

Gentle Density and Infrastructure

Guidance Paper for
Local and Provincial Government

JULY 2023



Copyright © 2023 Small Housing BC.

All rights reserved. This guide or any portion thereof may not be reproduced or used in any manner whatsoever without the express permission of the publisher except for the use of brief quotations in a book review.

ISBN: 978-1-7380334-1-6

Content by Urban Matters and Small Housing

Graphic Design by care2design

www.smallhousing.ca



Acknowledgments

This Gentle Density and Infrastructure Guidance Paper was developed in collaboration with local governments, industry partners, and other order of government representatives from across British Columbia, led by Small Housing with support from several key contributors. The infrastructure roundtable is one of a series of expert roundtables hosted by Small Housing to address commonly recurring, challenging topics in the adoption of broader gentle density housing initiatives in British Columbia. In addition to the infrastructure roundtable, other roundtables focus on topics including affordability, prefabrication, and tenure.

Small Housing extends its gratitude to the Urban Systems team (Nancy Henderson, Shaun Heffernan, and Matt Gomez) for compiling background research, facilitating the Roundtable dialogue, and drafting the guidance paper content.

We also wish to thank Becky Hewitt and Tyler Bump at ECONorthwest for contributing their deep expertise towards the pre-session planning, drawing on their extensive work on this topic in the US context.

We would like to thank the Roundtable participants for their generous commitment of time and willingness to engage critically and open-mindedly towards developing shared solutions:

- BC Hydro
- City of Coquitlam
- City of Kelowna
- City of Revelstoke
- District of Peachland
- District of Tofino
- DOS Design Group
- ECONorthwest
- FortisBC
- Ministry of Municipal Affairs, Finance
- Urban Systems

The recommendations presented in this guide paper do not necessarily reflect the views of the individual Roundtable participants or the organizations they represent.

The project “Gentle Density Housing Accelerator” received funding from the Housing Supply Challenge – Getting Started Round, however, the views expressed are the personal views of the author and CMHC accepts no responsibility for them.



Table of Contents

Executive Summary	1
Background.	2
Development Finance Tools: An Overview	3
Challenges and Recommendations	5
1. Gaps in Development Finance Tools	5
2. Local Government Capacity & Understanding.	7
3. Funding from Other Orders of Government	8
4. Sewer System Capacity	8
5. Water & Fire Protection	9
6. Stormwater	10
7. Electrification	12
Recommended Next Steps	13



Executive Summary

Communities across the province are struggling to meet the housing needs of their residents, while working with limited funds for new infrastructure and a shrinking land base for outward expansion. Gentle density housing types, ranging from secondary suites and backyard infill through houseplexes and small townhouses present an attractive solution to growing our housing supply within our existing residential neighbourhoods. With Provincial policy set to increase development potential as-of-right in many residential areas, Small Housing – with support from consulting firms Urban Systems and ECONorthwest – convened a roundtable discussion to explore the relationship between gentle density housing types and local infrastructure. The Gentle Density & Infrastructure Roundtable included representatives from local governments, utility service providers, the development community, and Provincial government representatives.

This Guidance Paper presents recommendations that will assist various actors involved in planning for and financing growth-related infrastructure, especially as it relates to new gentle density development. It provides background information and identifies challenges and recommendations in seven key areas:

