

BC Energy Step Code in New Westminister

Design Stage compliance requirements for BC Energy Step Code New Laneway and Carriage Houses

Purpose & Background

New Westminister City Council endorsed local implementation of the BC Energy Step Code on April 9, 2018 for Part 9 residential buildings and December 10, 2018 for Part 3 multi-unit residential and commercial buildings.

The purpose of this bulletin is to inform applicants and designers of **new laneway and carriage houses** regarding energy performance requirements and home energy labeling. New laneway and carriage houses require a Development Permit prior to application for a Building Permit. This bulletin describes how Step Code requirements are integrated within the design stage review process.

Please refer to the **Additional Information** section at the bottom of this bulletin for information related to the BC Energy Step Code for Part 9, including links to the following City bulletins:

Part 9 Residential Buildings Design Stage Review (incl. DP / rezoning)	Part 9 Residential Buildings Building Permit to Occupancy Application
<ul style="list-style-type: none"> • Bulletin 4 New detached Part 9 Buildings on Sites with Protected Heritage Buildings 	<ul style="list-style-type: none"> • Bulletin 2 New Part 9 Single Family, Duplex, and Laneway and Carriage Houses



Image 1: A new laneway home in New Westminister built to Step 4 of the Step Code.

About the BC Energy Step Code

The BC Energy Step Code requires new buildings to meet higher energy efficiency standards than the minimum prescriptive requirements in the BC Building Code.

The Step Code is a province-wide performance standard requiring new buildings to attain higher energy performance by meeting set targets for the building envelope, mechanical system efficiency and airtightness. Energy modeling software and on-site air tightness testing is used to demonstrate Step Code compliance, indicating that the building meets the required performance level at the pre-construction stage as well as project completion.

The Step Code provides the design and construction industry with an indication of what minimum energy performance requirements will be in subsequent Building Code updates. The Province has signaled that the base BC Building Code will increment over the next three update cycles, to reach a “net-zero energy ready” performance level by 2032. Over time, and supported by ongoing industry engagement, the City of New Westminister intends to incrementally raise minimum energy performance to the highest levels of the Energy Step Code in advance of 2032.

More information about the BC Energy Step Code is available at energystepcode.ca



Image 2: A new laneway home in Vancouver

Implementation

The BC Energy Step Code applies to all new Building Permit (BP) applications for new Part 9 projects, including laneway and carriage houses. As of January 1st, 2020, the City's Building Bylaw requirement is Step 2 for laneway and carriage houses, and Step 3 for all other residential buildings. To comply with the Step Code, builders must work with a Licensed Energy Advisor and/or a Registered Professional to ensure that the building's design meets all applicable energy performance and administrative requirements.

All Registered Professionals are encouraged to follow the *Joint Architectural Institute of BC and Engineers and Geoscientists BC Professional Practice Guidelines – Whole Building Energy Modelling Services*².

Working with an Energy Advisor

Energy Advisors are third-party consultants who have been registered by Service Organizations licensed by Natural Resources Canada (NRCAN) to deliver NRCAN's EnerGuide Rating System (ERS), ENERGY STAR® for New Homes and R-2000 programs. An Energy Advisor can provide both energy modelling and airtightness testing – the two compliance services needed to demonstrate compliance under the BC Energy Step Code for Part 9 buildings. For more information on energy advisors, including guidance for finding an energy advisor for your project, visit www.energystepcode.ca/energy-advisors/

For Passive House projects, the City expects that a Certified Passive House Designer or Certified Passive House Consultant will be involved in developing the energy model using Passive House Planning Package (PHPP) version 9 or newer and submitting the necessary Step Code compliance forms, as per the requirements in this bulletin.



