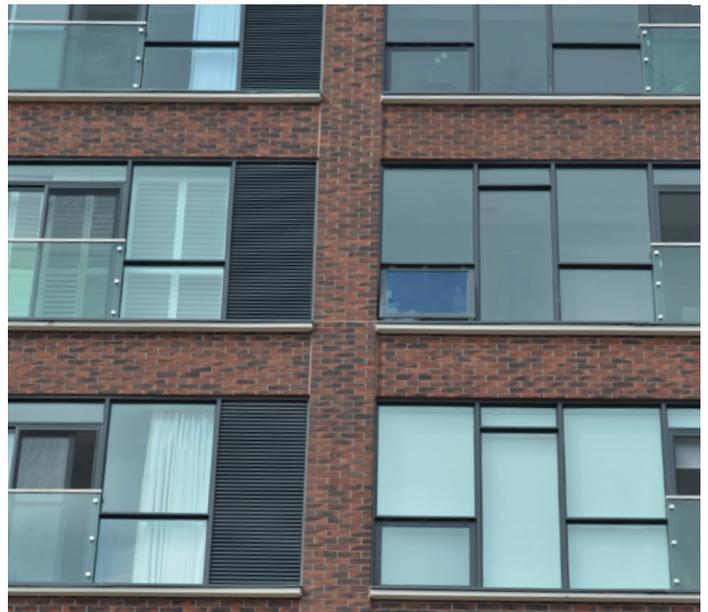
109 King Ave is an example of urban intensification and housing within a growing community. The six-storey mixed use development at 109 King reclaims an existing commercial parking lot and adjacent lot to create a modern urban development for residential, medical office and commercial uses. The development aligns its objectives through the Region of Durham Official Plan, through land intensification, mixed use and sustainable residential development, by reclaiming surplus commercial parking area and an adjacent underdeveloped lot, and delivering a modern residential development, that can assist in the population growth within the Municipality of Clarington. At the time this project, because of its scale and location was required to gain approvals through Official Plan, (Height of 6 Storeys – now acceptable), zoning bylaw and heritage consideration given its proxy to the main village secondary plan historic guidelines within the Village of Newcastle. Through modern construction methodology the development successfully aligns with the historic attributes of the existing Massey Ferguson Factory and Newcastle Village

DESIGN

109 King Avenue through urban intensification; commonly found in other GTA communities reclaims under utilized lands for a sustainable development. The project: one of the first in Canada to use a combination of STO-Panel Prefabricated Technology with the ECO



Shape Vintage (Brick render) materials which departs from traditional masonry methodology while aligning to the urban design and planning criteria for the Municipality of Clarington and Newcastle Village. Through these modern technologies and materials, the development is able to achieve a modern urban aesthetic, respectful of the heritage guidelines and existing buildings as well as a modern achievement in EIFS construction methodologies and pre-fabrication.



The diagram below – shows the STO Panel Technology.

SUSTAINABILITY

The overall strategy of urban intensification and prefabricated construction are two major attributes / strategies that were incorporated to reduce the negative impact of the building on the environment. BY reclaiming previously developed commercial site, parking lot and providing urban intensification reduces the built environment and element and aspect of common suburban sprawl.

Prefabrication through building is the second attribute. By pre fabricating elements; steel structure, pre cast floor slabs, exterior wall panels and glazing modular elements, allow for a reduction in overall waste, less carbon emissions in the construction, as well as an overall reduction in schedule, which also limits overall waste, due to the construction timeline and overall carbon inputs being minimalized. In addition to the prefabrication, increased r-values through the EIFS (STO Panel CI and Ecoshapes) wall panels, create more efficient thermal building envelope and thus a overall reduction on operating energy and green house gases, combined with modern mechanical systems.

USE & SIGNIFICANCE

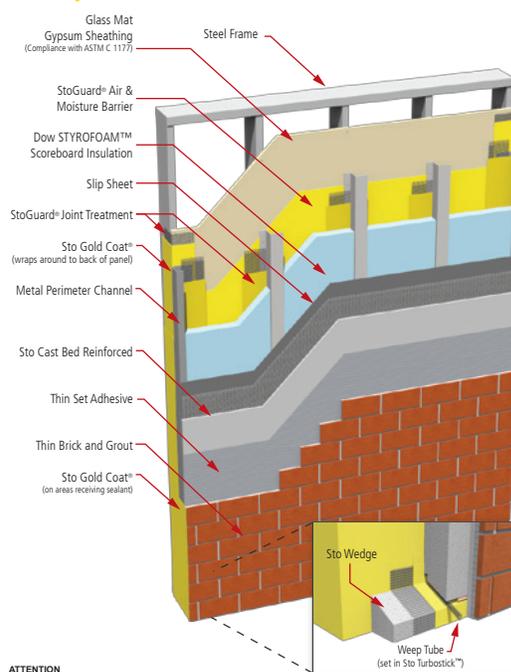
109 King Avenue uses the EIFS; STO Panel Ci Therm and STO Panel Ci Therm- Ecoshapes, which is one of the first projects in North America to incorporate this European technology (developed in the Netherlands) as a render product that uses a developed texture to re-create a vintage brick masonry aesthetic. Through this combination and the use of prefabricated EIFS wall panels, the development was able to achieve a modern aesthetic with a heritage reference. The project also uses elements of field applied STO CI Therm system on non- prefabricated elements to achieve a level of consistency in design and high level of building envelope principles. - see diagrams/images below for the STO CI Therm and ECO Shape literature.

TECHNICAL EXCELLENCE

At 109 King Avenue, a high level of building science principles is achieved through prefabrication process and a client mandate for developing a more sustainable product. By incorporating an 25% higher R-Value building envelope than OBC prescribed, along with the quality standard of prefabrication, (less waste and attention to quality) the development attempts to achieve a higher level of quality in construction. By also developing a higher than standard opaque-to-transparent (window-to-wall) ratio for a multi-residential development, future owners and the condominium corporation will attest to statistic of less operating energy as it relates to heating and cooling due in part the fenestration elements (window-to-wall ratio) and the building envelope itself.



sto panel™ Brick ci U.S. Patent No.8,919,062 B1



Notes:

- 1. Description:** lightweight energy efficient pre-fabricated exterior wall panel with exterior insulation, continuous air barrier, and integral decorative and protective finish options
- 2. Building Code Compliance:** meets requirements of NFPA 285 and NFPA 268 for use on noncombustible construction (Types I-IV). Refer to ICC ESR 1233 and IAI Project No. 11805184.001.
IBC 2009, 2012 and 2015 Chapter 7: Fire Resistance Rated Construction Chapter 16: Structural - Transverse Wind Load Resistance Chapter 26: Types I-IV (noncombustible) Construction, Ignition Resistance, Surface Burning Characteristics
IECC 2009, 2012 and 2015 Chapter 4: Continuous Air Barrier
IGCC 2012 Chapter 6: Energy Conservation, Efficiency and Atmospheric Quality (Section 606: Building Thermal Envelope Insulation and Air Sealing)
Alternative Compliance Path: ASHRAE 189.1-2009
- 3. Energy Standards Compliance**
ASHRAE 90.1 - 2007, 2010 ans 2013 Section 5: Continuous Air Barrier
- 4. Green Building Standards Compliance**
ASHRAE 189.1 - 2009 Normative Appendix B: Continuous Air Barrier
- 5. LEED Eligibility**
Eligible contribution towards credits in the following NC (New Construction) categories: Energy and Atmosphere (EA) Materials and Resources (MR) Innovation in Design (ID)

ATTENTION