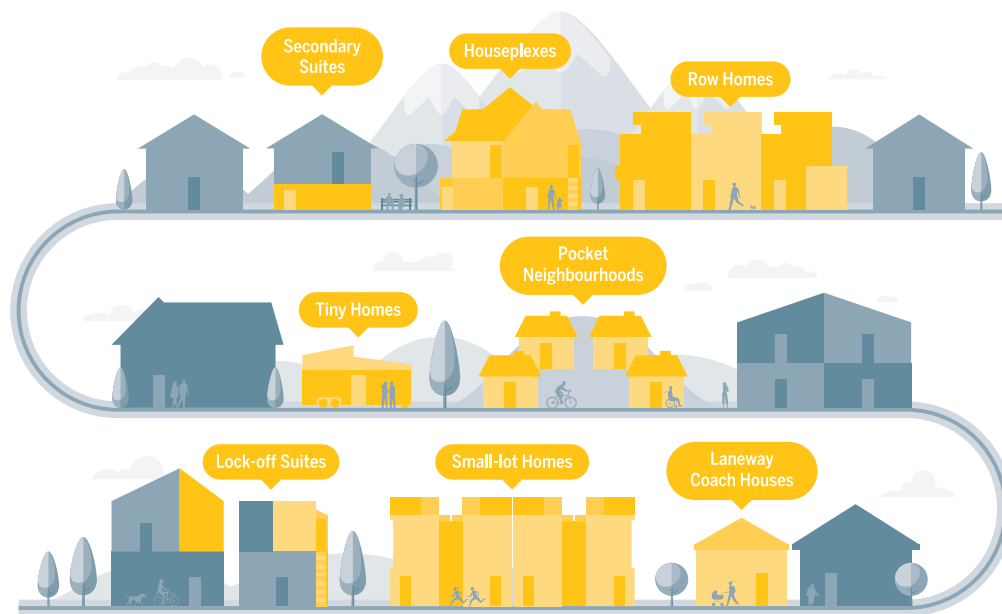
1. Development finance tools
2. Local government capacity and understanding
3. Other order of government funding
4. Water and fire protection
5. Sewer system capacity
6. Stormwater management, and
7. Electrification.



Background

In fall of 2023, the B.C. government will introduce legislation that will allow up to four units on a standard single-detached lot, with additional density permitted in areas well-served by transit. This change, as part of the Province's *Homes for People Plan*, will support a range of small-scale housing types, and create much-needed housing stock for our growing population. However, through consultation with local governments and the development sector, it's been identified that a province-wide upzoning policy will require careful contemplation of municipal infrastructure, levels of service, and financing infrastructure upgrades at the neighbourhood or community level.

Gentle density housing solutions refer to smaller-format home types that add housing diversity and choice to existing single-dwelling zoned neighbourhoods. These range in form and configuration from backyard cottages and laneway homes to houseplexes and infill rowhouses, and they provide the opportunity for households of different sizes and income levels to live in more neighbourhoods. Properties that previously housed only one household could feasibly accommodate two to six households (or more, where lot size and/or height allowances are greater).



The smaller formats and shared land costs of gentle density homes mean that prices can be more attainable than single detached housing. As they are designed to fit into existing residential neighbourhoods, gentle density homes may also connect to existing municipal infrastructure - as opposed to greenfield development (in newly created residential areas), which often calls for costly infrastructure extensions and municipal investment. Nonetheless, the impacts of new residential density on existing infrastructure require thoughtful consideration and planning, with significant variation in local conditions across the province.

Development Finance Tools: An Overview

There are several development finance tools used in British Columbia to fund or cost-share infrastructure. Some are explicitly guided by legislation, such as the Local Government Act and Community Charter (i.e., Development Cost Charges (DCCs)), while others have loosely defined rules and lack consistency in application (i.e., Community Amenity Contributions (CACs)).

The following provides a high-level summary of key existing development finance tools which could be used to support infill development:

Development Cost Charges (DCCs): Municipalities and regional districts levy development cost charges on new development to pay for new or expanded infrastructure such as sewer, water, drainage, parks, and roads necessary to adequately service the demands of that new development. The Local Government Act (LGA) authorizes the collection of DCCs, and projects must be related to growth and not existing deficiencies in the system.

DCC Waivers and Reductions: The LGA allows Council to waive or reduce DCCs payable on specific types of “eligible development”, including not-for-profit affordable housing, for-profit rental housing, housing designed for reduced environmental impact/GHGs. The intent of the legislation is that in cases where the DCC is waived or reduced, the amount waived is to be entirely supported by the existing taxpayer.

DCC Credits and Frontender Agreements: DCC credits are provided to developers that have constructed a DCC Project on behalf of a local government. These are provided in the form of a deduction on the full amount of DCCs paid at time of subdivision or building permit. Where substantial DCC works are provided by a developer, a local government can consider creating a Frontender Agreement to help reimburse the developer for the works provided.

Latecomer Agreements: Under the LGA, a municipality may require a developer to install “excess or extended services” over and above what is required to service their development (e.g., 8” watermain instead of 6” main). If the project is not in the DCC program, then the developer is automatically eligible to receive a Latecomer for the additional costs of construction. As per the LGA, the maximum time limit for the Latecomer is 15 years and includes payback of interest.