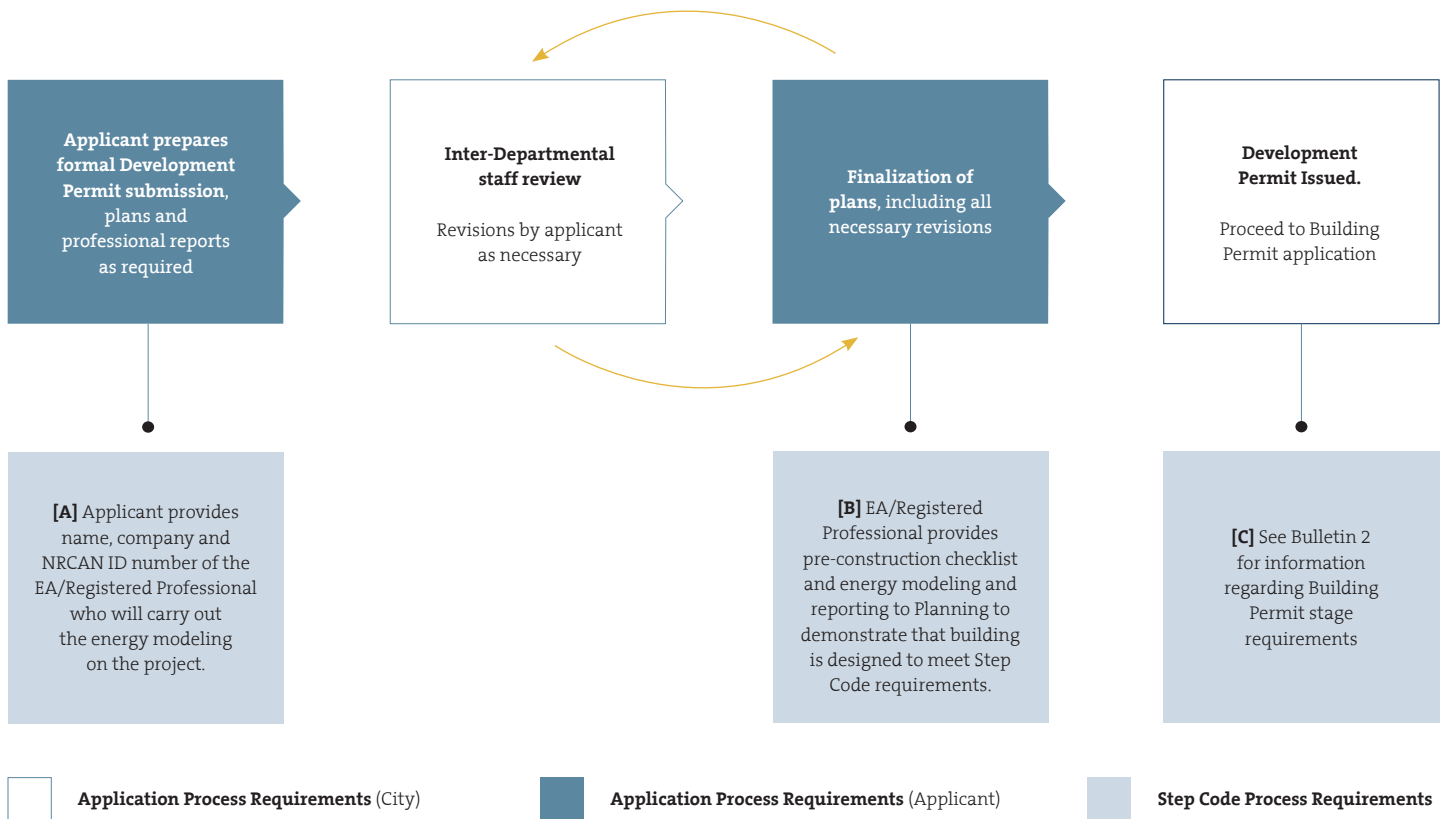
Image 3: An air tightness ("blower door") test during Mid-Construction Stage

² Download AIBC and EGBC's Joint Professional Practice Guidelines for Whole Building Energy Modelling Services here: www.egbc.ca/Practice-Resources/Professional-Practice-Guidelines

Laneway and Carriage House Projects

Laneway and carriage houses require a Development Permit prior to Building Permit application. The graphic below describes the design stage review process; including how and when Step Code requirements are captured in this process.

Design Stage Requirements for the Step Code



1. At project application (**[A]** in the above graphic), the applicant must provide the name of the Energy Advisor or name of the Registered Professional conducting the energy model, to confirm to the City that they will be engaged on this project. For Energy Advisors, the service organization and NRCAN ID number registered with NRCAN must also be supplied.
2. Following staff review and once plan drawings are finalized (**[B]** in the above graphic), energy modeling results are reported to the City confirming that the building is designed to meet the requirements of the Step Code (Energy Advisor or Registered Professional completes the Part 9 Pre-Construction Compliance Form, based upon proposed envelope and mechanical system efficiencies).
3. At Building Permit application (**[C]** in the above graphic), the applicant re-submits the Part 9 Pre-Construction Compliance Form as part of the BP application, and City staff review the form and drawings to confirm design stage compliance.

Applications must ensure their proposed building design can meet the City's Step Code requirements, and revisions to building design during the Building Permit review process may require applicants to re-apply for Development Permit approvals.

Further information on Building Permit requirements, mid-construction air tightness testing and project completion is provided on the following page.

Passive Design Exclusion Zoning Bylaw Amendment

The City has adopted a Passive Design Exclusion Zoning Bylaw Amendment³ to allow incremental increases in area (density) in laneway and carriage houses zones to compensate for thicker insulated walls in higher performance buildings. This is available for projects incorporating thicker wall assemblies to achieve Step Code level 3 to Step Code level 5, as shown in the following table.

Step Code Requirement	Increase in Area (RS-1, RS-5, NR-1, NR-5)	Approximate Performance Improvement above current BC Building Code
Level 3	Increase in Area by 0.01	20%
Level 4	Increase in Area by 0.03	40%
Level 5	Increase in Area by 0.05	50-70%

Applicants must notify staff that they will be pursuing one of the above area exemptions on their project.

