

Design Considerations for Duplexes, with or without Secondary Suite Development Permit approval

Following recent Edmonton Zoning Bylaw changes, there has been an increase in applications for **duplexes**, many **with secondary suites**, receiving Development Permit approval. This article discusses some of the design and construction challenges associated with this form of building. To clarify, a duplex is not a Semi-detached House with side-by-side dwelling units separated by a vertical party wall.

Edmonton Zoning Bylaw defines a duplex as a building with two principal dwellings, with one of those dwellings placed over the other in whole or in part (See [Edmonton Zoning Bylaw](#) for full definitions). The Zoning Bylaw concept of secondary suite, being a dwelling located within, and accessory to, a structure and inseparable from the principal dwelling, is then applied by the development officer where the applicant so requests.

Under the National Building Code 2019 Alberta Edition (NBC 2019(AE)), this stacked dwelling unit building has rather different requirements from a “house with a secondary suite”. It needs to be constructed with apartment building characteristics, which requires sophisticated design and construction. The code references listed are found in Division B of NBC 2019(AE).

Early recognition and implementation of necessary design requirements will result in a faster, smoother permit process. Each project is unique, however the following are the most common conditions that must be met.

- Use 9.10.14. for spatial separation calculations between buildings. Depending on yard dimensions, this may result in the requirement for non-combustible cladding and even non-combustible construction (framing or other). In contrast, 9.10.15 applies only to Houses that have no dwelling above another.
- Viable exterior access path from the street to the exterior doors serving suite entrances.
- Exterior egress path for fire exposure protection addressed by:
 - exit stair/ramp not exposed to glazing of other dwelling units or common spaces. (9.9.4.4.), and
 - exit doors protected from nearby glazing of other dwelling units or common spaces (9.9.4.6), and
 - deck/veranda platform exit passageway >1.5m (5') above ground level, protected from glazing of other dwelling units or common spaces below it by $\frac{3}{4}$ h fire-resistance rated floor assembly or with two ways off the passageway (9.9.9.3.)
- Balcony walls and ceiling are required to be specially clad where more than 2 dwelling units are proposed, i.e., for a duplex with secondary suite Development Permit approval. (9.10.12.5.)

- Each dwelling unit must be separated from the rest of the building by minimum 45minute fire-resistance rated separations. (9.10.8. and 9.10.9.14.)
- Each exit must be separated from the rest of the building by minimum 45minute fire-resistance rated separations. (9.9.4.2(1)) If an exit is shared between two or more dwelling units, then each dwelling unit must have a second and separate exit facility (which also may be shared). (9.9.9.3)
- Each mechanical room containing a fuel-burning appliance but not contained within the dwelling unit must be separated from the rest of the building by minimum 1h fire-resistance rated separations (9.10.10) and may not open directly into a shared exit. (9.10.10)
- Each dwelling unit must be separated acoustically from every other space in the building in which noise may be generated, such as exits, other dwellings, mechanical rooms and common rooms, by minimum STC 50 rating or ASTC 47 rating. (9.11.1.1.(1))

Sprinklering of the entire building under formal alternative solution may serve to mitigate a number of the construction requirements.

When an owner seeks Development Compliance certification after construction, the record will reflect the existence of a duplex building with 2 dwellings. Notwithstanding construction of the building in accordance with 9.10.14., any secondary suite approved under the Zoning Bylaw will **also** be bound by the Zoning Bylaw for Development Compliance certification, which results in a building containing two potential separate real estate entities only, as by definition a secondary suite shall **not** be subject to separation from the principal Dwelling through a condominium conversion or subdivision.

Development Services offers Pre-Application Meetings for multi-dwelling residential projects to discuss your proposal and provide input. Learn more on the [Pre-Application Meeting webpage](#)