Community Amenity Contributions (CACs): Are voluntary contributions that are provided at the initiative of the developer that emerge from rezoning negotiations (i.e., cannot be imposed by local government). General authority to collect CACs is derived from the LGA and Community Charter and based on Council’s discretionary authority to approve a rezoning request. CACs can take several forms, including: community amenities that cannot be funded using DCCs (e.g., recreation centres, fire halls, public art, urban design, green building features); affordable housing; and financial contributions toward these items above.

Density Bonusing: Density Bonusing is similar to a CAC but built into a zoning bylaw and is explicitly authorized under the LGA. This allows developers the option to a higher density than what is provided as a “base density” in the Zoning Bylaw in exchange for certain amenities or affordable housing, or other specified conditions.

User Fees and Charges: There are several common fees and charges collected by B.C. Local Governments used to cover the operating cost associated with the provision of a municipal service. These tools are mostly used to cover operations but can in certain circumstances be collected and used to cover the cost of financing growth-related infrastructure. These can vary by category or property, activity, or business to reflect different impacts on a service that different users may have; and must be established by bylaw and clearly related to cost of providing service.

Frontage Works Programs: Frontage Works Programs are loosely defined mechanisms used to collect fees from all redevelopments within a defined area to help fund streetscape improvements. Developers who choose not to pay into the fee program are required to construct the necessary off-site improvements. Fees can be charged during the subdivision or building permit application stage and costs can be outlined in a Fees and Charges Bylaw.

Local Area Service for Utilities: Can be established to fund specific infrastructure capital works within a specific geographic area that benefits from the service. These can be used to fund Business Improvement Area Services (e.g., Downtown Beautification program), or infrastructure extension to an existing neighbourhood (e.g., sanitary sewer extension). The cost of work undertaken as a local improvement is front ended by the municipality, then recovered from property owners within the local improvement area using a tax.

Short / Long-term borrowing: A municipality can borrow to pay for capital projects if it has borrowing capacity. The primary lender for local government in B.C. is the Municipal Finance Authority (MFA), which offers both short-term and long-term (> 5 years) borrowing options.

Summary of Key Development Finance Tools Pros and Cons for Infill Development

Tool	Pros	Cons
Development Cost Charges	<ul style="list-style-type: none"> Can support required system-wide infrastructure needs to service gentle density. 	<ul style="list-style-type: none"> Cannot be used to update local services for individual gentle density projects.
DCC Waivers and Reductions	<ul style="list-style-type: none"> Can be used to support affordable rental projects. 	<ul style="list-style-type: none"> Limited in scope and cannot be used for market gentle density.
Latecomer Agreements	<ul style="list-style-type: none"> Can be used to fund small scale infrastructure for local services. 	<ul style="list-style-type: none"> Administratively burdensome and tough to apply on a large scale. Requires upfront capital investment from first developer-in with limited certainty on payback.
Frontage works programs	<ul style="list-style-type: none"> Creates flexibility in how frontage improvement monies can be funded and spent. 	<ul style="list-style-type: none"> May not support utility upgrades equitably. Must be applied to the frontage of property being developed.
CACs and Density Bonusing	<ul style="list-style-type: none"> They are flexible in application and can be used for a wide range of non-DCC projects. 	<ul style="list-style-type: none"> Typically focused on non-infrastructure amenities.
User Fees and Charges	<ul style="list-style-type: none"> Can used to cover the cost of financing growth related infrastructure i.e., - Storm, utility. 	<ul style="list-style-type: none"> Must be clearly related to the cost of providing a service. Questionable as a tool to finance growth-related capital costs as some see as a tool to cover operations and may be difficult to justify similar charges with differing service levels.
Local Area Service	<ul style="list-style-type: none"> Useful for funding specific parks and infrastructure capital works within a specific geographic area. 	<ul style="list-style-type: none"> Requires benefiting taxpayer approval. Typically used to create new services. Benefiting parcels must be identified in advance.

Challenges and Recommendations

The following sections detail the key areas of challenge highlighted through Roundtable dialogue. Each section provides background information and a description of the challenge, then enumerates recommendations for the Province and local governments.

1. Gaps in Development Finance Tools

The legislation that enables local government development finance tools is generally suited for greenfield development or large-scale projects that have the financial capacity to frontend infrastructure upgrades required for growth. Limited tools are available for small-scale or infill infrastructure projects that often occur incrementally and not in a sequential pattern in areas currently serviced for single residential uses.