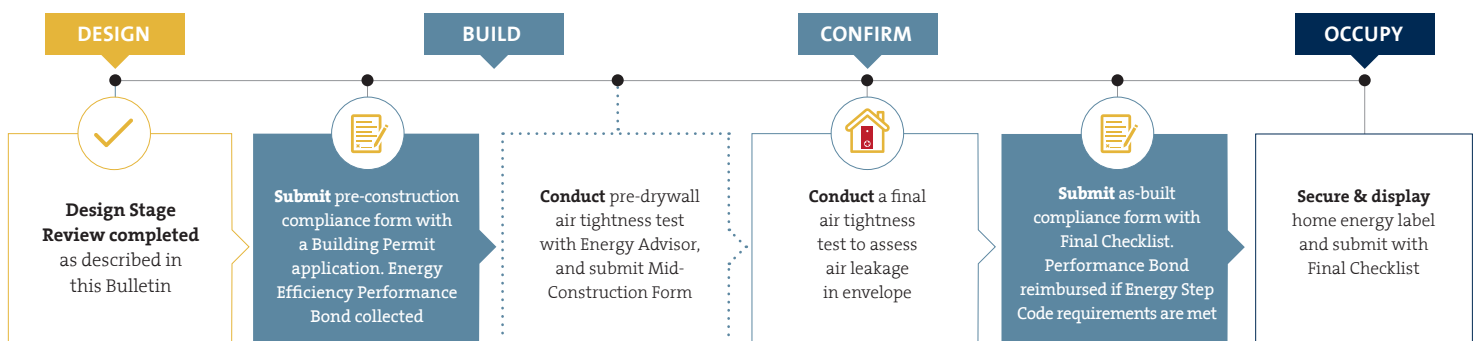
Requirements at Building Permit Submission

Once your project has received design stage approval to proceed Building Permit application, the illustration below summarizes the process for Building Permit (BP), mid-construction air tightness test, as well as home energy labelling and final air tightness test prior to occupancy. For details on Step Code compliance during the BP and construction stages, as well as final testing at project completion, please refer to the following bulletins:

- **Bulletin 2** – BC Energy Step Code Requirements for Part 9 single detached, duplex, laneway and carriage houses

Application and review process for new Part 9 projects

(e.g. for new Laneway and Carriage house projects)



Additional Information

BC Energy Step Code:

- Receive up-to-date information by signing up for the Province of BC's Energy Step Code Stakeholder Update newsletter: bit.ly/EnergyStepCodeNewsletter
- To learn more about the BC Energy Step Code, including performance requirements, resources for industry, and upcoming events, visit energystepcode.ca
- For the latest technical bulletins related to the BC Energy Step Code and BC Building Code, visit bit.ly/ESCTechnicalBulletins
- If you have additional questions regarding the BC Energy Step Code, visit energystepcode.ca/contact-us/ or email building.safety@gov.bc.ca.

³ More information on this amendment can be found at: bit.ly/ZoningAmendmentBylaw7953



Additional Information Continued

City of New Westminster’s Implementation of the BC Energy Step Code:

- Sign-up for email notifications whenever new information is available, including bulletin updates, education and engagement opportunities, and incentives and capacity building opportunities: energysavenewwest.ca/sign-up-for-e-news/
- For information about the City of New Westminster’s implementation of the BC Energy Step Code, visit newwestcity.ca/energy-step-code
- For information on Energy Save New West’s High Performance New Home program with the latest program services and incentives available: energysavenewwest.ca/new-homes/
- If you have additional questions regarding the City’s implementation of the Step Code, you can reach us at: StepCodeInfo@newwestcity.ca

City of New Westminster’s Laneway and Carriage House Program:

- For information about building laneway and carriage houses, visit bit.ly/NewWestLanewayCarriage

Additional Guidance for Applicants

The City of New Westminster has created a series of bulletins that describe how new Step Code requirements are addressed and captured through the development application process for various building typologies. These bulletins are summarized and linked below.

- Bulletin 1** – General Information for Applicants - **Planning or Development Applications and Building Permits**
- Bulletin 2** – Building Permit compliance requirements for BC Energy Step Code, New **Part 9 Single Family, Duplex, and Laneway and Carriage Houses**
- Bulletin 3** – Design Stage and Building Permit compliance requirements for BC Energy Step Code, New **Part 3 Multi-Unit Residential and Commercial Buildings**
- Bulletin 4** – Design Stage compliance requirements for BC Energy Step Code, **New Part 9 and Part 3 Buildings on Sites with Protected Heritage Buildings**
- Bulletin 5** – Design Stage compliance requirements for BC Energy Step Code, New **Laneway and Carriage Houses**
- Bulletin 6** – Part 9 Multi-Unit Residential Buildings **Townhouses and Small Multi-Unit Residential Buildings**

Rebates & Incentives

The City has developed educational materials and incentive programs to help the transition toward higher levels of energy performance in new construction.

For more information, visit: energysavenewwest.ca/energy-step-code

Need more info?

For more information and resources on the BC Energy Step Code, including the implementation and design guides, costing study, technical resources, and FAQs, visit energystepcode.ca

Does your project include the protection of a heritage building?

Protected heritage buildings are currently exempt from the Step Code requirements while we research and develop best practice guides for heritage retrofits. The Step Code requirements outlined in this guide only apply to the new build. [Contact the Planning Department](#) if you have questions about HRA specific projects and requirements.



Additional questions about BC Energy Step Code in New Westminster?

Contact us at StepCodeInfo@newwestcity.ca or call **604.515.3818**