

## **ATTACHMENT C**

### **Small-Scale Multi-Unit Housing (SSMUH) Engineering Review Considerations**

1. *Sanitary Sewer*. The City engaged with an external consultant to complete citywide modelling of the sanitary sewer network. SSMUH development was modelled using the maximum build-out analysis as suggested by the Provincial Policy Manual. This analysis is a development forecast that assumes the most extreme scenario (all single residential dwelling lots converting to three or four units) to help Staff understand all potential impacts. In reality, impacts on the sanitary sewer system will be incremental as no single SSMUH development will have a significant impact on the system but a number of developments in the same area could have a cumulative impact leading to downstream deficiencies.

The maximum build-out modelling identified approximately 5.9km in length of sanitary sewer mains with capacity issues triggered by a broad uptake of SSMUH zoning. Upgrades to a majority of these mains (approximately 84%) are already included in existing needs and growth projections; however, uneven or intensive development could accelerate when deficiencies are triggered. The remaining 16% of sewer mains identified by the maximum build-out modelling are minor and will be monitored and assessed by Staff during citywide model updates. While the City typically attempts to provide adequate servicing for densities permitted by zoning, Staff recommend that future capital projects continue to be prioritized where development is most strongly encouraged by City Plan. Localized capacity issues could arise over time constraining development, and these will be reviewed and reported to Council as needed. Overall, the impact of SSMUH is expected to be minimal on the City's sewer network.

The sanitary sewer modelling has also been shared with Staff at the Regional District of Nanaimo (RDN) who are reviewing potential impacts on downstream RDN infrastructure including trunk sewers, pump stations, and treatment facilities.

2. *Water Distribution*. The City engaged with an external consultant to review potential impacts on the water distribution network. No major issues with domestic servicing were identified; however, potential issues with available fire flows have been identified. Unlike impacts from development on the sanitary sewer network which are cumulative, the impact of even a single SSMUH development can increase necessary demand beyond available fire flows. Necessary fire flows at the nearest fire hydrant are determined using the Fire Underwriters' Survey (FUS) calculations which is a national standard.

Many of the local water network pipes in Nanaimo can provide fire flows at a rate of 75 litres per second (l/s) while maintaining recommended velocities in the distribution system, and some SSMUH developments could require fire flows up to 150 l/s depending on a number of criteria as determined by the FUS calculations. In areas with less available fire flows, property owners will be required to provide off-site upgrades to increase available flows or incorporate design solutions to decrease required flows (e.g. reduce building size, increase spatial separation, use non-combustible materials, etc.). Staff have generated draft mapping of areas where there may be inadequate fire flows for SSMUH which impacts approximately 30% of eligible lots. This mapping will be made available on the City's website for property owners to assess where there may be additional requirements to address fire flows for SSMUH developments.

3. *Stormwater Sewer*. Stormwater management in Nanaimo is regulated by the Manual of Engineering Standards and Specifications (MoESS) and the City of Nanaimo “Storm Sewer Regulation and Fee Bylaw 2022 No. 7351”. Stormwater requirements will apply to SSMUH developments, including retention or detention requirements as determined by the MoESS. General updates to the City’s stormwater regulations are in the planning stage; however, no specific changes in response to SSMUH are proposed.
4. *Tree Protection*. Tree protection is regulated by the City of Nanaimo “Management and Protection of Trees Bylaw 2013 No. 7126” (the “Tree Bylaw”). The Tree Bylaw defines different types of landmark and significant trees, and specifies the tree replacement requirements for trees removed through development. A review of the Tree Bylaw is underway and updates were already anticipated to strengthen tree protection requirements. The bylaw will be reviewed further in the context of SSMUH to determine if additional updates are required where more intensive development is expected on residential lots.
5. *Transportation*. Traffic impacts on the local road network will be incremental over time and are not anticipated to be greater than expected through City Plan. Potential impacts could be mitigated by meeting modal shift targets contemplated by City Plan; however, this may be difficult to achieve in many SSMUH areas with deficient pedestrian and cycling infrastructure. Further, SSMUH densities in typical neighbourhoods would not support efficient transit.

One area of concern from a transportation perspective is the inability to secure road dedication on roads adjacent to SSMUH-zoned lands, except where subdivision or rezoning to higher density occurs. This means that the road cross-section widths anticipated by the MoESS may never be achieved, and that modified cross-sections within constrained widths could become more prevalent unless expropriation takes place. In April 2024, the Province introduced “*Bill 16 – Housing Statutes Amendment Act, 2024*” which, if adopted, could allow for road dedication at the building permit stage; however, the full implications of this legislation have not been reviewed at the time of writing of this report.

6. *Parking*. On-street parking demand may increase on local streets as lots redevelop with more units, and demand pressures will be particularly acute on street with insufficient parking. The Provincial Policy Manual suggests reviewing and reducing parking requirements for SSMUH but does not obligate any revisions for three or four units. While no changes to the on-site parking requirements for SSMUH are proposed at this time, Staff are undertaking a city-wide review of traffic and parking demand in the next year and future changes to a number of bylaws including the City of Nanaimo “Off-Street Parking Regulations Bylaw 2018 No. 7266” are anticipated.
7. *Frontage Works*. Presently, frontage works and services are not triggered by the City of Nanaimo “Building Bylaw 2016 No. 7224” (the “Building Bylaw”) for residential projects of four or less units. As redevelopment occurs under SSMUH zoning in the future, on-street upgrades to meet City standards (e.g. sidewalks, bicycle lanes, curbs, street lighting, etc.) will be not be carried out by property owners except where subdivision or rezoning to higher density occurs. Realizing the ultimate road standards in predominantly SSMUH neighbourhoods may never occur unless otherwise initiated by the City as a capital project through Development Cost Charges (DCCs) or other means.

Should frontage works and services be required for SSMUH development, incremental works for individual lots with limited frontage would not result in a cohesive improvement to streets and would not be recommended.