While the legislation permits excess and extended services to be required at the time of building permit, putting the burden on the development of a four-unit infill project will be a barrier to development. Many local governments exempt single residential and often duplex redevelopment from contributing to frontage improvements. The “free pass” for single residential may also be a barrier to the viability or redevelopment to larger houseplex development, unless a level playing field is created.

Local Area Services (LAS) are a tool often used for neighbourhood-level improvements, such as extending water or sewer services to an area not currently serviced. The tool is based on the principle that those benefiting from the improvement are funding all or a portion of the improvement. The magnitude of the debt can be reduced by grants. While the structure of a LAS could be a useful tool for improving infrastructure in a neighbourhood with a high probability of infill redevelopment, there are two key barriers to successfully utilizing this framework for neighbourhood-level infrastructure improvements:

1. The requirement for elector assent within the service area
2. The LAS impacts the local government's borrowing capacity

PROVINCIAL RECOMMENDATIONS	ACTIONS FOR LOCAL GOVERNMENTS
<ul style="list-style-type: none"> • Develop additional and less restrictive financial tools to support infrastructure for infill development that is flexible enough to be applied at the neighbourhood level on priority infrastructure upgrades, rather than the immediate frontage of the property being developed. • Consider increasing the \$50/capita borrowing limit (without elector assent) to fund infrastructure-related projects to facilitate the development of infill housing. • Provide infrastructure funding to local governments in order to facilitate the infrastructure upgrades in areas with a high probability of infill redevelopment and/or provide incentive-based funding for those local governments that are facilitating the development of gentle density. • Update the Development Finance Guide to reflect Homes for People legislation and provide additional examples and case studies on how tools could be effectively utilized to support infill development. 	<ul style="list-style-type: none"> • Review how existing development finance tools are being utilized and determine if existing development finance methods need to be updated and/or additional tools could be implemented. • Consider establishing levies or other methods of sharing the costs of infrastructure across benefiting properties to support infill. For example, consider levies to support upgrades to drainage infrastructure or installing additional fire hydrants in catchments where infill growth is anticipated.

Learnings From Other Jurisdictions

Oregon, USA

Several other jurisdictions outside of British Columbia have passed legislation allowing for more infill, multi-unit development in residential neighbourhoods. In 2019, the state of Oregon passed House Bill 2001, “middle housing” legislation allowing for duplexes, triplexes, townhouses, and other small housing types to be built on a single-family lot. The policy applied to cities with a population over 10,000, with increased allowances for cities with a population over 25,000.

Cities were permitted to set “reasonable” siting and design requirements for new housing built in their communities, but the law also directs city governments to provide supporting infrastructure and address existing infrastructure gaps.

Oregon's approach to financing infrastructure upgrades included:

- Mandating that duplexes be treated the same as single family homes, with respect to servicing requirements.
- Allowing other middle housing types to trigger frontage improvement costs.
- Limiting multi-unit development (and related infrastructure upgrades) in floodplains, landslide hazard areas, and significant habitat areas.
- Creating a formal process for cities to delay middle housing development in areas deficient with water, sewer, storm, or transportation facilities. This process requires cities to prove their infrastructure deficiency and create a detailed plan to address the deficiencies in good time.

After a two-year rulemaking period, the implementation of House Bill 2001 has presented some challenges for infrastructure financing. It was observed that some development costs were not scaled for small housing development: frontage improvement costs, utility rates, and System Development Charges (equivalent to DCCs). This has impacted the financial feasibility for smaller housing developments, because most cities only scale by housing type rather than unit size.

While it is still too early to tell, development resulting from this law has been gradual. While middle housing has generated more interest across the state, most homeowners are not developers, so the changes across neighbourhoods have been minimal. And few city governments have tried to delay the upzoning initiative, due to the state's strict requirements for proving their infrastructure deficiencies.

Frontage Works Program

City of Coquitlam, BC

Previously, one-for-one replacements of single-family homes were exempt from providing frontage improvements, leading to a mix of old and new streetscape standards. The City's updated Frontage Works Program helps create a consistent, modern standard, improving both safety and aesthetics. The program ensures all new homes built in southwest Coquitlam will contribute to upgrading adjacent streetscapes to a modern urban standard, including curbs, gutters, sidewalks, lighting, landscaping and rear lane improvements. The City often collects cash in lieu of frontage improvements and will complete a number of improvement projects each year, on a block-by-block basis.

Streetscape improvements through the Frontage Works Program will take place in single-family, duplex, and other designated housing areas in southwest Coquitlam, and include:

- Streetscape upgrades or cash contributions
- Cost-recovery from future development and subdivision applications on streets where the City completes the upgrades

Anyone currently submitting a development or subdivision application for a new single-family home in southwest Coquitlam is required to either:

- Upgrade the section of street adjacent to their property to current standards, or
- Make an equivalent cash payment towards City-funded streetscape upgrades

If the City has already upgraded the streetscape, applicants will be required to pay for the improvements made at the time of redevelopment.



2. Local Government Capacity & Understanding

Integrated infrastructure master plans and data modelling are important tools for determining sufficiency of existing infrastructure and speeding up development approvals. While some B.C. communities have extensive modelling and GIS regimes to allow this, the majority do not.

For a variety of reasons including legislative changes, cost, and resource availability, it has become fairly common for official community and neighbourhood level plans to be developed in a manner that is disconnected from infrastructure and financial plans in recent decades. As a result, the development approval process is often delayed while determining infrastructure requirements and conducting amenity negotiations.

Many smaller communities, and some larger urban centres, have a limited understanding of the maximum consumption their infrastructure can accommodate. Meanwhile, other communities have known infrastructure deficits that require significant upgrades to accommodate infill development. While some standardization of data across the Province is realistic, municipalities hold the data associated with infrastructure capital projects, as-builts, etc. Local governments need consistent and accurate records of their assets, to plan their infrastructure more confidently.

PROVINCIAL RECOMMENDATIONS	ACTIONS FOR LOCAL GOVERNMENTS
<ul style="list-style-type: none"> • That local governments be provided with additional financial support to integrate land use plans with infrastructure master plans. • Provide support for a standard for data quality, records and legal disclaimers associated with open data. • That funding be made available to improve GIS systems, quality of data, and digitization of existing infrastructure. Funding may support infrastructure modelling including funding for staff and consultant resources to model the likelihood of development by location in fast growing local governments. Additional open data could be supported through a central resource within the Province and modelling through a dedicated funding stream. • That the Province support the development of a toolkit developed to provide best practices and case studies illustrating plans and processes that integrate land use, infrastructure, and financial planning to facilitate infill development. 	<ul style="list-style-type: none"> • Identify “high likelihood to redevelop” areas in the community: older housing stock, adequate servicing and fireflow, sites free of development constraints (i.e., wildfire areas, steep slopes, environmentally sensitive areas). Prioritize infrastructure upgrades in those areas over the expected time range. Consider also that larger-scale development sites on major corridors may be more capable of providing for infrastructure upgrades than smaller sites within neighbourhoods, and look to balance infrastructure spending across these conditions to enable small-scale redevelopment to occur without too high of a financial burden.

3. Funding from Other Orders of Government

Grant-chasing for municipalities is time- and resource-intensive. Local governments, especially under-staffed or smaller communities, will spend thousands of dollars of employee hours in pursuing grants from Provincial and Federal government without the guarantee of funding. This is seen as a barrier to proactive infrastructure planning throughout communities.

PROVINCIAL RECOMMENDATIONS	ACTIONS FOR LOCAL GOVERNMENTS
<ul style="list-style-type: none"> • Create a grant funding structure that links infrastructure-related funding based on enabling regulations and/or the number of new housing units approved by a local government. • Explore funding schemes, similar to CMHC's Housing Accelerator Fund, whereby funding is incentive based and released to municipalities faster than a typical grant application but paid out based on delivering on implementation targets. • Review Provincial funding programs to provide more significant levels of funding programs as many of the existing programs are less than \$100,000 and take more resources to apply, manage and monitor than the funding is worth. 	<ul style="list-style-type: none"> • Provide feedback to the Province through UBCM for ways that provincial agencies could make the grant application more streamlined.

4. Sewer System Capacity

Though not as significant as water system capacity for fire flow, sewer system capacity is another challenge for gentle density in certain areas. Many communities lack a detailed understanding of their sewer system capacity, and many neighbourhoods that are well suited for infill development are limited by not having the sewer capacity needed to support higher densities.

Further, from a sustainable community development perspective, infill development is best suited for areas serviced by sewer. For areas currently serviced by onsite septic systems that are transitioning to a more urban format with higher residential density, sewer system expansions should be planned for.

PROVINCIAL RECOMMENDATIONS	ACTIONS FOR LOCAL GOVERNMENTS
<ul style="list-style-type: none"> • Expand the powers of local government to initiate sewer systems expansions through their Liquid Waste Management Plans, instead of requiring elector assent to borrow the funds needed. • Create additional funding for sewer infrastructure upgrades and expansions, specifically for housing purposes. 	<ul style="list-style-type: none"> • Update sewer system capacity modelling. • Update liquid waste management plans to identify neighborhoods with the highest potential to urbanize, given they are serviced by a sewer system.

5. Water & Fire Protection

An immediate impact of gentle density housing is on fire flow requirements. The B.C. Building Code requires that an adequate water supply for firefighting be readily available and of sufficient volume and pressure to prevent fires from spreading. There are a number of standards that have been developed to determine adequate supply, and local government authorities are tasked with choosing which standard to apply within their jurisdiction. A commonly used standard for fire flow is based on the Fire Underwriters Survey – an organization that grades the fire protection capabilities of municipalities for underwriting purposes. However, there are alternative approaches to determine adequate supply of water for firefighting such as the Insurance Services Office ([ISO](#)) and American Water Works Association (AWWA) ratings, which are used throughout the US.

Many factors contribute to fire protection and suppression with infill development, including: building design and system components (including square footage, building materials, unit number and configuration, fire separation, sprinklering, etc), and offsite/centralized fire fighting infrastructure (including fire hydrant distance, pumping machinery, fire flow and available water supply).

Understandably, larger infill projects could trigger fire flow upgrades to the water system or alternatively require the installation of a sprinkler system.

However, any superfluous requirements placed on a gentle density infill project (whether to the building design and systems, or to fireflow upgrades) add to the development project’s budget, which can affect development feasibility and/or add unnecessary cost to units.

Varied or inconsistent approaches to these requirements present a barrier to cost predictability, developer confidence, and the scaling-up of gentle density housing types across jurisdictions.

PROVINCIAL RECOMMENDATIONS	ACTIONS FOR LOCAL GOVERNMENTS
<ul style="list-style-type: none"> • Convene local Fire Commissioners and city engineers to review existing processes and current fire flow requirements for infill housing and establish recommended best practices and procedures to protect life safety and ensure adequate fire protection. Refer to the City of Edmonton’s site-specific assessment for infill. • Consider implementing universal municipal fire flow standard or guidance to municipalities that lead to sufficient standards, as some municipalities’ requirements may not meet, or may or exceed fire fighting requirements. • Convene a Fire Commissioner and Industry group to provide direction on cost-effective sprinklering • Consider providing additional guidance within the B.C. Building Code to clarify regulations for small scale Part 9 Buildings, especially with regard to water supply for fire protection, the ability to require sprinklering and other alternate solutions. 	<ul style="list-style-type: none"> • For areas with low fireflow, consider alternate solutions to watermain and reservoir storage upgrades, such as sprinklering, fire separation, and onsite cisterns. • Update water modelling to identify what areas of the community lack sufficient fireflow for Part 9 Buildings or where substantial upgrades would be required.

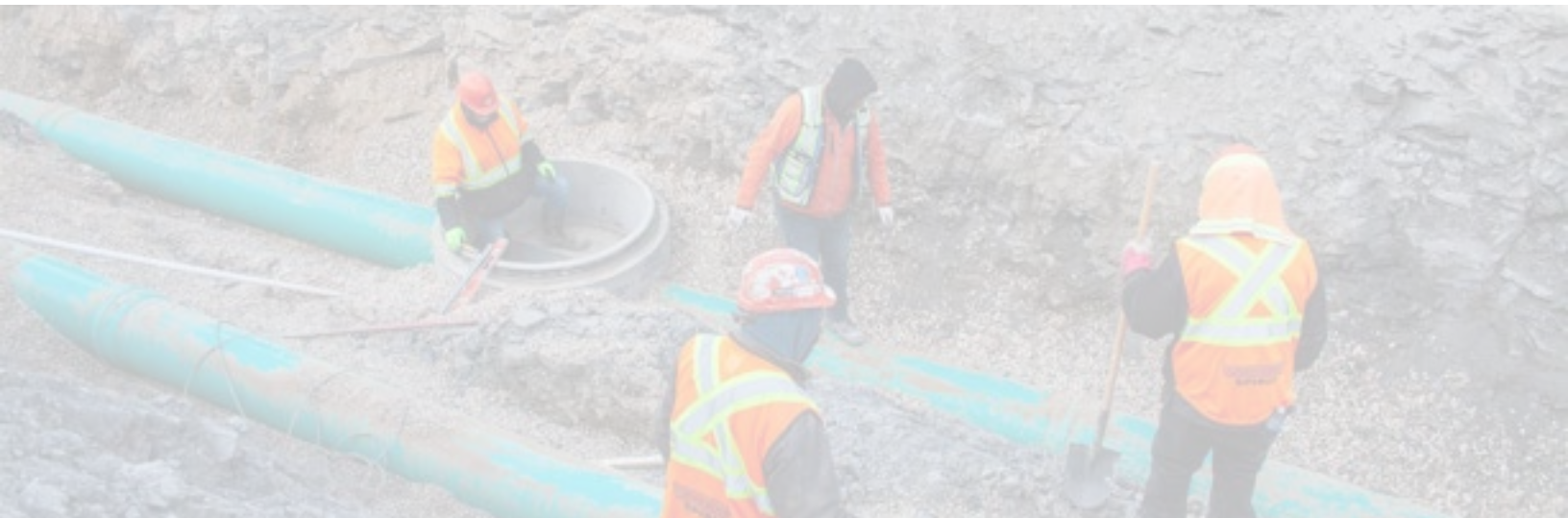
6. Stormwater

Many areas of the province have significant stormwater infrastructure deficiencies that are at risk of being compounded by infill development and other forms of redevelopment that increase the amount of impervious surfaces on private lands. There is significant risk potential to stormwater utilities that are not constructed to meet increased demands. In many cases, the current capacity and limitations of existing stormwater management systems are not well understood. In addition, there are increasing risks associated with climate change and extreme weather events projected in the future.

The economic viability of gentle density development will often depend on increased floor area ratios and site coverage that further compound drainage infrastructure deficiencies. It is recommended that municipalities complete integrated stormwater management plans (ISMP) to better understand these risks and priorities for infrastructure upgrades. In the meantime, it is expected that infill development will occur before all plans are completed and upgrades occur. It is also recognized that a balance of development process streamlining and evolving industry standards is recommended for both expanding infill housing development and managing risk and threat of evolving climate change impacts. The best way to manage this risk prior to completion of the ISMPs is to implement stormwater best management practices on the new development properties, to minimize their impact on the system.

Municipalities should consider the implementation of Low Impact Development (LID)—also referred to as Green Infrastructure (GI)—a tool towards improved stormwater management. It is an approach to land development that relies on nature to manage stormwater as close to its source as possible. The general principles of LID include preserving natural site features, using small-scale integrated stormwater management controls throughout a site, extending the runoff flow paths and times, and creating multifunctional and attractive landscapes. These goals are achieved through LID practices that rely on absorption, infiltration, evaporation, and evapotranspiration. LID is intended to complement, not replace, existing stormwater management strategies.

To recognize the varying scopes of development permit applications and unique site challenges, it is recommended that local governments consider establishing different standards for stormwater management best practices such as “baseline”, “improved”, and “complex” standards. It is recommended that infill sites be categorized under one of the “standards” during the development permit pre-consultation/review process and depending on the number of units proposed. When this happens, the “complex” baseline standards should correspond with the identified catchment risk factors and problem areas. As local governments continue to develop their ISMPs, categorization of infill sites can be gradually updated in response to known risks based on the more detailed system characterization available at ISMP level, as well as additional information gathered during the process such as detailed soil characteristics and slope stability. The intent of this approach would be to streamline most applications while ensuring a higher standard is applied to lands with greater risk.



Provision of educational materials throughout the development process and as a long-term strategy is recommended. Particularly, educational materials should be developed for homeowners to communicate the importance of maintaining green infrastructure and the value that provides at a site-specific and city-wide level for ensuring proper stormwater management. For example Metro Vancouver has created: *A Homeowner's Guide to Stormwater Management* <https://metrovancover.org/services/liquid-waste/Documents/homeowners-guide-stormwater-management.pdf>

PROVINCIAL RECOMMENDATIONS	ACTIONS FOR LOCAL GOVERNMENTS
<ul style="list-style-type: none"> • Provide funding for the completion of Integrated Stormwater Management Plans and projects that mitigate risk associated with infill development. • Establish recommended best practices for stormwater management for infill developments that provides both flexibility and certainty for applicants. 	<ul style="list-style-type: none"> • Complete Integrated Stormwater Management Plans that anticipate infill development. • Consider establishing categorized standards for different stormwater management conditions (i.e. hillsides vs lower risk areas). • Consider level of service trade-offs to facilitate infill development. • Review stormwater management requirements in Subdivision Servicing Bylaws and, where applicable, Development Permit Area Guidelines, for single-detached and gentle density from an equity and impact perspective to ensure a level playing field between building types. • Recognize that many gentle density applicants may not be experienced developers and provide education materials and clear standards.



7. Electrification

Residential areas are mainly serviced by infrastructure designed to service single-family homes. Increasing the density in these neighborhoods will require improved utility infrastructure which may present a barrier for adding gentle density.

Infill development often requires electrical upgrades to the utility infrastructure, depending on its scale, and larger projects may require upgrades to 400 amp services. Upgrades to the utility infrastructure may become a significant cost to infill developers. Currently, BC Hydro and Fortis Electric do not have a well-established method of cost recovery and reimbursement for frontending developers. BC Hydro is working with relevant parties to update the extension policy to address these issues.

There is an opportunity to build more infrastructure to service densifying areas (pad-mounted transformers, vaults, etc.), but this is harder in Vancouver where above and below ground public space is limited.

BC Hydro and FortisBC have expressed interest in right-sizing their requirements and installations. They have also expressed interest in engaging more closely with regional planning. While the organizations do not have the capacity for one-on-one conversations with each municipality, they would like to engage proactively with Province, regions, and groups of municipalities to plan for future growth.

There is also a growing demand for electricity use – with customers needing more power for electric vehicles, air conditioning units, and heat pumps. This will inform how new electrical infrastructure is upgraded for multi-family developments. Furthermore, the Province is committed to fully electrifying its inland fleet by 2040. Ensuring there is enough on-site electric vehicle parking space and capacity in the electrical system to support infill development will be critical.

PROVINCIAL RECOMMENDATIONS	ACTIONS FOR LOCAL GOVERNMENTS
<ul style="list-style-type: none"> • Explore options to 1) place pad-mounted transformers on public land to serve infill development and 2) serve multiple customers from a pad-mounted transformer placed on private land. • That the Province convene with BC Hydro, FortisBC and local governments to plan electrical infrastructure where future growth is expected. • Explore update to BC Hydro's existing "Pioneer" program to support cost-sharing for hydro infrastructure upgrades completed by developers. • Introduce standardized permitting processes for the installation of new BC Hydro infrastructure. • Create a forum for BC Hydro to introduce streamlined processes and resolve issues with multiple local governments that can then be rolled out provincially. 	<ul style="list-style-type: none"> • Consider the use of public land to site pad-mounted-transformers, in areas where infill growth is anticipated. • Establish parking ratios and regulations that consider the need for electric vehicle charging, as to ensure infill sites have sufficient parking and charge space available to meet future needs.

Recommended Next Steps

- The Province may consider a phased implementation of the *Homes for People* legislation. The first phase may be applied to areas of the community that have known infrastructure sufficiency, access to transit, and are not located in sensitive or hillside areas, until infrastructure impacts are better understood and regulations can be put in place.
- Local governments have expressed a desire to “speak a common language” when it comes to implementing the new legislation. It is recommended that the Province provide guidance for infrastructure and development planning with consistent definitions for communities throughout; including land use definitions, development standards, road standards, etc.
- Throughout the roundtable discussion, it became clear that additional planning and consultation needs to occur between government and other sectors who will be involved in implementing *Homes for People*. It is recommended that the Province explore additional roundtables to learn from the following groups:
 - » Fire Chiefs
 - » Regional Districts
 - » Homebuilders’ Associations
 - » GIS Professionals
 - » Building Officials
 - » Insurance Industry/Fire Underwriters Survey

